

Memorandum

To: Jennifer Vandermeer, R.J. Burnside and Associates Ltd.

cc: Theyonas Manoharan, Fergus Development Inc.

From: Carolyn Glass, Beacon Environmental Limited

Date: August 8, 2023

Ref.: 221111

Re: Fergus Golf Course Redevelopment External Servicing Environmental Assessment – Preliminary Natural Heritage Features Assessment, Wellington County

Beacon Environmental Limited (Beacon) was retained by 883890 Ontario Limited c/o Fergus Development Inc. to provide an Environmental Impact Study (EIS) for the proposed redevelopment of a portion of Fergus Golf Club, located at 8282 and 8243 Wellington Road 19, Centre Wellington, County of Wellington (hereafter referred to as the “redevelopment site”).

As part of the proposed works, a Schedule C Municipal Class Environmental Assessment (MCEA) Study is being undertaken for the water and wastewater servicing for the proposed redevelopment. To support the MCEA, Beacon has been retained to provide a preliminary assessment of natural heritage features within the study area which may be impacted by the proposed servicing. The study area consists of the northwest site (north of Wellington Road 19), and the right of ways along County Road 19 to Fergus, and 2nd Line to the Grand River Valley (**Figure 1**).

Methodology and Policy Context

A combination of on-site, roadside and desktop assessment was completed to identify natural heritage features which may be within or adjacent to the study area. Seasonal field investigations were completed in 2022 and 2023. Natural Heritage Features, as defined by the Provincial Policy Statement (PPS) were identified.

Section 2.1 of the PPS provides direction to regional and local municipalities regarding planning policies specifically for the protection and management of defined natural heritage features and resources. The *Natural Heritage Reference Manual* (MNR 2010) is a technical document used to help assess the natural environment to identify natural heritage or significant features and areas, as defined by the PPS. The PPS provides planning policies for the following features:

- Significant wetlands;

- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat (SWH);
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Fish habitat; and
- Habitat of endangered and threatened species.

Each of these features or defined areas are afforded varying levels of protection subject to guidelines, and in some cases, regulations. Of these features, significant wetlands and woodlands can be designated either by Ministry of Natural Resources and Forestry (MNRF) and/or the municipality. Habitat of endangered or threatened species is regulated under the *Endangered Species Act* (ESA) by Ministry of Environment, Conservation and Parks (MECP) if a species is identified on a property through site specific investigation or through existing information. Fish habitat is governed by Fisheries and Oceans Canada (DFO). DFO also administers the *Species at Risk Act* (SARA). Ensuring the identification and regulation of the remaining features is the responsibility of the municipality or other planning authority.

With respect to Significant Woodlands, The Wellington County Official Plan states that “in the Rural System, woodlands over 4 hectares and plantations over 10 hectares are considered to be significant by the County”.

While the Wellington County Official Plan has not identified SWH, the study area has been generally assessed for the potential to provide SWH in the context of the *Significant Wildlife Habitat Technical Guidelines* (MNRF 2000), which provides four broad categories of SWH:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern; and
- Animal Movement Corridors.

The province’s *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF 2015), expands upon these categories providing further subcategories for assessment.

Other sources of information such as current and historical aerial photographs and local topographic survey data, were also. Further, Beacon’s background review also includes analysis of numerous information sources in a Geographic Information System (GIS) environment that facilitates an assessment of the likelihood that species at risk (SAR) and other natural heritage features are present in an area of interest. This system allows Beacon to combine the most current information provided by the MNRF through the LIO portal with GIS layers from other provincial and local datasets, including but not limited to, floral and faunal atlas data. This system enables the creation of a list of SAR for which there are records or which might be expected to occur within 5 km of a location. All relevant layers can then be overlaid on the most recent high resolution ortho-imagery. The screening process helps identify areas that can then be targeted (for example, potential habitat) during the field program to maximize the efficiency and effectiveness of on-site investigations.

Information sources reviewed included:

- Provincially tracked species layer (1 km grid LIO dataset);
- Ontario Reptile and Amphibian Atlas (ORAA);
- Ontario Breeding Bird Atlas (OBBA);
- Natural Heritage Information Centre (NHIC) Data via the Make-A-Map application;
- SAR range maps (Government of Ontario);
- High resolution aerial photography of the study area;
- Natural and physical feature layers (e.g., topographic, wetland, waterbody, watercourse data), LIO and Aquatic Resource Area (ARA) datasets; and
- Ontario Geological Survey (OGS) and soil physiography (Chapman and Putnam) datasets.

Existing Conditions

The study area was divided into three sections: the northwest site, Country Road 19 right of way and 2nd Line right of way to the Grand River. Results of the investigations are provided below in the context of natural heritage features which were confirmed to be present or may occur within the study area.

Northwest Site

The northwest site is currently a functional golf course including irrigation ponds, fairways, rough and sporadic trees. There is a clubhouse and other outbuildings on the site.

Vegetation

Vegetation surveys and community mapping was undertaken to describe and map the existing vegetation communities on current colour ortho-photography of the lands using the Ecological Land Classification (ELC) system for southern Ontario (Lee *et al.* 1998). This is the standard method used for describing vegetation communities in southern Ontario. Identified ELC communities are illustrated on **Figure 1**.

The northwest site is almost entirely anthropogenic, as it is comprised of the manicured golf course lands which are regularly mowed grassed areas. In areas categorized as “rough”, cultural meadows exist. There are four irrigation ponds which have some wetland marsh associated with their perimeters.

Offsite, to the north is the Irvine Creek valley which contains units of the Living Springs Provincially Significant Wetland (PSW) Complex (**Figure 1**). Immediately adjacent to the golf course is a large (>30 ha) poplar woodland/swamp (FOD5/SWM6-2) and cultural coniferous plantation (CUP3). There are farming operations within the woodland area adjacent to the PSW.

Aquatic Resources

Irvine Creek is located north of the site, within a wooded valley. Irvine Creek converges with the Grand River approximately 15 km downstream of the northwest site. As per the MNR Aquatic Resources

Area, Irvine Creek has been designated as coldwater thermal regime, based on the presence of coldwater fish species.

There are four irrigation ponds located on the golf course lands. Flow and connectivity of drainage to Irvine Creek were assessed from each pond. The southern most pond appears entirely isolated. Water was present in disconnected drainage areas between the more northern ponds, however, all inlets and outlets to each pond were dry at the time of the survey. The smallest pond located most westerly, appears to have discontinuous connection to Irvine Creek valley, and is heavily influenced by golf course irrigation practices.

Wildlife

Two breeding bird surveys were conducted on the mornings of June 10 and 29, 2022, on days with low to moderate winds, no precipitation and temperatures within 5°C of average seasonal temperatures. Start times were between 5:00 and 5:30 AM to capture the peak period of avian vocalization. The breeding bird community was surveyed using a roving type survey, in which all parts of the study area were walked to within 50 m and all birds heard or observed and showing some inclination toward breeding were recorded as breeding species. While access was limited to the northwest site, the offsite wetland/woodland was also included from the northern property boundary.

A total of 31 breeding bird species was recorded on the property during the 2022 breeding season with an additional two species noted as foraging only. The breeding bird communities were typical of those found in a golf course environment with wetlands, meadows, anthropogenic areas and scattered trees. Avian observations were generally distributed throughout the subject property. The anthropogenic and manicured areas produced the fewest number of breeding species and territories.

Many of the species were common birds that are frequently found in disturbed rural and urbanizing environments. The following species were recorded with more than five separate singing males or territories: Song Sparrow (*Melospiza melodia*), Red-winged Blackbird (*Agelaius phoeniceus*), Chipping Sparrow (*Spizella passerina*) and American Robin (*Turdus migratorius*). Other species with multiple territories on the subject property included: Tree Swallow (*Tachycineta bicolor*), Indigo Bunting (*Passerina cyanea*), Savannah Sparrow (*Passerculus sandwichensis*), Baltimore Oriole (*Icterus galbula*) and House Wren (*Troglodytes aedon*).

The wetland communities and ponds on the subject property supported several species that typically rely on or are closely associated with wetland habitats to fulfill their life cycle. Such species included: Common Yellowthroat (*Geothlypis trichas*), Red-winged Blackbird, Eastern Kingbird (*Tyrannus tyrannus*), Canada Goose (*Branta canadensis*) and Spotted Sandpiper (*Actitis macularia*). Non-breeding birds were noted foraging over the ponds, including Barn Swallow (*Hirundo rustica*) and Bank Swallow (*Riparia riparia*).

Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) were present on the subject property, both of which are protected under the ESA as threatened species. These birds occurred in a number of grassland patches within the golf course area. A total of two Bobolink territories were noted and four Eastern Meadowlark territories. Both of these birds are also area-sensitive. Area-sensitive birds are those that require larger tracts of suitable habitat in which to breed or are those that have a higher breeding success in larger areas of suitable habitat. Two such species were recorded in

addition to the Bobolink and Eastern Meadowlark. Savannah Sparrows are also considered grassland specialists, and four territories were present. The American Redstart is the final area-sensitive species and is typically associated with wooded areas.

No species considered S1 through S3 (Critically Imperiled through Vulnerable) using the provincial ranks were recorded. All species are either S4 (Apparently Secure) or S5 (Secure).

Irrigation ponds on the northwest site were not investigated for use by amphibians or reptiles; however incidental amphibian use (i.e., calling Green Frog [*Lithobates clamitans*]) was noted. While turtle basking surveys on ponds south of Country Road 19 (i.e., redevelopment site) resulted in no turtle observations, it is possible the ponds on the northwest site provide habitat. Some (e.g., <10) terrestrial chimney crayfish (*Fallicambarus fodiens*) chimneys were observed in the areas around the ponds.

Significant Wildlife Habitat

The NHIC provides a report of potential Colonial Waterbird Nesting Area in the location north of the golf course. There is also the potential for bat maternity colonies, amphibian breeding habitat, and area-sensitive bird breeding habitat within the woodland/swamp to the north. The presence of terrestrial crayfish chimneys may potentially provide SWH for the species within the northwest site.

ANSI

There is a regionally significant life science ANSI approximately 3.5 km to the northwest.

Endangered and Threatened Species

Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*), both subject to the ESA, were present on the northwest site within the cultural meadow areas of the golf course lands. The woodland/swamp to the north may support endangered bats.

Country Road 19

This portion of the study area follows the right of way from the northwest to site toward to community of Fergus.

Vegetation

The majority of land adjacent to the County Road 19 right of way consists of agricultural fields. A small (< 4 ha) cultural mixed plantation (CUP2) exists at the southeast intersection of County Road 19 and 2nd Line (**Figure 1**).

Aquatic Resources

The Black Drain, a municipal drain, crosses County Road 19, and is shown as a watercourse crossing on **Figure 1**. The Black Drain converges with Irvine Creek approximately 3.5 km downstream of where it crosses County Road 19. The Black Drain has a narrow riparian area, approximately 4 m wide, and investigations within the southeast site (i.e., Fergus redevelopment lands) yielded no fish within the drain; however, it is considered to provide indirect fish habitat to downstream reaches.

The upstream portions of the Black Drain that traversed the development area have been abandoned and will be redirected (i.e., piped) through subdivision streets.

A second small drainage feature crossing/culvert is located along County Road 19 (**Figure 1**). This feature appears to convey runoff from the west side of the road to the east and through an agricultural ditch to Grand River.

Wildlife

An active Osprey (*Pandion haliaetus*) nest was noted on a hydro pole platform during field investigations on the north side of County Road 19, just east of 2nd Line.

Endangered and Threatened Species

While specific wildlife surveys were not conducted, it is possible that threatened grassland avian species may be using any suitable habitat within and adjacent to the right of way. It is also possible that endangered bat species are present in the adjacent plantation.

2nd Line to Grand River

This portion of the study area includes the right of way from the intersection of County Road 19 to the Grand River valley.

Vegetation

A small (1 ha) woodlot exists just outside of the 2nd line right of way, approximately 1 km south of County Road 19. Within the Grand River Valley, east of 2nd Line, is a woodland community which include coniferous plantation. To the west, a cultural meadow is present with planted and sporadic trees.

There are no mapped PSWs within this reach of the Grand River Valley.

Aquatic Resources

The Grand River, downstream of the Shand Dam/Lake Belwood flows under 2nd Line. DFO's Aquatic Species at Risk mapping indicated that Grand River in this location supports Silver Shiner (*Notropis photogenis*), a federally and provincially endangered minnow species.

A second small drainage feature crossing/culvert is located along 2nd Line (**Figure 1**). This feature appears to convey runoff from the west side of the road to the east and through an agricultural ditch to Grand River.

Significant Wildlife Habitat

The NHIC provides a report of potential Colonial Waterbird Nesting Area in the location north of the golf course. The Grand River Valley may also provide potential SWH in the form of bat maternity colonies, turtle nesting and wintering areas and area-sensitive bird breeding habitat.

Endangered and Threatened Species

As noted above, the Grand River in this location provides habitat for Silver Shiner, which is provincially and federally threatened, and regulated under the ESA and SARA.

Summary of Natural Heritage Features

The following table provides a summary of the natural heritage features confirmed to occur, or have the potential to occur, within the study area.

| Study Area Location | Natural Heritage Features |
|----------------------|--|
| Northwest Site | <p><u>Onsite</u> Habitat of Endangered or Threatened Species (<i>Eastern Meadowlark and Bobolink</i>)</p> <p><u>Offsite (North)</u> Provincially Significant Wetland (Living Springs Wetland Complex) Significant Woodland Significant Valleyland (Irvine Creek Valley) Fish Habitat (Irvine Creek) Potential Significant Wildlife Habitat</p> |
| County Road 19 | <p>Fish Habitat (Black Drain) Potential for Habitat of Endangered or Threatened Species (<i>Eastern Meadowlark and Bobolink</i>) if grassland/hay fields within right of way.</p> |
| 2 nd Line | <p>Habitat of Endangered or Threatened Species (<i>Silver Shiner</i>) Significant Woodland Significant Valleyland (Grand River Valley) Fish Habitat (Grand River) Potential Significant Wildlife Habitat</p> |

Preferred Alternatives

The preferred alternatives are depicted on **Figure 2** and include the discharge to onsite irrigation pond for wastewater treatment plan and new onsite communal water servicing via drilled wells. The anticipated footprint of these alternatives is outside identified natural heritage features, with the exception of potential threatened avian species habitat. It is our understanding that there will be no interference of shallow aquifers (i.e., surface features) during operations as new wells are drawing groundwater from a deep aquifer, separated from the shallow aquifer. Further, it is our understanding that any water added to the irrigation ponds will be used through irrigation, as under existing conditions, and will not impact the hydrology of adjacent features.

In this regard, the following mitigation and recommendations are proposed:

- Obtain permits from the Grand River Conservation Authority under Ontario Regulation 150/06 of the *Conservation Authorities Act* for any works with regulated areas;
- Site buildings outside of suitable habitat for threatened avian species to the extent possible. Approvals under the ESA will be required should any threatened avian species habitat be impacted;
- Approvals under the *Fish and Wildlife Conservation Act* for the temporary relocation of fish and wildlife for any proposed works within the irrigation ponds;
- Development of a robust erosion and sediment control plan per the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019); and
- Any necessary vegetation removal should be undertaken between September 1 and March 30 for compliance with the *Migratory Birds Convention Act*, otherwise nest surveys by a qualified avian biologist should be undertake prior to vegetation removal.



Legend

- Study Area
- Northwest Site
- Watercourse (MNR 2023)
- Watercourse Crossing
- Grand River Valley
- Ecological Communities
- Proposed Development
- Provincially Significant Wetland (MNR 2022)
- Osprey Nest Platform (Active in 2023)

| Units | Code | Wetland Communities |
|-------|-----------------------|--|
| 4 | SWM6-2\FOD5 | Poplar - Conifer Organic Mixed Swamp/Dry - Fresh Sugar Maple Deciduous Forests |
| Units | Code | Cultural Communities |
| 2 | CUP3 | Coniferous Plantations |
| 5 | CUM1 | Mineral Cultural Meadow |
| 3 | CUP2 | Mixed Plantations |
| Units | Code | Other Communities |
| 1 | ANT | Anthropogenic |
| 6 | HE | Hedgerow |
| 7 | Manicured Golf Course | Manicured Golf Course |

Fergus MCEA – Natural Heritage Features

Figure 1

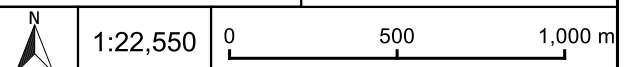
Fergus Servicing MCEA



Project: 221111
Last Revised: August 2023

Client: Fergus Development Inc.

Prepared by: BD
Checked by: CG



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Legend

- Northwest Site
- Watercourse (MNRF 2023)
- Provincially Significant Wetland (MNRF 2022)

Wastewater Treatment

- Wastewater Treatment Plant
- Effluent Forcemain

Water Treatment

- Water Treatment Plant
- Production Wells
- Watermain

Fergus MCEA – Preferred Alternatives

Figure 2

Fergus Servicing MCEA



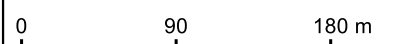
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