NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

January 23, 2018 1762

Nancy Pasato
Senior Planner
Development Services, City of London
300 Dufferin Ave.
London, ON N6A 4L9

Dear Ms. Pasato:

Re: 3614, 3630 Colonel Talbot Road and 6621 Pack Road: Subject Lands Status Report Agency Comments Responses

On behalf of Natural Resource Solutions Inc. (NRSI), I am providing a response document for comments received from agency staff on the following reports:

- Colonel Talbot Property Subject Lands Status Report, Draft (November 2016, NRSI)
- Colonel Talbot Property Subject Lands Status Report, Final (September 2017, NRSI)

The following agency comments have been addressed in this document for the November 2016 version of the SLSR:

- Upper Thames River Conservation Authority (UTRCA), February 27, 2017
- City of London, February 24, 2017
- Environmental and Ecological Planning Advisory Committee (EEPAC), February 10, 2017

The following agency comments have been addressed in this document for the September 2017 version of the SLSR:

- UTRCA, January 15, 2018

Note that agency comments responses for the November 2016 version of the SLSR were not provided with the updated September 2017 version of the SLSR. Consultation with the study team is ongoing to fully address comments provided by UTRCA, as noted in the response documents. This submission is being provided at this time to facilitate review of the Environmental Impact Study (EIS) for the Phase 1 development area, which was submitted by NRSI in December 2017.

Tables of agency comments and responses, specific to each version of the SLSR, are attached for your review and comment. Please feel free to contact me if you have any questions or comments.

Sincerely,
Natural Resource Solutions Inc.

Andrew Dean, B.E.S.
Terrestrial and Wetland Biologist

Colonel Talbot Property, Residential Development
Agency Comments and Responses
Draft Subject Land Status Report (SLSR) – NRSI, November 2016

Table of Contents

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
SECTION 1.0 a) Please provide the date of the hydrogeological report	See updated Page 1 of the SLSR. The preliminary hydrogeological report is dated September 2016.
SECTION 3.0 a) Please provide the field data sheets for the anuran call surveys that include weather conditions (time, temp, wind, cloud cover). The timing windows for the surveys in Table 2 are off by 2 weeks from the recommended protocol.	Amphibian call survey data sheets appended to the updated SLSR (Appendix IV). As discussed during the team/agency meeting on March 21, 2017, early April amphibian call survey completed for the subject property on April 3, 2017 in order to replicate the missed timing window in early spring 2016. These data sheets have also been appended in the updated SLSR.
SECTION 3.0 b) 3.1.2 Tree Inventory – it is indicated that there are limited (if any) opportunities for tree retention within the Phase 1 lands and it is recommended that a tree inventory and corresponding tree protection/retention plan be completed during detailed design. Given that it is already known that there will be limited/if any opportunities for tree retention in Phase 1, a tree inventory should be prepared now and should include recommendations for tree compensation which could be integrated into the wetland relocation/compensation block.	As discussed during the team/agency meeting on March 21, 2017, the tree inventory and corresponding tree protection/retention plan will be completed during the detailed design.
SECTION 4.1 a) Please provide information supporting the statement that the pond at the northwest corner of the property was of anthropogenic origin. EXP identified this as a wetland area in 2016 and as shown on the enclosed regulation mapping, the feature is a regulated wetland which appears to have been	As discussed during the team/agency meeting on March 21, 2017, Sifton will follow-up with the past landowner, currently renting the land from Sifton, as to the history of the pond at the NW corner of the property. Refer to Section 5.1.1 of the updated SLSR for more information

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
removed without the necessary approvals. As indicated, the UTRCA's Land Use Regulations Officer for London will be following up on a potential violation of the Conservation Authorities Act.	pertaining to the wetland/pond feature at the NW corner of the subject lands.
SECTION 4.3 a) The delineation of wooded areas in Map 4 does not match the delineation of wooded vegetation communities in Map 3. Please address.	The 'Wooded Area' layer shown on Map 4 is a provincial basemap layer that is not accurate to on-site conditions. The ELC Map 2 accurately shows the extent of wooded vegetation communities. 'Wooded Area' layer removed from Map 4.
SECTION 4.3 b) A tree and bat inventory should be completed for the hedgerow running north-south in Phase I as well as for the hedgerow running west-east along the northern edge of the remaining subject lands to evaluate all potential bat habitats as well as to determine full extent of compensation if trees are to be removed.	As discussed during the team/agency meeting on March 21, 2017, the tree inventory and corresponding tree protection/retention plan will be completed during the detailed design. The results of a bat habitat assessment will also be integrated into that report. The need for bat exit surveys at trees proposed for removal identified with suitable bat habitat will be discussed with MNRF staff at that time.
SECTION 4.4.1 a) Immediately adjacent to the south edge in the centre of the entire property is an area with high banks just north of the tributary and Pond B (on map 4). These banks may need an extra buffer that will extend into the subject lands to ensure their stability. As well, a detailed survey for bank swallows should occur in these banks to ensure that there is no habitat for this species that will need protection on the subject lands.	Physical constraints (i.e. steep slopes) are to be addressed in the geotechnical assessment for the subject lands. During the breeding bird surveys, this slope was specifically inspected for any potential Bank Swallow breeding habitat. Based on that assessment, breeding habitat for Bank Swallow is not present in this location, or elsewhere within the subject lands.
SECTION 4.4.2.1 a) The Marsh Monitoring Program protocol requires 3 visits at each station. Since the wetland and pond feature at station ANR-001 was removed after the first visit, despite having "many individuals of Spring Peeper", the significance of this vegetation in terms of amphibians cannot be determined. We therefore would take the conservative approach and would argue that this vegetation feature was at least as significant as the other wetland features and ponds found in Phase I.	To clarify the results of the amphibian call surveys completed in 2016, a Call Code 2 for Spring Peeper was documented at station ANR-001. NRSI concedes that the original wording of the SLSR in this section of the report does not provide enough detail. Refer to the amphibian call survey data sheets appended to the updated SLSR (Appendix IV). Although safety concerns necessitated surveying the feature from a distance (Coyotes calling from that area), a Call Code 2 was recorded for Spring Peeper and accurately characterized the existing condition of the feature prior to its removal.
SECTION 4.4.2.1	Incidental observations of American Toad are limited to 2

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
b) Please show the locations of both the Northern Leopard Frog and the American Toad as number of species as well as number of individuals and type of species is needed to evaluate significance.	individuals nearby SNK-004. Incidental observations of Northern Leopard Frog are limited to 2 individuals to the east of the eastern MAM2-2 vegetation community.
SECTION 4.5.1 a) What type of fish species were recorded in the pool upstream of the culvert at Colonel Talbot?	The types of fish within the pool upstream of the culvert at Colonel Talbot Rd. were not identified. This crossing location was observed, although outside of the project area, in order to document whether there was any water present. As observed in the below photo (date taken June 10, 2016), there is no definition with the tributary through the grassed farmland immediately upstream of the culvert and this would be a barrier to fish. 
SECTION 5.1 a) Ontario Regulation 157/06 has a different objective than the Ontario Wetland Evaluation System. It is incorrect to use the	Agreed. Refer to updated text in this section.

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
OWES criteria as justification for not assessing wetlands under Ontario Regulation 157/06.	
SECTION 5.2 a) Would the presence of a bat maternity colony change the evaluation score of the woodland in the southeast corner? If so, then it is premature to evaluate the significance of this woodland until the woodland has been surveyed for bat maternity colonies.	The presence of a bat maternity colony may change the evaluation score of the woodland in the southeast corner of the subject lands. Based on City of London staff comments and NRSI evaluation, this woodland meets the criteria for Significant Woodland under Section 1.1(a) of the guidelines.
SECTION 5.3 a) We agree that the subject lands have SWH for both Terrestrial Crayfish and Special Concern and Rare Wildlife Species (Western Chorus Frog). We would add that the following SWH are also possible candidate SWH habitats and additional field surveys and / or rationale would need to be provided to prove otherwise: i. Amphibian Breeding Habitat (Wetland). We base this on the presence of both Northern Leopard Frog and America Toad (two amphibian indicator species for wetland SWH) that were recorded on the subject lands, combined with the amphibian indicator species for wetland SWH observed in ANR-005 and ANR-006. ii. SWH for Animal Movement Corridors. This would have to be examined if Amphibian Breeding Habitat (Wetland) was confirmed. iii. SWH for Special Concern and Rare Wildlife Species (Monarch and Bank Swallows). We base this on the presence of Monarch butterflies and their foraging food observed on the subject lands and the presence of Bank Swallows with probable habitat on the steep slopes on the south edge of the subject lands.	Refer to the updated SWH Assessment (Appendix II) to supplement the below responses. i. Refer to NRSI response to UTRCA comment 4.4.2.1(b) regarding Northern Leopard Frog and American Toad. Amphibian Breeding Habitat (Wetland) is not present due to the low numbers of amphibians observed. ii. Amphibian Breeding Habitat (Wetland) not present, therefore no Animal Movement Corridors present. iii. As discussed during the team/agency meeting on March 21, 2017, NRSI is corresponding directly with MNRF regarding Monarch SWH. As a result of consultation with MNRF, Monarch SWH has been identified within the subject lands. Since Bank Swallow is a SAR, any suitable habitat for this species is addressed within the context of SAR habitat, not SWH. Nevertheless, breeding habitat for Bank Swallow was not present along the slope abutting the south property boundary, or elsewhere within the subject lands. Refer to text in Sections 5.3.4 and 6.0 of the updated SLSR.
SECTION 5.3	Refer to the updated SWH Assessment (Appendix II) to

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
b) We agree that the study area has SWH for both Amphibian Breeding Habitat (Woodland) and Special Concern and Rare Wildlife Species (Western Chorus Frog). We would add that SWH for Special Concern and Rare Wildlife Species for Barn Swallows is also a possible candidate habitat and additional information would need to be provided to prove that Barn Swallows are not nesting in the culvert under Colonel Talbot Road to the south west of the subject lands. Also, Appendix II identified suitable habitat for several other SWH criteria that requires rationale to ensure adequate buffers from the proposed development on the subject lands are in place (e.g. Waterfowl Stopover and Staging Area, Turtle Wintering Areas, Waterfowl Nesting Area, Marsh Bird Breeding Habitat).	supplement the below responses. Since Barn Swallow is a SAR, any suitable habitat for this species is addressed within the context of SAR habitat, not SWH. Refer to NRSI response to UTRCA comment 5.4 regarding Barn Swallow. Waterfowl Stopover and Staging Area: the available candidate habitat (i.e. CUM1) is not of sufficient size to support the minimum number of individuals required for confirmed SWH. The study area characteristics are not conducive to support this SWH type, mainly due to proximity of the existing adjacent developments and roads, and habitat fragmentation within the study area vicinity. As well, waterfowl are known to exhibit strong human avoidance behaviour, further ruling out the suitability of this SWH type. NRSI considers this sufficient in ruling out this candidate SWH type given the characteristics of the property. Turtle Wintering Area: the SA aquatic feature located off-property to the north was unable to be surveyed due to restricted property access and restricted sightlines from the subject property boundary. The SA feature has been treated as significant and will receive a buffer applied to the surrounding woodland (FOD) that will provide significant setback from the development. As well, habitat enhancement features (i.e. turtle nesting area) will be considered in the restoration/buffer areas to further bolster the habitat. Buffers to this feature will be addressed more thoroughly in the EIS for the Phase 2 lands. Waterfowl Nesting Area: the breeding bird survey results do not meet the SWH criteria. Waterfowl nesting activity was documented during breeding bird surveys at BMB-004 which covered the majority of the off-property candidate habitats (i.e. 100m point count distance as per OBBA methodology). Incidental observations between point count locations were also recorded. NRSI considers this sufficient in ruling out this candidate SWH

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
	type given the characteristics of the off-property habitats. Marsh Bird Breeding Habitat: the breeding bird survey results do not meet the SWH criteria. Marsh bird breeding was documented during breeding bird surveys at BMB-001 and BMB-004 which is considered representative of the marsh bird breeding activity at all candidate habitats within the study area. Incidental observations between point count locations were also recorded. The study area characteristics are not conducive to support this SWH type, mainly due to habitat fragmentation within the study area vicinity, small size of available marsh bird breeding habitat within the study area, and a lack of large wetlands nearby. NRSI considers this sufficient in ruling out this candidate SWH type given the characteristics of the study area.
SECTION 5.3.3 a) Amphibian monitoring station ANR-002 adjacent to Pond C not only had Spring Peepers and Gray Treefrogs, but also Western Chorus and Green Frog. We expect a large buffer to be placed along the southern edge of this woodland and wetland feature to protect it from development.	Buffers to this feature will be addressed more thoroughly in the EIS for the Phase 2 lands.
SECTION 5.3.4 b) Given the presence of the monarch butterfly, we require OMNRF sign off for the argument that the presence of the Monarch food source and habitat in other areas of southern Ontario justifies its removal or disruption on the subject lands. Without this, SWH for Monarch must be identified on the subject lands and protected. Furthermore, we agree that Monarch butterfly habitat should be enhanced within the subject lands. To achieve this, we need to know where and how much of that habitat currently occurs on the property.	As discussed during the team/agency meeting on March 21, 2017, NRSI is corresponding directly with MNRF regarding Monarch SWH. As a result of consultation with MNRF, Monarch SWH has been identified within the subject lands. The amount of Monarch butterfly SWH identified within the CUM1 vegetation community in the Phase 2 lands is 0.96ha. Refer to text in Sections 5.3.4 and 6.0 of the updated SLSR.
SECTION 5.3.5 a) Please see comments under Section 5.3aii.	Amphibian Breeding Habitat (Wetland) is not present.
SECTION 5.4 a) The culvert at Colonel Talbot road, as well as the steep banks on the tributary south of the property, should be surveyed	Both the culvert at Colonel Talbot Road and the slope on the tributary south of the property were surveyed for Barn Swallow and Bank Swallow respectively during the breeding bird surveys.

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
for Bank and Barn Swallows. The results of this may have an impact on the amount of runoff going through the culvert post development, as well as the size of the buffer along the southern edge of the property. Were these birds specifically searched for during the breeding bird surveys completed on June 7 and June 24?	Based on these surveys, it was determined that Barn Swallow was not nesting within the culvert, and breeding habitat for Bank Swallow was not present along the slope, or elsewhere within the subject lands.
SECTION 5.4 b) Please revise the sentence "any future development that proposes to remove trees or buildings, which may provide habitat to SAR bats, may be required to complete bat surveys" to – "any future development that proposes to remove trees or buildings, which may provide habitat to SAR bats, must complete bat surveys".	SAR bat habitat, if any identified on-site, will be addressed in consultation with MNRF at the time of proposed tree and building removals. Refer to revised text in this section of the updated SLSR.
SECTION 6.0 a) How will the SGRA and HVA be addressed in the southwest corner of Phase I?	Significant groundwater features are to be addressed in the hydrogeological assessment for the subject lands.
SECTION 6.0 b) In her July 7, 2016 email, Andrea Fleischhauer states that even though the wetland polygons are small, results of biological surveys such as annual frog surveys may warrant complexing these areas to the Colonel Talbot Wetland complex. Given the number and types of amphibians in these areas, discuss why the wetland habitats do not warrant complexing.	As discussed during the team/agency meeting on March 21, 2017, NRSI is corresponding directly with MNRF regarding potential PSW complexing of the on-site wetlands into the North Talbot Wetlands PSW. While the Ontario Wetland Evaluation System (OMNR 2013) outlines 3 discrete rules for delineating a wetland complex, NRSI acknowledges that wetland complexes can be identified through complementary biological functions, such as anuran SWH, as Ms. Fleischhauer suggested. To further clarify the on-site conditions, exp Inc. completed a preliminary geotechnical and hydrogeological assessment of the property in 2016 and it was determined that based on the surface topography and sub-surface conditions, it is not likely that the wetland features on-site are hydrologically connected to the North Talbot Wetlands PSW. In order for wetlands on-site to be complexed into the North Talbot Wetland PSW for complementary biological function (i.e.

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
	amphibian breeding SWH), movement opportunities for anurans among the wetland units should exist. Both Pack Road and the existing residential development (within additional roads) immediately north of Pack Road present a significant barrier to amphibian movement. Please refer to the photo (date taken March 21, 2017) below which demonstrates the movement barrier, taken from the subject property looking east along Pack Road nearby the intersection of Pack Road and Settlement Trail. Also refer to the attached map (page 17 of this document), showing the significant distances between the wetland pockets within the subject property and those included in the PSW to the north. As can be seen from the airphoto included in that map, there is no natural connection between the wetland areas.  NRSI's position is that the on-site wetlands should not be complexed with the North Talbot Wetland PSW based on lack of landscape connectivity and movement corridors for anurans,

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
	which results in functionally disconnected populations of breeding amphibians, and as such do not provide complementary biological functions. As well, based on exp's assessment, the wetlands on-site and those of the North Talbot Wetlands PSW are not connected hydrologically. NRSI has consulted with MNRF staff and confirmed the approach described above for PSW complexing. Refer to text in Sections 5.1 and 6.0 of the updated SLSR.
SECTION 6.0 c) Downstream impacts to the fish recorded upstream of the culvert at Colonel Talbot and to the watercress located downstream of the culvert (coldwater indicator) will have to be assessed and discussed.	Ongoing consultation with study team; additional information to be provided once available.
SECTION 6.0 d) Please provide more details on the location of the wetland compensation area which should include the wetland that was removed/filled. Why is this suitable location? How will there be a net benefit? How will the wetlands and the soils be maintained? Please provide a map showing the potential locations of the wetland compensation areas, as well as appropriate buffers and a water balance analysis which demonstrates that the wetlands will survive. Please provide a monitoring plan for the wetland compensation area which must be provided within in the limits of the draft plan and as such, the limits of Phase 1 may need to be revised.	Details of the proposed wetland compensation plan and area are not yet available. Once the preliminary details are available, they will be circulated to the reviewing agencies for comment. It is anticipated that the proposed wetland compensation plan will be a standalone document.
SECTION 6.0 e) Please provide justification for the 10 m buffer around woodland features. We expect an analysis that considers all the significant features and functions to be included in the buffer justification.	Buffers were recommended in the SLSR as preliminary guidance. Buffers to natural features will be addressed more thoroughly in the EIS.
Appendix II a) Note that Bat Migratory Stopover Areas are no longer a criterion under the January 2015 SWH Criteria Schedules for Ecoregion 7E.	Noted. Refer to the updated SWH Assessment (Appendix II).

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
Aquatic Comments (Section 4.5, Section 6 entitled "aquatic features" and Appendix V of the SLSR) a) Aquatic habitats were only surveyed on June 10 when both features were dry. We would ask that both Tributary A and B be surveyed when there is water to confirm that there are no other important characteristics. For example, we assume that there are fish present in these tributaries when there is flow given that fish were observed at the upstream side of the culvert at the crossing of Colonel Talbot Road, and that no barriers were identified in the tributaries during flow conditions.	During the June 2016 survey, the debris within the tributary and overall lack of definition within the subject property indicated that these tributaries are only conveying surface water after high water events, potentially in the spring and fall. In regards to fish being present within the tributaries, it is highly unlikely due to no definition or habitat within the tributaries. The section of Tributary B immediately upstream from the southern property boundary was identified as having a defined channel although there were no defined substrates present. At the south property boundary in the central portion of the property there is a slope which may also be causing the channel to be defined as it would be eroding the slope. Without accessing the neighbouring property to the south, it is difficult to assess whether there are fish barriers present. The pond (Pond B on Map 4) is no longer present (as noted within the report) and this may cause a barrier to fish. NRSI completed a second aquatic habitat assessment on May 15, 2017 in order to address this comment. This timeframe was chosen due to the wet spring and recent rainfall events in order to determine if fish could be present within either tributary. Tributary B had no water present and is a grassed swale with no definition. Tributary A had sporadic pools of water and evidence of erosion from high flows after a significant rainfall event. There is no defined channel where Tributary A meets Tributary B on the southern edge of the subject property. Tributary B has a defined channel through the slope on the southern edge of the subject property. The high banks and heavy erosion within the channel indicate that significant flows are conveyed through this stretch at certain times. There is debris build up at the base of the slope (south of the subject property) which could be a barrier to fish, although it is unlikely fish are present within this stretch due to the lack of water and primarily non-defined channels.
Aquatic Comments (Section 4.5, Section 6 entitled "aquatic features" and Appendix V of the SLSR) b) No authorization for maintenance is required in Class F	Noted. Refer to updated text in Section 4.5.1.

Agency Comments (UTRCA, February 27, 2017)	NRSI Response
drains if work is done in dry or low flow conditions. However, the removal or tiling of drains is not considered "maintenance" and therefore authorization would be required.	

Agency Comments (City of London, February 24, 2017)	NRSI Response
1. Section 2.0 Relevant Policies, Legislation, and Planning Studies Table 1 – The new London Plan was approved by council and the MNRF in 2016. While not entirely in-force and effect, having regard to this document and its environmental policies are still required. E&PP notes that NRSI does show regard for the London Plan in later sections of the SLSR. **Action: Update Table 1 with reference to the approved London Plan.**	Refer to updated Table 1.
2. Section 3.0 Methods 3.1.5 Amphibian Surveys – The amphibian monitoring survey date of April 29, can be considered late when being used as the "first" survey. In many cases calls can start much earlier in the spring (potentially in March – early April) and can tapper off as spring progresses. Some species/numbers may have been missed in the various wetlands. **Action: An additional early spring call survey may be required to address this potential data gap. However, it is recognized that two of the wetlands impacted by Phase 1 have already been identified to be replaced and are also identified as Significant Wildlife Habitat which may allow for not having to collect additional data at this time. Discussions required to resolve this issue.**	As discussed during the team/agency meeting on March 21, 2017, NRSI completed an additional early spring amphibian call survey during the appropriate timing window in 2017. Refer to updated text in Sections 3.1.5.1 and 4.4.2.1 of the SLSR.
3. Section 3.0 Methods 3.1.5 Amphibian Surveys – The UTRCA comments indicate that the wetland at calling station 001 was removed after the first calling survey. Please provide clarification on the status of this feature and any background data/knowledge pertaining to this feature. A site visit conducted by E&PP this winter found that the area contained a substantial amount of water and some vegetation was still present. Furthermore, no ELC polygons were identified for	As discussed during the team/agency meeting on March 21, 2017, Sifton will follow-up with the past landowner, currently renting the land from Sifton, as to the history of the pond at the NW corner of the property. Based on a reassessment of drained feature in spring 2017, wetland habitat (i.e. MAM2) has been identified in this area. Refer to text in Sections 3.0, 3.1, 4.3.1, and 5.1 of the updated SLSR.

Agency Comments (City of London, February 24, 2017)	NRSI Response
this area/feature. Why was this not identified as a wetland? Note that additional calls including from other species may have been present earlier in the season. **Action: Address the issues related to Pond A as detailed above.**	
4. Appendix – Please provide the data sheets for the amphibian surveys. **Action: Append all data sheets.**	Amphibian call survey data sheets appended to the updated SLSR (Appendix IV).
5. Section 4.2 Designated Natural Areas – Further consideration needs to be given to incorporating wetlands in the area within the PSW complex (note this can occur post wetland relocation). The SWH components, numbers and diversity of amphibians are all acceptable reasons that may be considered by the MNRF as part of a justification for inclusion into the PSW complex. **Action: Identify consideration be given to having wetlands located in the area be part of the PSW complex post wetland relocation.**	As discussed during the team/agency meeting on March 21, 2017, NRSI is corresponding directly with MNRF regarding potential PSW complexing of the on-site wetlands into the North Talbot Wetlands PSW. Please refer to the response provided above to UTRCA's similar comment, to Section 6.0.b). NRSI does not feel it is appropriate to complex the wetland pockets on the subject property with the PSW to the north, now or after wetland relocation. The wetland areas are not connected hydrologically to the PSW and Pack Road and the subdivision to the north present significant barriers to amphibian and other wildlife movement. NRSI has consulted with MNRF staff and confirmed the approach described above for PSW complexing. Refer to text in Sections 5.1 and 6.0 of the updated SLSR.
6. Section 4.2 Designated Natural Areas –It is good that the SLSR addresses having regard for the Council approved London Plan (including references in Section 5.1). Also note that the MNRF approved the London Plan in December 2016. Portions of the London Plan are under appeal and therefore currently may not be in Force and Effect, but regard for the policies should still be identified as this section has done. **Action: Update this section accordingly with MNRF (Dec 2016) approval of the London Plan.**	Refer to updated text in this section of the updated SLSR.
7. Section 4.5 Aquatic Habitat and Species – Please also indicate that further discussions will be required to address how these two tributaries (valleylands) and associated vegetated corridors will be dealt with as they are not part of	Refer to updated text in this section of the updated SLSR.

Agency Comments (City of London, February 24, 2017)	NRSI Response
the Phase 1 lands. **Action: Revise section accordingly**.	
8. Section 5.2 Significant Woodland – E&PP disagree with the assessment of the Woodland located in the southeast corner of the subject site. The tributary is within or contiguous with the patch. The guidelines require a ranking of 'high' be assigned if one or more hydrological features or functions are present. A hydrological feature does include headwaters, 1st order watercourses, 2nd, 3rd, and 4th or higher watercourses. However, given the woodland's relatively small size and isolated nature, compensation (relocation) of this feature can be considered during future development proposals as this feature is not currently part of Phase 1 lands. This could also be part of the future corridor discussions. Furthermore, the woodland located to the north of the subject property should also be identified as a Significant Woodland. While NRSI is unable to conduct a full assessment of the woodland due to ownership and property access, Significant Wildlife Habitat was identified within the feature that would qualify it to be identified as a Significant Woodland as it would obtain at least one ranking of 'High' (under Section 4.0 of the EMG see section 2.3 Diversity of Communities, Landforms, and Associate Species – subsection 'c') **Action: Update this section accordingly.**	For the woodland feature located in the southeast corner of the subject lands, NRSI agrees that the feature meets the City's criteria for significance under Section 1.1(a) of the Significant Woodland guidance document. SLSR updated accordingly. For the woodland feature located to the north of the subject lands, NRSI agrees that the feature meets the City's criteria for significance under Section 2.3(c) of the Significant Woodland guidance document. SLSR updated accordingly.
9. Section 6.0 Summary and Recommendations – This section must be updated having regard for the above noted comments and required updates. The buffer recommendations are typically addressed in the EIS. However if making preliminary recommendations, these should start with applying Section 5.0 of the EMG, the 10m buffer to the woodlands is the minimum buffer. Additional considerations (i.e. wetland habitat and SWH etc.) is required. Furthermore, buffers around the relocated wetlands will also have to be addressed and take into consideration their functions when determining the buffer for	Refer to updated text in this section of the updated SLSR.

Agency Comments (City of London, February 24, 2017)	NRSI Response
their long term protection. **Action: Update section accordingly.**	

Agency Comments (EEPAC, February 10, 2017)	NRSI Response
Theme #4 – Wetland features **Recommendation 3**: Investigate the feasibility of creating offsetting wetland areas to compensate for the three wetland features that will be lost with this development. As the existing wetland features are potentially connected to the pond at 6499 Pack Road, that area could be suitable for wetland relocation.	The preparation of the proposed wetland compensation plan is ongoing and will be developed in consultation with agency staff (i.e. City, UTRCA, MNRF, as appropriate). The wetland compensation plan is anticipated to be a standalone document.
THEME #2 – Relocation of Significant Wildlife Habitat **Recommendation 4:** Detailed study (including a water balance study) of the soil and groundwater conditions be undertaken. If a suitable site for relocation is not found on the subject lands, alternative sites outside the subject lands must be used. These could include, but not be limited to, the ESA adjacent to Mather Stream on the west side of Col. Talbot Road (owned by the owner of the lands containing Pond B), or the OS1 lands in the Talbot Village development to the north.	The preparation of the proposed wetland compensation plan is ongoing and will be developed in consultation with agency staff (i.e. City, UTRCA, MNRF, as appropriate). A water balance and assessment of soil and groundwater conditions will also be included. The wetland compensation plan is anticipated to be a standalone document.
THEME #2 – Relocation of Significant Wildlife Habitat **Recommendation 5:** **a.** At the new site surface water runoff needs to be directed away from potential crayfish burrows to avoid sedimentation that adversely affects the crayfish's ability to dig burrows. (SWHMiST 2014, p. 392) **b.** Suitable vegetation must be at the new site to provide forage for the crayfish.	The preparation of the proposed wetland compensation plan is ongoing and will be developed in consultation with agency staff (i.e. City, UTRCA, MNRF, as appropriate). The SWH function of the relocated wetlands will be replicated in the wetland compensation area and will also be designed to be suitable for Terrestrial Crayfish. A planting plan with suitable vegetation will also be a component of the wetland compensation area. A water balance and assessment of soil and groundwater conditions will also be included. The wetland compensation plan is anticipated to be a standalone document.
Theme #5 – Species at Risk **Recommendation 6*:*** The breeding status of Barn Swallow and any use of the existing buildings/structures on site must be confirmed prior to any building/structure demolition or site development. (p. 27, SLSR). If nests are found, there is an	Targeted Barn Swallow surveys to determine if species is nesting/using any buildings within subject lands will be conducted at an appropriate project phase. Consultation with MNRF will be initiated should any confirmed Barn Swallow breeding habitat be confirmed within the subject lands. Any confirmed Barn Swallow

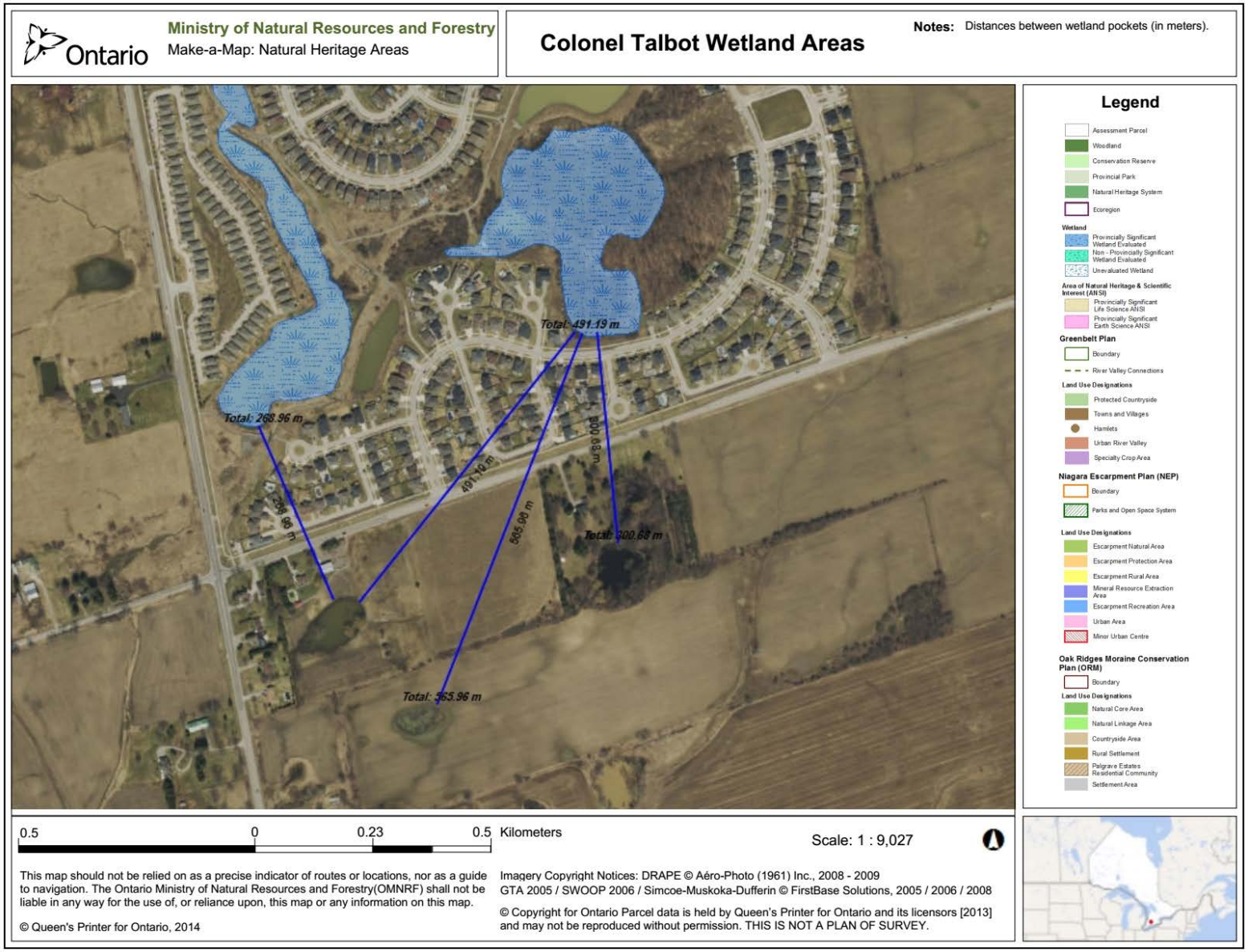
Agency Comments (EEPAC, February 10, 2017)	NRSI Response
MNRF protocol that must be followed. Page 28 of the SLSR indicates that the regionally rare Common Evening Primrose was found on site. The consultant recommended it be moved late 2016 or early 2017. There is no information if this was done or to where the plants were moved.	breeding on-site will be addressed according to the Endangered Species Act. The regionally rare Common Evening Primrose will be transplanted to a suitable retained natural feature or its buffer, at an appropriate project phase. The transplantation will be timed to maximize the survivability of the transplanted individual(s).
<u>Theme #5 – Species at Risk</u> **Recommendation 7:** The proponent report on what has happened to this plant. If the plants are still on site, a suitable location for relocation be identified with the advice of a City Ecologist and the firm used in the SLSR. The plants should only be moved when the likelihood of re-rooting is highest.	The regionally rare Common Evening Primrose will be transplanted to a suitable retained natural feature or its buffer, at an appropriate project phase. The transplantation will be timed to maximize the survivability of the transplanted individual(s).
<u>Theme #6 – Site Plan / Development Agreements</u> **Recommendation 8: The site plan and design elements include:** a. If Phase 2 starts more than three years after the date of the draft SLSR, the proponent be required to submit a new SLSR to determine if there have been any changes to the evaluation of the woodland. b. There be an EIS to determine the buffer distance from the FOD/Shallow Water ecosite which was identified as Significant Wildlife Habitat. c. In the Phase 2 development, a formal bat habitat assessment be required including bat exit surveys, and any cavity trees be preserved in the woodland. (page 25 and 27, SLSR) d. A tree retention report be required. e. The proponent be required to monitor the relocated SWH for three years and report in the spring and fall to a City Ecologist as to the restoration of the terrestrial crayfish and Western Chorus Frog populations. f. If the wetland is relocated on this site, phase 2 might have a negative impact on the new feature, including impacts caused by changes to or piping of the tributaries	a. Since both the FOD7 and FOD features are being treated as Significant Woodlands, an updated SLSR is not anticipated to be required to evaluate any changes in the woodlands. b. Buffers to the natural features will be addressed more thoroughly in the EIS for the Phase 2 lands. c. As discussed during the team/agency meeting on March 21, 2017, the tree inventory and corresponding tree protection/retention plan will be completed during the detailed design. The results of a bat habitat assessment will also be integrated into the report. The need for bat exit surveys at trees proposed for removal identified with suitable bat habitat will be discussed with MNRF staff at that time. d. As discussed during the team/agency meeting on March 21, 2017, the tree inventory and corresponding tree protection/retention plan will be completed during the detailed design. e. Details of the proposed wetland compensation plan and area are not yet available. Once the preliminary details are available, they will be circulated to the reviewing agencies for comment. The proposed wetland compensation plan

Agency Comments (EEPAC, February 10, 2017)	NRSI Response
on site. A water balance study must be part of the monitoring program. g. Any new interference with watercourses or wetlands will result in the forfeiture of any securities and charges under Section 28 of the Conservation Authorities Act.	will include post-construction monitoring requirements for Terrestrial Crayfish and Western Chorus Frog. f. Details of the proposed wetland compensation plan and area are not yet available. Once the preliminary details are available, they will be circulated to the reviewing agencies for comment. The proposed wetland compensation plan will include a water balance assessment. g. Noted.

RE. UTRCA Comment 6.0(b):

Col.Talbot Wetland Areas

- Distance between wetland units on and adjacent to subject property and the North Talbot Wetlands PSW units



Colonel Talbot Property, Residential Development
Agency Comments and Responses
Draft Subject Land Status Report (SLSR) – NRSI, September 2017

Table of Contents
UTRCA Comments – page 1

Agency Comments (UTRCA, January 15, 2018)	NRSI Response
1. The UTRCA did not accept the 2016 preliminary hydrogeological report by Exp, so all conclusions based on that report are not acceptable.	Noted.
2. In addition to all wetlands being subject to consideration under the Natural Heritage System policies of The London Plan, all wetlands that meet the CA definition of a wetland are regulated by the UTRCA. All wetland pockets within the subject lands are therefore regulated by the UTRCA: a) The pond / wetland at the northwest corner of the property is considered to be a wetland feature according to the Conservation Authorities Act. As stated in Section 5.1, there are 4 criteria that must be met to define a wetland. Since NRSI did not identify surface watercourse connections for this feature, they argue that it is unknown how this feature contributes to the hydrological function of the watershed. Yet Section 4.1 describes the necessity of a Hickenbottom drain to drain surface water from the pond / wetland at the northwest corner of the property. According to Section 2.4 of the Guidelines for Developing Schedules of Regulated Areas, the requisite function of a wetland to "directly contribute to the hydrological function of a watershed through connection with a surface watercourse" is deemed to exist for all wetlands. Where a surface connection between a wetland and a surface watercourse is not apparent, it is assumed that a groundwater connection exists between then, unless there is information to the contrary. Since we have not accepted the 2016 preliminary hydrogeological report by Exp, we cannot assume that there is no groundwater connection.	NRSI agrees that the drained wetland feature (MAM2) meets the definition of wetland and therefore regulated by the UTRCA. Refer to Section 5.1.1 of the Phase 1 EIS for additional discussion on this item.
3. More analysis is needed to determine if SWH for wetland amphibian breeding habitat occurs on site.	a) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 4.4.2.1(b).

Agency Comments (UTRCA, January 15, 2018)	NRSI Response
a) Since the type and number of anuran species is needed to evaluate significance and to determine if wetland and/or woodland SWH for amphibians is present, please show the locations of both the Northern Leopard Frog and the American Toad (two amphibian indicator species for wetland SWH) that were recorded on the subject lands to justify the position that only SWH Amphibian breeding habitat for woodlands, and not wetlands, occurs on site. b) Examine if SWH for Animal Movement Corridors occurs on site if Amphibian Breeding Habitat (Wetland) is confirmed.	b) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 5.3(a)(ii).
4. More analysis must be provided for the features within the study area south of the subject property: a) Need some more discussion about the downstream features to the south of the subject lands. Downstream impacts to the fish recorded upstream of the culvert at Colonel Talbot and to the watercress located downstream of the culvert (cold-water indicator) will have to be assessed and discussed. What type of fish species were recorded in the pool upstream of the culvert at Colonel Talbot? Will there be an impact to these species post development in terms of runoff and/or infiltration? b) The culvert at Colonel Talbot Road, as well as the steep banks on the tributary south of the property, should be surveyed for Bank and Barn Swallows. The results of this may have an impact on the amount of runoff going through the culvert post development and erosion control measures, as well as the size of the buffer along the southern edge of the property. c) Based on a site visit by the UTRCA in January 27, 2017 to the property immediately south of the subject lands, there is a wetland feature located immediately south of the Phase II development lands. This wetland has a number of drainage features into it, had water and wetland species despite vegetation removal. A more clear drainage feature (channel) is obvious downstream and west of the wetland. Here the sides of the wetland feature are not very deep, and given the amount of drainage entering the wetland it appears like this is a more	a) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 6.0(c) and Section 4.5.1(a). Ongoing consultation with study team; additional information to be provided once available. *Please provide any EIS, hydrogeology, or SWM studies that have been completed in that area (i.e. York property or nearby), if available to help facilitate response.* b) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 5.4(a). c) Ongoing consultation with study team; additional information to be provided once available.

Agency Comments (UTRCA, January 15, 2018)	NRSI Response
permanent feature. There are some steep slopes surrounding the wetland feature and the watercourses feeding it, as well as a lot of channel alteration, berming and dumping. Note that Section 4.5.1 states that erosion was noted along the feature with high banks, indicating high flow during snow melt and significant rainfall events. Note too that anuran station 004 is located adjacent to this feature and recorded spring peepers calling from this wetland. We expect an analysis of the impact of the proposed development on this wetland feature, including whether this area is supported by either ground or surface water flow from either the Phase I or Phase II development lands, and how this will be maintained post development.	
5. Two wetland communities are proposed to be relocated, one of which currently provides SWH for Western Chorus Frog and Terrestrial Crayfish. More information has to be provided for the proposed area of wetland compensation: a) It is unclear where the proposed area of wetland compensation is located – please show on a map and describe why this is a suitable location. How will there be a net benefit? What is the area of wetland being removed and the area replaced? We would like a map showing the locations and areas of proposed wetland removal and the locations and areas for wetland compensation, as well as appropriate buffers. b) How will water quality, quantity and timing be addressed in the compensation areas to ensure wetland survival? How will the wetlands and the soils be maintained to address the needs of the SWH? We would like a water balance for the "new" wetland to prove that the wetlands will survive.	a,b) As discussed during the team/agency meeting on January 15, 2018, a wetland compensation plan scoping document/Terms of Reference will be provided to agency staff for review and comment as a starting point. This will be provided in advance of the full detailed plan that will be required for the UTRCA's Board review and approval. Potential locations for the wetland compensation area will be presented in the scoping document. The full details of the wetland compensation plan are currently unavailable and will be developed to the satisfaction of the reviewing agencies.
SECTION 3.0 Page 11 refers to an MNRF document of 2015c. This is not listed in the reference list – should it be MNRF 2015b?	Yes, this reference in question should be MNRF 2015b.
SECTION 4.3 The delineation of wooded areas in Map 2 does not match the delineation of wooded vegetation communities in Map 3.	'Wooded Area' layer adjusted for all mapping to be consistent with the ELC mapping.
SECTION 5.3 Appendix II identified suitable habitat for several other SWH criteria (e.g. Waterfowl Stopover and Staging Area, Turtle	Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 5.3(b).

Agency Comments (UTRCA, January 15, 2018)	NRSI Response
Wintering Areas, Waterfowl Nesting Area, Marsh Bird Breeding Habitat) that may occur in the natural features on study areas lands located immediately adjacent to the subject property. Since these natural features within the study area could not be surveyed to confirm the presence of SWH, a conservative approach should be taken and adequate buffers should be developed.	
SECTION 5.3.4 Show the amount of SWH for Monarch identified within the CUM vegetation community in Phase II of the subject lands and the amount that will be recreated in buffer areas to ensure that this mitigation measure will offset the removal of the SWH habitat for Monarch.	The amount of Monarch butterfly SWH identified within the CUM1 vegetation community in the Phase 2 lands is 0.96ha. Impacts and mitigation to address this SWH type will be discussed in more detail in the Phase 2 EIS when the full development details are known for that area. It is not clear at this time if the CUM1 vegetation community in question will be retained or not.
SECTION 6.0 a) We request that all wooded areas, including the hedgerow running north-south in Phase I, as well as for the hedgerow running west-east along the northern edge of the remaining subject lands, be evaluated for potential bat habitat as well as to determine full extent of compensation if trees are to be removed. b) Please provide further justification that the soils and topography will support the design and implementation of enhanced infiltration and other mitigation measures to limit the variation between pre- and post- development water budget conditions. c) Please provide justification for the 10 m buffer around woodland features. We expect an analysis that considers all the significant features and functions to be included in the buffer justification. For example, amphibian monitoring station ANR-002 adjacent to Pond C not only had Spring Peepers and Gray Treefrogs, but also Western Chorus and Green Frog. We expect a large buffer to be placed along the southern edge of this woodland and wetland feature to protect these animals and their habitat from development. d) UTRCA policy discourages the conversion of open surface watercourses to closed systems. Our definition for watercourse	a) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 4.3. b) Ongoing consultation with study team; additional information to be provided once available. c) Refer to NRSI response to UTRCA comment provided on February 27, 2017 for SLSR (Version 1) Section 5.3.3(a). d) Noted.

Agency Comments (UTRCA, January 15, 2018)	NRSI Response
is that it is an identifiable depression in the ground in which a flow of water regularly or continuously occurs. A watercourse includes rivers, stream, creeks, swales, ditches and municipal drains. Ephemeral watercourses are regulated. Whether we would allow it to be tiled depends on a number of factors including: fish records, downstream ***and upstream impacts, natural heritage considerations, drainage area.***	