

Response to EEPAC Comments on the Clarke Road Improvements (VMP Extension to Fanshawe Road East) Environmental Impact Study (Stantec, August 15, 2018).

No.	EEPAC Comment	Stantec Response
1.	<p>Ecological and environmental water quality monitoring is critical, and presently inadequate. Presently the EIS provides what appears to be a single measurement at one site for pH, conductivity, dissolved oxygen and temperature. There is also a basic description of the aquatic habitat. This is inadequate to provide an accurate estimate of pre-disturbance conditions. Pre-construction conditions need to be measured, recorded and evaluated to establish the existing environmental/ecological baseline for the area where the work is proposed. Also, the monitoring program needs to record and measure any changes, including any potential adverse impacts on environmental/ecological health of this system. The monitoring program should be conducted for a minimum period of one year prior to finalizing the design and construction of this proposed work and be monitored for a minimum of 2-3 years following the construction period. This monitoring program should be based on professionally recognized monitoring program protocols, be comprehensive and should include terrestrial, aquatic and water quality monitoring components. Water quality monitoring should include basic water chemistry (major anions and cations, nutrients, including nutrient constituents, contaminants, chlorophyll a, dissolved oxygen, pH and specific conductivity) together with BioMapping and/or aquatic biomonitoring following CABIN protocols. Water quality monitoring should be done multiple times to capture seasonal variations and should include samples upstream and downstream of the construction site. As noted in the EIS, the bridge and construction will have impacts on the adjacent terrestrial and aquatic systems. It must be ensured that there is an accurate baseline assessment to determine post construction impacts and appropriate mitigation and compensation to protect the ecosystem.</p>	<p>It is agreed that monitoring during and post construction is a critical component of monitoring potential impacts and allows for the adjustment of mitigation measures in an adaptive manner to address issues that may arise. The water quality measurements documented in the EIS were not intended to formulate a baseline of existing conditions, but rather were included as a single visit recording of water quality criteria that indicate the general health of the system (e.g.; adequate dissolved oxygen levels, etc.), as a complement to the general description of the physical habitat.</p> <p>It is anticipated that a monitoring program will be developed during detailed design that will identify specific water quality parameters to be assessed and the frequency of sampling that will be adequate to provide an indication of existing conditions. This baseline will then be used for comparison of during construction results against background levels. The baseline will also provide an indication of variation in the water quality constituents that will assist with determining acceptable levels of deviation that may be observed when monitoring during construction.</p> <p>City staff will work with UTRCA to determine appropriate components of a monitoring program to be undertaken prior to, during, and post construction. EEPAC will continue to be consulted during the Detail Design phase of the project.</p>
2.	<p>Sediment Erosion Control Plan (SECP) - critical steps required for the design component of the proposed infrastructure that will require careful planning and monitoring. Based on the EIS, it is clear that an important issue will be the erosion control measures proposed for this project. Without control measures, erosion may have significant effects on the ecological/environmental system, negatively impacting both the terrestrial and aquatic ecosystems. Erosion controls must be proposed and adequately outlined to protect SAR, aquatic water quality and aquatic and terrestrial ecosystems. These controls must be extremely robust and sufficient to avoid sediment intrusion and impact. The proposed SECP/measures should be in principal developed and described in the ESR of this Municipal class EA. The supervision and review of the SECP, mitigations and implementations must be done by the Consultant, the City staff and UTRCA, to ensure accountability.</p>	<p>Section 7.6.1 of the EIS describes general sediment and erosion control measures at an appropriate level of detail for a Class EA study. At the detailed design stage, SECPs are usually assembled so as to address site-specific requirements for protections and to design sediment and erosion control measures best suited for particular design elements, as well as for landscape considerations such as topography, slope and drainage patterns. During detailed design, specific sediment and erosion control measures will be identified and depicted on plans associated with grading and construction.</p> <p>City staff have committed to work with UTRCA during detailed design and prior to the start of construction to ensure that the proposed works are acceptable and to obtain required permits. It is expected that the completion of a SECP will be a component of approvals. EEPAC will continue to be consulted during the Detail Design phase of the project.</p>

<p>3.</p>	<p>Additional detailed studies are required to better document SAR as is recommended in the EIS report. Additional detailed environmental studies are recommended. These include surveys, recording and determining the presence or absence of SAR, both aquatic and terrestrial, and should be included as a part of the Municipal Class EA Study's Environmental Study Report (ESR) together with all applicable recommendations for protection of these species and overall ecological health of the system. Examples include documenting Queensnake hibernacular and hairy sedge microenvironment. Is there evidence that hairy sedge can be successfully transplanted? Where is there suitable habitat for such a transplant? Similar questions regarding Weak bluegrass and rhombic-leaved sunflower.</p>	<p>Documenting Queensnake hibernacula will be the responsibility of MNRF and UTRCA. Stantec collected data from both agencies during preparation of the EIS; however, we were not permitted access to search for hibernacula to protect the area from foot traffic and associated disturbance.</p> <p>We are not aware of species-specific guidelines that are available to direct transplanting of hairy fruited sedge, weak bluegrass or rhombic-leaved sunflower. However, a relocation plan will be prepared during detailed design and implemented by experienced professionals to improve success, and a monitoring plan is recommended to track and adapt management efforts as necessary (EIS Section 7.6.2).</p> <p>Hairy fruited sedge forms dense vegetative colonies by spreading via long rhizomes, a characteristic that allows the plant to be easily transplanted to suitable habitat. Illinois wildflowers describes hairy fruited sedges as one of the few sedges that can compete with reed canary grass in wetland habitat (http://www.illinoiswildflowers.info/grasses/plants/hf_sedge.htm).</p> <p>Suitable habitat for this species is present on the seepage valley slope; both the population and habitat were delineated during the EIS (see Figure 2b). Suitable relocation habitat is present in SWDO3, west of the existing population.</p> <p>Weak bluegrass and rhombic-leaved sunflower are both perennials are expected to be readily relocated via seed collections and/or digging root masses. Suitable habitat is available in the Study Area, including woodlands (weak bluegrass) and open areas (rhombic-leaved sunflower). Rhombic-leaved sunflower is particularly adventive in old fields and roadsides.</p> <p>Relocation plans should be prepared during detailed design so that the exact limits of the project, with respect to these species, is understood.</p> <p>Many of the environmental concerns related to this project have been mitigated through the process by which the preferred alternative design was selected, as described in the ESR. The anticipated impacts and proposed mitigation measures developed to the EA level of design have been described in Section 8 of the ESR. The ESR provides a detailed list of specific commitments to be carried forward to Phase 5 of the Municipal Class EA process, Implementation (detailed design and construction). It is recommended in the ESR that these commitments become part of the detailed design phase and contract package so that contractors are aware of the requirements prior to tendering. City staff have committed to work with UTRCA and MNRF during detailed design and prior to the start of construction to ensure that the proposed works are acceptable and to obtain required permits. EEPAC will continue to be consulted during the Detail Design phase of the project.</p>
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<p>4.</p>	<p>The underlying principals and general outline of the proposed compensation and mitigation plans that will be developed and presented for the MNRF and DOF approval permits need to be identified and recommended by the ESR of this Municipal Class EA. The recommended mitigation and compensation plans and costs associated with this work are critical requirements for the success of the proposed work and should be part of the ESR record.</p>	<p>Authorization from MNRF is required for any work that may cause harm to Eastern Meadowlark, Queensnake, Spiny Softshell, SAR bats, Silver Shiner or their habitat. Consultation with MNRF conducted for the EIS indicates that an overall benefit permit under ESA S.17.2.c will be required to address harm to Queensnake and its regulated habitat. Permitting under the ESA can take up to a year or more from the time the application is submitted; therefore, early consultation with MNRF is recommended to determine if a permit will be required for other protected species. Consultation with MNRF may be initiated by submitting an Information Gathering Form as soon as the preferred alternative is selected, and the footprint of the proposed road improvements is available.</p> <p>Because a permit application is required for Queensnake, the project will be subject to legal tests, including:</p> <ul style="list-style-type: none"> • Demonstration that reasonable alternatives to avoid adversely affecting the species and its habitat have been considered; • Reasonable steps will be taken to minimize adverse effects; and • Overall benefit to the species can be achieved within a reasonable time. <p>The MNRF and UTRCA will work with the City of London to determine mitigation and compensation requirements during their review of the IGF and S.17.2.c permit application.</p>
<p>5.</p>	<p>The ESR needs to include a proposed design for the storm/drainage and Storm Water Management (SWM) water quantity/quality plan and the location of storm outlets. The ESR needs to provide a storm/drainage and SWM plan to determine where discharges of storm sewers will occur. This is a critical piece of water quality control.</p>	<p>SWM design criteria used as part of this study were based on City of London's Design Specifications and the 2003 MOECC Stormwater Management Practices, Planning, and Design Manual. These outline that the SWM measures identified must serve their fundamental role of water balance, surface water quality, quantity, and erosion control when it comes to development impact mitigation.</p> <p>The ESR contains documentation of the existing stormwater management conditions and evaluates the proposed conditions. The existing catchment areas are not anticipated to change in any significant way with respect to their coverage areas, and drainage conveyed via roadside ditches will be used. The area at the south project limit that overlaps with the Veterans Memorial Parkway extension is also subject to ongoing development plans and the Kilally Stormwater Management EA. Due to the existing outlets onto private property, linear storage and infiltration is recommended to control the quantity/quality of the runoff.</p> <p>Modelling of the Thames River relative to the potential widening or replacement of the piers indicates minimal impact. Modelling details are included in the ESR for reference.</p>

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<p>6.</p>	<p>Invasive species control measures need to be described in more detail. Plans to minimize invasive species are described very generally. With selection of the preferred option, we expect to see more detailed plans in the ESR.</p>	<p>The EIS recommends implementation of a clean equipment protocol to reduce the potential to spread invasive species and references the industry standard guide prepared by MNRF's Steward Council and the Invasive Species Council (Section 7.6.6). The protocol will be specified on contract drawings, including specifications for cleaning equipment prior to entering and/or leaving work sites.</p> <p>The EIS also recommends a management plan to address existing invasive species, including European buckthorn, glossy buckthorn and exotic honeysuckle (Section 8.10) which are on the City of London's "watch List". European and glossy buckthorn are priority management species. The clean equipment protocol and invasive species management plan should be consistent with the London Invasive Plant Management Strategy (https://www.london.ca/residents/Environment/Natural-Environments/Pages/Invasive-Plants.aspx) and London's Phragmites guide, which is still in preparation. The invasive species management plan should consider an integrated approach that includes hand pulling, girdling and cutting, herbicide application, and monitoring over multiple years (e.g. 5 years, which is the term of viability for buckthorn seeds). However, the plan should be developed based on site specific considerations described in Section 8.10 of the EIS, the London Invasive Plant Management Strategy, and species-specific guides such as the Invasive Buckthorn – Best Management Practices in Ontario (https://www.ontarioinvasiveplants.ca/wp-content/uploads/2018/05/OIPC_BMP_Buckthorn_May282012_D61.pdf)</p> <p>The detailed plans should be prepared with input from the landowners, City of London, EEPAC, and UTRCA during detailed design.</p>
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