



MEMO

TO: Jennie Ramsay, Project Director, Rapid Transit, City of London
FROM: Erin Fitzpatrick, Ecologist, WSP Canada Inc.
SUBJECT: **Draft London RT Environmental Impact Study – General Response to Comments from Environmental and Ecological Planning Advisory Committee**
DATE: **June 7, 2018**

This memorandum provides an overview of how WSP staff will be addressing the comments provided by the Environmental and Ecological Planning Advisory Committee (EEPAC) following their review of the Draft London RT Environmental Impact Study (EIS). The attached table details comments and WSP's responses.

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COMMENT #	COMMENT	RESPONSE
Existing Conditions		
Highlights:		
1	Terrestrial flora surveys should be conducted early May in order to see the full spring ephemeral community additionally we recommended survey be performed throughout the summer to identify and transplant regionally rare species if present as based on your responses to our previous comments. The surveys are incomplete	<p>Surveys for spring ephemerals were completed during May for all seven sites. The final EIS report will be updated to include species recorded during these surveys.</p> <p>The EIS Report (Items 2 and 4, Appendix G) recommends that transplants of regionally rare species be completed during the growing season prior to disturbance.</p>
2	Additional fish surveys should be conducted during the spring of the year (March-May) to determine what fish species are present within the BRT study area during the spring spawning season. The document indicated surveys were only performed in the late summer and early fall of the year.	<p>Due to the presence of Species at Risk within the watercourses in question (Medway Creek, North Thames River, Thames River), permission to complete fish community sampling during the spawning season is unlikely to be granted by the MNRF. A Schedule C Permit under the Endangered Species Act is typically required to complete community sampling in waters where SAR presence is known or thought to occur. Therefore, WSP recommends that further sampling be avoided – there is sufficient information on community assemblages to carry out an assessment of impacts.</p> <p>Additional spawning surveys were not completed during the spring as it was determined that little additional information would be obtained. Black Redhorse, specifically, cannot be identified without examining specimens to verify the presence of species-specific diagnostic characters. Without an opportunity to examine the fish closely, confirmation of presence by</p>

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		<p>specific species would not be possible. The habitat assessments that were completed during 2015 and 2017 documented habitat present at the sites, including habitat that would be suitable for spawning. This information was considered in the impact assessment.</p> <p>At Sites 3, 4 and 5 where in-water work is anticipated, and aquatic and terrestrial SAR are thought to be present, the MNRF will consider impacts to the environment as it relates to all Threatened and Endangered species that have been documented at the site in question. Where additional information is required, the MNRF may request that surveys be completed as part of the permit process. If surveys are done too far in advance, they may no longer be valid when it comes time to apply for the permit and will need to be repeated.</p> <p>The EIS recommends that additional MNRF and/or DFO consultation be completed during detailed design when the area of impact is better understood. Potential impacts will be addressed through the permitting process and will include overall benefit measures, if deemed appropriate. Recommendations for additional sampling have been included in Items 24 and 25 of Appendix G to confirm the presence of SAR mussels at Sites 3, 4 and 5.</p>
3	No access to hydrological existing conditions, benthic invertebrate sampling, water balance, etc...	<p>The Stormwater Management Report prepared by IBI Group, provides information on the hydrological existing conditions throughout the study area. This report also examines water balance at Site 6 (Westminster Ponds) where preliminary analysis indicated that water balance at this site can be achieved, thereby maintaining the existing moisture regime within the Provincially Significant Wetland. This finding is in line with the recommended mitigation in Item 4, Appendix G of the EIS, which states that stormwater management plans must ensure surface water and/or ground water inputs to the PSW at Site 6 are balanced between pre- and post-construction. The existing urban cross-section across the remainder of the study area is not expected to change substantially, and as a result, significant changes to infiltration are not expected.</p> <p>Benthic macroinvertebrate data for 2015, 2016 and 2017 has been requested from the UTRCA. Available data will be discussed in the final EIS report.</p>
4	No benthic sampling past 2014?	<p>WSP has requested benthic data for 2015, 2016 and 2017 from UTRCA. Available data will be summarized in the final EIS report, and raw data will be appended to the report.</p>

5	<p>The reporting on existing and future hydraulics/hydrological condition, including water balance (surface, subsurface water and groundwater conditions) and evaluate any potential adverse impacts on the environment and ecology the project infrastructure lands functions and features, if these water resources conditions with be altered.</p>	<p>As noted in the response to Comment #3, the Stormwater Management Report provides information on the hydrological existing conditions throughout the study area. This report also examines water balance at Site 6 (Westminster Ponds) where preliminary analysis indicated that water balance at this site can be achieved, thereby maintaining the existing moisture regime within the Provincially Significant Wetland. The existing urban cross-section across the remainder of the study area is not expected to change substantially, and as a result, significant changes to infiltration are not expected.</p> <p>Reporting on existing and future hydraulics is to be completed during the detailed design phase of the project for sites where an impact may occur, namely at locations where alterations to the in-water footprint of an existing crossing are proposed (i.e. Sites 3, 4 and 5).</p>
6	<p>The required correlation/coordination of these existing and future water resources conditions together with soil conditions on the evaluations of potentially adverse impacts, mitigation measures associated with the assessment of changes of environmental/ecological conditions of the system that will be impacted by the proposed BRT infrastructure system.</p>	<p>The Geotechnical and Environmental Screening Report prepared by Golder Associates Ltd. (2018) examines available information related to general subsurface soil and groundwater conditions along the proposed transit routes and provides preliminary geotechnical engineering recommendations for transit shelter foundations, road widening, slope stability and pavements. Also included in the report is a preliminary environmental screening based on publicly available information to identify potential property contamination issues. Key recommendations from the geotechnical report, with respect to treatment of dewatering discharge to remove chemical contaminants have been incorporated into Appendix H of the EIS Report.</p>
Additional comments:		
7	<p>A timeline showing the restrictions of work for various habitats and species (Migratory Bird, turtle nesting, spawning, etc). be included in all bid documents. (It is not included in the EIS and it should be as well as there are a number of “blackout” times given the variety of terrestrial and aquatic species affected)</p>	<p>A timeline showing restrictions for work in various habitats will be provided in the bid documents and will be addressed during detail design on a site by site basis.</p> <p>Given the complexity of the project, and the number of species and habitats that need to be considered, a single timeline for the project is not practical. The EIS outlines timing restrictions; however, the ultimate schedule at each site will need to be determined through consultation with relevant agencies during detailed design.</p>

8	<p>Although habitat enhancement strategies are an admirable goal, it is unclear what strategies have been successful for the SAR species identified in this study. More clarity is required.</p>	<p>Habitat enhancement strategies are not just a goal but a requirement of the permitting process through the Endangered Species Act, with the requirement that the enhancements result in an overall benefit to the impacted species.</p> <p>During the Overall Benefit Permit application process, the responsible consultant will complete a review of the scientific literature and will consult with scientific experts to determine strategies and approaches that have been successful with the species in question, or a similar species. The strategies employed will be approved by the MNRF when it has been determined that they will collectively result in an overall benefit to the species.</p>
9	<p>The EIS must include dates aquatic surveys were carried out and if the surveys were done in areas of BRT work. (There are no dates for work undertaken by agencies!)</p>	<p>The table in Appendix F of the EIS Report has been updated to provide additional information on surveys times and locations. Emphasis has been placed on the approximate location each species was observed from Sites 1, 2, 3, 4, 5 and 7 by noting observations within specific distance ranges (e.g. < 500 m, 500 m to 1000 m, > 1000 m). Additional details are provided in the Aquatic Existing Conditions section of the SLSR (WSP, 2017).</p>
10	<p>Where Queensnake is noted (p. 7), the EIS be updated to reflect the finding of a Queensnake by a member of the public and confirmed by the SAR biologist at UTRCA in 2012/2013 west of Medway bridge (site 3). Queensnake surveys must precede work at this location. This should include the mowed back yard adjacent to the “station” south of Winderemere, between the Medway bridge and the residence bridge. This back yard is actually Huron University College property.</p>	<p>Thank you for that information. We have received information from the agencies, but have not included specific location information in our EIS. Many species (reptiles in particular) are vulnerable to poaching and we have been advised to keep specific details out of the reports. However, please be assured that WSP is aware of agency confirmed species locations up to the date of most recent correspondence with them.</p>
11	<p>Chimney Swift and Cavity tree surveys for bats be required at detailed design stage when works may negatively impact SAR species. Swift Watch be consulted during the detail design stage. (Was there a reply to Erin’s May 8, 2017 e-mail to Claire Paller at the MNRF regarding Swifts and detailed nest surveys?)</p>	<p>At the bottom of the second page of the email response dated July 26, 2017, the MNRF indicated that ‘detailed surveys to determine presence of nests/breeding activity be completed as close to the proposed project start date as possible.’ This direction was given specifically for Barn Swallow, Chimney Swift and Cliff Swallow. This email is included in Appendix B of the EIS Report.</p> <p>In Item 15, Appendix G of the EIS Report, surveys have been recommended to confirm species presence / absence during the breeding season before construction/site preparation</p>

		<p>activities are to commence. A recommendation has been included that MNRF and Swiftchwatch be contacted during detail design to confirm appropriate survey protocols.</p> <p>To address potential impacts to SAR bat species, in Item 32, Appendix G of the EIS Report, the following recommendation was previously provided: “At the detailed design stage, a survey for suitable cavity trees within 6 m of the proposed works (specifically vegetation removal) at Sites 1, 3, 4 and 6 should be completed during leaf-off to better determine the potential for impacts to this type of habitat. Appropriate avoidance and mitigation measures should be determined through consultation with the MNRF during detailed design.”</p>
12	<p>Mollusc surveys be required at the detail design stage for in water works and works at site 3. Any SAR species found must be removed and relocated away from the construction site rather than held and relocated to the site later.</p>	<p>In Section 10.2 of the EIS Report, we have indicated that “the need for additional targeted surveys for SAR mussels will be discussed with MNRF and DFO at detailed design, once footprint impacts are known, to address potential permitting and related works issues. Mussel rescue/relocations will be required at all locations where mussels have been confirmed within the in-water footprint as well as impact zones downstream of the in-water footprints”. These efforts are to be completed at all sites where in-water works are proposed.</p> <p>Mussel rescue/relocation programs for SAR will be developed through consultation with the MNRF and/or DFO during detailed design. As noted in Items 24 and 25, Appendix G, these relocations should follow the guidance provided by and approved by MNRF through consultation, and DFO’s <i>Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario – Great Lakes Area (OGLA)</i>.</p>
13	<p>The Awareness and Encounter Protocols be reviewed at each site with the SAR biologist from UTRCA where turtles and their habitat may be affected by work. A fisheries expert from UTRCA or UWO provide the review where SAR aquatic species may be encountered and their habitat affected. This is particularly relevant as female turtles travel many kms.</p>	<p>Text within subsection 8.3.2 was revised to include the following:</p> <p>“Consultation may extend beyond the MNRF to include UTRCA, DFO, Western University, or other experts or agencies, as deemed appropriate.”</p>
14	<p>All water balance reports, particularly for the project near site 6, must be reviewed by the hydrologists at the City and the UTRCA.</p>	<p>The reports are currently under review by the City and UTRCA.</p>

15	<p>Agree the SAR status be reviewed prior to detail design and/or construction. It is noted that Figure 27 is wrong as Spiny Softshell Turtles were listed as Endangered (from Threatened) in Ontario in Dec 2016.</p>	<p>Noted</p> <p>Figure 27 and report text was updated to show that Spiny Softshell Turtle is listed as Endangered in Ontario.</p>
16	<p>EEPAC would appreciate knowing who checks the Overall Benefit Permit and who checks if there has been an overall benefit? For Turtles, the SAR biologist at UTRCA must review the application before submission. If you hope to achieve and overall benefit, the permit must include how much money will be provided to ensure there is a benefit. Furthermore, who actually determines if the conditions of the permit have been met and what are the consequences if the benefits are not achieved?</p>	<p>Overall Benefit Permits are issued by the MNRF, and only once all parties agree to the terms of the permit and plans. A variety of different approaches may be included as part of a permit for overall benefit, including, but not limited to: outreach programs to educate public about harm reduction; partnerships with a university to help fund research dedicated to the species in question or its habitat; and habitat creation and/or enhancement. Permits typically include annual monitoring programs and reporting, which are reviewed by the MNRF. Contingency plans are also developed at the time of the permit application in the event that the agreed upon overall benefit plans do not meet MNRF expectations or are not benefitting the species. These contingency measures will be enacted if the annual monitoring indicates that the overall benefit plans are not achieving their pre-determined goals.</p>
17	<p>The EIS notes the thermal regime for Site 3 but not for any of the other relevant sites such as 2, 4, 5 and 7. This information should be included in final EIS.</p>	<p>Section 5.3 Existing Conditions has been updated to include more clear descriptions of thermal regime for Sites 2, 4, 5 and 7.</p>
18	<p>Regarding Site 1, EEPAC provided extensive notes to SWM stage regarding restoration plans for Mud Creek and that restoration for fishery habitat is less important than restoration for other species as there is a perched culvert at the Thames outlet and that fish are likely not found upstream.</p>	<p>The enhancement and restoration plans for the Mud Creek Subwatershed EA are expected to be completed in advance of the works for the BRT project and is to accommodate the ultimate BRT cross-section for Oxford Street West. As such, habitat restoration and enhancement plans are not expected to present a significant component of the work completed at this site as part of the BRT works. Nevertheless, WSP observed baitfish using the scour pool at the outlet of the tributary culvert from the parking lot to the north, as well as in the open water areas immediately adjacent the box culverts at the two private entrance lanes further east.</p> <p>In Item 38, Appendix G of the EIS Report, WSP recommended that re-assessment of habitat conditions within the remaining sections of the original channel following the realignment efforts to determine what habitat remains for fish within the existing culvert crossing</p>

		location. If fish are still using the habitat, then mitigation measures as outlined in Item 38 should be implemented to protect that habitat.
19	Assessment of soil quality (SQ) indicators that detect soil degradation in different land use and soil management systems (LUSMS) is desirable to achieve sustainable management strategies. Can we include soil quality (Physical, chemical and microbial) assessment and monitoring procedure in place for all sites in 300 m buffer zone?	Soil quality assessments are not typically completed for road widening projects. As the RT project largely consists of road widening, this assessment will not be completed.
20	Is initial screening and element [occurrence] being absent sufficient to make decisions on SAR? Better to have comprehensive survey for SARs at least in natural heritage sites (Sites 1 and 6).	<p>The absence of an element occurrence does not indicate the absence of a species.</p> <p>The approach taken by WSP follows the industry standard whereby SAR potential at a given site is estimated based on the results of the background review and agency consultation which provide information on historical or known occurrences, an assessment of existing habitat and comparison against SAR habitat requirements, and taxon-specific surveys (e.g. botanical surveys, breeding bird surveys, etc.). Comprehensive surveys for individual SAR species can be very labour-intensive and potentially harmful to the species (in the case of fish and/or mussels). Where potential for a particular species has been identified, mitigation measures have been provided to avoid or minimize impacts.</p> <p>Sites 1 and 6 have been studied extensively, both as part of this project and others (e.g. Mud Creek Subwatershed EA). Information from those studies has been included in the EIS and factored into the conclusions made by WSP staff with respect to SAR potential at these sites. The same approach was taken for other sites examined in the EIS report.</p>
21	Field notes indicate that they have found several invasive species?	<p>Yes. Non-native and invasive plant species were observed at Sites 1 to 7 where encroachments into the Natural Heritage System is anticipated. Approximately 36% of the plant species documented within the Study Area are considered non-native species, and of these, 25 are considered “undesirable non-native species” according to the City of London Environmental Management Guidelines (Table 4, Appendix C).</p> <p>An invasive species management strategy has been recommended in Section 8.4 of the EIS Report. There is an opportunity for the BRT invasive species management strategy to</p>

		dovetail with future and ongoing invasive species management programs being conducted by the City of London.
System based design		
Highlights:		
22	Current flow regime including velocity and depth at site 3. Pier design must try to minimize impacts to these hydrological factors and minimize immediate downstream impact	Maintenance of existing conditions, including flow velocity and depth has already being recommended in the EIS Report for Site 3 (and other sites where in-water works are proposed). This is a hydraulic issue and will be covered at detailed design.
23	Impacts to species at risk. Need to main the current riffle, pool sequences at site 3. This is known spawning site of castostomids including the threatened black rehorse (<i>Moxostoma duquesnei</i>) and wavy-rayed lampmussel (<i>Lampsilis fasciola</i>).	As above. The EIS Report recommends maintenance of existing conditions where possible. Hydraulic issues will be investigated in more detail during detailed design.
24	The two lane multi use pathway adjacent to the PSW be reduced to one lane in order to reduce the impact of the PSW (site 6).	We are proceeding with the worst-case scenario to protect that design option. Refinement during detailed design is possible.
25	EEPAC agrees with permanent barriers to prevent the public from accessing sensitive river bank and shoreline habitat. For example, we agree with the exclusion fencing at Site 6 at detailed design and construction and then made permanent.	Noted. The suggested measures will be considered during detailed design and included where deemed appropriate.
26	EEPAC notes there is little if any data on Silver Shiner. Avoidance of habitat loss is the best approach to protecting this SAR fish.	Agreed. In general, there is very little data on Silver Shiner available within the wider scientific literatures. Recommendations provided within Item 26, Appendix G, speak to minimizing works associated with in-water habitat, banks and floodplain in areas that have been identified by the MNRF as habitat supporting Silver Shiner and protected to some

		<p>degree under the Endangered Species Act. Text has been added to stress that where possible impacts to habitat for this species should be avoided.</p> <p>As noted in Item 26, Appendix G impacts to regulated habitat may require an Overall Benefit Permit under the ESA depending on a review of the proposed works with MNRF. Overall benefit plans should consider bank restoration works to address sedimentation issues, bank and floodplain plantings, and habitat enhancement for the species, research and community outreach programs.</p>
27	<p>EEPAC supports enhancement of habitat around the Murray Drain at Site 7 and the protection of the adjacent meadow for Meadowlark.</p>	<p>Noted</p>
28	<p>Bridge work at Site 3 has the potential to be very deleterious to fish habitat, particularly to habits for castostomids (suckers) including the SAR Black Redhorse (<i>M. duquesnei</i>). Hydrological modelling will need to be performed for this site to see how modification of the bridge and construction in the permanently wet sections of Medway Creek will influence the hydrological regime of the stream. Great care must be taken to minimize in water impacts to both the substrate, the flow and the thermal regime of the stream. Critical environmental factors for Black Redhorse spawning area has been identified as streams and smaller river short distances away from their mouths (Bowman, 1970; Smith 1977)/ Black Redhorse have been seen spawning on in the spring riffles of rubbles and gravel 15-60 cm of water (Bowman 1970) with flow rates of 1.4 m³/sec and surface velocities of 0.24 m/sec (McSwain and Jennings, 1972).</p>	<p>Reporting on existing and future hydraulics is to be completed during the detailed design phase of the project for sites where an impact may occur, namely at locations where alterations to the in-water footprint of an existing crossing are proposed (i.e. Sites 3, 4 and 5).</p> <p>Mitigation previously recommended in Items 27 and 37, Appendix G, concerning Black Redhorse and Medway Creek, respectively, included minimizing works within in-water habitat to that which is absolutely necessary, completion of works during appropriate timing windows (i.e. work is to be avoided between March 15th and July 15th of any given year), and implementation of robust sediment and erosion control measures to minimize sediment release. WSP can confirm that the current location of potential in-water impacts are not within habitat that supports Black Redhorse Spawning (i.e. impacts are to a backwater area downstream of the bridge), and potential impacts to the habitat for this, and other SAR species, will be fully reviewed by MNRF under the ESA permitting process, to ensure impacts are necessary and managed appropriately.</p> <p>To stress the need for maintenance of current flow conditions, additional text has been added to Items 26, 27, 36, and 37 of Appendix G as follows:</p>

		<p>Hydraulic modelling should be completed at later design stages to ensure that the proposed works will not alter the depth, velocity, flow regime or turbulence of the flow upstream and downstream of the bridge location(s).</p>
<p>Mitigation and monitoring</p>		
<p>Highlights:</p>		
<p>29</p>	<p>Creation of monitoring plan overseen by multiple agency groups including pre-, during, and post-construction. Compensatory mitigation plans shall be reviewed by City staff, EEPAC, MNRF, DFO, and UTRCA staff before being finalized. Approval of the MNRF, DFO and UTRCA shall be required.</p>	<p>Involvement by various stakeholders in the creation of monitoring plans and compensatory mitigation plans will be determined in part by the nature of the species/feature to be impacted. For example: MNRF and/or DFO will be involved in approval of compensatory mitigation and monitoring plans (i.e. Overall Benefit Permits, and Permits under the Species at Risk Act (SARA)) where impacts to provincially and/or federally listed SAR are expected; the DFO will dictate compensation and monitoring requirements for impacts to fish habitat as part of the application for a Fisheries Act Authorization (FAA); and the UTRCA will approve compensation and monitoring requirements as applicable under the Conservation Authorities Act.</p> <p>The City may determine if other groups or specialists should be involved in the development of compensatory mitigation and monitoring plans not covered by other permits or authorizations.</p>
<p>30</p>	<p>Habitat replacement should also be considered for the impacted aquatic environment. Having compensatory habitat replacement in terrestrial systems is not enough to replace lost aquatic habitats. Improvement of stream/river banks and riparian areas could help with this. Additionally, development of new spawning areas and enhancement of current ones along the water course for species such as Black Redhorse (<i>Moxostoma duquesnei</i>) should be considered.</p>	<p>Habitat replacement for the aquatic environment will be addressed through the required permitting processes (Fisheries Act Authorization or Overall Benefit Permit). Fisheries Act Authorizations (FAA) are provided by the DFO when they have formally accepted a Serious Harm Assessment. FAAs typically include terms and conditions and requirements for a compensation plan.</p> <p>As mentioned previously, an Overall Benefit Permit administered by the MNRF, includes overall benefit measures which may include restoration works to address sedimentation issues, habitat enhancement for the species or its host fish species, and research and community outreach programs.</p>

		To complete habitat enhancement or replacement that is not formally approved as part of these permit processes, would require additional permits for impacts to other species.
Additional comments:		
31	Given how much of the compensatory mitigation is in the future and is noted to take 20-40 years for woodland recovery, the city shall consult with the UTRCA, MNR, DFO and EEPAC on sufficient project budget for compensatory mitigation which will be required beyond the study area at various points in time.	<p>The 20 to 40 years woodland recovery estimate is meant to identify the residual net effect and duration where plantings are proposed to compensate for the removal of mature trees. Monitoring of these areas is not intended for a 20 to 40 year period.</p> <p>A three-year monitoring program, in accordance with industry standards, has been recommended for areas not covered under other permits or authorizations, which may have specified monitoring periods (e.g. for SAR). The City will develop budgets based on the requirements outlined within specific permits and monitoring plans.</p>
32	The compensatory mitigation plans must have suitable budgets because only the standard three-year warranty for plantings is included in the EIS. The Plans must also include who is responsible for monitoring, who is specifically to receive monitoring reports and frequency. It is not enough to say, for example, “The city will get annual reports.” EEPAC’s concern is that it is unclear how much review is done at detail design stage having almost never been involved at the detail design stage!	The City will develop budgets based on the requirements for permits / monitoring plans as determined by the agencies. The City will receive annual reports and applicable stakeholders will be circulated on the reports.
33	Consideration be given to start funding compensatory mitigation in the Ponds now by implementing the buckthorn removal plan recommended by N-S Environmental in the Master Plan for this ESA.	Invasive species removals will be coordinated with other City programs throughout the course of the project. Funding for these efforts will be included in the larger budgeting exercise for the project.
34	Better than 1:1 replacement be considered replacement of mass rather than replacement of individuals when considering compensatory mitigation for tree removal.	To offset for the removal of vegetation communities / habitat associated with significant natural features within the Natural Heritage System, including significant woodlands and wetlands, mitigation in the form of habitat replacement at a ratio greater than 1:1 land area is

		<p>required through plantings of appropriate native species. This recommendation appears in the report text within Section 8.2 and Items 2 and 4, Appendix G.</p> <p>Based on direction from the City, text has been included in Item 1, Appendix G to address compensation for street tree removals, as follows:</p> <p>Compensation for street tree removal is to be at a 3:1 ratio, whereby for each street tree removed, three will be planted elsewhere in the City and as close to the removal area as possible.</p>
35	Removal of <i>Phragmites</i> be included in each project budget where this invasive plant occurs in the work area of each project such as Site 6.	As noted within Section 8.4, removal of invasive species from the natural heritage system is to occur using best management practices established by the Ontario Invasive Plant Council. This may include treatment of species in advance of construction to reduce the risk of spread and mitigate potential impacts (e.g. <i>Phragmites australis</i>). The City is to determine budgeting requirements and timing for removals during later stages of the project.
36	Is there a plan to create new turtle nesting habitat? IF so, this must be reviewed by SAR biologist specialist at UTRCA.	There are currently no plans to create new turtle nesting habitat as impacts to this habitat are not anticipated at this time. Creation of nesting habitat may be included as a condition of an Overall Benefit Permit, in which case consultation with the MNRF and UTRCA SAR biologists would be completed.
37	When construction starts, this could cause further disturbance in micro climate- disturbance in soil and hydrology. Is there assessment and monitoring procedure in place? Especially distance in soil could attract invasive species in buffer zones (300m).	Section 8.4 of the EIS recommends the implementation of a Clean Equipment Protocol as part of the Invasive Species Management Strategy to reduce the potential for increased spread and colonization by invasive species. The Invasive Species Management Strategy is part of the Environmental Management and Monitoring Plan; details of this plan will be drafted during detailed design.

Construction window

Highlights:

38	Clarification of wording when mentioning in water works. For Black Redhorse, in water works should be performed from early summer to late fall (June-November) to avoid construction during the spring spawning migrations and on the spawning grounds.	Wording to describe permissible periods for in-water works has been updated in Appendix G as follows: All in and near water works should be completed during the permissible in-water timing window to protect specific sensitive life functions in order to minimize impacts to the species. In-water works are to be avoided between March 15 th and July 15 th of any given year.
Additional comments:		
39	Consider moving and replanting the Kentucky Coffee Tree near the University Bridge. The assumption is that moving while the tree is youngest is better. Continue to work with Dr. Greg Thorn with regards to the movement of this tree and the Butternuts at site 4.	Agreed. Methods, timing and monitoring of the transplant will be determined through consultation with the MNRF; however, consultation with the UWO will also occur as the tree is located on university property.
40	Support requiring Clean Equipment Protocol.	Noted
Comments on responses to previous comments issued by EEPAC following the review of the London RT SLSR (WSP, 2017)		
1	Continue to work with MNRF during the detailed design to minimize the impacts to Kentucky Coffee Trees. Dr. Greg Thorn should be consulted when dealing with the Kentucky Coffee Trees on site 4. Also, how will this be followed? We recommend monitoring of Kentucky Coffee Trees be implemented in the monitoring plan.	As Kentucky Coffeetree is listed as Threatened in Ontario, it is expected that a monitoring program will be required as one of the conditions surrounding the transplantation of this specimen. Methods, timing and monitoring of the transplant will be determined through consultation with the MNRF; however, consultation with the UWO will also occur as the tree is located on university property. Depending on the extent of impacts at Site 4, transplantation of this species will either proceed under a Letter of Advice from the MNRF, or it will be included in an Overall Benefit Permit to address potential impacts to a number of SAR at this Site.
2	We support the additional surveys to be performed throughout the summer. Further comments on this are included on page 1 of the document.	There were to be no additional surveys completed in 2018 in support of the EIS report. Surveys for spring ephemerals were included upon EEPAC's request to better document these species at all seven sites (as per Comment #1 of this document). The commitment to future work described in our response to comment #2 from the SLSR specified that the area of impact at Site 6 be surveyed during the summer prior to construction to identify and

		transplant regionally rare species, if present. This has been expanded upon in the EIS Report, specifically in Items 2 and 4, Appendix G, where WSP recommends that transplants of regionally rare species be completed during the growing season prior to disturbance. It is expected that these plant salvage efforts would take place during detail design once the limit and degree of disturbance at each site is better understood.
3	We support the additional surveys to be taken for occupancy of at-risk birds at site 4. This should also be included in the mitigation and monitoring plan.	Noted. Surveys were completed during 2017 and the results were incorporated into the draft EIS Report. As specified in the draft EIS, it is recommended that additional surveys take place in the breeding season prior to site disturbance to confirm nest usage and species presence / absence at all bridge sites where alterations are expected. MNRF is to be consulted to ensure use of acceptable protocols based on the species that are listed at that time.
11	We support the continued consultation and recommend that if potential turtle nesting and overwintering sites be lost that the construction of new nesting and overwintering sites be included in the mitigation plan.	Noted. Based on information obtained to date, works are not to be completed in turtle nesting habitat or turtle hibernation sites. Items 30 and 31 of Appendix G have been updated to include a recommendation that additional consultation with MNRF and UTRCA be completed during detail design to obtain the latest information with respect to locations of turtle nesting and wintering areas so that consideration for these habitats can be built into the contract documents and pre- and post-construction components of the Environmental Management and Mitigation Plan. Should direct or indirect impacts to these habitats occur as a result of the BRT works, compensation through habitat creation, rehabilitation and/or enhancement will need to occur.