



December 02, 2022

Our File Ref.: 220528

Jane Thompson Architect
404 MacKay Street
Ottawa, Ontario K1M 2C4

Subject: Environmental Impact Statement – Fish Habitat
2009 and 2013 Prince of Wales Drive, Nepean, Ontario

Dear Ms. Thompson,

LRL Associates Ltd. (LRL) has carried out an Environmental Impact Study (EIS) for the proposed severed lots at the properties located at 2009 and 2013 Prince of Wales Drive, Ottawa, Ontario (herein referred to as the 'Site'). The Site contains two (2) addresses, 2009 and 2013 Prince of Wales Drive; each property is developed with a residential use unit. The location of the Site is shown in the attached **Figure 1**. It is understood that seven (7) new residential lots will be created from the main approximate 2.8 acres parcels of land at the above referenced locations. At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales) will remain on the subject property. It is understood that no development will take place within 30 m of existing highwater mark of the adjacent Rideau River. The proposed lots will include the existing single-family residence and associated features.

The eastern portion of the Site is treed with an existing of two residence units and associated features. The central portion of the Site is grassed, treed with unpaved parking area. The western portion of the Site is grassed and treed land. The Rideau River is located along the eastern boundary of the Site.

The City of Ottawa's Official Plan (OP) states that development and site alterations may be permitted within 30 m of such a habitat if it has been demonstrated through an EIS that there will be no negative impacts on the natural features or ecological functions.



1 NATURAL HERITAGE AND HAZARD POLICY

1.1 Provincial Policy Statement (PPS)

The Provincial Policy Statement (PPS), under Section 3 of the Planning Act, was first initiated in May 1996, with subsequent revisions in 2005, and most recently in 2014. Section 2.1 of the PPS is limited to Natural Heritage Features, which includes such features as:

- Significant Wetlands or Coastal Wetlands;
- Significant Woodlands;
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest (ANSIs); and
- Fish Habitats.

The Rideau River, immediately east of the Site, is identified as a fish habitat. The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

“as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes.”

Section 2.1.6 of the PPS states that *“Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements”*.

1.2 City of Ottawa Official Plan

The City of Ottawa’s Official Plan (OP) was formalized in May 2003, with dedicated sections of the OP limited to Natural Heritage System Features and Areas. These sections include A, B, K and L of the OP which includes features such as significant woodlands, significant wetlands, and additional wildlife habitat features.

Section 4.7.3 of the OP states that development, or alterations, are not permitted in a fish habitat, much like that of the PPS stated above, with exception to accordance with federal and provincial requirements. Should development or site alterations be anticipated within proximity to an identified fish habitat, it must be demonstrated that the anticipated development will not impair or have a negative impact to the natural feature.

1.3 South Nation Conservation Authority Policies

In accordance with Ontario Regulation 170/06, Development, Interference with Wetland and Alterations to Shorelines and Watercourses, prior to initiation of construction or development within the vicinity of a floodplain, valleyland, wetland to other hazardous land, South Nation Conservation Authority (SNCA) is to allocate permission to proceed.



2 SCOPE OF WORK

The EIS will focus on the parcels of land described as 2009 and 2013 Prince of Wales Drive, Ottawa, Ontario. According to the Ontario Ministry of Natural Resources' (MNR) "*Natural Heritage Policies of the Provincial Policy Statement (PPS), 2014*" the province identifies lands adjacent to a Natural Heritage Feature as follows:

- The PPS describes a fish habitat as "*the spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes*".

The City of Ottawa's Official Plan (OP) states that development and site alterations may be permitted within 30 m of such a habitat if it has been demonstrated through an EIS that there will be no negative impacts on the natural features or ecological functions.

3 METHODOLOGY

The Scoped EIS was carried out in general accordance to the City of Ottawa Official Plan (2010), Section 4.8, with reference to the Natural Heritage Reference Manual (2010) and the City of Ottawa Environmental Impact Statement Guidelines, October 2015. The Site work and research with respect to the Scoped EIS was conducted by LRLs Environmental Services Team, overseen by the Team Lead who has more than 15 years of knowledge in the environmental field. The purpose of the Site visit was to identify wildlife and possible suitable habitats for species of concern on the Site, as well as identification of tree and vegetation species on the Site.

The purpose of the EIS is namely to confirm the existing on-Site characteristics of the Site and assess the proposed impacts to the Site's environmental functions as a result of the proposed land severance and development activities. Areas of focus for the EIS included to confirm the terrestrial features of the Site; if there any potential or actual aquatic habitats at the Site which may intrude into the proposed developments; potential mitigation measures for development; and are any species at risk or additional natural heritage features present on the Site or in proximity.

4 BACKGROUND

4.1 Fish Habitat

The Rideau River, immediately east of the Site, is identified as a fish habitat according to City of Ottawa's Official Plan (OP). The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

"as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes."

Section 2.1 (Natural Heritage Policy) of the PPS states that development and site alteration may not take place in fish habitat except in accordance with Provincial and Federal requirements. According to Section 4.7.8 of the City of Ottawa's Official Plan (OP) development and site alterations within 30 m of a fish habitat may be permitted, if it has been demonstrated through an EIS that there will be no negative impacts on the natural features or ecological functions.



5 SITE DESCRIPTION

5.1 Existing Site Description

The Site contains two (2) addresses, 2009 and 2013 Prince of Wales Drive; each property is developed with a residential use unit. The Site (2009 Prince of Wales Drive) is an approximate 4,700 m² or 1.2 acre, and the Site (2013 Prince of Wales Drive) is an approximate 6,500 m² or 1.6 acres. The total area of the Site is an approximate 11,200 m² (2.8 acres). The Site is located approximately 140 m southeast of the Prince of Wales Drive and the Colonnade Road intersection. Its location is presented in the attached **Figure 1**.

The Site is generally flat, with a steep slope towards the Rideau River located immediately east of the property. The Site has an existing frontage of approximately 75 m along the Prince of Wales Drive (north-south) and a depth of approximately 155 m (east-west). The western portion of the Site is primarily treed and grassed land with two (2) driveways running from the Prince of Wales Drive to the Houses. The central portion of the Site is developed with two (2) residential houses, three (3) storage structure, and unpaved parking area. The eastern portion of the Site, adjacent to the Rideau River is primarily treed and grassed land. The Site features described herein are presented in **Figure 2**.

The adjacent lands generally include the following:

- Residential land to the north;
- Beachburg rail corridor followed by residential to the south;
- The Rideau River to the east followed by wooded, overgrown undeveloped lands; and
- Prince of Wales Drive followed by commercial development park to the west.

5.1.1 Geology

Maps were reviewed to obtain the regional geology and information on the surficial soil and bedrock. The generalized surficial geology¹ was described as Offshore Marine Deposits: clay and silt underlying erosional terraces; upper part of marine deposits removed to variable depths by fluvial erosion so in places clay is uniform blue-grey.

The generalized bedrock² was described as the Ottawa Formation: limestone with some shaly partings: some sandstone in basal part. According to available Ontario Ministry of the Environment, Conservation and Parks (MECP) water well records, bedrock is found to be between approximate 14 and 16 m below grade (estimated 70 and 72 m amsl).

5.2 Proposed Development

It is understood that seven (7) new residential lots will be created from the main approximate 2.8 acres parcels of land referred to herein as the Site. At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales) will remain on the subject property while the existing development of 2013 Prince of Wales will be demolished. The proposed developments will be serviced by municipal water and sanitary services.

It is understood that no development will take place within 30 m of existing highwater mark of the adjacent Rideau River as presented in the proposed development plan included in **Attachment A**.

¹ St-Onge, D.A., Geological Survey of Canada, Surficial Geology, lower Ottawa valley, Ontario-Quebec, Scale 1:125,000, Map 2140A, 2009.

² Wilson, A.E., Department of Mines and Resources, Geological Survey, Ottawa-Cornwall, Ontario-Quebec, Scale 1:253,440, Map 852A, 1946.

5.3 Natural Features

5.3.1 Fish Habitat

The Rideau River, immediately east of the Site, is identified as a fish habitat according to City of Ottawa's Official Plan (OP). The location of the fish habitat is indicated in both **Figure 1** and **Figure 2**.

The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

“as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes.”

Section 2.1 (Natural Heritage Policy) of the PPS states that development and site alteration may not take place in fish habitat except in accordance with Provincial and Federal requirements. According to Section 4.7.8 of the City of Ottawa's Official Plan (OP) development and site alterations within 30 m of a fish habitat may be permitted, if it has been demonstrated through an EIS that there will be no negative impacts on the natural features or ecological functions.

6 RARE, THREATENED AND ENDANGERED SPECIES

6.1 MNRF Natural Heritage Information Centre



The MNRF Natural Heritage Information Centre (NHIC) compiles, maintains and provides information on rare, threatened and endangered species and spaces in Ontario. This information is stored in a central repository containing a computerized database, map files and an information library, which are accessible for conservation applications, land use planning, park management, etc. Natural areas and element occurrence data can be accessed through the MNRF Make a Map interactive map. Our review of the information from the NHIC revealed that the following element occurrences for rare, threatened or endangered species are within one (1) kilometer of the Site.

Species Common Name	Species Scientific Name	SARO Status	Suitable Habitat Observed on the Site	Evidence
Skillet Clubtail	Gomphurus ventricosus	DD	Yes	No
Midland Painted Turtle	Chrysemys picta marginata	--	Yes	No
Eastern Meadowlark	Sturnella magna	THR	Yes	No
Bobolink	Dolichonyx oryzivorus	THR	Yes	No
Butternut	Juglans cinerea	END	Yes	No
Snapping Turtle	Chelydra serpentina	SC	Yes	No
Blistered Jellyskin	Leptogium corticola	--	Yes	
Cupped Fringe Lichen	Heterodermia hypoleuca	--	Yes	
Least Bittern	Ixobrychus exilis	THR	Yes	No
Greater Redhorse	Moxostoma valenciennesi			
Peregrine Falcon	Falco peregrinus	SC	No	No




Notes:

SARO	Species at Risk Ontario
SC	Special Concern
THR	Threatened
END	Endangered
DD	Data Deficient
--	No data available





The species retrieved with 1 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. Although none of the species listed were identified on the Site at the time of the Site visit, potential suitable habitats were observed on the either the subject Site, or the neighbouring lands. The species listed above, and their likely preferred habitats are as follows:

<p>Skillet Clubtail</p>	 <p>Source: www. https://esc-sec.ca/page/Skillet Clubtail</p>	<p>There is insufficient data available with regards to the SARO.</p> <p>According to the Government of Canada, Recovery Strategy for the Skillet Clubtail (<i>Gomphus ventricosus</i>) in Canada 2021, the preferred habitat for the adult Skillet Clubtail include forests, bogs and fields which are located near rivers suitable for larvae. These waters include either clear of naturally turbid locations which are flowing.</p> <p>The Rideau River is considered a suitable habitat for the larvae, and the wooded, overgrown undeveloped lands east of the River is considered a suitable habitat for the adult stage of this species.</p>
<p>Midland Painted Turtle</p>	 <p>Source: www.bowins.com/midland-painted-turtle-dig-ontario</p>	<p>The Midland Painted Turtle does not have a specified SARO.</p> <p>Midland Painted Turtles are found to reside waterbodies, including ponds, marshes, lakes and slow-moving creeks, with a soft basal layer. The Midland Painted Turtle often bask on shorelines of the selected waterbodies, or on logs and rocks present.</p> <p>The Rideau River may be a suitable habitat for the Midland Turtle.</p>





<p>Eastern Meadowlark</p>	 <p>Source: https://www.ontario.ca/page/eastern-meadowlark</p>	<p>The Eastern Meadowlark have a SARO status of Threatened.</p> <p>The Eastern Meadowlark preferred habitat includes moderately tall grasslands such as hayfields and pastures. They are also found to reside in areas of other agricultural type fields, along the boarders of croplands, roadsides and other open areas which densely covered in weedy matter.</p> <p>The Site is not considered a suitable habitat for the Eastern Meadowlark, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat.</p>
<p>Bobolink</p>	 <p>Source: www.ontario.ca/page/lakesturgeron</p>	<p>The Bobolink has a SARO status of Threatened.</p> <p>The Bobolink is found in several various wetland habitats, but is most often found in areas of hayfields with a variety of open water bodies and water channels. The Bobolink build their nests on the ground in dense grasses near open water. The Site is not considered a suitable habitat for the Bobolink, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat.</p>
<p>Butternut</p>	 <p>Source: https://www.ontario.ca/page/butternut-species-risk</p>	<p>The Butternut tree is considered an endangered species according to the Species at Risk in Ontario list.</p> <p>The Butternut tree is typically grown in small groups or alone and prefers to reside in moist, well-drained soils and commonly along streams, and rarely in areas of dry rock soil. The Butternut tree does not grow particularly well in areas of increased shade and is more often found in sunny openings of forests, or near forest edges. No Butternut was observed on the Site. The wooded, undeveloped land east of the Rideau River may present suitable conditions for this species.</p>



<p>Snapping Turtle</p>	 <p>Source: www.ontario.ca/page/snapping-turtle</p>	<p>The Snapping Turtle has a SARO status of Special Concern,</p> <p>The Snapping Turtle resides in shallower waters, and nest in sandy or gravel overland areas.</p> <p>The Rideau River to the east of the Site may not be a suitable habitat due to its size, and lack of sandy or gravel nesting areas.</p>
<p>Blistered Jellyskin</p>	 <p>Source: www.sararegistry.gc.ca</p>	<p>The Blistered Jellyskin does not have a specified SARO status.</p> <p>The Blistered Jellyskin is often found to grow in areas where seasonal flooding occurs, and often over the bark surface of deciduous trees or rocks.</p> <p>The area along the Site which is susceptible to seasonal highwater flooding, namely the eastern extent, could be a suitable habitat for the Blistered Jellyskin, as is the that of the neighbouring lands, although not encountered.</p>
<p>Cupped Fringe Lichen</p>	 <p>Source: www.inaturalist.org</p>	<p>A SARO status was not specified for the Cupper Fringe Lichen.</p> <p>The Cupped Fringe Lichen is often found growing on rocks or across the ground was cover.</p> <p>At the time of the Site visit, no Cupped Fringe Lichen was observed, however it is possible along the undeveloped portion of the property such as along the shore line of the Rideau River.</p>
<p>Least Bittern</p>	 <p>Source: www.ontario.ca/page/leastbittern</p>	<p>The Least Bittern has a SARO status of Threatened.</p> <p>The Least Bittern can be found to reside in various wetland habitats, but is most often found in areas of cattail growth with a variety of open water pools and water channels. The Site is not considered a suitable habitat for the Least Bittern, even if it is adjacent to an open water body, based on the existing conditions.</p> <p>It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.</p>



<p>Greater Redhorse</p>	 <p>Source: www.ontario.ca/page/riverredhorse</p>	<p>The Greater Redhorse does not have a specified SARO.</p> <p>The Greater Redhorse are often found in rivers, medium- to larger-sized, with strong flowing water, much like that of the Rideau River located immediately east of the Site.</p>
<p>Peregrine Falcon</p>	 <p>Source : https://kids.nationalgeographic.com/animals/birds/facts/peregrine-falcon</p>	<p>The Peregrine Falcon has a SARO status of special concern.</p> <p>The Peregrine Falcon is known to reside in a wide variety of possible habitats that can include major city centres, to tundra conditions or desert canyons. Due to its wide range in possible suitable habitats, it is possible that this species could be present in area.</p>

6.2 Ontario Breeding Bird Atlas

A summary of potential breeding birds which may be present on the Site, or have been identified within proximity of the Site according to the Ontario Breeding Bird Atlas (2001 - 2005) are summarized in **Appendix B**. According to the Ontario Breeding Bird Atlas, select species of concern have been identified within proximity of the Site. These species include the following.

Threatened Species	
Bank Swallow	Riparia riparia
Barn Swallow	Hirundo rustica
Boblink	Dolichnyz oryzivorus
Whip-poor-will	Caprimulgus vociferus
Special Concern Species	
Eastern Wood-Pewee	Contopus virens
Grasshopper Sparrow	Ammodramus savannarum
Wood Thrush	Catharus mustelinus

Potential habitats of select bird species listed were encountered at the time of the Site visit as follows, in addition to those included above in Section 5.1:

- Barn Swallows nest in mud nests for the most part in open barns, under bridges, in culverts and other man-made structures. The underside of the railway line, southeast of the Site over the Rideau River, could be a possible suitable habitat for the Barn Swallow. The risk of the future development towards possible Barn Swallows in the area is considered low, as the subject Site itself is not considered a likely habitat for such species;
- Bank Swallows often burrow in areas that include natural and human-made settings along vertical faces, within sandy or silt deposits. They are also found to nest along banks of rivers

and lakes. The banks of the Rideau River located immediately east of the Site are considered possible suitable habitats for the Barn Swallow. The proposed development on the Site is considered low risk, if the below mentioned mitigation measures are followed, as outlined in Section 9.2;

- The Grasshopper Sparrow prefer grassed lands to reside and nest in. Although the Site is unlikely a suitable habitat for the Grasshopper Sparrow, as the grassed portion of the Site are manicured, the undeveloped land to the east of the Site following Rideau River could potentially include a suitable habitat for this species. The risk of the future development towards possible Grasshopper Sparrow in the area is considered low, as the subject Site itself is not considered a likely habitat for such species; and
- The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Wood Thrush, Whip-poor-will, and the Eastern Wood Pewee. The Whip-poor-will prefers areas of a mix of open and forest coverage, including deciduous and mixed forests, and the Eastern Wood Pewee resides in mid-canopy layers primarily along forest edges or forest clearings. The Wood Thrush prefers mature deciduous forests and mixed (conifer-deciduous) forests. The Site, being currently developed, is not considered a likely habitat for these species, therefore the risk of the future development on the Site towards this species is considered low.



6.3 Species at Risk Review Handbook for Ottawa

The Ottawa Stewardship Council has compiled “The Species at Risk Handbook for Ottawa” which is a compilation of data from various sources to provide insight on what species reside within the City of Ottawa, that are considered to be species at risk (SAR) based on the provincial ranking system. A review of available documents has revealed the following SAR within the City of Ottawa limits. It is possible that these species may reside in the vicinity of the Site, although no formal records or sightings have been documented.

- The Bald Eagle (*Haliaeetus leucocephalus*), with an Endangered Species Act (Ontario) (ESA) ranking of ‘Special Concern’. The Bald Eagle is commonly found to reside in forests preferably near lakes and rivers. The Site is not forested, and undeveloped land to the east is considered ‘young’, therefore it is not considered a suitable habitat for the Bald Eagle;
- The Bank Swallow (*Chlidonias niger*), with an ESA ranking of ‘Threatened’. The Bank Swallow’s preferred habitat is naturally or artificially exposed silt and sand deposits vertical faces such as riverbanks or sand and gravel pits as mentioned in Section 6. The Site is considered a suitable habitat for the Bank Swallow;
- The Barn Swallow (*Hirundo rustica*), with an ESA ranking of ‘Threatened’. The Barn Swallow’s preferred habitat is typically within man-made structures such as sheds or barns, along the underside of bridges, or in culverts as mentioned in Section 6. The neighbouring railway bridge may be considered a suitable habitat for the Barn Swallow;
- The Black Tern (*Chlidonias niger*), with an ESA ranking of ‘Special Concern’. The Black Tern is commonly found to reside in shallow marshes where they construct floating nests commonly within Cattails. The Site and neighbouring lands are not considered a suitable habitat for the Black Tern;
- The Bobolink (*Dolichonyx oryzivorus*), with an ESA ranking of ‘Threatened’. The Bobolink nests primarily on the ground surface, and mainly in areas of dense tall grass such as prairies, hayfields or grasslands as mentioned in Section 6. The Site is not considered a suitable habitat for the Bobolink, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat;
- The Canada Warbler (*Cardellina canadensis*), with an ESA ranking of ‘Special Concern’. This species also has a Federal Species at Risk Act (SARA) ranking which was provided for this species, which was ‘Threatened’. The Canada Warbler commonly resides in deciduous and coniferous forests, although prefers saturated forest with a dense shrub. The Site is not considered a suitable habitat for the Canada Warbler, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat;
- The Cerulean Warbler (*Setophaga cerulea*), with an ESA ranking of ‘Threatened’. This species also has a Federal SARA ranking of ‘Special Concern’. The Cerulean Warbler is found to reside in mature deciduous forest where the base of the canopy is open. The Site is not considered a suitable habitat for the Cerulean Warbler, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat;
- The Chimney Swift (*Chaetura pelagica*) with an ESA ranking of ‘Threatened’ and a Federal SARA ranking of ‘Threatened’. The Chimney Swift preferred habitats are man-made structures in the vicinity of water bodies. The adjacent railway bridge may be considered a suitable habitat for the Chimney Swift;
- The Common Nighthawk (*Chordeiles minor*) with an ESA ranking of ‘Special Concern’ and a Federal SARA ranking of ‘Threatened’. The Common Nighthawk is a bird which does not build nests for egg laying, but rather has them directly on the ground surface. These species prefer to reside in rock outcrops, recent cleared areas, lakeshores, or other open areas without, or with minimal, ground vegetation. The Site is not considered a suitable habitat for the Common Nighthawk;
- The Eastern Meadowlark (*Sturnella magna*), with an ESA ranking of ‘Threatened’. The Eastern Meadowlark’s common habitat includes grasslands such as hayfields, overgrown fields or roadsides.

The Site is not considered a suitable habitat for the Eastern Meadowlark, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat;

- The Eastern Whip-poor-will, (*Caprimulgus vociferus/Antrorstomus vociferous*) with an ESA ranking of 'Threatened' and a Federal SARA ranking of 'Threatened'. The Eastern Whip-poor-will's preferred habitat are mixed forests with open lands as mentioned above in Section 6. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Eastern Whip-poor-will;
- The Eastern Wood Peewee (*Contopus virens*) with an ESA ranking of 'Special Concern'. The Eastern Wood Peewee is commonly found to reside in the mid-canopy layer of deciduous or mixed forests, as well as along the clearings and edges of these forests as mentioned in Section 6. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Eastern Wood Peewee;
- The Golden-winged Warbler (*Vermivora chrysoptera*) with an ESA ranking of 'Special Concern' and a Federal SARA ranking of 'Threatened'. The Golden-winged Warbler is commonly found to nest in areas comprised of shrubby within the vicinity of mature forests. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Golden-winged Warbler;
- The Henslow's Sparrow (*Ammodramus henslowii*) with an ESA ranking of 'Endangered' and a Federal SARA ranking of 'Endangered'. The Henslow's Sparrow is found within open fields where tall grass and scattered shrubs are present. The Site is not considered a desirable habitat for the Henslow's Sparrow, however the undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat;
- The Least Bittern (*Ixobrychus exilis*) with an ESA ranking of 'Threatened' and a Federal SARA ranking of 'Threatened'. This species prefers to live in areas of cattail marshes or open water bodies such as pools or channels. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species;
- The Peregrine Falcon (*Falco peregrinus*) with an ESA ranking of 'Special Concern' and a Federal SARA ranking of 'Special Concern'. The Peregrine Falcon's preferred habitat are nests and cliffs within the vicinity of larger water bodies. The Site is not considered a suitable habitat for the Peregrine Falcon;
- The Short-eared Owl (*Asio flammeus*) with an ESA ranking of 'Special Concern' and a Federal SARA ranking of 'Special Concern'. This species resides in open grassland areas, or in areas of marshes. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Short-eared Owl;
- The Wood Thrush (*Hylocichla mustelina*) with an ESA ranking of 'Special Concern'. The Wood Thrush is commonly found in mature deciduous and mixed forests (conifer-deciduous) and tend to reside in locations with a well-developed undergrowth. They prefer to construct their nests in smaller shrubs or samplings, commonly sugar maple or American beech. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Wood Thrush;
- The Yellow Rail (*Coturnicops noveboracensis*) with an ESA ranking of 'Special Concern' and a Federal SARA ranking of 'Special Concern'. The Yellow Rail resides in areas of shallow wetlands such as marshes. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Yellow Rail;
- The Eastern Small-Footed Bat (*Myotis leibii*), with an ESA ranking of 'Threatened'. The Eastern Small-Footed Bat commonly resides in areas of deciduous forests and have been found in open grassy lands. The Site is not considered a suitable habitat for the Eastern Small-Footed Bat based on forest cover type. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Eastern Small Footed Bat;
- The Little Brown Bat (*Myotis lucifugus*) with an ESA ranking of 'Endangered'. This species preferred habitat are attics of buildings, abandoned buildings or barns. The Site, and neighbouring lands are

developed, and may be considered a suitable habitat for the Little Brown Bat, although not observed at the time of the Site visit;

- The Northern Myotis/Northern Long-eared Bat (*Myotis septentrionalis*) with an ESA ranking of 'Endangered'. The Northern Myotis/Northern Long-eared Bat's preferred habitat are boreal forests, where they roost under loose bark or in the cavities of trees. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Northern Myotis/Northern Long-eared Bat;
- The Eastern Ribbonsnake (*Thamnophis sauritus*) with an ESA ranking of 'Special Concern' and a Federal SARA of 'Special Concern'. The Eastern Ribbon Snake is most commonly found close to water such as marshes. The Site is considered a suitable habitat for the Eastern Ribbonsnake;
- The Milksnake (*Lampropeltis triangulum*) with an ESA ranking of 'Special Concern', and a Federal SARA of 'Special Concern'. The Milksnake can be found across a range of habitats such as rocky outcrops, in grassed areas or fields and forest edges. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Milksnake;
- American Ginseng (*Panax quinquefolius*) with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered'. American Ginseng grows in soils that are well-drained and in deciduous forests including maple, ash and basswood. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for American Ginseng;
- Butternut (*Juglans cinerea*) with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered'. The Site is densely wooded and is not considered a suitable habitat for the Butternut tree, although the north and southern edges are exposed to fields and a roadway which may be considered suitable or desired growing conditions. Butternut trees were not observed on the Site at the time of the Site visit;
- Eastern Prairie Fringed-Orchid (*Platanthera leucophaea*), with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered'. The Eastern Prairie Fringed-Orchid grows in areas of wetlands, fens and swamps as well as regions of tallgrass. The Site is considered a suitable habitat for the Eastern Prairie Fringed-Orchid, namely the eastern perimeter, although was not observed at the time of the Site visit;
- Flooded Jellyskin (*Leptogium rivulare*) with an ESA ranking of 'Threatened' and a federal SARA ranking of 'Threatened'. The Flooded Jellyskin grows on barks of trees within seasonal, or periodically saturated areas. Common trees species which the Flooded Jellyskin grows on includes Black Ash, Red Maple, Elm and Poplar. The Site, namely the eastern extent within the seasonal flooding area, is considered a suitable habitat for the Flooded Jellyskin;
- Pale-Bellied Frost Lichen (*Physconia subpallida*) with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered'. Commonly found to grow on the barks of hard wood, but has also been encountered on fence posts or even boulders in shaded areas. The Site is not considered a suitable habitat for the Pale-Bellied Frost Lichen based on the overall Site features;
- The Bogbean Buckmoth (*Hemileuca species*) with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered' is found in areas of low shrub fens where bogbean is present. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Bogbean Buckmoth;
- The Monarch Butterfly (*Danaus plexippus*) with an ESA ranking of 'Special Concern' and a federal SARA ranking of 'Special Concern'. Monarchs Butterflies are found in areas of milkweed growth during their caterpillar stage, and in areas with wildflowers during their adult stage. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Monarch Butterfly; and
- The Rusty Patched Bumblebee (*Bombus affinis*) with an ESA ranking of 'Endangered' and a federal SARA ranking of 'Endangered'. The Rusty Patched Bumblebee is found in open areas such as mixed farmland, urban settings, and open woods or sand dunes. The Site may be considered a suitable habitat for the Rusty Patched Bumblebee;

- The American Eel (*Anguilla rostrata*) with an ESA ranking of endangered, and a federal SARA ranking note indicated. The American Eel are unique where they can be found in both fresh and salt water communities, including lakes and rivers. The Rideau River may be a suitable habitat for the American Eel;
- Channel Darter (*Percina copelandi*) with an ESA ranking, and a federal SARA ranking of threatened. The Channel Darter prefers clean streams or lakes that have a gravel to sandy floor. The base of the river was not confirmed, however, based on the turbidity encountered at the time of the Site visit, it is unlikely that the Channel Darter would reside in the Rideau River;
- Lake Sturgeon (*Acipenser fulvescens*) with an ESA ranking of threatened, and a federal SARA ranking note indicated. The Lake Sturgeon prefer deep, freshwater lakes or rivers, with soft bases including mud, sand or gravel. The Rideau River may be a suitable habitat for the Lake Sturgeon;
- Northern Brook Lamprey (*Ichthyomyzon fossor*) with an ESA ranking, and federal SARA ranking of special concern. The Northern Brook Lamprey are more often found in clear water streams. The Rideau River is a large, turbid water body, and is not considered a suitable habitat for the Northern Brook Lamprey;
- The River Redhorse (*Moxostoma carinatum*) with an ESA ranking of special concern, and a federal SARA ranking not specified ('none'). The River Redhorse may be found in the Rideau River as they prefer a habitat of medium to large rivers, with a strong flow, however they may be deterred to reside in Rideau River due to the turbidity of the water body;
- The Blading Turtle (*Emydoidea blandingii*) with an ESA ranking, and a federal SARA ranking of threatened. The Blading Turtle prefers a habitat of shallow water, often including large wetlands or shallow lakes with substantial aquatic plants available. Although the Rideau River is not a suitable habitat for the Blading Turtle, the undeveloped land to the east of the River may include saturation or wetland conditions which could be suitable for the Blading Turtle; and
- The Eastern Musk Turtle (*Sternotherus odoratus*) with an ESA ranking of special concern, and a federal SARA ranking of threatened. The Eastern Musk Turtle reside in lakes, marshes, ponds and rivers that have slow flows and a lot of aquatic vegetation. Although the Rideau River is not a suitable habitat for the Eastern Musk Turtle, the undeveloped land to the east of the River may include saturation or wetland conditions which could be suitable for the Eastern Musk Turtle;
- The Northern Map Turtle (*Graptemys geographica*) with an ESA ranking of special concern, and a federal SARA ranking of special concern. The Rideau River may be a suitable habitat for the Northern Map Turtle as they prefer to reside in rivers and lakeshores, where there is area available along the shores for sun basking;
- The Snapping Turtle (*Chelydra serpentina*) with an ESA ranking of special concern, and a federal SARA ranking of special concern. Although the Rideau River is not a suitable habitat for the Snapping Turtle, the undeveloped land to the east of the River may include saturation or wetland conditions which could be suitable for the Snapping Turtle;
- The Spiny Softshell Turtle (*Apalone spinifera*) with an ESA ranking and federal SARA ranking of threatened. of special concern, and a federal SARA ranking of special concern. The Rideau River may be a suitable habitat for the Spiny Softshell Turtle; and
- The Spotted Turtle (*Clemmys guttata*) with an ESA ranking of endangered, and a federal SARA ranking of endangered. Although the Rideau River is not a suitable habitat for the Spotted Turtle, the undeveloped land to the east of the River may include saturation or wetland conditions which could be suitable for the Spotted Turtle.

None of the identified rare, threatened or endangered species listed above were encountered at the time of the Site visit on October 4, 2022. No butternuts or other Species at Risk were observed at the time of the field survey. Species encountered are described above in Section 6.



6.4 Rare Vegetation Communities in Ontario (Ottawa-Carleton Region)

According to the Ministry of Natural Resources, the following rare vegetation communities have been identified within the Ottawa-Carleton region of Ontario:

- Dry Lichen-Moss, commonly found in open alvar or pavement covered surface habitats;
- Northern Dropseed – Little Bluestem sedge, commonly found in alvar grassland habitats;
- White Cedar commonly found in grassed treed alvar grassland habitats;
- Common Juniper found in alvar shrubland habitats; and
- Jack Pine found in alvar shrubland type.

No grassland or alvar type habitats were identified on the Site based on the vegetation communities encountered at the time of the site visit. Alvar and grassland habitats are commonly identified by vascular plants which generally include the following:

Habitat Type	Common Vegetation Types
Alvar	Nodding Wild Onion, Wild Chives, Cooper’s Milk-vetch, Downy Wood Mint, Side Oats Grama, Crawe’s Sedge, Juniper Sedge, Richardson’s Sedge, Bulrush Sedge, Hill’s Thistle, Coreopsis, Tufted Hair Grass, Flattened Spike-rush, Tinted Spurge, Carolina Cranesbill, Prairie Smoke, Lakeside Daisy, Mousetail, Vernal Forget-me-not, Panic-grass, Alaskan Orchid, Alpine Bluegrass, Seneca-snakeroot, Early Buttercup, Small Skullcap, Houghton’s Goldenrod, Upland Goldenrod, Northern Dropseed, False Pennyroyal, Corn-salad, Simple Vervain.
Grassland	Gattinger’s Agalinis, Skinner’s Agalinis, Colicroot, Arrow-feather Three-awn, Prairie Milkweed, Whorled Milkweed, Willow Aster, Wild Indigo, Side-oats Gramma, Blue-hearts, Bicknell’s Sedge, Sun Sedge, Mead’s Sedge, Midland Sedge, Prairie Straw Sedge, Dwarf Hackberry, Tall Tickseed, Hazel Dodder, Sessile-leaved Tick-trefoil, Hairy Fimbristylis, White Prairie Gentian, Orange-grass, Two-flowered Rush, Short-fruited Rush, Orange dwarf, Dandelion, Leggett’s Pinweed, Slender Bush Clover, Dense Blazing Star, Leiber’s Panic Grass, Hairy Panic Grass, Ridged Panic Grass, Cross-leaved Milkwort, Pink Milkwort, Hoary Mountain Mint, Whorled Mountain Mint, Dwarf Chinquapin Oak, Papilose Nut-rush, Tall Nut-rush, Prairie Dock, Showy Goldenrod, Early Bunch Grass, Small-flowered Ladie’s Tresses, Ohio Spiderwort, Bird’s-foot Violet.



6.5 Endangered, Threatened and Vulnerable Species of Ontario – Ontario Ministry Northern Development, Mines, Natural Resources and Forestry

The Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry has compiled a list of endangered, threatened and vulnerable species across Ontario. The complete list of species can be found in Appendix P of the Significant Wildlife Habitat Technical Guide. Species identified on the list which may be considered suitable habitat for the Site or adjacent lands are summarized below. The column in the following table, which describes possible suitable habitats for the species listed is based on the findings by LRL during the Site visit on October 4, 2022, as described in Section 7.



Common Name	Scientific Name	Common Habitat	Potential Habitat Encountered on the Site
Vascular Plants			
Endangered Vascular Plants			
Engelmann's Quillwort	<i>Isoetes engelmannii</i>	Aquatic plant that grows in shallow water in lakes and rivers.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Toothcup	<i>Rotala ramosior</i>	Grows along lake and river shorelines on thin sandy, muddy or gravelly soils on Precambrian bedrock.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Threatened Vascular Plants			
Small-flowered Lipocarpha	<i>Lipocarpha (Hemicarpha) micrantha</i>	Grows on sandy beaches that are seasonally flooded and are protected from high waves or strong currents.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
American Water-willow	<i>Justicia americana</i>	Grows along the shores and in the waters of streams, rivers, lakes, ditches and occasionally wetlands.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Amphibians			
Endangered Amphibians			
Blanchard's Cricket Frog	<i>Acris crepitans blanchardi</i>	Prefers habitat around the edges of lakes, ponds, rivers, and streams with dense aquatic vegetation and muddy shorelines..	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.



Common Name	Scientific Name	Common Habitat	Potential Habitat Encountered on the Site
Reptiles			
Threatened Reptiles			
Eastern Spiny Softshell	<i>Apalone spinifera spinifera</i>	They are found primarily in rivers and lakes but also in creeks and even ditches and ponds near rivers. Key habitat requirements are open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and suitable habitat for crayfish and other food species.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Spotted Turtle	<i>Clemmys guttata</i>	A semi-aquatic species and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. They are found in different types of wetlands throughout the province, depending on the types of habitats that are available.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Eastern Massasauga Rattlesnake	<i>Sistrurus catenatus catenatus</i>	Massasaugas live in different types of habitats throughout Ontario, including tall grass prairie, bogs, marshes, shorelines, forests and alvars. Within all of these habitats, Massasaugas require open areas to warm themselves in the sun.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Birds			
Endangered Birds			
Peregrine Falcon	<i>Falco peregrinus</i>	Peregrine Falcons usually nest on tall, steep cliff ledges close to large bodies of water.	The Peregrine Falcon is known to reside in a wide variety of possible habitats that can include major city centres, to tundra conditions or desert canyons. Due to its wide range in possible suitable habitats, it is possible that this species could be present in area. Namely, along the underside of the railway bridge traversing the Rideau River, southeast of the Site.
Prairie Warbler	<i>Dendroica discolor</i>	Prefers locations close to water (often on islands, peninsulas and bays), but even in these preferred areas, Prairie Warblers are absent from some areas of apparently suitable habitat, and there are often gaps between individual territories	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.

Common Name	Scientific Name	Common Habitat	Habitat Encountered on the Site
Mammals			
Vulnerable Mammals			
Eastern mole	Scalopus aquaticus	The Eastern mole's preferred habitat includes forests, open woodlands, meadows, pastures, and fields in addition to urban settings such parks, cemeteries and residential yards that have stone-free sand and sandy loam overburden material with a woody plant cover.	The Site, namely the manicured lawn, and that of adjacent lands, may be a suitable habitat for the Eastern mole.

7 SITE VISIT

LRL visited the subject Site on October 04, 2022, to assess the fish habitat located on the Site. The Site visit was intended to verify the conditions of the property, as well as the natural features and species which are present. Photographs from the Site visit are included in **Appendix C**.

The general topography of the Site is considered to be flat with gentle slope towards south and southwest. When approaching the Rideau River there is a sudden slope followed by a flat land before the shore of the river. There are two boat docks at the east portion of the Site.

The Rideau River, which borders the Site to the east, was observed to be flowing in a north-south direction. The shore of the river was observed to be sand and rocks. The bank of the river was a gentle slope, and some grasses and other plant species were present along the shore of the riverbank. The species observed on the bank of the Ottawa River during the Site visit were as follows:

- Honeysuckle;
- Riverbank grape;
- Virgin creepers;
- Thicket creepers; and
- Elm tree.

The banks of the River were approximately 3.6 to 4.0 m in height, and the flattened inferred seasonal flood area extended an additional 6.0 m from the toe of the slope to the open River body.

7.1 Wildlife

During the site visit conducted October 4, 2022, no wildlife was observed. This was likely the result of seasonal conditions, and the general activities and developments on the Site and the general area.

8 ECOLOGICAL LAND CLASSIFICATION

The classification system of vegetation communities across the southern portion of the Ontario that was developed the MNR is referred to as the Ecological Land Classification (ELC) system. The ELC breaks down the various types of woodlands and other vegetation communities or land uses (i.e. wetlands, developed areas) into distinct categories based on features such as primary tree cover or flora characteristics. An ELC is a method used to aid in the description and designations of terrestrial ecosystems including forests. It is important to establish the ELC prior to development of a site as it can be used to examine and execute mitigations measures to lessen the impact on the neighbouring properties and environment. The ELC is comprised of three (3) levels including Ecozones, Ecoregions and Ecodistricts.

With reference to the 2013 Version 3 ELC system, the Ecosites of Ontario Operational Draft dated April 20, 2009 and in conjunction with LRLs site visit on October 4, 2022 in addition to our review of aerial photographs obtained from the City of Ottawa's interactive mapping system, geoOttawa, the Site is found not to be representative of the available categorized ecosites. The Rideau River to the east is considered a Open Water- Open Aquifer, however the sparse trees which convert the site, the manicured lawn and residential developments are not considered Ecological Lands.



9 IMPACT STATEMENT

It is understood that seven (7) new residential lots will be created from the main approximate 2.8 acres parcels of land. One (1) of the existing residences (2009 Prince of Wales Drive) will remain on the Site, while the second residence will be removed in support of the re-development activities (2013 Prince of Wales Drive).

The activities associated with the construction of a residential developments typically include tree clearing, removal and stock piling of topsoil, construction of house and driveway construction and paving. Based on the revised site development plan prepared by Jane Thompson Architect, dated September 9, 2022, and included in **Appendix A**, the following proposed development footprints (development envelopes) are anticipated:

- Lot 1: 1,100 m² with an approximate 185 m² available for additional building construction with the existing 2009 Prince of Wales Drive resident remaining;
- Lot 2: 2,370 m² with an approximate 400 m² available the construction of a residence;
- Lot 3: 750 m² with an approximate 165 m² available the construction of a residence;
- Lot 4: 900 m² with an approximate 165 m² available the construction of a residence;
- Lot 5: 915 m² with an approximate 330 m² available the construction of a residence;
- Lot 6: 920 m² with an approximate 335 m² available the construction of a residence; and
- Lot 7: 2,120 m² with an approximate 335 m² available the construction of a residence.

A private road will be constructed along the north of the proposed Lot 2 through Lot 7, and west of proposed Lot 1. The road will be approximately 6.0 m wide, set approximately 3.0 m from the available area for the construction of the residences, and be approximately 148 m in length.

The Rideau River is located immediately east of the Site. A 30 m watercourse will be maintained from the Rideau Valley Conservation Authority (RVCA) 100 year floodplain limit and the proposed development envelop as presented in the development plan included in **Appendix A**. The existing residence on 2009 Price of Wales Drive to remain is located within the 30 m setback, at a distance of 26.7 m.

The re-development of this Site is not anticipated to impact the natural features or ecological functions of the fish habitat as rationalized in the following screening table:



Woodland Conditions & Ecological Functions	Additional Consideration	Rational
Erosion and sediment runoff prevention	<p>The removal of existing ground cover, for the installation of utilities or final grading, can create increase potential for surface runoff and erosion. This could result in:</p> <ul style="list-style-type: none"> • The smothering of incubating eggs or other organisms that live in possible near-by streams or water bodies; • Exposure of root systems to remaining vegetation which lead to damage by pests and other wildlife as a food or habitat source, disruption to growth or the weakening of their support root system, and a greater susceptibility to disease and parasites; • Unstable slopes and ground surface which could result in the compromising of neighbouring structures integrity such as roadways or buildings; and • Reduces the ability for the natural infiltration and storage of water and nutrients into the soils. <p>However, the impacts to the overall functions of the identified natural features will be negligible if the mitigation measures outline below in Section 9.2 are followed.</p>	<p>The work associated with the re-development on the Site is anticipated to be short term and reversible. Once construction is complete, lawn, vegetation and structures will be set and grown which will limit future erosion or runoff issues.</p> <p>The proposed development footprints are anticipated to be between beyond 30 m from the Rideau River 100 year floodplain limit. The impact to the overall function of the river is negligible.</p> <p>The anticipated construction activities, and the duration of time to which erosion and sediment concerns are prevailing, are considered short term and the effects of the development are considered reversible.</p>
Nutrient Cycling	Forested land and vegetation can remove nutrients from the soils and alter them into a form which is better suited and can be used by other creatures or vegetation.	No significant alterations to the existing vegetation cover on the Site, and neighbouring lands, is anticipated during construction, or post-construction. The impact to the overall nutrient cycling of the identified natural features, and neighbouring lands will be negligible as a result of the development.
Wildlife Habitat and Linkages	Wildlife, including birds would likely be discourage from using the work area as a short-term resting ground due to the restlessness of the work activities and the noise generated.	<p>The proposed development footprints are anticipated to be between beyond 30 m from the Rideau River 100 year floodplain limit. The impact to the overall function of the river is negligible.</p> <p>Mitigation measures, as outlined further in Section 8.2 can be used to further reduce the impact to wildlife during construction, although select may not be applicable to this specific Site, but worth noting.</p> <ul style="list-style-type: none"> ○ It is recommended that excavation activities not be done between April 15th and August 15th, which are the typical breeding season for wildlife, including birds. ○ Consideration must be taken pertaining to sensitive time windows for species that may inhabit the site. Site clearing activities should be considered in regard to sensitive time



		<p>windows or additional mitigation measures should be followed including:</p> <ul style="list-style-type: none"> ▪ The Site should be kept clean and secure at all times possible; ▪ The installation of nesting boxes around the perimeter of the Site to replace potential nesting areas removed during construction; ▪ The encouragement of wildlife to leave the Site by pre-stressing activities outlined in the document; ▪ The inclusion of supplemental food sources in cases where food supply may be lost; and ▪ The monitoring of the site by a qualified person(s) during the clearing activities and the retention of an organization to care for either injured or displaced species.
<p>Diversity</p>	<p>Disruption to the natural diversity of the overall adjacent fish habitats is not anticipated.</p> <p>No work will be completed in, or within 30 m of the identified natural features. The neighbouring lands are currently developed within the same distance, and setbacks from the natural features, as the anticipated re-development of the Site.</p> <p>This is presented in Appendix C.</p>	<p>The Site is currently developed, and the re-development will be comparable to the adjacent lands, including a 30 m setback from the adjacent Rideau River. Ecosystem networks will remain generally as is for species in the area.</p>
<p>Economic and Social Function Values</p>	<p>The land re-development is not anticipated to influence the economic and social function values of the area.</p>	<p>The proposed re-development will be six (6) new single-family residence, on the subject lot. Much like those on the neighbouring lands and on the proposed remaining 2009 Prince of Wales Drive. No change in zoning is anticipated.</p>

According to Section 4.7.3 of the City of Ottawa's OP states that development, or alterations, are not permitted in a fish habitat, much like that of the PPS stated above, with exception to accordance with federal and provincial requirements. Should development or site alterations be anticipated within proximity to an identified fish habitat, it must be demonstrated that the anticipated development will not impair or have a negative impact to the natural feature.

The work associated with the re-development on the Site is anticipated to be short term and reversible. Once construction is complete, lawn, vegetation and structures will be set and grown which will limit future erosion or runoff issues. The proposed development footprints are anticipated to be between beyond 30 m from the Rideau River 100 year floodplain limit. The impact to the overall function of the river is negligible. The anticipated construction activities, and the duration of time to which erosion and sediment concerns are prevailing, are considered short term and the effects of the development are considered reversible. It is our opinion that the information presented in this EIS provides sufficient support that no negative impacts on the natural features or ecological functions is anticipated.

As mentioned above in Section 6.1, the NHIC was reviewed to retrieve element occurrences for rare, threatened or endangered species are within one (1) kilometer of the Site. Eleven species were retrieved within 1 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. Although none of the species listed were identified on the Site, the Rideau River is considered a suitable habitat for the Skillet Clubtail; The Midland Painted Turtle; The Least Bittern; and the Snapping Turtle. The Site is not considered a suitable habitat for the Eastern Meadowlark or the Bobolink, the wooded, undeveloped land east of the Rideau River may be a suitable habitat. The wooded, undeveloped land east of the Rideau River may present suitable conditions for this species.

The Blistered Jellyskin is often found to grow in areas where seasonal flooding occurs, and often over the bark surface of deciduous trees or rocks. The area along the Site which is susceptible to seasonal highwater flooding, namely the eastern extent, could be a suitable habitat for the Blistered Jellyskin, and the Cupped Fringe Lichen, as well as the neighbouring lands. The Greater Redhorse are often found in rivers, medium- to larger-sized, with strong flowing water, much like that of the Rideau River located immediately east of the Site. The Peregrine Falcon is known to reside in a wide variety of possible habitats that can include major city centres, to tundra conditions or desert canyons. Due to its wide range in possible suitable habitats, it is possible that this species could be present in area.

A review of additional available databases revealed that the Site and neighbouring lands may be considered a suitable habitat for various species encountered in the Eastern Ontario region including Barn Swallow; Bank Swallows; Grasshopper Sparrow; Wood Thrush, Whip-poor-will, Eastern Wood Pewee; Canada Warbler; Cerulean Warbler; Chimney Swift; Golden-winged Warbler; Henslow's Sparrow; Short-eared Owl; Wood Thrush; Yellow Rail; Eastern Small-Footed Bat; Little Brown Bat; Northern Myotis/Northern Long-eared Bat; Eastern Ribbonsnake; Milksnake; American Ginseng; Eastern Prairie Fringed-Orchid; Bogbean Buckmoth; Monarch Butterfly; Rusty Patched Bumblebee; American Eel; Lake Sturgeon; Eastern Musk Turtle; Northern Map Turtle; and Spiny Softshell Turtle.

As described further in Section 7, no rare, endangered or species at risk were observed at the site of our site visit. Mitigation measures specific to the protection of these identified rare, threatened or endangered species and their habitats are outlined in Section 8.2.



9.1 Potential Effects of Development

The potential effects with respect to construction activities include:

- Grading and construction activities can change the soil's characteristics such as water table levels, the density of the soil (through compaction), erosion potential, surface run-off and the drainage patterns;
- Increase in sediment runoff towards the River and other identified natural features through excavation activities, stockpiling of soil and removal of trees, which can control erosion. Increase in sediments can smother incubating eggs or other organisms that live in the fish habitat;
- Vegetation buffer can also be impacted during construction activities. Riparian zones are important features to protect as they directly contribute to aquatic habitat by providing biofilters, protecting aquatic environments from excessive sedimentation, polluted surface runoff and erosion;
- Fuel spills as a result of vehicle use and storage. Spills can lead to soil, surface water and groundwater contamination;
- The Site may be more vulnerable to invasion by non-native species of plants or wildlife;
- Disturbance of wildlife species as a result of construction activities;
- Increased erosional potential, changes in natural drainage and increased surface run-off;
- Construction activities can damage roots of trees that remain on Site; and
- Nutrients (phosphorous and nitrates) generated by septic system effluent have the potential to cause eutrophication in the surface water if the septic system is inadequately constructed or fails.

9.2 Mitigation Measures

The impacts of the construction activities on the fish habitat can be mitigated using the following measures:

- Stockpiled soil should be placed as far from water bodies as practically possible during construction. The stockpiles should be covered, especially during any rain events, to reduce any sedimentation run-off from the construction Site;
- Properly installed sedimentation barriers (such as silt fences or straw bails) should be used along the banks or in any drainage ditches or swales that can flow toward the fish habitats and wetland. The sedimentation barriers should be installed prior to construction and be maintained throughout the project. They shall be left in place until the vegetation (i.e. grass) has been established on the Site;
- Equipment used during the construction activities should be properly maintained to reduce any fuel or lubricant leaks. No fuel should be stored on Site and the equipment should be fuelled off-site. Any leaks or spills must be promptly contained and addressed;
- Use sedimentation and erosion controls and maintain as much vegetation as possible during construction to reduce erosion. Prior to any Site alteration, silt fencing should be placed along the perimeters of the work area. It is important that the fence is properly keyed in and maintained during the entire construction phase to filter any surface water runoff and to contain sediment before the water leaves the work area. The fencing should



be checked weekly and following a rain event to ensure that the temporary structure is suitable for erosion control purposes;

- Once construction is complete, the compacted soil will be aerated to allow vegetation to establish more quickly. Revegetation after development with native species to reduce non-native species invasion;
- Noise impacts can be reduced by delaying the construction until later in the spring, after breeding has occurred and migrating birds have left the area. The effects of noise will be short term, only during construction activities, and no negative impacts will persist beyond this time;
- To minimize the potential impacts on wildlife, no woody vegetation removal should occur between April 15th and August 15th until verified by a qualified person, unless a breeding bird survey, completed by a qualified professional within five (5) days of the proposed vegetation removal, detects no breeding activity;
- The following techniques can minimize impacts on the health and longevity of retained individual trees during and post-construction;
 - Around the treed perimeter erect a sturdy 1 m high snow fence to protect adjacent trees, if applicable. This should be placed at a minimum distance of the critical root zone (CRZ) and remain in place until construction is completed. The critical root zone is established as being 10 centimeters from the trunk of a tree for every centimeter of trunk diameter at breast height (DBH). This prevents damage to the retained tree from compaction of the soil due to heavy equipment. Excavations are not permitted in proximity to the edge of the work areas so the critical root zones of the adjacent retained trees will be well protected;
 - If excavation must take place adjacent to or within the CRZ, tunnel or bore carefully by hand and cut the root cleanly. Machinery should be kept to the outside of the cut, away from the tree trunk. An arborist will be required on Site if excavation within the CRZ is required;
 - If surface tree roots are disturbed, they should be covered with soil, woodchips or filter cloth and kept moist until construction is complete under the guidance of an on-Site arborist;
 - If limbs need to be trimmed or removed due to utilities or construction, they should be cut using a chain saw using accepted arboricultural practices; and
 - All grading and other site disturbances are to be restricted to the work area. Changes to grading or water flow around preserved trees can impact on the health of the tree. Where grade changes cannot be avoided, the installation of retaining walls or tree wells should be considered for retained trees under the guidance of an on-Site arborist.
- The Site is currently developed, and it is understood that the re-development of Site will include upgrading the existing features. The proposed re-development activities will maintain a 30 m setback from the Rideau River, comparable to that of the neighbouring lands;
- The Rideau River is considered a suitable habitat, as well as the neighbouring lands, for various species as mentioned above. To minimize the impact during development on this species, the following mitigation measures should also be considered in addition to those listed in the remainder of this section:



- As mentioned above, avoid deforestation and construction activities during periods of nesting and fledgling activity, between May 15th and August 15th; and
- Should at any time during the works, a nest or eggs, or any species of bird, turtle or fish, be encountered, it is prohibited to destroy or damage them. It is best practice to either leave the findings in place without disturbing them, however if necessary (i.e. susceptible to damage or disturbance), they may be carefully relocated to a safe area as close to the original location as possible. A qualified person, such a as biologist may assist with this activity.

9.3 Significance of Environmental Impacts Following Mitigation

The proposed development footprints are anticipated to be between beyond 30 m from the Rideau River 100 year floodplain limit. The impact to the overall function of the river is negligible. No significant adverse cumulative effects are anticipated as a result of the construction activities following the use of the above mitigation measures.

No on-going monitoring is recommended following the construction activities.

10 CONCLUSIONS

It is our professional opinion that with the use of the above mitigation measures, the impacts on the fish habitat as a result of the proposed re-development will be negligible. No negative impacts on the natural features or ecological functions of the fish habitat are anticipated. The proposed re-development is 30 m beyond the setback from the Rideau River also identified as a fish habitat.

Yours truly,
LRL Associates Ltd.



Abdul kader Alhaj
Environmental Technicien



Jessica Arthurs
Partner, Environmental Service Team Lead



FIGURES

APPENDIX A
Proposed Development Plan

ZONING - R1E	REQUIRED	EXISTING
		2013 Survey by Farley, Smith & Denis
		2009 Survey by Farley, Smith & Denis
Min. Lot Width:	19.8m	31.34m
Min. Lot Area:	*1390m ²	4600.4m ²
Min. Front Yard Setback:	7.5m	114.80m
Min. Rear Yard Setback:	12m	48.06m
Min. Interior Yard Setback:	0.9m, 1.2m	1.39m
Max. Lot Coverage:	**15%	N/A
Max. Building Height:	8.5m	N/A

*Minimum lot area is 930 m2 for lots connected to a piped municipal water supply
 **Maximum lot coverage is 25% for a lot connected to a piped municipal water supply

PERMITTED PROJECTIONS

- No building or structure, including any part of a sewage system, which does not require plan of subdivision, or site plan control approval, shall be located closer than 30 m to the normal high-water mark of any watercourse or waterbody

- No building within 30m of a railway right-of-way is to be used for a residential use building

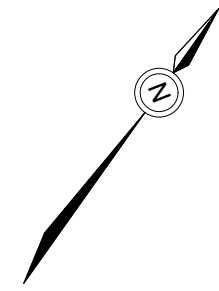
Survey Info

Surveys completed by Farley, Smith & Denis surveying Limited on December 10, 2020 and July 11, 2022.

SECTION 139

Front Yard and Corner Side Yard Landscaping
 Minimum Soft Landscaped Area: lot width > 12 m = 40%

Driveway width 3m or 6m + 0.15m landscape strip from side lot line.
 Garage or carport setback 0.6m further from applicable lot line

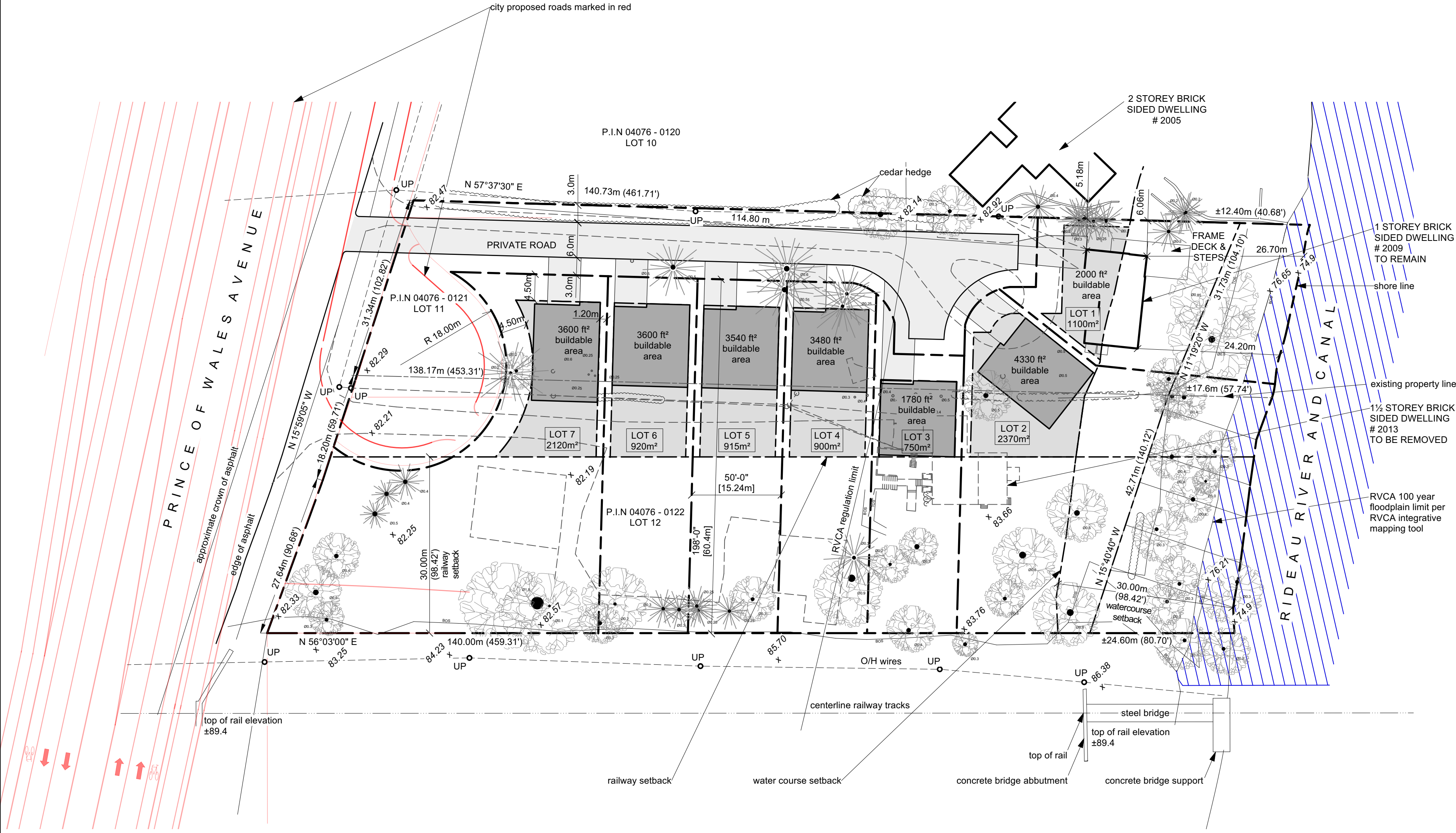


DRAWING LEGEND

- ZONING BOUNDARY
- LOT LINE
- SETBACK LINE
- o/h wires OVERHEAD WIRES
- FENCE
- UP UTILITY POLE
- TOS TOP OF SLOPE
- BOS BOTTOM O SLOPE
- ▨ FLOOD PLAIN LIMIT

no.	date	revision

- GENERAL NOTES**
- Contractor must verify dimensions and conditions on site before proceeding with any portion of this work.
 - Do not scale from drawings.
 - All work to comply with the Ontario Building Code and municipal regulations.
 - This drawing to be read in conjunction with all material relevant to this project.



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scale	1:500
job no.	2112
project	2009 / 2013 Prince of Wales Ottawa, ON
date	September 9, 2022
drawing	SITE PLAN
designed	
drawn	KK
checked	ED
dwg no.	A-1

APPENDIX B
Ontario Bird Atlas

Species Common Name	Scientific Name	Evidence Category	Species Common Name2	Scientific Name3	Evidence Category4
Alder Flycatcher	<i>Empidonax alnorum</i>	Possible to Probable	Killdeer	<i>Charadrius vociferus</i>	Confirmed
American Bittern	<i>Botaurus lentiginosus</i>	Possible to Probable	Least Flycatcher	<i>Empidonax minimus</i>	Possible to Probable
American Black Duck	<i>Anas rubripes</i>	Possible to Probable	Magnolia Warbler	<i>Dendroica magnolia</i>	Possible
American Crow	<i>Corvus brachyrhynchus</i>	Confirmed	Mallard	<i>Anas platyrhynchos</i>	Confirmed
American Goldfinch	<i>Carduelis tristis</i>	Probable to Confirmed	Merlin	<i>Falco columbarius</i>	Possible
American Kestrel	<i>Falco sparverius</i>	Probable to Confirmed	Mourning Dove	<i>Zenaida macroura</i>	Confirmed
American Redstart	<i>Setophaga ruticilla</i>	Possible to Probable	Mourning Warbler	<i>Oporomis philadelphia</i>	Possible to Probable
American Robin	<i>Turdus migratorius</i>	Confirmed	Nashville Warbler	<i>Vermivora ruficilla</i>	Possible to Probable
American Woodcock	<i>Scolopax minor</i>	Possible to Probable	Northern Cardinal	<i>Cardinalis cardinalis</i>	Possible to Probable
Baltimore Oriole	<i>Icterus galbula</i>	Confirmed	Northern Flicker	<i>Colaptes auratus</i>	Confirmed
Bank Swallow	<i>Riparia riparia</i>	Confirmed	Northern Harrier	<i>Circus cyaneus</i>	Possible to Probable
Barn Swallow	<i>Hirundo rustica</i>	Confirmed	Northern Pintail	<i>Anas acuta</i>	Probable
Belted Kingfisher	<i>Megaceryle alcyon</i>	Probable to Confirmed	Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Probable to Confirmed
Black and White Warbler	<i>Mniotilta varia</i>	Possible to Probable	Northern Waterthrush	<i>Seiurus noveboracensis</i>	Possible to Probable
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Possible	Ovenbird	<i>Seiurus aurocapilla</i>	Probable to Confirmed
Black-capped Chickadee	<i>Poecile articipillus</i>	Confirmed	Pied-billed Grebe	<i>Podilymbus podiceps</i>	Possible
Blue Jay	<i>Cyanocitta cristata</i>	Confirmed	Pileated Woodpecker	<i>Dryocopus pileatus</i>	Possible to Probable
Boblink	<i>Dolichonyx oryzivorus</i>	Probable to Confirmed	Pine Siskin	<i>Carduelis pinus</i>	Possible
Broad-winged Hawk	<i>Buteo platypterus</i>	Possible	Pine Warbler	<i>Dendroica pinus</i>	Possible
Brown Thrasher	<i>Toxostoma rufum</i>	Probable to Confirmed	Purple Finch	<i>Carpodacus purpureus</i>	Possible to Probable
Brown-headed Cowbird	<i>Molothrus</i>	Probable to Confirmed	Red-breasted Nuthatch	<i>Sitta canadensis</i>	Possible to Probable
Canada Goose	<i>Branta Canadensis</i>	Probable	Red-eyed Vireo	<i>Vireo olivaceus</i>	Probable to Confirmed
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Probable to Confirmed	Red-tailed Hawk	<i>Buteo jamaicensis</i>	Probable to Confirmed
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	Possible to Probable	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Confirmed
Chipping Sparrow	<i>Spizella passerine</i>	Confirmed	Rock Dove	<i>Columba livia</i>	Probable to Confirmed
Clay-colored Sparrow	<i>Spizella pallida</i>	Possible to Probable	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Confirmed
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Confirmed	Ruby-throated Hummingbird	<i>Archilochis colubris</i>	Possible to Probable
Common Grackle	<i>Quiscalus quiscula</i>	Confirmed	Ruffed Grouse	<i>Bonasa umbellus</i>	Possible to Probable
Common Raven	<i>Corvus corax</i>	Confirmed	Savannah Sparrow	<i>Passerculus sandwichensis</i>	Confirmed
Wilson's Snipe	<i>Gallinago delicata</i>	Possible to Probable	Scarlet Tanager	<i>Piranga olivacea</i>	Possible to Probable
Common Yellowthroat	<i>Geothlypis trichas</i>	Confirmed	Sharp-shinned Hawk	<i>Accipiter striatus</i>	Possible
Cooper's Hawk	<i>Accipiter cooperii</i>	Possible	Song Sparrow	<i>Melospiza melodia</i>	Confirmed
Downy Woodpecker	<i>Picoides pubescens</i>	Possible to Confirmed	Sora	<i>Porzana carolina</i>	Possible
Eastern Bluebird	<i>Sialia sialis</i>	Confirmed	Spotted Sandpiper	<i>Tringa macularia</i>	Probable to Confirmed
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Confirmed	Swamp Sparrow	<i>Melospiza georgiana</i>	Probable to Confirmed
Eastern Meadowlark	<i>Sturnella magna</i>	Probable to Confirmed	Tree Swallow	<i>Tachycineta bicolor</i>	Confirmed
Eastern Phoebe	<i>Sayornis phoebe</i>	Confirmed	Turkey Vulture	<i>Cathartes aura</i>	Possible
Eastern Wood-Pewee	<i>Contopus virens</i>	Possible to Probable	Upland Sandpiper	<i>Bartramia longicauda</i>	Possible to Probable
European Starling	<i>Sturnus vulgaris</i>	Confirmed	Veery	<i>Catharus fuscescens</i>	Probable to Confirmed
Field Sparrow	<i>Spizella pusilla</i>	Possible	Vesper Sparrow	<i>Pooecetes gramineus</i>	Possible
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Possible	Virginia Rail	<i>Rallus limicola</i>	Possible
Gray Catbird	<i>Dumetella carolinensis</i>	Probable to Confirmed	Warbling Vireo	<i>Vireo gilvus</i>	Probable to Confirmed
Gray Partridge	<i>Perdix perdix</i>	Possible to Probable	Whip-poor-will	<i>Caprimulgus vociferus</i>	Possible to Probable
Great Blue Heron	<i>Ardea herodias</i>	Possible	White-breasted Nuthatch	<i>Sitta carolinensis</i>	Probable to Confirmed
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	Probable to Confirmed	White-throated Sparrow	<i>Zonotrichia albicollis</i>	Probable to Confirmed
Great Horned Owl	<i>Bubo virginianus</i>	Possible	White-winged Crossbill	<i>Loxia leucoptera</i>	Possible to Probable
Hairy Woodpecker	<i>Picoides villosus</i>	Probable to Confirmed	Wild Turkey	<i>Meleagris gallopavo</i>	Possible to Probable
Hermit Thrush	<i>Catharus guttatus</i>	Possible	Willow Flycatcher	<i>Empidonax traillii</i>	Possible to Probable
Horned Lark	<i>Eremophila alpestris</i>	Possible to Probable	Winter Wren	<i>Troglodytes troglodytes</i>	Possible
House Finch	<i>Carpodacus mexicanus</i>	Possible to Probable	Wood Duck	<i>Aix sponsa</i>	Confirmed
House Sparrow	<i>Passer Domesticus</i>	Confirmed	Wood Thrush	<i>Catharus mustelinus</i>	Probable
House Wren	<i>Troglodytes aedon</i>	Probable to Confirmed	Yellow Warbler	<i>Dendroica petechia</i>	Confirmed
Indigo Bunting	<i>Passerina cyanea</i>	Possible to Probable	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Confirmed
			Yellow-rumped Warbler	<i>Dendroica coronata</i>	Probable to Confirmed

Notes:

- Endangered Species according to O. Reg. 230/08
- Threatened Species according to O. Reg. 230/08
- Special Concern Species according to O. Reg. 230/08

APPENDIX C
Site Visit Photographs