



Fisheries Impact Assessment
772 Winston Churchill Boulevard
Town of Oakville

Prepared for:
IBI Group

Prepared by:
Azimuth Environmental
Consulting, Inc.

December 2021

AEC 21-447



Environmental Assessments & Approvals

December 23, 2021

AEC 21-447

IBI Group
Suite 200, 360 James Street North
Hamilton, Ontario
L8L 1H5

Attention: Ms. Ashley Minns

Re: **Fisheries Impact Assessment, 772 Winston Churchill Boulevard, Town of Oakville**

Dear Ms. Minns:

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by IBI Group to complete a fisheries assessment of the development proposed at 772 Winston Churchill Boulevard in the Town of Oakville. Azimuth visited the site in December 2021, and reviewed development plans and background information in order to assess potential impacts in regards to fish and fish habitat.

Should you have any questions please do not hesitate to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Mike Gillespie, B.Sc. Env.
Fisheries Ecologist



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1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by IBI Group to complete a fisheries assessment of the development proposed at 772 Winston Churchill Boulevard in the Town of Oakville. The property contains a watercourse (Clearview Creek) that is regulated by Credit Valley Conservation (CVC) under Ontario Regulation 160/06.

That assessment, described herein, describes existing aquatic conditions on the property, assesses potential impacts and provides recommendations for the development in regards to fish and fish habitat. It also aims to address CVC natural heritage review comments 22, 23 and 27 contained within the Draft Site Plan Comments Report received by IBI on August 30, 2021 from the Town of Oakville.

2.0 STUDY APPROACH

Azimuth conducted a high-level site visit of Clearview Creek on the property on December 2, 2021. Aquatic conditions were assessed in proximity to areas of development.

A review of the following resources provided background information related to fish and fish habitat in Clearview Creek:

- Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Land Information Ontario (LIO) database (2021a);
- Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Information Centre (NHIC; 2021b);
- NDMNRF Fish ON-Line (2019);
- Aerial photography available for the property (VuMap, 2021); and,
- Fisheries and Oceans Canada aquatic Species at Risk (SAR) mapping (DFO, 2019).

3.0 EXISTING CONDITIONS

3.1 Land Use

The property is located along the west side of Winston Churchill Boulevard at the eastern boundary of the Town of Oakville, approximately 2.5 kilometres (km) south of Highway 401 and 1.5km north of Lake Ontario. The site comprises recently-disturbed agricultural/industrial lands that are generally vegetated with upland mixed meadow vegetation, however meadow establishment remains in its early stages and a substantial bare soil component persists at the ground level. Clearview Creek follows the western and southern property boundaries, draining southward toward Lake Ontario. The



northern property boundary is abutted by an active railway line with industrial development beyond its northern limits. A residential subdivision is located beyond the western property boundary, and an agricultural field separated by a hedgerow is located beyond the southern property boundary.

3.2 Fish and Fish Habitat

The property is located within the Clearview Creek watershed, and contains approximately 815m of Clearview Creek. This watercourse is regulated by CVC, and within the 'Lake Ontario West Watersheds' area (CVC, 2015). Background mapping suggests this watercourse originates approximately 850m northwest of the rail line at the north property boundary (VuMap, 2021). Upon exiting the property at Winston Churchill Boulevard, Clearview Creek flows for approximately 1.6km before entering Lake Ontario. This watershed shows a high degree of historic alteration from adjacent development (commercial, industrial and residential). This includes channelization and the presence of online ponds.

In 2007, a subwatershed study for the Clearview Creek was completed (MRC/EL, 2007). In approximately 2013, the creek was realigned from a central alignment on the property to its current alignment within a 40m wide corridor on the west and south sides of the property. The realigned creek channel featured a natural channel design with riffle-pool morphology.

During the site visit, Clearview Creek contained elevated flow conditions as a result of recent snowmelt. The downstream 100m of the creek on the property had a defined channel ranging between 4.25-5.8m wide and 0.8-1.0m deep (bankfull measurements). Substrate consisted primarily of clay, sand and silt, with stone placed during realignment works only noted in one location. Water clarity was high, and a water temperature of 7.2°C (air temperature = 10°C) was recorded. Dead cattail (*Typha latifolia*) stems were present in many sections of the active channel of the creek. The riparian corridor was dominated by Common Reed (*Phragmites australis*), with other herbaceous/grassy species and woody shrubs noted. The creek exits the property through an open bottom concrete arch culvert (approximately 7m wide [inner width]).

The upstream 685m of Clearview Creek on the property displayed highly flooded as a result of extensive beaver activity in combination with melt conditions. Three beaver dams spanning the creek channel were documented, with substantial backflooding into the floodplain at each one. The creek enters the property through an approximately 6m wide concrete box culvert at the CP rail line. The creek channel immediately downstream of the culvert contains dense emergent (cattail and *Phragmites*) vegetation



and lacks a defined channel. Water quality appeared to be degraded in this location. Slightly turbid conditions and garbage were noted.

Flow permanency in the creek is unknown as a result of the timing of the site visit. However, the creek is classified as ‘warmwater’ in the LIO database (NDMNR, 2021a), and the Clearview Creek Subwatershed Study suggests Clearview Creek contains intermittent flows (MRC/EL, 2007).

No fish were observed in Clearview Creek during the site visit. The Subwatershed Study indicates that Creek Chub (*Semotilus atromaculatus*) and Fathead Minnow (*Pimephales promelas*) were captured before channel realignment on the property (MRC/EL, 2007). There are also records of Blacknose Dace (*Rhinichthys atratulus*) in the creek. These three baitfish species are habitat generalists tolerant of a wide variety of conditions, including warm systems with relatively poor water quality. Background information suggests upstream fish passage from Lake Ontario is entirely or severely restricted (MRC/EL, 2007).

There are no records of aquatic SAR in Clearview Creek (DFO, 2019). This watercourse provides direct fish habitat that is protected under the Federal *Fisheries Act*. Overall, fish habitat sensitivity in Clearview Creek is considered ‘low’.

4.0 PROPOSED DEVELOPMENT

The proposed development involves the construction of two industrial warehouses of 30,906m² (Building ‘A’; to the east) and 29,203m² (Building ‘B’; to the west). These warehouses will be separated by a paved surface of approximately 28,500m² that includes space for truck loading and parking. In total, 45,401m² of the property will be paved as part of the development.

As per the Stormwater Management and Functional Servicing Report (Candaras, 2021b), the site will feature a dry pond, underground storage chambers and oil grit separators (OGS’s) for stormwater quantity and quality control. The dry pond will feature a 6.0m long x 3.0m wide rip rap outlet channel in the Clearview Creek floodplain, and an emergency spillway for 100+ year storm events. A second emergency spillway separate from the pond will be installed approximately 112m to the west, also outletting into the Clearview Creek floodplain.

A combination of 1.2m chain link fence and 4.3m high acoustic barrier will suitably delineate the creek corridor from development on the property.



The development will be serviced via a watermain connection to a proposed watermain on Winston Churchill Boulevard, and a 0.25m diameter sanitary forcemain to the southwest that will utilize an existing 0.40m diameter sleeve under Clearview Creek.

As per the Functional Servicing Report for External Sanitary and Watermain Municipal Services (Candaras, 2021a), it is anticipated that Winston Churchill Boulevard will be widened in the future “for turn lanes as part of the development of 772 and 560 Winston Churchill, as well as potentially including an intersection with the future extension of Orr Road”.

5.0 IMPACT ASSESSMENT

The footprint of Building ‘A’ will be approximately 50-103m from Clearview Creek, while the footprint of Building ‘B’ will be approximately 26-45m from Clearview Creek. Site works will, by and large, occur beyond the 100-year flood line, and approximately 13-45m from the high-water level of the creek.

Minor encroachment within the 100-year flood line will occur at the northwest corner of the development, and for the western emergency spillway and dry pond outlet. These works will extend no closer than 13m to the high-water line of Clearview Creek.

As per the Stormwater Management and Functional Servicing Report, stormwater will discharge into the Clearview Creek corridor via an outlet to the southeast. Post-development runoff quantity is anticipated to match pre-development runoff quantity up to and including the 100 year storm event. Stormwater will be discharged into the Clearview Creek corridor at a controlled rate. Combined with outlet scour protection in the form of rip rap placement, and dense emergent vegetation, there is no expectation of erosion in the floodplain and creek. All water exiting the dry pond will pass through three oil-grit separators that will provide an ‘enhanced’ (80%) level of total suspended sediment removal. Drainage from new paved and hardened surfaces on the property is therefore anticipated to adhere to water quality and quantity criteria for discharge into a watercourse.

Given the Clearview Creek baitfish community and fish habitat sensitivity being low, the proposed development setbacks, when considered with the proposed stormwater controls, and recommendations below, are considered sufficient for the protection of the fish/fish habitat found within Clearview Creek.



Installation of the sanitary sewer will occur through an existing sleeve below Clearview Creek. Ends of the existing pipe are located well beyond the 100-year flood line; as a result, there is no requirement for in-water work.

Similarly, stormwater elements within the Clearview Creek corridor will not require in-water work to construct. There is no expectation of permanent impacts, including the loss or alteration of fish habitat, in Clearview Creek from development on the property.

Despite work within the Clearview Creek floodplain occurring, all potential construction impacts are considered to be predictable and mitigatable. Provided erosion and sediment controls (ESC's) and standard best management practices (BMP's) are applied to construction activities, particularly those that are closest to fish habitat, the project is not expected to cause temporary impacts to fish/fish habitat. Mitigation recommendations are provided in Section 6.0.

It is noted that there is the potential for future in-water work immediately to the east of the property for the widening of Winston Churchill Boulevard. At this time, the extent of widening and design details are unknown. As a result, it is unknown if the box culvert conveying Clearview Creek at the roadway will require replacement/alteration. Review of future road widening designs will be required by a fisheries ecologist to assess potential impacts to aquatic habitat, and determine if permitting under the *Fisheries Act* is required.

6.0 RECOMMENDATIONS

6.1 Erosion and Sediment Controls

Runoff due to construction can contribute significant sediment loads to receiving watercourses. Thus, effective erosion and sediment control at construction sites are crucial in mitigating issues associated with sediment and erosion. The following BMP's should be considered during planning stages, and included in the design before construction:

- Installation and maintenance of sediment and erosion controls (ESC's), such as silt fencing, in order to prevent erosion and sedimentation into watercourses will be required for construction activities on the property. Additional ESC's will be required to isolate all excavation/stone placement in the Clearview Creek floodplain in order to mitigate the risk of sediment conveyance in runoff towards Clearview Creek;
- Materials storage on the property (eg. soil stockpiles) should also be contained within ESC's, and located >30m from all watercourses/fish habitat;
- Siltation control devices should be installed prior to the commencement of



- construction, and monitored on a regular basis to ensure any deficiencies are identified and promptly corrected. Maintenance should continue until soils are stabilized and development activities are completed;
- If dewatering is necessary, dewatering activities should be pumped to a filter bag (*i.e.*, envirobag or equivalent) prior to being released into any watercourse/drainage feature. Filter bags should be placed a minimum of 30m from fish habitat on stable, vegetated ground. Monitoring of dewatering operations should occur throughout the construction process to ensure water exiting bags is clean and free of fines;
 - Vegetation removal required within the Clearview Creek corridor for stormwater elements should be minimized to the extent possible;
 - Vegetation removal on the property should be avoided/minimized, where possible;
 - Areas of exposed soil should be stabilized using a cover crop/native seed mix as soon as possible during/following construction;
 - Timing of construction should coincide with dryer periods to further minimize the potential for transport of sediment and other deleterious substances near fish habitat. This applies particularly to works within the Clearview Creek floodplain. The retained contractor should plan on completing such works during rain-free periods when the Clearview Creek floodplain is dry;
 - Machinery should not enter any areas of fish habitat at any time during site development. Machinery entry into the floodplain of Clearview Creek should be avoided to the extent possible. If required for the construction of the dry pond outlet, machinery should only enter the floodplain to the extent required to reach areas of excavation/stone placement; and,
 - All maintenance of machinery required during construction should be conducted at least 30m away from the watercourses to prevent accidental spillage of deleterious substances that may harm the aquatic environment. A Spill Response Plan and the appropriate contingency materials to absorb a spill should be available at all times. The Contractor is required to report any spills to the Ontario Spills Action Center at 1-800-268-6060.

6.2 Restoration

As per Section 6.1 above, disturbed areas on the property are required to be re-vegetated post-construction. It is recommended that a native wetland seed mix is applied to all disturbed areas of the Clearview Creek floodplain.

Wherever possible, it is recommended that buffer enhancement plantings are installed between the proposed development and the creek channel. One suitable area for



plantings would be the slope in which the property drops off noticeably to the floodplain of the creek. It is recommended that native, locally-sourced tree/shrub plantings are used to augment existing vegetation.

7.0 CVC REVIEW COMMENT RESPONSES

Responses to CVC review comments are provided as follows:

Comment 22. The subject property contains natural heritage features including a regulated watercourse. All development should be outside of this feature and set back a sufficient distance to afford the feature protection. To protect the feature gateless fencing should be installed along the creek corridor limit to deter encroachment.

Given the low habitat quality of the watercourse, and proposed work on subject lands, development setbacks are considered sufficient for the protection of fish/fish habitat, and maintenance of watercourse form and function. A combination of chain-link fencing and an acoustic barrier will serve to delineate the boundary between the development and creek corridor, and deter encroachment.

Comment 23. The functional Servicing Report indicates stormwater will be discharged to Clearview Creek through outfall infrastructure. It is unclear if environmental impacts to the area have been assessed. Please confirm and describe any anticipated impacts to the watercourse as a result of the proposal and ensure that impacts are mitigated.

As per the Stormwater Management and Functional Servicing Report (Candaras, 2021b), stormwater quality and quantity controls are in place for the proposed development. Stormwater will be discharged through a single outlet from the dry pond into the floodplain of Clearview Creek. Controlled pumping rates, rip rap placement and dense emergent vegetation are expected to suitably mitigate the risk of erosion in the floodplain. The outlet channel will extend as close as 13m to the high-water mark of Clearview Creek, and will not require in-water work to construct. Mitigation measures for preventing sediment-laden runoff from entering the creek during construction are outlined in this report.

Comment 27. Given that the works are proposed in or near water (e.g. SWM outfall, removal of open water feature/pond), it is the responsibility of the proponent to ensure that works, undertakings or activities do not cause the death of fish or cause the harmful alteration, disruption, or destruction under the Fisheries Act. Please review the complete list of measures to avoid harm here: <https://www.mdfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html> and implement those that are applicable to the proposed work. If it is not possible to avoid or mitigate impacts, proponents can submit



a request for review from the region's Fish and Fish Habitat Protection Program office (contact info: fisheriesprotection@dfo-mpo.gc.ca or 1-855-852-8320). Please refer to the Fisheries and Oceans Canada (DFO) website for additional information.

The proposed stormwater outlet will be constructed within the floodplain of Clearview Creek (below the 100-year flood elevation) as close as 13m to the high-water line of Clearview Creek. No in-water work is required for development on the property. Provided mitigation measures and standard BMP's are implemented, there is no anticipation of temporary or permanent impacts to Clearview Creek. As a result, site works are not expected to result in the death of fish or a HADD.

8.0 REFERENCES

A.M. Candaras Associates Inc. (Candaras). 2021a. Functional Servicing Report for External Sanitary and Watermain Municipal Services – Industrial Development at 772, 560 and 568 Winston Churchill Boulevard, Town of Oakville

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