

**Q-6: Review Agency Comments on Draft
Environmental Study Report**

Agency Comments on the Draft Environmental Study Report and Project Team Responses

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
GO / Metrolinx			
1	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Please advise if there will be any temporary or permanent utility crossings (e.g. ATMS, etc.), crossing the Metrolinx Right-of-Way that will be impacted or installed as part of this work; <ul style="list-style-type: none"> i. If so, we require separate drawings (including elevation, plan and profile views) for all proposed utility crossing installations (including relocations of existing crossings); b. All proposed utility relocations / installations shall meet applicable Metrolinx Crossing Application Requirements and are subject to the review and acceptance of applicable Metrolinx stakeholders; c. Be aware, A fully executed Utility Crossing Agreement between the Utility Owner and Metrolinx will be required prior to the installation / relocation of any utility within / over / under the Metrolinx Right-of-Way; 	<p>As previously discussed with Metrolinx via email on July 24, 2019, it has been confirmed that the GO / Metrolinx Lakeshore East rail line is within Ministry of Transportation (MTO) controlled right-of-way (ROW) and Metrolinx does not own lands within the Study Area.</p> <p>Any utility impacts that cross the GO / Metrolinx Lakeshore East tracks will be determined during detailed design and coordinated with the appropriate utility company in consultation with Metrolinx as well as all applicable Study Area property owners.</p>	Appendix N
2	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Piers and Abutments (including foundations) shall be located outside Metrolinx Right-of-Way (Property Limits); 	<p>As previously discussed with Metrolinx via email on July 24, 2019, it has been confirmed that the GO / Metrolinx Lakeshore East rail line is within MTO controlled ROW and Metrolinx does not own lands within the Study Area.</p> <p>The following explanation for the pier placement was provided by email on July 18, 2019 to Metrolinx:</p> <ol style="list-style-type: none"> 1. At minimum, a horizontal clearance of 5.485 m is required from the centerline of the outside track to the face of the pier for both CN and Metrolinx tracks. The 7.62 m horizontal clearance requirement listed on the General Arrangement (GA) drawing is to allow the construction of piers without a crash wall/pier protection. As such we do not want to place the pier closer to the CN track as a crash wall would increase the complexity of construction as well as limit the ability for CN to add any additional tracks in the future. 2. The rationale behind the current location of Pier # 3 was to allow as large as possible of a span over the Metrolinx tracks, while also staying some distance away from the CN track to prevent the need for pier protection. <p>Placement and planning for the pier and abutment locations was based on optimizing and mitigating impacts to the area, including consideration for the optimal and the most economical structural design while accommodating future widenings of Highway 401, allowing for as much clearance as possible for future track expansion, while also trying to limit extra protection requirements for the piers.</p>	Appendix N
3	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Metrolinx Right-of- Way to be clearly identified on all General Arrangement and Staging Drawings; b. Construction staging areas shall be clearly identified on the drawings (including dimensions from the centreline of the nearest track); c. All temporary access roads shall be clearly identified on the drawings, including: <ul style="list-style-type: none"> i. Dimensions from the proposed temporary access roads to centreline of nearest track and any other infrastructure; ii. Details of any grading works, including cross-sections of the proposed temporary access roads; iii. Material specified for the proposed temporary access roads; d. Access and staging drawings shall contain a note stating all access roads and staging areas are temporary and shall be removed upon completion of the work; e. Access to the corridor may be limited during daytime hours, particularly during the morning and afternoon Railway rush hours; <ul style="list-style-type: none"> i. Certain works may be restricted to evening, overnight or weekend hours; ii. Hours of work are dependent on the task and proposed work methodology and will be confirmed by Metrolinx after the Contractor's Work Permit applications are submitted for review; f. Provide details of any Temporary At-Grade Construction Crossing(s) within Metrolinx Right-of-Way where applicable; <ul style="list-style-type: none"> i. Any Temporary At-Grade Construction Crossing(s) shall be designed in accordance with current GO Transit Track Standards; ii. All Temporary At-Grade Construction Crossings are subject to acceptance by the Metrolinx Senior Manager of Track and Structures; 	<p>As previously discussed with Metrolinx via email on July 24, 2019, it has been confirmed that the GO / Metrolinx Lakeshore East rail line is within MTO controlled ROW and Metrolinx does not own lands within the Study Area.</p> <p>All construction staging requirements will be determined during detailed design in consultation with Metrolinx. The requirements provided will be considered in detailed design.</p>	Appendix N
4	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Construction Work Zone shall be separated from the tracks by a 1.83m high fence / barrier, for the duration of construction; <ul style="list-style-type: none"> i. Show fence locations on General Arrangement Drawings including: (1) Type (material), Height, and Dimensions from centreline of nearest track; 	<p>Comments noted and will be addressed during detailed design based on construction staging requirements in consultation with Metrolinx.</p>	Appendix N

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	<ul style="list-style-type: none"> ii. Location of gates must be able to be locked using a Railway padlock and may only be unlocked by the Railway Flagman or Representative; 		
5	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Show all proposed excavations / trenches within Metrolinx Right-of-Way in both plan and section views; <ul style="list-style-type: none"> i. Show dimensions to any adjacent infrastructure including dimension from centerline of nearest track; b. Any excavations or trenches within the Theoretical Railway Loading Influence Zone must be supported by shoring or trench boxes designed to withstand Cooper E-80 Railway Surcharge Loading; <ul style="list-style-type: none"> i. The Theoretical Railway Loading Influence Zone is defined by the area below the track-bed and a 1.5H:1V slope starting 3.660 meters from the centerline of the outermost track and must also be shown on the drawings; c. For any shoring systems or trench boxes located within the Theoretical Railway Loading Influence Zone, Engineer stamped Design Drawings and Calculations must be submitted with the Work Permit Application for review and acceptance from the Contract Administrator and AECOM / Metrolinx; d. All excavations or trenches within the Railway Loading Influence Zone shall be backfilled with Granular B Type II material, compacted to 98% SPMDD, or better; <ul style="list-style-type: none"> i. Compaction reports are to be submitted to AECOM / Metrolinx within 24 hours of completion of the associated work; e. Prior to any excavation within the Theoretical Railway Loading Influence Zone, Ground, Track and Bridge Movement Monitoring Plans are required for review and acceptance (from the Contract Administrator and AECOM / Metrolinx); <p>Please provide monitoring specifications for review in the next submission;</p>	<ul style="list-style-type: none"> a. As discussed with Metrolinx via email on July 24, 2019, it has been confirmed that Metrolinx does not own any property south of Highway 401 within the Study Area. Comment noted for detailed design. b. Comment noted for detailed design. c. Comment noted for detailed design. d. Comment noted for detailed design. e. Comment noted for detailed design. 	Appendix N
6	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. For any excavations within the Metrolinx Right-of-Way, a spoils testing plan is required: <ul style="list-style-type: none"> i. AECOM / Metrolinx are to be included on the distribution list for test results; ii. Any contaminated material shall be disposed of in accordance with applicable regulations b. Provide details to maintain existing drainage during throughout the duration of construction; <ul style="list-style-type: none"> i. Water shall be directed away from the Track Structure at all times; c. Please advise if there are any existing culverts located in the vicinity of the proposed work; d. If temporary culverts are required, provide details along with Calculations (signed, stamped and dated by a Professional Engineer licensed in the Province of Ontario) confirming acceptable hydraulic capacity; 	<ul style="list-style-type: none"> a. Comment is noted, and the need for a spoils testing plan will be determined during detailed design in consultation with Metrolinx. b. Comment noted for detailed design. c. There is an existing culvert that crosses under Hwy 401 and does not impact construction at the Metrolinx or CN Rail tracks. d. It is not anticipated that temporary culverts will be required. 	Appendix N
7	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. Clearly show Metrolinx Right-of-Way (Property Limits) with dimension; b. Include Mileage and Subdivision on all Drawings showing Metrolinx Railway Corridor (i.e. Mile 2.45 GO Subdivision); 	<ul style="list-style-type: none"> a. As previously discussed with Metrolinx, it has been confirmed that the GO / Metrolinx Lakeshore East rail line is within MTO controlled ROW and Metrolinx does not own lands within the Study Area. b. Comment noted to be addressed in detailed design. 	Appendix N
8	<p><i>Preliminary General Arrangement</i></p> <ul style="list-style-type: none"> a. We require the following notes to be included as "Metrolinx General Notes" on the Contract Drawings: <ul style="list-style-type: none"> i. Design is in accordance with current versions of AREMA Manual for Railway Engineering, Metrolinx General Guidelines for Design of Railway Bridges and Structures and GO Transit Design Requirements Manual, as required; ii. Prior to commencing any work within, over, under, or adjacent to the Metrolinx Right-of-Way, the Contractor shall apply for and receive a Metrolinx Work Permit; (1) When submitting the Work Permit Application(s), the Contractor shall allow for sufficient time for Work Plan review, revision, and Track Block coordination; iii. The Contractor shall conform to the Metrolinx Work Permit and submit all required information for review and acceptance (from the Contract Administrator and AECOM / Metrolinx); iv. Work within / over / under the Metrolinx Right-of-Way shall be performed under Railway Flagging Protection; (1) At the discretion of AECOM / Metrolinx, Railway Flagging Protection may also be required for work adjacent to the Metrolinx Right-of-Way; v. At the discretion of AECOM / Metrolinx, it may be required to complete certain construction activities outside of Railway Service Hours (i.e. certain works may be restricted to overnight or weekend hours) as applicable; (1) Allowable hours of work are dependent on the task and proposed work methodology and will be confirmed by AECOM / Metrolinx after review of the Contractor's Work Permit Application and associated Work Plan Methodology; (2) Track Block requests shall be submitted a minimum of four (4) weeks in advance of the proposed work and are subject to Metrolinx approval; (3) Any request for Major Track Closures (i.e. closure of all Metrolinx Tracks) shall be submitted a minimum of twelve (12) weeks in advance of the proposed work and will be subject to Metrolinx approval; (a) Workblock and Track Protection Request Forms 	<p>The Metrolinx General Notes are noted for consideration in detailed design and inclusion on contract drawings and in the tender documents as appropriate, in consultation with Metrolinx. Further discussion is required during detailed design with regards to detailed staging plans.</p>	Appendix N

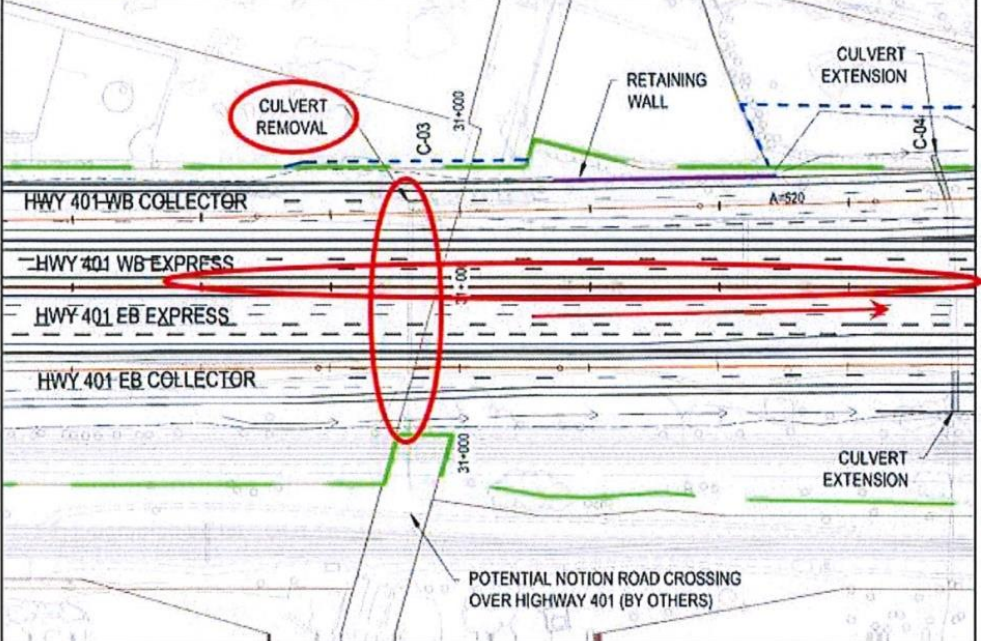

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	<p>(with clear details of planned tasks and working hours for each day) shall be submitted latest by 12pm on Monday of the week prior, to facilitate coordination, review and approval of work planned on any day of an upcoming week; Providing minimum one week notice (as stated), with submission of the required Forms will be the responsibility of the Contractor. (b) A valid Metrolinx Work Permit is required and will be issued upon review and approval of the proposed works by AECOM (on behalf of Metrolinx) and confirmation of Workblocks / Track Protection (as required) by Metrolinx Rail Corridor Access Control Team;</p> <p>vi. The Contractor shall be responsible for the design and implementation of protection systems (e.g. hoarding, heavy polyethylene sheets, etc.) for 100% containment of dust, debris, and slurry generated through construction operations; (1) No dust, debris and / or slurry shall be permitted to fall to the Railway Corridor below at any time during construction; (2) Prior to construction, the Contractor shall submit a proposal for protective measures for review and acceptance (from the Contract Administrator and AECOM / Metrolinx);</p> <p>vii. The Contractor shall advise all utility companies in writing of the proposed work; (1) Any damage to existing utilities shall be properly repaired at the expense of the Contractor, to the satisfaction of the Contract Administrator and AECOM / Metrolinx; (a) All costs associated with the repair shall be at Contractor's expense;</p> <p>viii. The Contractor shall be fully responsible for the adequate protection of all existing infrastructure (i.e. utilities, services, structures, roadways, tracks, etc.) during construction operations; (1) Prior to construction, means and methods of protection shall be submitted for review and acceptance (from the Contract Administrator and AECOM / Metrolinx);</p> <p>ix. Proposed works must not affect existing drainage from, or within Metrolinx Right-of-Way; (1) No water shall be diverted towards the Track Structure or onto Metrolinx Right-of-Way;</p> <p>x. No material / equipment / waste (including waste from clearing / grubbing) shall be, stored, left and / or disposed of within the Metrolinx Right-of-Way;</p> <p>xi. The Contractor shall not store any hazardous materials within close proximity of the Metrolinx Right-of-Way or the Overhead Structure;</p> <p>xii. The Metrolinx Right of Way shall be restored to pre-existing or better conditions after completion of the work, and to the satisfaction of the Contract Administrator and AECOM / Metrolinx, including any fouled ballast;</p> <p>xiii. Prior to the passing of the next train, a Registered Ontario Land Surveyor confirm the dimensions from the top of each rail to the underside of the lowest point of the structure upon construction / placement of any structure over any track prior to the passing of any train;</p> <p>xiv. Pre-construction and post-construction top-of-rail survey data are to be provided for Metrolinx records; (1) Survey shall be completed by a Registered Ontario Land Surveyor;</p> <p>xv. The Contractor shall provide detailed pre-construction and post-construction photos of the Metrolinx Right-of-Way and Overhead Structure for Metrolinx records;</p> <p>xvi. As-Built Drawings shall be submitted to AECOM / Metrolinx within 90 Days of completion of the work;</p>		
9	<p><i>Preliminary General Arrangement / Preliminary Structural Report</i></p> <p>a. The preliminary general arrangement drawings, Appendices M and N, show existing tracks but not right of way boundaries. These boundaries should be added to the submission, with distances from both the edge of right of way and the centerline of track shown;</p>	<p>ROW boundaries can be added to the drawings in detailed design. There will be no adjustments needed to the existing tracks as the road is crossing over the existing tracks. Metrolinx to provide this information to the Project Team during detailed design.</p>	<p>Appendix M/N</p>
10	<p><i>Environmental Study Report</i></p> <p>a. 2. In the Environmental study report, Section 4.1.2.1, there is an indication of long term growth on these rail lines to accommodate 15 minute interval service. There is no indication of current or future track speeds. This information shall be confirmed with Metrolinx and incorporated;</p>	<p>Text has been added to the applicable section of the Environmental Study Report (ESR) and states: Improvements in speed of rail services are expected to increase from current average speeds of 30 km/h with two km station spacing to 50 km/h with wider station spacing or electrified trains, as was available on Metrolinx's website. If more up-to-date information is available, please provide.</p>	<p>Section 4.1.2.1</p>
11	<p><i>Preliminary General Arrangement</i></p> <p>a. Metrolinx has previously asked (January 2019) that future track locations and electrification be incorporated, yet they still do not appear in this submission (the existing rail lines are shown on the preliminary general arrangement drawings, Appendices M and N). The alignment of planned additional tracks and electrification shall be incorporated into plans;</p>	<p>AECOM requested information on future track locations and electrification details from Metrolinx to ensure clearances were met for the future. Metrolinx has not provided the requested information to-date. Clearances were maintained with the structure to accommodate electrification. Additional details to be discussed with Metrolinx in detailed design. The Project Team notes the Metrolinx comment #34 with regard to future track alignment.</p>	<p>Appendix N</p>
12	<p><i>Preliminary General Arrangement</i></p> <p>a. Preliminary general arrangement drawings, appendices M and N, show the basic Transport Canada clearance diagram. The structural report and the environmental report both acknowledge a vertical clearance requirement of 7.6m to allow for future electrification – this requirement shall be reflected on the GA, along with the minimum vertical clearance the structure is designed for;</p>	<p>Comment noted for detailed design.</p>	<p>Appendix N</p>

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
13	<i>Preliminary General Arrangement / Preliminary Structural Report</i> a. Submissions are not sufficient to determine the anticipated size of bridge piers. Note that the piers may require crash protection depending on their size and proximity to the nearest railway tracks based on current track speeds. Future speeds, pier cross section, and distance from centerline of track to face of pier are just some of the factors that will impact the requirement for pier protection;	Comment noted for detailed design. Refer to response to Metrolinx comment #2 for rationale related to pier placement.	Appendix N
14	<i>Preliminary Design Plans</i> a. On drawing 3 of Appendix O, there is a note indicating that access to CN tracks will be relocated. Any access provided to Metrolinx tracks at this location must also be accommodated at the new location, and developed in consultation with Metrolinx and CN;	Comment noted for the future detailed design of the railway track access, in consultation with Metrolinx and CN Rail.	Appendix O
15	<i>Environmental Study Report</i> a. From the environmental report, section 7.8, settlement along CN tracks is expected to be less than 10mm. The Structural Design report, appendix M, does not address settlement along railway ROW in the geotechnical section. The anticipated settlement along GO ROW should be confirmed in the detailed geotechnical investigation; b. From the environmental report, section 8.1.4, it is expected that a detailed review of bridge substructure design, bridge construction sequencing, and track access will be conducted through the detailed design phases to ensure minimal impacts to rail facilities and operations;	Comments noted. Potential settlement along the GO / Metrolinx Lakeshore East tracks will be addressed in more detail in the geotechnical design report to be completed during the detailed design phase.	Section 7.8 / 8.1.4
16	<i>Foundation Investigation and Design Report</i> a. Drill minimum one borehole at each pier (this is already included in the suggested detailed investigation). Drilling to be extended into bedrock strata;	Comment noted to be addressed in detailed design with anticipated future geotechnical investigations and report. A minimum of one borehole will be advanced into bedrock at each pier location during the detailed foundation investigation.	Appendix C
17	<i>Preliminary General Arrangement</i> a. Provide excavation limits and its impact on the track;	Comment noted for detailed design.	Appendix N
18	<i>Preliminary General Arrangement</i> a. Based on the excavation limits, a detailed plan for the excavation and protection system, if required, to be included in the detailed design;	Comment noted. Details for excavation and protection system is typically the responsibility of the contractor and provided to us in shop drawings. Approximate locations of protection system at piers to be shown on the GA drawing during detailed design.	Appendix N
19	<i>Foundation Investigation and Design Report</i> a. Monitoring program and contingency plan also needs to be prepared as part of detailed design;	Commented noted for detailed design.	Appendix C
20	<i>Groundwater Monitoring</i> a. Additional groundwater monitoring to be provided in the designed design stage, and dewatering consideration, if required;	Comment noted for detailed design.	Appendix E
21	<i>Hydrogeological Assessment Report</i> a. Based on the results of the hydrogeological investigation carried out at the site, Palmer Environmental Consulting Group Inc. (Palmer Environmental) has identified crossing Alternatives A and B as preferred options. Given that the depth of excavations are not extended into the saturated zone and the potential groundwater related issues during the construction phase are insignificant, Alternatives A and B can be considered as preferred options; i. However, it is expected that approximately 0.5 ha of a PSW in the adjacent area is required to be removed as part of both alternatives. Investigations confirm that the PSW is dominantly supported by surface water, however, there can be some groundwater recharge at the PSW during a part of the year, which may need further investigations;	Comments noted.	Appendix E
22	<i>Storm Drainage Report</i> a. The overpass drains north and south of the corridor, and drainage doesn't enter the corridor at the proposed overpass; as a result, there is no concern for Metrolinx at that location	Comment noted.	Appendix F
23	<i>Storm Drainage Report</i> a. The proposed works will increase the volume and peak flow of runoff from the south road (Squires Beach Road), due to road widening, urbanizing the cross section, and construction of storm sewers. In addition, it is our understanding that the portion of the flow from the ROW that currently discharges to the west to the wetland will be redirected to the east outlet. There is no assessment regarding how much the flow in the outlet will increase as a result of the proposed works. The drainage from the road, outletting to the east, ultimately is conveyed through culverts under the Metrolinx tracks and Hwy 401	Additional analysis has been provided in the report to acknowledge the increase in flow as a result of the urbanization of Squires Beach Road. Stormwater management options have also been presented to offset the increase in flow volume and rate with acknowledgment that the peak flows reaching the GO / Metrolinx corridor must be maintained at existing levels.	Section 7.11 / Appendix F
24	<i>Storm Drainage Report</i> a. The SWM report says that no quantity control is required (since TRCA indicates that it is not required for Duffins Creek). However, there is no assessment of the potential increase in flow to the culverts under the Metrolinx tracks, and no assessment of whether the culverts are large enough for proposed flows. There is no existing sizing provided for the culverts, no assessment of existing catchment area to the culverts, no assessment as to the relative increase in catchment area represented by the urbanized portion of Squires Beach Road, and no capacity estimates	The stormwater management quantity control criteria have been updated to include a statement that all flow reaching the corridor shared by GO / Metrolinx and the MTO must be controlled to pre-development peak flow levels. The size of the culvert under the corridor has been shown in all appropriate figures for reference. The water quantity control volume required to maintain flows to the GO / Metrolinx corridor has been included in the examination of stormwater management options.	Appendix F

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
25	<i>Storm Drainage Report</i> a. After crossing Hwy 401, drainage is collected somehow to an existing storm sewer and overland path to Duffins Creek. There are no capacity assessments of this outlet, which the proponent is also proposing to discharge the Notion Rd portion of the site (including the overpass drainage). Since flows to the existing outlet will increase, and since the existing capacity is unknown, there is a concern that flows will exceed the outlet capacity, and back up to the Hwy 401 culvert crossing, potentially impact the rail corridor	An acknowledgement has been included in the report stating that during detailed design a complete capacity analysis must be completed for the storm sewer and overland flow route north of the transportation corridor to ensure that external flows from south of the GO / Metrolinx corridor are captured and conveyed without negative impact on the existing infrastructure.	Appendix F
26	<i>Preliminary Structural Design Report</i> Clarify that a Maintenance Ownership agreement will be drafted to outline City maintenance and inspection frequency and access of piers and span over tracks.	Comment noted. A Maintenance Ownership agreement will be addressed in future discussions between the City of Pickering, City of Ajax, MTO, Metrolinx and CN Rail.	Appendix M
27	<i>Preliminary Structural Design Report</i> Consider Metrolinx Electrification Standards for Grounding and Bonding of overhead steel structures and Electrical protection barrier at parapets	Comment noted for consideration in detailed design.	Appendix M
28	<i>Preliminary Structural Design Report</i> Feasibility of alternative is depended on completing bridge lifts over the tracks while tracks are out of service. Clarify the "Temporary Short Term rolling closures" noted in section 8 can be completed during a realistic Work Blocks on LSE.	Construction staging of bridge lifts over tracks to be determined during detailed design in consultation with Metrolinx.	Appendix M
29	<i>Preliminary Structural Design Report- Appendix B Preliminary Arrangement Drawing</i> Refer to Go Track Standards and Metrolinx General Guidelines for Design of Railway Bridges and Structures Drawings K1U-10.2m for Clearance Envelope and clearance to abutments/piers.	Comment noted for detailed design.	Appendix M
30	<i>Preliminary Structural Design Report- Appendix B Preliminary Arrangement Drawing</i> Indicate ROW/property boundaries on the drawings. Are Piers #2 and 3 within MLX ROW?	As discussed with Metrolinx the GO / Metrolinx Lakeshore East rail line is within MTO ROW and Metrolinx does not own any lands within the Study Area.	Appendix M
31	<i>Preliminary Structural Design Report- Appendix B Preliminary Arrangement Drawing</i> Indicate excavation or shoring line for Pier footing construction. For shoring within Metrolinx Zone-of-influence (18" from edge of tie at a slope of 2:1) add to the design Criteria AREMA and the Metrolinx General Guidelines for Design of Railway Bridges and Structures Latest Edition. Ensure the evaluation of span alternatives has considered shoring and track monitoring as required by this standard.	Locations of protection system at piers to be shown on GA drawing in detailed design.	Appendix M
32	<i>Design Criteria</i> Correct header "Highway 404 16 Ave to Major Mackenzie Drive".	The design criteria header has been updated.	Appendix L
33	<i>Appendices M and N</i> The clearance provided 8.1m over GO Tracks (as per Appendix M and N) is appropriate for electrified rail. This may be reduced to 7.584m as required, per MX-ELEC STR-SPEC-2017. (NOTE: This 7.584m minimum is referenced correctly in Appendix M 3.3.2, but is stated incorrectly in Appendix N dwg D200X-XXX as 7010mm min.)	Comment noted. The appendices have been updated with the correct information.	Appendix M / N
34	GO Track arrangement is appropriate for this area; no changes to alignment or number of tracks is anticipated.	Comment noted.	N/A
35	Due to the geometry of the bridge and the plate requirement of the subdivision (AAR Plate F maximum vehicle height), no Overhead Catenary System (OCS) structure is anticipated to be integrated with the bridge. All electrified wires may free-span under the bridge from structures located on either side.	Comment noted.	N/A
36	Any communication wires which may be influenced by EMI shall be protected and selected as per The Interim Standards for the Selection of New Electronic Devices and Cables in Metrolinx Facilities (MX-ELEC EMI-SPEC-2017).	Comment noted for detailed design.	N/A
37	Any structure over the electrified corridor shall provide an Electrification Protection Barrier (EPB) as per The Performance Specifications for Structures Passing Over Electrified Corridors (MX-ELEC STR-SPEC-2017).	Comment noted for detailed design.	N/A
38	Any structure over the electrified corridor shall provide grounding and bonding as per the Electric Traction Enabling Works Specifications and Standards (MX-ELEC TRAC EW-SPEC-2016 and MX-ELEC TRAC EW-DW-2016).	Comment noted for detailed design.	N/A
39	Any utilities relocated for the project which cross the Metrolinx corridor underground or overhead shall be coordinated with Metrolinx Electrification for overhead clearance and/or lateral clearances to OCS structures. (NOTE: for low voltage crossings <150kV the minimum required vertical clearance to top of rail is 15.7m).	Comment noted for detailed design. Any utility impacts that do cross the Metrolinx tracks will be determined during detailed design. If it is determined that there are utility impacts the necessary work will be conducted in consultation with Metrolinx.	N/A
40	The design of the barrier, sidewalk, and outer portion of deck slab should accommodate the addition of an EPB (by others) based on the following criteria/assumptions: <ul style="list-style-type: none"> EPB to be mounted/anchored to the top of proposed concrete bridge barrier (i.e., the currently proposed metal railing is removed and replaced by the EPB within the limits of electrification). The EPB to extend extending vertically a minimum of 2 m above the standing/walking/riding surface and horizontally (measured perpendicular to the track/wire) a minimum of 5.0 m beyond the centerline of the outermost electrified track or 3.0 m beyond the outermost electrified wire, whichever is farther. Restrict horizontal run(s) of conduit (embedded in concrete barrier) (if any) from being located within the uppermost 600mm of the proposed concrete bridge barrier. 	Comment noted for future detailed design of the bridge structure in consultation with Metrolinx.	N/A

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	<ul style="list-style-type: none"> Dead load per unit length of EPB, framing and accessories (not including existing concrete bridge barrier)= 2.2 kN/m Horizontal wind pressure applied to the windward and leeward face of the barrier + EPB in accordance with the CHBDC Pedestrian and bicycle traffic lateral line load applied along the length of the EPB in accordance with the CHBDC 		
41	Access to the proposed lighting (if any) should be located such that placement of the EPB will not hinder its access, possibly by locating it above the top of the EPB.	Comment noted for detailed design.	N/A
42	<p>Please include the following commitments in Table 9-1 (Commitments to Future Work):</p> <ul style="list-style-type: none"> Commitment to consult with MX not only for access and staging during construction, but for the placement of piers and for any potential conflicts with existing or future infrastructure for GO Expansion. Commitment to adhere to Performance Specifications for Structures Passing Over Electrified Corridors (latest version) New bridge will require bridge barriers for the area within 3m of the Overhead Catenary System Commitments with respect to consultation with MX should be more explicit to reflect comments from January 16, 2019 (i.e. MX crossing agreement, flagging requirements, adherence to all MX design standards) <p>In addition to the above comments- please ensure that the Electrification Standards are reviewed against the Electrification Enabling Works design standards. MX-ELEC TRAC EW-SPEC-2016 Rev 1 MX-ELEC TRAC EW-DW-2016 Rev 1 MX-ELEC STR-SPEC-2017-Rev3.0 PS Struct Passing Over Electrified Corr MX-ELEC EMI-SPEC-2017 Interim Standards for the Selection of New Electronic Devices and Cables EMI Rev 2</p>	All commitments have been added to ESR Table 9-1, as requested.	Section 9.3
43	Once the utilities have been located to a Quality A and or Quality B standard, the Proponent must reengage with Metrolinx to further determine absence of conflict.	Comment noted for detailed design.	N/A
Ministry of Environment, Conservation and Parks			
1	<p>A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions</p> <ul style="list-style-type: none"> Elaborate on section 4.8.6 to include a specific description of the study area Include sources other than industrial Include how this project will influence traffic emissions (elaborate section 8.4.6.2 first paragraph) 	The local air quality has been further investigated through the collection of background air quality data from local monitoring stations within the National Air Pollution Surveillance (NAPS) network. A review of local industry was conducted via a search of publicly available data such as Environmental Compliance Approvals (Air) through the Ministry of the Environment, Conservation and Parks (MECP) and annual reports available from the National Pollutant Release Inventory (NPRI). Further discussion of non-industrial sources within the Study Area and the project's influence on traffic emissions were also discussed. This discussion is provided in applicable sections of the ESR and in the Air Quality Qualitative Assessment Memorandum which will be an appendix to the ESR.	Section 4.8.6 / 8.4.6.2 / Appendix R
2	<p>A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors</p> <ul style="list-style-type: none"> This was not completed – please include 	A review of existing sensitive and critical receptors has been conducted to determine sources within a 1 km radius of the preferred design concept. Potential future sensitive receptors were identified within the south-east corner of the Highway 401 and Church Street South intersection. This discussion is provided in applicable sections of the ESR and in the Air Quality Qualitative Assessment Memorandum.	Section 4.8.6 / Appendix R
3	<p>A discussion of local air quality impacts that could arise from this project during both construction and operation</p> <ul style="list-style-type: none"> Include more information on what specific construction activities may impact air quality and how potential impacts will be minimized 	Discussion of construction and project-related operation impacts to air quality has been included in the applicable ESR section and in the Air Quality Qualitative Assessment Memorandum, with a discussion of potential sources of air contamination from construction equipment, activities and potential mitigation measures.	Section 8.4.6.1 / 8.4.6.2 / Appendix R
4	<p>A discussion of potential mitigation measures</p> <ul style="list-style-type: none"> Include more information on how the project may mitigate known dust issues – for example through operational improvements 	Discussion of mitigation measures from construction activities and project operation activities have been included in the applicable ESR sections and in the Air Quality Qualitative Assessment Memorandum.	Section 8.4.6.3 / Appendix R
5	In our January 10, 2019 email we discussed existing dust issues along Notion Road and asked that the project team consider these matters and how the project could potentially assist in resolving these concerns. We offer that this could be addressed through the more detailed qualitative air quality assessment.	Known dust issues along Notion Road were noted in a letter provided by MECP (included as an appendix to the ESR "Appendix H – MECP Resident Response Letter") and are a result of excess road dust along Notion Road. The existing condition of Notion Road is expected to be improved with the implementation of a full urban cross section which should reduce some of the road dust caused by existing gravel shoulders.	Section 8.4.6.3 / Appendix R
6	Further, section 4.8.6 states that "an air quality assessment for the project will be completed during detailed design...this approach was confirmed with MECP during a conference call with the Project Team held on November 27, 2018." However, the meeting minutes state "AECOM will include a qualitative air quality assessment in the ESR as noted in MECP's email dated November 20, 2018." We offer that the detailed qualitative air quality assessment that addresses our comments above is acceptable for this project.	A qualitative air quality assessment has been completed. The results will be provided in applicable sections of the ESR and in the Air Quality Qualitative Assessment Memorandum.	Section 4.8.6 / 8.4.6 Appendix R
7	The Honourable Jeff Yurek is the new Minister of the Environment, Conservation and Parks.	The Minister of the Environment, Conservation and Parks has been updated to the Honourable Jeff Yurek.	Section 1.5

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
8	There is a new long-term temporary address for the Minister of the Environment, Conservation and Parks. The new address is as follows: Office of the Minister of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto ON M7A 2J3 Tel.: 416-314-6790 minister.mecp@ontario.ca	The address for the Office of the Minister of the Environment, Conservation and Parks has been updated to the new long-term temporary address provided.	Section 1.5
9	The northern portion of the study area is also designated as an Events Based Area in an Intake Protection Zone 3.	Discussion on the Intake Protection Zone has been added to the applicable sections of the ESR and Section 3.2.6 of the Hydrogeological Assessment Report.	Section 4.5.4 / Appendix E
10	In accordance with Source Protection Plan Policy SAL-11, it is recommended that the City commit to utilizing best management practices for the application of road salt across Notion Road to protect sources of municipal drinking water as it is located on lands designated as a Highly Vulnerable Aquifer.	A note has been added to the applicable section of the ESR and Section 3.2.5 of the Hydrogeological Assessment Report.	Section 4.5.3 / Appendix E
11	The Contamination Overview Study will inform the proponent where there is potential for impacted soil to be encountered. Soil in areas of potential contamination should be analyzed to determine soil quality in order to identify appropriate reuse or disposal methods and to ensure that construction of this project will not cause an adverse effect or a degradation of the pre-existing condition of any receiving sites.	The applicable section of the ESR has been updated to include this language.	Section 4.7
12	The mitigation measures under section 8.4.7.3 should be elaborated on. For example, how should the design of the new road crossing consider key factors and climate change trends (i.e. what does "building to withstand extreme participation and extreme heat" mean/entail; how does the stormwater management plan consider the additional runoff during extreme precipitation events etc.). Will contract documents have consideration for other construction effects, such as sourcing of building materials? Will the new road crossing have the potential to increase/improve transit options? Etc.	The applicable section of the ESR has been updated to include additional discussion on climate change as it relates to the new road crossing design.	Section 8.4.7.3
13	Section 8.4.7.3 states that "the City of Pickering is managing emissions and GHGs through sustainable transportation infrastructure planning and implementation." Please provide more information to explain this sentence. For example, does the City have specific sustainability policies/guidelines that it follows?	The applicable section of the ESR has been updated to include a more detailed discussion on how the City of Pickering is working to manage emissions and GHGs through sustainable transportation infrastructure planning and implementation.	Section 8.4.7.3
14	Section 8.3.1.3 and 8.3.2.3 mention as a mitigation measure for water quality impacts to aquatic features, including the wetland, "specific stormwater management measures are recommended to treat post development runoff from the widened footprint of the roadway. Quality and quantity control measures are addressed in the stormwater management study (Sabourin Kimble & Associates 2019) and will be further developed at the detailed design phase." We note that Appendix F states that quantity control is not required, however quality control will be required, and "specific stormwater management measures" have not been sufficiently discussed in Appendix F. While detailed analysis may be done in detailed design, the EA should still discuss the stormwater management measures options may be considered and provide an initial analysis. Without this, it has not been demonstrated that impacts are able to be mitigated.	The storm drainage and stormwater management study has been revised to include an outline and initial analysis of various stormwater management measures that may be provided within the constraints of the project. The range of options include an examination of at source controls utilizing Low Impact Development (LID) measures, in-line storm sewer controls (oil/grit separators) and centralized facilities. Appropriate options have been examined separately for the Notion Road and Squires Beach Road segments. The stormwater management criteria has also been revised to acknowledge localized capacity constraints associated with the shared transportation corridor for GO / Metrolinx and the MTO.	Appendix F
15	Correspondence records with the following stakeholder groups are missing: <ul style="list-style-type: none"> Bayfield Realty Advisors Inc. Catholic Cemeteries and Funeral Services Archdiocese of Toronto 	There was an error with the upload of these correspondence records via the WeTransfer link provided to the Ministry. We will ensure these correspondence records are included in an appendix to the Final ESR.	Appendix Q-4
16	The incoming correspondence of September 10, 2018 from Curve Lake First Nation is missing.	We will ensure this correspondence is included in an appendix to the Final ESR.	Appendix Q-5
17	We note that while an email from the Chippewas of Rama First Nation dated November 27, 2018 was acknowledged on December 1, 2018, it was not actually responded to until June 5, 2019. It is important that proponents ensure that any necessary follow-up discussions with Indigenous communities take place in a timely manner, including addressing questions or concerns that arise. I would offer that the proponent should review the attachment "A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities, 2013" which was sent with the ministry's response to the Notice of Commencement for helpful guidance related to consultation with Indigenous communities.	Comment noted.	Appendix Q-5
Ministry of Transportation			
1	<i>Planning and Design:</i> <ol style="list-style-type: none"> MTO's PDR shows the removal of a crossing culvert (see figure below). Based on the profile it is assumed that the drainage through here is from west to east. The removal of the culvert may require adjustments to the median drainage systems such as enlarging or re-directing sewer pipes in addition to removal or alternative design options therefore must be investigated and designed/implemented as part of the project if in advance of MTO's future work. 	<ol style="list-style-type: none"> It is not currently anticipated that the new Highway 401 road crossing design impacts the existing culvert; as such, it is not anticipated to be removed as part of the new crossing works. If it is determined that the culvert is impacted in detailed design, further discussion on the impacts to the median storm sewer will be discussed with MTO. Comment noted. Work will continue in detailed design to confirm the clearance requirements of the north abutment and details regarding slope pavement and barrier requirements (if any). Comment noted for detailed design. Placement of drainage structure between the pier and road may not be required depending on the timing of the construction and the future Highway 401 widening. Comment noted for detailed design. Sight lines are anticipated to be adequate in the area as the highway profile is relatively tangential and flat. 	N/A

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	 <p>b. The abutment on the north (see figure below) must accommodate room behind a barrier wall (unless there is slope paving or barrier is not necessary for other purposes in advance and after structure) for ATMs in addition to all drainage infrastructure required to drain the highway in its required direction.</p>  <p>c. The south pier (see figure above) is shown to be in the location of our future ditch therefore the design of the footing and location of the piers need to consider the placement of a drainage system between it and the roadway structure (subgrade drainage) in addition to ditch drainage/sewers.</p> <p>d. For the location of both the abutment and piers (see figure above), consideration must be given for sightlines to advance roadside signage for the termination of the SCL on the south and the advance exit terminal for Brock Road on the north.</p> <p>e. There is limited detail regarding roadside safety elements. For example, slope paving application and protection, pier hazard protection, etc. The associated protection elements (example, need for guiderail)</p>	<p>e. Comment noted for detailed design.</p> <p>f. Comment noted. The design criteria will be developed during detailed design and submitted in MTO format for review.</p>	

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	<p>may require increased span of the bridge and affect the crossing road profile. This can be submitted during detailed design for MTO review.</p> <p>f. An MTO format Design Criteria needs to be submitted for MTO review.</p>		
2	<p><i>Structural:</i></p> <p>a. The horizontal clearance from the CN track to the south abutment toe slope is 21.17m, whereas 7.62m is required. Please explain the rationale for the difference.</p> <p>b. Can the 3rd and 4th spans (crossing CN rail tracks) be combined into one span by reducing the horizontal clearances between the tracks and the abutment?</p> <p>c. Is the City of Pickering agreeable to the cross section of the Notion/Squires Beach Road as proposed?</p> <p>d. The use of RSS wingwalls is questionable considering the site soil conditions. Please refer to Bridge Office Memorandum, #2019-02, dated March 13, 2019.</p> <p>e. There is potential to optimise the deck cross section (girder depth, spacings) during detailed design.</p>	<p>a. CN Rail has a track heater at the south abutment and relocation may not be feasible. The rationale was to span the track heater to potentially avoid impacts/relocation.</p> <p>b. Refer to structural response A.</p> <p>c. As a co-proponent of the study, the City of Pickering has been involved in the development of the preferred design and is agreeable to the cross section of Notion/Squires Beach Road as proposed.</p> <p>d. Comment noted for detailed design. The type of retaining wall will be determined in detailed design depending on the soil condition, construction staging and further geotechnical investigations.</p> <p>e. Comment noted for detailed design.</p>	Appendix M
3	<p><i>Traffic:</i></p> <p>a. No comments.</p>	Noted.	N/A
4	<p><i>Drainage:</i></p> <p>Relevant Drainage and SWM sections were reviewed and we have no comments at this time. Most of the details related to drainage will come during the detail design, and the detail design SWM report will be reviewed at that time.</p>	Comment noted.	Appendix F
5	<p><i>Foundations:</i></p> <p>No comments.</p>	Noted.	N/A
6	<p><i>Corridor:</i></p> <p>a. Once ministry comments/concerns have been addressed the proponent for the bridge will be required to enter into a legal agreement with MTO. All costs related to design, construction, and relevant future maintenance costs (example, illumination) will be the responsibility of the proponent.</p> <p>b. MTO permits will be required once an approved design has been accepted and a legal agreement is in place.</p>	Comments noted as part of future works.	N/A
Region of Durham			
1	<p>ESR - Page 13, Section 2.2.1 – Durham Regional Official Plan:</p> <ul style="list-style-type: none"> The overview of the Durham Regional Official Plan (ROP) should also mention in the 1st sentence “(2017 consolidation), as amended by Amendment #171 (incorporating key network recommendations from the Durham 2017 TMP)”. A short paragraph should be added identifying that Bayly Street is designated in Schedule ‘C’, Map ‘C3’ – Transit Priority Network as part of the High Frequency Transit Network. The High Frequency Transit Network consists of buses planned HOV lanes or buses in mixed traffic, with transit signal priority at major intersections and other measures to ensure fast and reliable transit service, consistent with the TMP. The HOV lanes may be converted to dedicated bus lanes as growth in ridership warrants over the long-term. The Envision Durham Municipal Comprehensive Review of the ROP should be noted at the end of this section as being underway, which includes conforming to the new Growth Plan (A Place to Grow, 2019) and other Provincial plans. The Envision Durham exercise will achieve conformity with updated Provincial plans and policies, including allocation of the Region’s population and employment forecasts to 2041 (currently at 2031), planning for density requirements, and responding to relevant and existing land use planning and development issues. The Provincial conformity deadline is July 2022, so the new ROP must be adopted by Council and approved by the Province by that time. 	Comments noted. The suggested text has been added to the applicable section of the ESR.	Section 2.2.1
2	ESR - Page 14, Section 2.2.3 – Durham Region Transit Long-Term Transit Strategy – This section should be removed, as the study has been superseded by the Durham TMP.	The sub-section referencing the Durham Region Transit Long-Term Transit Strategy has been removed from the ESR.	N/A
3	ESR - Page 16, Section 2.3.4 – Kingston Road Corridor Urban Design Development Guidelines – It should be mentioned that this guideline is being updated through the Kingston Road Corridor and Specialty Retailing Node Intensification Study being conducted by the City of Pickering. This study will identify an implementation plan and urban design guidelines for the corridor, which will incorporate an amendment to the City of Pickering Official Plan (City staff may provide comments on this item as well).	The suggested text has been added to the applicable section of the ESR.	Section 2.3.5
4	ESR - Page 16, Section 2.3.6 – Note that the Town of Ajax Integrated Transportation Master Plan was released in April 2019, and the Notice of Study Completion was issued in June 2019. Accordingly, the wording of this section should be updated.	The applicable section of the ESR has been updated to include information on the Town of Ajax Integrated Transportation Master Plan.	Section 2.3.7
5	ESR - Page 17, Section 3 – Why was a 2028 planning horizon used for this study? An EA for major new infrastructure would typically consider a 20+ year planning horizon to ensure that planning and preliminary design reflect long-term considerations.	The nature of both Squires Beach Road and Notion Road and the potential connection between these public corridors represents the connection of two Type C Arterial streets that would create a link between a Type B Arterial corridor to the north (Kingston Road) and a Type A Arterial corridor to the south (Bayly Street) and the industrial area south of Bayly Street. This would form an approximate 3.5 kilometre corridor within the context of the City of	Section 3

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
		<p>Pickering and Region of Durham. This is an important local (i.e., Pickering-Ajax or 'municipal' scale) connection and does not offer further region-wide benefits. As such, a 10-year development horizon (2028) was selected taking into account the known components of the longer term, overall development intensification contemplated for the municipal area, including the Durham Live project and surrounding lands. Given that significant redevelopment of the area has been assumed in the transportation model, and since this is not a long inter-regional corridor, additional ambient traffic growth is expected to be limited and would not change the model findings or corridor planning needs.</p> <p>A longer term analysis will form part of the supporting work for the lifting of the H-3 Holding provision from the Durham Live Lands. The analysis will take into consideration the following: long term intensification in the general vicinity affecting background increases in traffic; subsequent development phases of the Durham Live lands; the new Highway 401 Road Crossing Municipal Class EA; and any other associated Municipal Class EAs. This information will be used to test the area street network and identify required transportation infrastructure or modifications to the system to support intensification beyond the 2028 horizon.</p>	
6	ESR - Page 18, Section 4.1.1.2 – Regional Road Network – The description of Brock Road should state that it has been recently widened to six lanes between Bayly Street and Kingston Road, with the exception of only two southbound lanes being provided across the rail corridor south of Highway 401.	The applicable section of the ESR has been updated to reflect the information provided.	Section 4.1.1.2
7	<p>ESR - Page 19, Figure 4-1 – The following errors and omissions are noted on the existing road network figure:</p> <ul style="list-style-type: none"> • There is an existing traffic signal on Brock Road at Plummer Street; • On Brock Road at the Highway 401 westbound ramp terminal, there are two through and one through/right lanes northbound and three through lanes southbound; and • There is only one lane northbound on Notion Road at Kingston Road. 	Comment noted. The figure has been revised and included in the Final ESR.	Figure 4-1
8	ESR - Page 20, Section 4.1.1.2 – The description of Kingston Road should note that it is also designated as a Rapid Transit Spine, and bus-only lanes have been built through the Westney Road and Brock Road intersections as the first phase of a future median Bus Rapid Transit (BRT) system.	The applicable section of the ESR has been updated to reflect the information provided.	Section 4.1.1.2
9	ESR - Page 46, Section 4.8.1 – Demographics – Table 4.4 should be sourced as being from “Statistics Canada, 2006, 2011 and 2016 Census”.	The source for Table 4.4 has been updated as recommended, in the ESR.	Section 4.8.1
10	<p>ESR - Page 50, Section 4.8.4 – Planned Infrastructure Improvements – The following projects should be added to the list:</p> <ul style="list-style-type: none"> • Durham-Scarborough BRT – Metrolinx launched the project in May 2019, which is currently in the pre-planning phase and will be undertaken as a Preliminary Design study and Transit Project Assessment Process (TPAP). The Initial Business Case (March 2018) recommended BRT lanes in a centre median running way within Pickering and Ajax, with the exception of the Pickering Village area where buses in mixed traffic with transit priority measures was recommended. The TPAP process is targeted for completion in 2021, but the specific timing for project delivery (i.e. procurement of detailed design and construction) has yet to be determined. The Metrolinx RTP identified this project as In Development. • Bayly Street Widening – Durham TMP identifies widening within the study area, between Brock Road to Westney Road, in 2027-2031, to a 7-lane cross-section, which will include curbside HOV lanes. The 2019 Capital Road Program and Nine-Year Forecast has targeted construction in 2027. Also, intersection modifications to advance the 7-lane widening have been identified for Bayly/Church (with construction budgeted for 2022). 	The applicable section of the ESR has been updated with the text provided.	Section 4.8.4
11	ESR - Page 61, Section 6.1.1.2 – Cul-de-sac of Pickering Parkway Alternative – Change two references from “Brock Street” to “Brock Road”.	This has been updated in the applicable section of the ESR.	Section 6.1.1.2
12	ESR - Pages 86-89, Section 7.4 – Typical Cross-sections – While the proposed lane configurations for the three sections of the project appear to be reasonable, there should be some explanation of how these configurations were determined, i.e. why three lanes instead of two on the approaches and four lanes instead of three on the bridge. This should be assessed in Appendix B with a summary in the main report.	<p>Lane configurations for the entire project corridor were determined from the conclusions provided in the Transportation Considerations Memorandum. All road cross-sections are designed to accommodate future 2028 traffic volumes.</p> <p>The three-lane configuration was determined to permit left turning traffic into future development of the surrounding property including accommodating the numerous driveway entrances on Notion Road. The four-lane configuration on the structure is related to the intersection proximity and turning lane requirements resulting in a consistent four-lane configuration to optimise the overall bridge structure.</p>	Section 7.4
13	ESR - Page 90, Section 7.5 – Intersections – This section states that intersections were designed to accommodate the predicted 2028 traffic volumes, but it appears that there was no assessment done of the need for new or modified auxiliary lanes at the Regional intersections, Kingston Road/Notion Road and Bayly Street/Squires Beach Road. This assessment needs to be completed to determine whether modifications are required at these intersections and identify any related impacts (e.g. right-of-way). In addition, signal warrant calculations should have	<p>Assessments were completed by the Project Team for the recommended improvements to the Kingston Road/Notion Road and Bayly Street / Squires Beach Road intersections.</p> <p>Turning lanes on Squires Beach Road and Notion Road are already accommodated in the EA. Additional improvements beyond the improvements being completed as part of H-1 were not required.</p>	Section 7.5

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	been completed to provide justification for the new traffic control signals proposed at the Pickering Parkway/Notion Road and Kellino Street/Squires Beach Road intersections.		
14	<p>ESR - Page 90, Section 7.6 – Cycling and Pedestrian Facilities:</p> <ul style="list-style-type: none"> The 1st sentence should refer to Notion Road as part of the Regional Cycling Plan’s Primary Cycling Network, not a “preferred cycling route”. OTM Book 18 was released in 2013, not 2014. The Durham Regional Cycling Plan identified the Notion Road/Squires Beach Road connection as a on-road bike lane, rather than a boulevard MUP on the east side of the road as recommended through the Class EA. While changes to the recommended facility type in the RCP can be made through the Class EA process, there should be a brief explanation as to why the boulevard MUP design was selected as part of the recommended design alternative, and is more feasible, than the on-road bike lane. 	The applicable section of the ESR has been updated. A boulevard multi-use path (MUP) was selected for Notion Road / Squires Beach Road in order to provide a more appropriate cycling facility which separates cyclists and pedestrians from road users, given the expected use by recreational / causal cyclists.	Section 7.6
15	<p><i>Appendix B – Transportation Considerations Memorandum</i> The focus of Appendix B is on determining the network benefits of the proposed crossing of Highway 401 in comparison to a scenario without the crossing. While this is essential to the EA process, the Transportation Considerations should also include assessment of the lane requirements for the recommended crossing alternative from a traffic engineering perspective, including on the approach roads and the crossing itself, as well as at all four intersections along the corridor. This would include consideration of traffic volume projections, safety issues, access management, levels of service, queue storage requirements, auxiliary lane warrants/guidelines and traffic signal warrants (for the two intersections where signalization is proposed). For the Regional intersections at Kingston Road/Notion Road and Bayly Street/Squires Beach Road, the assessment needs to determine whether any new or extended auxiliary lanes are required.</p>	Comments noted. A tabular summary of key intersection characteristics for intersections along the Squires Beach Road / Notion Road corridor is provided in Appendix E of the updated Transportation Considerations Memorandum. Based on the traffic forecasts and forecast traffic operations, queue lengths extend beyond the current storage lengths along the corridor. Auxiliary lanes are provided to accommodate operational needs within the scope of the analyses completed for the EA as well as to provide flexibility along the corridor for potential future intensification in the Study Area, the magnitude of which is not precisely known at this time. For example, new auxiliary lanes are required at Kingston Road / Notion Road in order to accommodate the future traffic conditions associated with the proposed crossing; the three-lane cross-section along Notion Road implicitly accommodates the need for a separate left / through and right turn lanes at Kingston Road.	Appendix B
16	<p><i>Appendix B – Transportation Considerations Memorandum</i> The methodology used generally matches the approach used for the Durham Live H-2 transportation study (also by BA Group). As such, the comments and concerns that we identified with the Durham Live H-2 study (comments provided to Durham Live in March 2019) generally apply to this study as well. To date, we have not received a response to our comments on the H-2 study, and it does not appear that any significant changes have been incorporated into the EA transportation study in response to our comments. Accordingly, Details of the draft transportation considerations memo cannot be confirmed until the outstanding items of the Phase 2 Durham Live TIS are resolved. Notwithstanding the concerns that we have with the study methodology, we agree with the primary finding that the proposed new Highway 401 crossing would provide significant transportation network benefits.</p>	Comments noted. A separate response to the Durham Live H-2 application comments concerning vehicular traffic generation associated with the Durham Live H-2 development land uses and intensities has been submitted to Region of Durham Transportation staff. Durham Live – Lifting of the “(H-2)” Holding Provision application Response to Durham Region Request for Information, Trip Generation, dated September 18, 2019 has responded to the Region’s request for additional justification for traffic generation rates that are described as “Sensitivity Rates” in both the Durham Live Lifting of the H-2 TIS report (dated November 2018 along with subsequent supplemental memoranda) as well as the “ <i>New Highway 401 Road Crossing (from Notion Road to Squires Beach Road Municipal Class EA Transportation Considerations Memorandum)</i> ”.	Appendix B
17	<p><i>Appendix B – Transportation Considerations Memorandum</i> Pages 10-11, Section 3.1.1 – Road System – Squires Beach Road, Notion Road, Pickering Parkway and the section of Church Street south of Bayly Street are not Regional roads. These roads should be identified as being under the jurisdiction of the City of Pickering, and the Type C Arterials should be moved to the Municipal Road Network section.</p>	Comments noted. This has been revised in the Final Transportation Considerations Memorandum.	Appendix B
18	<p><i>Appendix B – Transportation Considerations Memorandum</i> Pages 12-13, Section 3.1.3 – Active System – It should be noted that there is an existing MUP on the south side of Bayly Street, east of Church Street. A crossside connecting the two paths should be installed when the Bayly Street and Church Street intersection is reconstructed as part of the Durham Live development. It is expected these details will be included in this report and the Durham Live reports.</p>	Comment noted. This matter has been resolved as part of discussions with the Region on H-1 improvements and it was confirmed that a crossside is not required. The MUP east of Church Street is outside the scope of this EA study.	Appendix B
19	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 14, Figure 3 – The following errors and omissions are noted on the existing road network figure:</p> <ul style="list-style-type: none"> There is an existing traffic signal on Brock Road at Plummer Street; On Brock Road at the Highway 401 westbound ramp terminal, there are two through and one through/right lanes northbound and three through lanes southbound; and There is only one lane northbound on Notion Road at Kingston Road. 	Comments noted. Figure 14 has been revised in the Final Transportation Considerations Memorandum.	Appendix B
20	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 19, Section 3.3.1 – Signalized Intersections – While the overall intersection results are useful as broad indicators of network performance, critical movements with poor LOS and/or high v/c ratios should also be identified at individual intersections. This would help provide the reader with a better understanding of the network operations and the impacts of the project. The same comment applies to the analysis results for the future scenarios.</p>	Comments noted. A summary of the capacity analysis results of each individual movement at each intersection within the Study Area for all analysis scenarios will be provided in the Final Transportation Considerations Memorandum.	Appendix B
21	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 22, Table 5 – The north-south Bayly Street - Kingston Road connection (second-last project in the table) is a Municipal project, not Regional. The timing of the Regional road projects should be updated to match the Regional</p>	Comment noted. Table 5 will be revised to the current proposed timing for the Regional projects as provided in points above, in the Final Transportation Considerations Memorandum.	Appendix B

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	Road Program 2019 Capital Budget and Nine Year Forecast, with a note that the timing is tentative and subject to change. The current proposed timing for the Regional projects is as follows: <ul style="list-style-type: none"> • Bayly Street, Liverpool Road to Brock Road – beyond 2031; • Bayly Street, Brock Road to Westney Road – 2027; • Bayly Street, Westney Road to Harwood Avenue – 2024; • Westney Road, Bayly Street to Highway 401 – 2025; and • Westney Road, Highway 401 to Kingston Road – 2023. • Note that for all of these widenings, the additional lanes are planned to be for HOV/transit use (subject to confirmation through future EA studies). 		
22	<i>Appendix B – Transportation Considerations Memorandum</i> Page 23, Table 6 – The Durham Live H-1 improvements include signalization of the Kellino Street/Church Street intersection. At the Bayly Street/Squires Beach Road intersection, the eastbound right turn lane is being adjusted to accommodate the road widening for the left turn lane; there is no significant extension.	Comments noted. Table 6 will be revised in the Final Transportation Considerations Memorandum.	Appendix B
23	<i>Appendix B – Transportation Considerations Memorandum</i> Page 23, Section 4.1.3 – Transit and Active System Considerations – This section should include the Durham-Scarborough BRT, for which a Metrolinx TPAP is currently in progress. This is a significant inter-regional higher-order transit system, and the proposed Highway 401 crossing would permit a direct connection between it and the Durham Live site by transit or active transportation.	Comment noted. The Durham-Scarborough BRT is proposed to extend approximately 36 km between Downtown Oshawa and Scarborough Town Centre along Regional Highway 2 (Kingston Road). It will provide connections to Whitby, Ajax and Pickering and provide better connections to the TTC, Durham Region Transit and GO Transit services. It is proposed that the BRT will have a headway of approximately 5 minutes or less during the peak hours and transit priority signals along Kingston Road have already been installed in order to support the traffic flow. A discussion on the future connection opportunities to this planned infrastructure will be noted. Given the timing of the New Highway 401 Road Crossing Municipal Class EA (i.e., nearing completion), it will inform the ongoing Metrolinx TPAP associated with the Durham-Scarborough BRT in terms of intersection configuration requirements at Kingston Road and Notion Road.	Appendix B
24	<i>Appendix B – Transportation Considerations Memorandum</i> Page 24, Section 4.1.3, last paragraph – The Region’s Cycling and Trail Map is not relevant to the discussion of sidewalks on the Squires Beach Road-Notion Road connection. The map shows a Primary Cycling Network link on the connection; it does not show pedestrian facilities.	Comment noted.	Appendix B
25	<i>Appendix B – Transportation Considerations Memorandum</i> Page 25, Figure 8 – The left turn lanes at the Church Street/Kellino Street intersection should be shown in green (secured through Durham Live development application). The northbound lane on Notion Road at Kingston Road should be shown as left/through/right.	Comment noted. Figure 8 has been revised in the Final Transportation Considerations Memorandum.	Appendix B
26	<i>Appendix B – Transportation Considerations Memorandum</i> Page 26, Section 4.2.1 – Area Developments – Why was a 2028 planning horizon used for this study? An EA for major new infrastructure would typically consider a 20+ year planning horizon to ensure that planning and design reflect long-term considerations.	See response to comment #5.	Appendix B
27	<i>Appendix B – Transportation Considerations Memorandum</i> Page 36, Section 4.3.1 – Signalized Intersections – Please confirm the assessment method for Measures of Effectiveness (MOEs). For example, typical convention is not to classify a v/c of 0.97 as acceptable.	Comment noted. The assessment method for Measures of Effectiveness noted in the transportation analyses recognize that the horizon year of the analyses were limited to 2028, for reasons noted above, and also recognize that additional network improvements scheduled beyond the 2028 period. The analyses in the subject EA therefore reflects a conservative capacity assessment. In addition, v/c ratios between 0.90 to 1.00 at some signalized intersections represent analyses that have been completed for the peak hours of the weekday and Saturday conditions, notably at congested arterial intersections where it is an expected condition to experience delays, especially for turn movements. These capacity conditions are not maintained throughout the day and will fluctuate throughout the day; the analysis only represents the busiest or worse-case conditions.	Appendix B
28	<i>Appendix B – Transportation Considerations Memorandum</i> Pages 37 & 52 – Table 9 analyzes the intersections of Kellino Street and Squires Beach Road and Pickering Parkway and Notion Road as unsignalized. Section 5.3.2 notes that signalization has been recommended along the corridor. Traffic is unaware of how this signalization is being recommended. Further to the general comment previously made for Appendix B this section, the report should clearly identify intersections that should be signalized as the Region maintains and operates traffic signals. These recommendations should be accompanied by proper justification, including OTM signal warrants. As the intersections are being reconstructed, and a bridge is connecting these two locations to the Durham Live development, it is expected that the Durham Live trips will justify the need for traffic signals at both locations. The proposal of traffic signals needs to be accompanied by an appropriate design, including auxiliary lanes.	Comments noted. The Kellino Street / Squires Beach Road and Pickering Parking / Notion Road intersections were tested under unsignalized conditions under future conditions. Traffic operations at these intersections under unsignalized conditions failed in terms of both capacity and queue lengths. The unsignalized intersection results will be reported in the Final Transportation Considerations Memorandum. Therefore, signalization was proposed at these intersections under future conditions to accommodate the traffic operations and queue lengths, given the signal spacing. In addition, the proposed signalization at these intersections provided protection for future development potential in the area. Signal warrants will be completed and provided in the Final Transportation Considerations Memorandum.	Appendix B
29	<i>Appendix B – Transportation Considerations Memorandum</i>	With respect to the cross-section of the proposed overpass and its relationship with the Squires Beach and Notion Road cross-sections, the four-lane cross-section along the overpass is proposed to accommodate potential queueing both northbound and southbound across the structure in advance of the intersections of Squires Beach	Appendix B

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	<p>Pages 40-42, Section 5.1 – Future Transportation Network (With Connection) – Additional explanation should be provided in terms of how the recommended lane configurations as described in this section were determined. Specifically:</p> <ul style="list-style-type: none"> It is likely that motorists will use the northbound right turn lane at Kellino Street, and the southbound right turn lane at Pickering Parkway, as through lanes if built as shown in Figure 16 with a receiving lane. Through lanes that become turn lanes between Kellino Street and Pickering Parkway should be discouraged to eliminate weaving. Typically, the convention is to provide exclusive through and turn lanes at these locations or, alternatively, demonstrate that a combined northbound right/through lane at Kellino Street and southbound right/through lane at Pickering Parkway will function well. As noted in previous comments (provided to Durham Live in March 2019), a southbound right turn lane is required on Squires Beach at Bayly Street. The proposed cycling facilities and potential bus stops should be described in this section for the highway crossing project. 	<p>Road and Kellino Street and Notion Road and Pickering Parkway. Furthermore, flexibility to accommodate the potential for additional intensification has been taken into account on lands within both Pickering (e.g., Durham Live subsequent, yet unknown at this time) and within Ajax (e.g., development along Westney Road south of the Highway 401 corridor, Annandale Golf Course lands, also unknown at this time).</p> <p>The four-lane configuration across the proposed structure provides flexibility to configure the approach lanes on Squires Beach Road (northbound at Kellino Street) and on Notion Road (southbound at Pickering Parkway) to respond to potential increases in vehicular traffic under subsequent future conditions while retaining flexibility in terms of capacity to satisfactorily accommodate operations at these two relatively closely spaced intersections. The lane configurations in advance of the Squires Beach Road/Kellino Street and the Notion Road/Pickering Parkway intersections will be augmented by roadside signage. Approach lanes on Squires Beach Road (northbound at Kellino Street) and on Notion Road (southbound at Pickering Parkway) will be configured with an exclusive through lane and a shared through / right.</p> <p>This will be reflected in the Final Transportation Considerations Memorandum.</p> <p>A southbound right turn lane on Squires Beach Road at Bayly Street will be illustrated as part of the revised lane configurations within the analyses and the EA report to respond to the Region's concern that a small amount of southbound through traffic could negatively impact the higher volume southbound right turn movement forecast at this location. A nominal southbound right turn lane storage plus taper will be introduced.</p>	
30	<p><i>Appendix B – Transportation Considerations Memorandum</i> Pages 46-47, Section 5.2.1 – Traffic Distribution Considerations and Figure 18 – The redistribution process is unclear, and some of the results are counter-intuitive. For example, why does providing an additional Highway 401 crossing result in a significant traffic volume increase on Westney Road? The re-distribution should be reviewed and verified, and the description of the process should be clearer. A summary of diversion percentages and volumes for key movements through the study area would be helpful. Appendix D provides the raw plate trace survey data, which is not helpful in understanding the redistribution process.</p>	<p>Comments noted. Additional information will be provided to differentiate the breakdown of distribution. A breakdown of the existing and background traffic distribution is provided in the Final Transportation Considerations Memorandum.</p>	Appendix B
31	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 49, Figure 20 – The southbound through and eastbound right movements are not included at the Pickering Parkway and Notion Road intersection for the future traffic volumes (with connection) sensitivity analysis scenario. Please revise the figure accordingly.</p>	<p>Comment noted. Figure 20 has been revised in the Final Transportation Considerations Memorandum.</p>	Appendix B
32	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 55, Section 6.1.1 – Summary/Comparison of Key Intersection with and without Connection – A figure should be provided to illustrate the operational changes that occur with the Squires Beach Road-Notion Road connection.</p>	<p>Comment noted. Figure 16 on page 42 of the Transportation Considerations Memorandum illustrates the changes that occur with the Squires Beach-Notion Road connection. Additional clarification with respect to the operational benefits resulting from the Squires Beach-Notion Road connection will also be provided in the Final Transportation Considerations Memorandum. Figure 15 will be enhanced to provide the relative comparison between pre- and post-new road crossing.</p>	Appendix B
33	<p><i>Appendix B – Transportation Considerations Memorandum</i> Page 57, Table 12 - The table columns should be reorganized so that the two "Durham Live Sensitivity" columns are next to each other (i.e., swap columns 5/6/7 and columns 8/9/10). This would facilitate comparison of the "No Connection" and "With Connection" results for each Durham Live trip generation scenario.</p>	<p>Comment noted. Table 12 has been revised in the Final Transportation Considerations Memorandum. As noted in Response #16 above, BA Group has submitted additional technical justification and support for the "Sensitivity" trip generation rates associated with Durham Live. BA Group continues to advance the relevant comparison with respect to the before and after analyses of the Squires Beach-Notion Road connection involves the analyses using the "Sensitivity" traffic generation rates for the Durham Live Lifting of the H-2 conditions.</p>	Appendix B
34	<p><i>Appendix B – Transportation Considerations Memorandum</i> <i>Appendix C – Existing Turning Movement Counts</i> – Similar to the Durham Live TISs, a substantial amount of the Turning Movement Count (TMC) data is not legible. Please provide legible data.</p>	<p>Comment noted.</p>	Appendix B
35	<p><i>Appendix B – Transportation Considerations Memorandum</i> <i>Appendix E – Synchro Reports – Signalized Intersections</i> – There are errors in the Synchro modelling. Of note, Peak Hour Factors (PHFs) and lost time adjustments do not adhere to Regional guidelines. It is expected that a revised traffic report will follow Region standards.</p>	<p>The Synchro models have been calibrated to reflect existing traffic conditions and lost time adjustment studies at intersections have been provided in the Final Transportation Considerations Memorandum. The PHF and calibrations have previously been discussed with the Region and are consistent with the H-1 and H-2 application which has been approved and consistent with H-2 analysis. Calibration has been provided to Regional staff in both TIS reports submitted in conjunction with H-1 and H-2 lifting of the Holding provisions for the Durham Live development.</p>	Appendix B
36	<p><i>Appendix L – Design Criteria</i> The headers and notes are from a different project ("Road Crossing of Highway 404 (16th Avenue to Major Mackenzie Drive) Design Criteria – June 2015").</p>	<p>Appendix L has been updated.</p>	Appendix L
37	<p><i>Appendix O – Preliminary Design</i> As noted in the comments above, the preliminary design should address and include any new or modified auxiliary lanes required at the intersections on Kingston Road and Bayly Street.</p>	<p>The current design plans show the recommended lane configurations at both the Kingston Road and Bayly Street intersections. Treatment at both intersections was determined by the transportation analysis (Appendix B - Transportation Considerations Memorandum). Any additional improvements beyond what is shown in the preliminary design are not anticipated based on the traffic analysis.</p>	Appendix O

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
38	<i>Appendix O – Preliminary Design</i> As noted in our comments in Appendix B – Traffic Considerations, the lane configurations shown at the Notion Road/Pickering Parkway and Squires Beach Road/Kellino Street intersections result in north-south through movements being forced to change lanes to travel from north of Pickering Parkway to south of Kellino Street or vice versa. The proposed lane configurations should be modified to allow continuous north-south through travel without lane changes.	The lane configuration of Notion Road between Pickering Parkway and Kellino Street was determined to maintain a uniform width across the entire overpass structure as well as to limit additional widening at the intersections.	Appendix O
39	<i>Appendix O – Preliminary Design</i> Provision for future bus stop locations and facilities (e.g. concrete pads and shelters) should be accommodated in the preliminary design drawings, and the preferred road design and right-of-way.	Provisions for future bus stop locations will be considered during the detailed design phase. Existing stops have been added to Appendix O - Preliminary Design Plans.	Appendix O
40	<i>Appendix O – Preliminary Design</i> The concept preliminary plan does not include the DRT stops at Pickering Parkway and Beechlaw Drive. The transit stops are currently located at a transit pole on the southeast side of the intersection and on the northeast. Both transit stops currently have a concrete pad. It is recommended that the location of the transit stops be shown and labelled in subsequent engineering drawings.	Comment noted for future engineering drawings. Existing stops have been added to Appendix O - Preliminary Design Plans.	Appendix O
Toronto and Region Conservation Authority			
1	1. Stormwater: At this time, TRCA staff has not reviewed the Mike Flood 2D model in detail. Upon high level presentation of the flood plain impact results during the meeting on April 24, 2019, the +/- 5 cm impacts on the surrounding area are satisfactory. In addition, increases of 10 to 20 cm are anticipated in the immediate area of the road which will need to be reviewed and approved by the City. An emergency plan will be required at the design stage to ensure emergency vehicles can access the site and to ensure safety of the public. A more comprehensive review of the Mike Flood 2D model will commence on a future submission when the drainage design has reached a more advanced stage. It is recommended that further analysis be completed at the pre-design or preliminary design stage to ensure all overland drainage issues are identified, and to ensure that there are no changes to flood elevations on private lands.	To-date, the proposed Notion Road profile is very similar to existing. During detailed design, a refined profile will be developed which includes a detailed storm capture analysis and evaluation of any impacts on associated flood levels (utilizing MIKE 2D). An examination of emergency vehicle access will be completed during the detailed design phase.	Appendix F
2	2. Natural Features and Wildlife: It is expected that wetlands, woodlots and watercourses will be impacted as a result of this work. Quantification of the expected losses will be required at the design stage and compensation as per the TRCA's Guideline for Determining Ecosystem Compensation will need to be provided. In addition, a commitment to provide wildlife crossings in locations where amphibian and other wildlife movement is expected will need to be addressed at the design stage.	See below response to Toronto and Region Conservation Authority (TRCA) comments #15 and #19.	Appendix D
3	3. Property: The ESR notes that access to the Renewable Storage property cannot be provided and that discussions regarding future acquisition will need to take place. It is unclear at this time what will happen with this property, however, the site is situated adjacent to provincially significant wetlands and within a TRCA regulated area for wetland interference. Given the location of the site, any further impact to the natural systems south of the site will need to be avoided.	Comment noted.	Section 7.9 / 8.4.2.2
4	RESUBMISSION REQUIREMENTS Please ensure TRCA receives a copy of the Notice of Study Completion, as well as one (1) hard copy and one (1) digital copy of the final ESR. The final document should be accompanied by a covering letter which uses the numbering scheme provided in this letter and identifies how these comments have been addressed. Digital materials must be submitted in PDF format, with drawings pre-scaled to print on 11"x17" pages. Materials may be submitted on discs, via e-mail (if less than 25 MB), or through file transfer protocol (FTP) sites (if posted for a minimum of two weeks).	A copy of the Notice of Completion and one hard copy and one digital copy of the Final ESR will be provided to TRCA. This letter identifies how TRCA's comments have been addressed in the Final ESR or will be addressed during the detailed design phase.	N/A
5	REVIEW FEES As noted in our response sent June 26, 2018, the fee for reviewing this Schedule C project is \$21,355 as per our 2018 Fee Schedule. Please forward this payment as soon as possible, or let us know if you would prefer an invoice. 1. To ensure accurate processing of your fee, please ensure your accounting department references CFN 59858 when making any payments. 2. Payment method and timing must be noted in your covering letter response. 3. Payments can be made by: a. Cheque: please attach the cheque to your resubmission. Alternatively, if sending separately through your accounting department, please request your accounting department submit the cheque to the attention of Rina Bhagat - Administrative Clerk, Infrastructure Planning and Permits, TRCA. b. Credit Card: please contact Rina Bhagat at extension 5681 for payments made over the phone. c. Electronic Fund Transfer: this option may be available through your accounting department.	Pickering Developments Inc. has provided a cheque to TRCA to cover the review fee, in the amount of \$21,355 dated October 1, 2019.	N/A
6	Stormwater – Draft ESR TRCA staff recognizes that the overland drainage impacts have been noted on page 93 of the ESR. TRCA staff recommends that a more detailed drainage assessment be completed for the preferred overpass alternative at the pre-design stage to propose mitigation measures if there are	A detailed overland drainage and capture analysis will be completed as part of the detailed design phase. Refinement of the road profile will clarify any adverse drainage impacts such that adequate mitigation measures may be provided.	Section 7.11 / Appendix F

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
	adverse drainage impacts from the proposed overpass.		
7	Storm Drainage Report (May 17, 2019) Please revise section 5.2 as TRCA's Erosion Control Criteria requires that the 25 mm storm must be detained over a period of 48 hours, not 24 hours (ref. Section 4.2 https://trca.ca/conservation/stormwater-management/understand/swm-criteria-2012/download).	Comment noted and report has been revised.	Appendix F
8	TRCA staff recommends that at the early stages of design, the geotechnical and hydrogeological studies be referenced when determining feasible LID locations (i.e. looser soils and lower groundwater). When designing LID facilities, please note: a. As stated in Section 4.3 of TRCA's SWM Criteria Guide, the 5 mm onsite retention must be over and above the initial abstraction values. As such, the 1 mm of initial abstraction for the paved surface, and 5 mm of initial abstraction for landscaped surface cannot be accounted towards the abstraction volume. b. TRCA staff requires on-site retention of the first 5 mm of all rainfall events through the use of low impact development measures. To clarify this requirement, the calculation for each LID measure must be based on each contributing drainage area, including existing, already constructed areas. c. Please provide the volumes for each contributing drainage area along with the footprint area of each LID measure. The required infiltration areas should be based on the percolation rate and the retention time as per the MOE SWM manual and the TRCA LID and SWM Planning and Design Guide. d. During detailed design of the LID measures, in-situ infiltration testing must be completed to determine the permeability for the on-site soils, with a safety factor of 2.5 applied (ref. Appendix C of the TRCA LID Design Guide https://cvc.ca/wp-content/uploads/2012/02/cvc-lid-swm-guide-appendix-c.pdf) e. The bottom of the LID should be at least 1 m from the measured groundwater to ensure active infiltration.	a. Comment noted. b. The revised report contains a discussion of the LID measures that may be provided to address the 5 mm of runoff as part of the road reconstruction. c. 5 mm runoff volumes will be provided within the revised report. As part of the detailed design phase, percolation rates will be determined as per TRCA guidelines and the LID design will satisfy the requirements of the applicable design guideline documents. d. As the LID design advances, percolation rates will be determined for the on-site soils at specific locations and elevations which are reflective of the LID design. e. The groundwater elevations will be referenced, and design requirements addressed as part of the detailed design phase.	Appendix F
9	For Squires Beach Road, please confirm that the stormwater management facility within the Pickering Development Inc. lands has been sized to accommodate the additional drainage area from the proposed overpass to meet TRCA water quality, and erosion control criteria (i.e. 80% TSS removal and 48 hour detention of the 25 mm event, respectively).	Various design options for the Squires Beach Road segment have been provided including an examination of appropriate LID measures and consideration of control in a centralized facility within the Pickering Development Inc. lands.	Appendix F
10	At this time, TRCA staff has not reviewed the Mike Flood 2D model in detail. Upon high level presentation of the flood plain impact results during the meeting on April 24, 2019, the +/- 5 cm impacts on the surrounding area are satisfactory. The City must also approve the roadway flood plain impacts (i.e. 10 to 20 cm increase), for emergency vehicle access. A more comprehensive review of the Mike Flood 2D model will commence on a future submission when the drainage design has reached a more advanced stage. An emergency management plan will also need to be submitted with appropriate signoffs from relevant groups as part of the permitting process.	Comment noted. A detailed emergency management plan will be developed as part of the detailed design phase.	Appendix F
11	Please note that TRCA staff only acknowledges Oil/Grit Separators to provide 50% TSS removal when sized for 80%. An OGS must be used in a treatment train with an LID measure to provide the requisite quality control. Alternatively, TRCA staff credits Jellyfish filters as providing 80% TSS removal when sized correctly.	Comment noted. Oil/grit separators have been recommended in conjunction with other LID measures in a treatment train approach.	Appendix F
12	Section 7, second last paragraph indicates, "...in the immediate area of the road with direct impact on any of the existing residences." Please clarify whether this is meant to say no direct impact.	Agreed, this was an error. The report has been revised accordingly.	Appendix F
13	Natural Features On Area 1 there is a vegetation community identified as Mineral Cultural Meadow (CUM1d) in the Natural Environment Report/Environmental Assessment, just north of the Pickering Pentecostal Church. TRCA has data from 2004 which identifies that vegetation community as a Mineral Fen Meadow Marsh (MAM5-1), rated L2 on TRCA rank (of regional concern). Other data available for that area include the following plant species: Loesel's Twayblade (<i>Liparis loeselii</i>) [L3], Slender Gerardia (<i>Agalinis tenuifolia</i>) [L3], Blue-eyed Grass (<i>Sisyrinchium montanum</i>) [L4], Golden-fruited Sedge (<i>Carex aurea</i>) [L4] and Hairy Panic Grass (<i>Panicum accuminatum</i>) [L4]. TRCA staff recognizes that the in-house data is dated (from 2004), however, is concerned about the discrepancy between the information. Please clarify.	In 2018, the Project Team conducted a vascular plant inventory of the community in question, which resulted in the matching species list described in the report. Two Project Team Ecologists returned to the site September 5, 2019, to further investigate the potential presence of fen habitat or indicator species. The previous survey of this community was completed in July (2018), thus some species were detected in 2019 and not in 2018 due to seasonal timing and vice-versa. During the 2019 investigation, conditions had not changed since 2018 and the community description remains as Upland Cultural Meadow. The vegetative cover of the habitat is dominated (over 50%) by upland species cover. The Cultural Meadow identified in this area appears to have been used as a parking area, it may be that in the past, gravel fill has been added and compacted. Included within this Cultural Meadow, a Common Reed Meadow Marsh (MAM2) community (not delineated on existing conditions mapping) was identified within the ditch to the south containing evidence of remnant fen indicator species, including Variegated Horsetail (<i>Equisetum varigatum</i>) and Loesel's Twayblade (<i>Liparis loeselii</i>), within an area now dominated by non-native invasive Common Reed (<i>Phragmites australis</i> spp. <i>australis</i>). Only four individuals of Loesel's Twayblade were detected after thorough search, all within the fringe of the ditch community. Only on a small strip (a few metres wide and a few dozen metres long) on the fringe of this dense Common Reed Meadow Marsh (MAM2), where it meets the slope created by what appears to be historic gravel fill, do conditions exist to support these two potential fen indicators. The following other wetland species were also recorded: Canada	Section 4.3 / Appendix D

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
		<p>Bluejoint (<i>Calamagrostis canadensis</i>), Heart-leaved Willow (<i>Salix eriocephala</i>), Torrey's Rush (<i>Juncus torreyii</i>), Jointed Rush (<i>Juncus articulatus</i>) and Dudley's Rush (<i>Juncus dudleyii</i>). The Project Team's opinion is that the community has been historically converted to gravel fill, with Common Reed choking the majority of the ditch, the community is not a fen and is now a Cultural Meadow, ditch excepted.</p> <p>Description of this vegetation community has been updated in the Natural Environment Report and applicable sections of the ESR.</p>	
14	<p>The Natural Environment Report states that the Cultural Plantations north and south of Kellino Street should not be considered as part of the Significant Woodland. TRCA staff disagrees. According to Ecological Functions Criteria described in the Natural Heritage Policies of the Provincial Policy Statement, "proximity to other woodlands or other habitats" should be used as a criterion to define the significance of a woodland. These cultural plantations are adjacent to Provincially Significant Wetlands (PSW), and therefore, meet this criterion. Therefore, TRCA staff is of the opinion that the Cultural plantations should be considered Significant Woodlands.</p>	<p>We acknowledge that it is TRCA opinion that these CUP3-3 patches should qualify as significant woodlands.</p> <p>The identification of significant woodlands is the responsibility of local and/or regional planning authorities based on criteria provided by the Ministry of Natural Resources and Forestry (MNRF). However, MNRF have to-date not provided specific criteria. Some guidance on significant woodland is provided in the Natural Heritage Reference Manual (MNRF 2010) (NHRM): "Woodlands should be considered significant if a portion of the woodland is located within a specified distance (e.g., 30 metres (m)) of a significant natural feature and the entire woodland meets the minimum area threshold (e.g., 0.5–20 hectares (ha), depending on circumstance)". However, this is guidance and the NHRM is not designed to provide specific criteria.</p> <p>On the basis of this guidance, the largest patch (approximately 0.6 ha in area) of Scotch Pine Cultural Plantation (CUP3-3), located south of Kellino Street, <u>might</u> be considered significant given its proximity to the PSW. However, based on: its relative small size, the young age of trees (the main patch was less than 0.2 ha in 2005 based on historical aerial imagery), and perhaps most importantly, that it is primarily non-native Scotch Pine, it is our opinion that this cultural and regenerating treed community should not be considered significant woodland.</p> <p>It is also important to note that the Planning Authority (i.e., the City of Pickering) who is charged with the responsibility of identifying significant woodland has not done so in this case. These three patches of Scotch Pine Cultural Plantation have not been identified as Significant Woodlands by the City of Pickering in <i>Schedule III B - Resource Management: Key Natural Heritage Features</i>.</p> <p>The section on woodland significance has been updated in the Natural Environment Report and in the applicable section of the ESR.</p>	Appendix D
15	<p>TRCA staff will require that a feature-based water balance be completed for Provincially Significant Wetlands (PSWs) and other wetland components during detail design. Please add this requirement in the ESR as a commitment to future work.</p>	<p>Based on anticipated footprint of the proposed infrastructure, size and impervious cover of the catchment of the PSW are not expected to be significantly changed. Magnitude of effects to the PSW (and other wetlands) water balance potentially resulting from the proposed infrastructure will still be assessed during detailed design. Depending on the results, a feature-based water balance may be completed for PSWs and other wetlands.</p> <p>This requirement has been added to the Natural Environment Report and in the ESR as a commitment to future work.</p>	Section 9.3 / Appendix D
16	<p>A commitment for future mitigation and compensation is presented in Table 9-1. Please note that at detailed design, the total area of woodland and wetland to be impacted will need to be provided to TRCA so that compensation requirements can be calculated by TRCA. Please revise this commitment in the ESR.</p>	<p>The total area of woodland and wetland to be removed will be provided to TRCA at detailed design so that compensation requirements can be discussed.</p> <p>The commitment for future mitigation and compensation has been revised accordingly in Natural Environment Report and in the ESR.</p>	Section 9.3 / Appendix D
17	<p>The proposed design has the drainage from Squires Beach Road being discharged towards sensitive habitats, including a Provincially Significant Wetland (PSW) and an amphibian breeding area. Please note that enhanced treatment of the stormwater prior to discharge (above MTO requirements) will be required. Please add this requirement in the ESR as a commitment to future work.</p>	<p>Enhanced treatment of stormwater will be proposed at detailed design to treat post development runoff discharged towards the PSW.</p> <p>This requirement has been added to the Natural Environment Report and in the ESR as a commitment to future work.</p>	Section 9.3 / Appendix D
18	<p>Please clarify if this drainage ditch from Squires Beach Road is in publicly-owned lands. As part of the required compensation for the encroachment into the PSWs, there is an opportunity to restore the fen habitat (mentioned on Comment 1). However, this would require the lands to be publicly-owned.</p>	<p>The drainage ditch from Squires Beach Road is located within the proposed property limits required for full grading of the road improvements. Whether this is Public or Pickering Development Inc's property, it will be determined during property negotiations between the City of Pickering and Pickering Developments Inc.</p> <p>No compensation measures are anticipated in this area which will be proposed for development.</p>	Appendix D
19	<p>Wildlife crossings with drift fence should be explored for at least two locations: 1) east-west at Squires Beach Road north of Kellino Street and 2) north-south at Kellino Street. These crossings should be designed for passage of amphibians, reptiles and small mammals. Depending on the works proposed along the Squires Beach Road, a third crossing should be considered east-west at Squires Beach Road south of Kellino Street. We see that a commitment has been added to consider wildlife crossings. Please update and add this in the ESR.</p>	<p>Opportunities for wildlife crossings will be explored for amphibians, reptiles and other small wildlife during detailed design, including at least one north-south crossing at Kellino Street and one east-west crossing at Squires Beach Road south of Kellino Street.</p> <p>This requirement has been added to the Natural Environment Report and in the ESR as a commitment to future work.</p>	Section 9.3 / Appendix D

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
20	Requirements for timing windows will be confirmed by TRCA staff at detail design.	The ESR contains the known seasonal windows that might apply to this project. Should there be additional timing windows, these can be discussed with the TRCA during detailed design.	
21	Hydrogeology The Thurber report (Appendix C – Foundation Investigation and Design) documents some road salt contamination. The Palmer report (Appendix E – Hydrogeological Assessment) also documents a Highly Vulnerable Aquifer in the general area. Please consider circulating to Source Water Protection for additional comment as there are some low to moderate threat salt policies that may apply to the proposed project. SAL-10 pertains to Planning Approval Authority. SAL-13 pertains to the SPA and Municipality.	Comment noted. The recommendation has been added to Section 3.2.5 Source Water Protection of the Hydrogeological Assessment Report.	Appendix E
22	Geotechnical A supplementary detailed geotechnical study is required at the design stage to support the proposed undertaking to address the following items: a. To assess the ground conditions along the alignment and to provide the geotechnical design recommendations for the various components of the proposed undertaking. b. The presence of very soft to firm silty clay may impose challenges to the design of the embankments and foundations. Furthermore, ground improvement techniques may need to be developed. The report should address issues regarding potentially compressible soft soils and the impacts on the embankments, particularly those due to excess settlement.	Additional geotechnical investigations will be completed in detailed design to address construction and design requirements.	Appendix C
23	Please ensure at detailed design that the retaining walls, abutments and wing walls are designed by a qualified engineer using geotechnical information. The global stability should also be checked for the walls to confirm that a minimum safety factor of 1.50 is met against global instability.	Additional geotechnical investigations will be completed in detailed design. The design of retaining walls, abutments and wing walls will be informed by the results of the additional geotechnical investigations.	Appendix C
24	The presence of compressible soft soils may require a multi-staged construction of the embankments with additional berms or similar. Therefore, it is required that the extent of the disturbance to be accurately determined in plan and profile views at detailed design for various stages of the construction.	Comments noted. Additional Geotechnical investigations will be completed in detailed design to address construction and design requirements.	Appendix C
25	At detailed design cross-sections should be provided along the alignment in adequate intervals and at critical locations, which shows the proposed grade with respect to the existing ground. The cross-section should be extended enough to show all the features and slopes/banks where they exist relative to natural features or other properties. The extent of the proposed grading should be also shown on the plan along the alignment.	Comments noted. This will be addressed in detailed design.	Appendix O
26	If ground improvement (e.g. precompression or similar) is required, the temporary footprint of disturbance by a raised berm or similar may be larger than the final footprint after the completion of construction. This temporary additional footprint should also be identified and shown at the design stage on plan view and as cross-sections.	Additional geotechnical investigations will be completed in detailed design to address construction and design requirements. There are additional engineering techniques to reduce or eliminate the temporary berms as noted in the preliminary geotechnical investigations. Further coordination with TRCA will be completed in detailed design.	Appendix C
27	All engineering drawings for the retaining walls, abutments and wing walls, culverts, crossings, stabilization works, embankments and cuts should be prepared showing all necessary details and specifications and submitted as signed and sealed by Licensed Professional Engineer at the design stage.	To be addressed in detailed design.	Appendix N / O
28	Appendix C - Preliminary foundation report by Thurber has not been finalized as signed and sealed. Please ensure this is signed and sealed by a Licensed Professional Engineer.	The final version appended to the ESR will be signed and sealed by Thurber Engineering Ltd. As the ESR was circulated to the TRCA in draft, this report was kept as draft in order to address any comments.	Appendix C
29	Property Regarding the Renewable Storage site, TRCA staff are interested in discussing potential opportunities for renaturalization of the site given the proximity to provincially significant wetlands and because the site falls within an area of wetland interference. TRCA staff would also be interested in the possible transfer of these lands together with the lands to the south into public ownership. Finally, it is strongly recommended that a TRCA solicitor realty enquiry be completed before purchasing the land.	Comments noted. Property discussions with Renewable Storage are ongoing and are expected to continue into detailed design.	N/A
30	General Table 6-1 – It is unclear how the decision to carry forward with certain options was determined based on the dots. Please add a legend and text to further explain.	A legend has been added below the applicable table in the ESR.	Section 6.2
Town of Ajax			
1	ESR Page 16, Section 2.3.6 / 2.3.7 – Town of Ajax Transportation Master Plan The Town of Ajax Integrated Transportation Master Plan (ITMP) was approved by Council on May 2019. The plan integrates the 2013 Transportation Master Plan and 2010 Pedestrian and Bicycle Master Plan. The ITMP is a multi-modal planning tool which seeks to continue improving walking, cycling and motorized transportation in the Town to the year 2031 and beyond. The plan is intended to help the Town address projected growth, align with Provincial and Regional policies, enhance community benefits, respond to new transportation trends, and encourage public engagement and participation in decision-making. The ITMP did not include the Notion Road / Squires Beach Road connection over Highway 401 in the road network modelling analysis as it was seen as being beyond the 2031 time frame for the ITMP. This is consistent with the approach and recommended phasing which was proposed in the 2017 Durham Region Transportation Master Plan.	Comment noted. The applicable section of the ESR has been updated to include information on the Town of Ajax ITMP.	Section 2.3.7

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
2	ESR Page 90, Section 7.5 – Intersections In the design of the signalized intersections, the appropriate cross rides should be included as per OTM Book 18.	Comment noted. The applicable section of the ESR has been updated.	Section 7.5
3	ESR Page 97, Section 7.14 – Constructability, Staging and Detours As noted in discussions with Durham Live Representatives (including their consultants and City of Pickering Staff) there was assurances given that a connection from Squires Beach Road to Kellino Street would remain open for the duration of the overpass construction in order to maintain the entrance to Phase 1 of the Durham Live Development. The wording in Section 7.14 should be updated to reflect this.	Construction staging will be determined during the detailed design phase; including the necessity of road closures and detour routes.	Section 7.14
4	Appendix B – Transportation, Section 1.0 Typo in first paragraph, 3 rd line.	Comment noted.	Appendix B
5	Appendix B – Transportation, Section 3.2 All traffic between Squires Beach Road and Westney Road on Bayly Street is balanced except the PM Eastbound volumes between Church Street and Westney Road, please review and revise accordingly.	Comment noted. The intersection counts between the Bayly Street / Squires Beach Road and Bayly Street / Westney Road intersections were surveyed on the same date with the same peak hour period. Given that there are many driveways leading to major land uses between the two intersections, it is reasonable for traffic to be unbalanced between these intersections.	Appendix B
6	Appendix B – Transportation, Section 3.3, 4.3 and 5.3 SBR movements have been included in the analysis at both the Brock Street and Westney Road Highway 401 WB Intersections. At both intersections, the SBR movements operate as free flow and exit before the intersection. They should be removed from the analysis of the intersection, or clarification should be given as to why they have been included.	Comment noted. Traffic analyses at the Highway 401 on-ramp terminals have been modelled as free flow conditions. Notwithstanding, traffic analysis will be revised to remove the Highway 401 on-ramp legs from the intersections for the Final Transportation Considerations Memorandum.	Appendix B
7	Appendix B – Transportation, Section 4.1 Future road network Figures 8 and 16 show the same lane configuration on Westney Road and Bayly Street as the existing road network Figure 3. However, as identified in Table 5, there are proposed road improvements for both corridors that should be considered in the 2028 horizon. Please revise the analysis to include these improvements or provide an explanation as to why they are not included.	<p>The road improvements referred to in Table 5 (as updated per Region of Durham staff comments on the Transportation Considerations Memorandum for the Environmental Assessment (EA)) are scheduled to occur no earlier than 2027 (Bayly Street) and potentially 2025 (Westney Road south). Region of Durham staff have noted that the improvement timings are tentative and subject to change. Any increase in the number of lanes along these corridors would be planned to be for high-occupancy vehicle (HOV) / transit use, not for the general motoring public (subject to future EA studies). As such, and in order to adopt a conservative stance relative to the analyses completed for the EA (as was done in the H-2 analyses for Durham Live), it was assumed that the arterial improvements may not have been implemented by the 2028 horizon. Therefore, the network was left in the existing condition along these corridors to test its ability to accommodate the growth identified for the 2028 horizon. Other than updating the Table 5 listing of improvements per the Region's Regional Road Program 2019 Capital Budget and Nine-Year Forecast, this conservative analysis assumption was not raised by the Region staff, in terms of modifying the report's analyses.</p> <p>The network, although busy and reflecting congested results, functions generally within its theoretical capacity limits. These corridors were assumed to remain unimproved for the analyses, with the knowledge that when future studies (for development related applications, for EA purposes, for Municipal Comprehensive Reviews, etc.) are conducted, longer term horizons will be adopted, and these arterial and municipal street improvements will be assumed to have been implemented for analysis purposes.</p>	Appendix B
8	<p>Appendix B – Transportation, Section 4.2 Please provide additional information on why 2028 was selected as the study horizon. The draft ESR indicates the proposed crossing is expected to be completed in 3 to 5 years.</p> <p>It is the Town's understanding that there are other elements that are also associated with the application to lift the H-2 holding. Why have only the trips associated with expanding the Casino from 1,000 gaming positions to 3,300 gaming positions been included in the analysis, and the trips associated with the other uses have not.</p> <p>Please provide additional information regarding the proposed trip distribution associated with the Durham Live development. It was our understanding that trip distribution was to be balanced between the Squires Beach Road and Church Street entrances and that this would be enforced through wayfinding signage that was to be implemented with this project. Figures in the study show more traffic using the Church Street entrance versus the Squires Beach Road entrance.</p>	<p>The nature of both Squires Beach Road and Notion Road and the potential connection between these public corridors represents the connection of two Type C Arterial streets that would create a link between a Type B Arterial corridor to the north (Kingston Road), and a Type A Arterial corridor to the south (Bayly Street) and the industrial area south of Bayly Street. This would form an approximate 3.5 km corridor within the context of the City of Pickering and Region of Durham. This is an important local (i.e., Pickering-Ajax or 'municipal' scale) connection and does not offer further region-wide benefits. As such, a 10-year development horizon (2028) was selected taking into account the known components of the longer term, overall development intensification contemplated for the municipal area, including the Durham Live project and surrounding lands. Given that significant redevelopment of the area has been assumed in the transportation model, and since this is not a long inter-regional corridor, additional ambient traffic growth is expected to be limited and would not change the model findings or corridor planning needs.</p> <p>A longer term analysis will form part of the supporting work for the lifting of the H-3 Holding provision from the Durham Live Lands. The analysis will take into consideration the following: long term intensification in the general vicinity affecting background increases in traffic; subsequent development phases of the Durham Live lands; the new Highway 401 Road Crossing Municipal Class EA; and any other associated Municipal Class EAs. This information will be used to test the area street network and identify required transportation infrastructure or modifications to the system to support intensification beyond the 2028 horizon.</p> <p>Section 4.2.1 of the Transportation Considerations Memorandum sets out the development assumptions associated with the lifting of the H-2 Holding provisions associated with the Durham Live development.</p>	Appendix B

#	Comments Received	Project Team Response	ESR Section / Appendix Reference
		<p>The traffic volumes at the Church Street and Squires Beach Road entrances to the Durham Live development were distributed with consideration given to factors such as proximity and access to the Highway 401 corridor, and particularly access to the westbound on-ramps. The inbound / outbound distribution for both corridors (to / from Kellino Street) is as follows:</p> <p>Outbound</p> <ul style="list-style-type: none"> • 70 % of outbound traffic is assigned to Squires Beach Road, of which 45 % is assigned to the north; and • 30 % of outbound traffic is assigned to Church Street, of which 10 % is assigned to the north. <p>Inbound</p> <ul style="list-style-type: none"> • 40 % of inbound traffic is assigned from Squires Beach Road, of which 20 % is assigned from the north; and • 60 % of inbound traffic is assigned from Church Street, of which 10 % is assigned from the north. 	
9	<p><i>Appendix B – Transportation, Section 4.2.1.1</i> Please provide a copy of the “Urban Transportation Considerations Lifting the (H-2) Holding Provision”, dated November 20158 so that Town of Ajax staff can review the methodology associated with the trip generation estimates for the Durham Live Development and the two different trip generation approaches.</p>	The full report will be provided to you.	Appendix B
10	<p><i>Appendix B – Transportation, Figure 11</i> The equivalent percentages shows at the Kellino Street and Church Street intersection are 0%, this is incorrect and should be corrected. The figure also shows equivalent percentages for traffic volumes travelling north/south on Squires Beach Road north of Kellino Street, which should be 0% in this scenario.</p>	Comment noted. Figure 11 will be updated to include the percentage growth from Church Street / Kellino Street and Squires Beach Road / Kellino Street.	Appendix B
11	<p><i>Appendix B – Transportation, Figure 18</i> Please clarify what traffic volumes are shown in this figure. It would appear Durham Live site traffic is included in the future in addition to diverted existing traffic as a result of the Notion Road connection. Based on the description provided in Section 5.2.1, it would seem Figure 18 should only include diverted traffic associated with the proposed Notion road connection.</p>	Comment noted. Figure 18 will be separated into a series of traffic volume figures in order to provide a clearer understanding of each traffic volume layer considered as part of the diversions. The revised and additional traffic volume figures will be provided in the Final Transportation Considerations Memorandum.	Appendix B
12	<p><i>Appendix B – Transportation, Table 12</i> The summary of analysis results for the Future Conditions shows significant congestion at intersections on Bayly Street and Westney Road. As noted previously, and included in this report, both roads have plans for expansion as identified in the Region’s Transportation Master Plan in the studied horizon. Future Conditions analysis should be completed with these improvements to show their impact on the study area intersections.</p>	Comment noted. See response to comment #7 above.	Appendix B
13	<p><i>Appendix D – Natural Environment Report</i> Town of Ajax staff have reviewed the report and have the following comments: The report identifies Alternative C (underpass) as the preferred solution from an environmental perspective as it results in the least amount of disturbance and/or removal of significant vegetation. It is our opinion that from a flooding safety perspective that Alternative C would not be desirable form other climate and environmental aspects. From an environmental perspective, Alternative B is preferred to Alternative A (the preferred solution) because, relative to Alternative A, it results in less removal of terrestrial species habitat and less removal of wetland from a PSW.</p>	Comments noted. The Natural Environment Report identifies Alternative C as the preferred alternative design concept related to terrestrial and aquatic species and habitat and environmentally important areas criteria only. The complete evaluation including all natural environment criteria is provided in the ESR.	Appendix D
14	<p><i>Appendix F – Storm Water Drainage, Section 4.2.2</i> The proposed Notion Road overpass must not create any surcharging of the town of Ajax’s storm sewer and any Ajax overland flow routes.</p>	It is acknowledged that the reconstruction of the Notion Road ROW will require the examination of the capacity of the existing storm sewer system. This examination will include addressing the current City of Pickering and Town of Ajax design criteria and proposing any revisions or upgrades to the system to satisfy that criteria. The examination will include an assessment of overland, major system flow plus flow from external lands to the south. The Final Storm Drainage and Stormwater Management Evaluation Report has been revised to include this acknowledgement.	Appendix F
15	<p><i>Appendix F – Storm Water Drainage, Section 5.1 to 5.3</i> We agree with the minimum stormwater management requirements in these sections.</p>	Comment noted.	Appendix F
16	<p><i>Appendix F – Storm Water Drainage, Section 5.4</i> More details would be required to consider this section.</p>	Additional information has been provided in the Final Storm Drainage and Stormwater Management Evaluation Report to address the possible LID works that are available to accommodate the 5 mm runoff requirement.	Appendix F
17	<p><i>Appendix F – Storm Water Drainage, Section 6.0</i> All end of pipe treatment should be contained within the Notion Road right-of-way and dealt with through an ownership and maintenance agreement between the Town of Ajax and the City of Pickering.</p>	The stormwater management works considered in the Storm Drainage and Stormwater Management Evaluation Report are restricted to works located within the Notion Road ROW. An ownership and maintenance agreement between the Town of Ajax and City of Pickering may be developed during the detailed design process.	Appendix F
18	<p><i>Appendix F – Storm Water Drainage, Section 7.0</i> Provide mapping of existing and proposed floodplain limits to determine if any additional Ajax lands are proposed to be added to the new floodplain mapping. Additionally, Town staff question the acceptability of increasing flood elevations by 20 centimeters and the impacts to existing infrastructures, private property, any issues to Special Policy Area conditions and future development costs relative to flood proofing.</p>	<p>The floodplain mapping is being revised by the TRCA based on the updated model. The floodplain maps are the property of the TRCA and updates should be coordinated through TRCA offices. It is our opinion that the anticipated increase in flood levels identified in this study will be contained within the limits of the floodplain as determined through the MIKE 11 modelling process.</p> <p>The 20 cm increase is locally restricted to along the roadway only – TRCA has acknowledged this. It is 5 cm at residences which is within the tolerance of the model and is acceptable to the TRCA.</p>	Appendix F