

C5. Agency Review Comment/Response Tables

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

* Actions:
 1 = Will comply
 2 = Discuss, clarification required
 3 = Not applicable because

** Status:
 O = Open, not resolved
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Submitting Consultant Transmittal:

Reviewed By: City of Toronto - Parks, Forestry and Recreation Document Name:

Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)

Revision Date:

% Completion: Contract No:

Revision Number:

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	PF&R - Forestry	B. Williams (RNFP)		EPR Table 1:1, pg 2	Specs are too vague for what will be included in the Assessment Report for Natural Environment Existing Conditions and Environmental Effects. This report should more closely resemble and include items of similar nature to a Natural Heritage Impact Study and include an inventory and assessments of current natural features and potential impacts to these features with the given proposal.	Table 1-1 defines the Study Area used for each technical report and is not intended to list the contents addressed in each report. Please refer to Section 4.1 and 5.1 for additional information regarding the Natural Environment Effects Assessment.	1	C
2	PF&R - Forestry	B. Williams (RNFP)		EPR Section 3.5, pg 16	Widening of the bridge at Warden Ave and at Danforth Ave should be expanded to the north side of the track as to minimise impacts to features of the RNFP South of the track.	The bridge widenings at Warden Ave. and Danforth Ave. are to the north side. The direction of bridge widenings will be noted in Section 3.5.	1	C
3	PF&R - Forestry	B. Williams (RNFP)		EPR Section 3.6, pg 17	Culvert modification description too vague. Is it just an extension to the existing, a widening of culvert diameter, and entire retro-fit/replacement?	Please see the response to comment #2 regarding Section 3.5. Section 1 will be revised to add: "Further detailed reviews of these culverts will be conducted during Detailed Design. This will determine the type and extent of modifications required. The associated details will be reviewed with the City of Toronto and appropriate agencies during Detailed Design."	1	P
4	PF&R - Forestry	B. Williams (RNFP)		NER Section 1, pg 1	Culvert work is described only as extensions. Does this accurately address all of the proposed culvert work? Has the current conditions of existing culverts been investigated to determine if extension vs. retro-fit vs. full culvert replacement is best option?	Consistent with statements elsewhere in the EPR, the following will be added to Section 1.1: "This EPR identifies the impacts associated with the Project presented herein, and the property envelope within which the Project can feasibly be constructed. The actual layout and design of Project elements (e.g. grade separations, culverts etc.) are subject to Detailed Design."	1	P
5	PF&R - Forestry	B. Williams (RNFP)		Section 3.6, pg 17	Culvert modification for the site at mile 325.55 (Scarborough Junction) should be pursued to the north side of the track to reduce disturbance or impact to the NHS on the South side of the track in this location.	Please see the response to comment #2 regarding Section 3.5.	1	C
6	PF&R - Forestry	B. Williams (RNFP)		EPR Section 4.1.1, pg 19-20	Tree inventory was not completed during the 2016 field assessments but will be needed in pursuing City of Toronto tree removal or tree injury permits. For proposed works within RNFP designated property, all tree species, of all tree sizes within 12 m of disturbance must be included in the inventory.	A clarification will be made to Section 5.1.1.1 of the EPR that a Tree Inventory will be completed in support of the Arborist report. Please note that the following commitment is already included in Section 5.1.1.1 and Table 7-1 of the EPR: Permits and approvals related to City of Toronto Tree By-laws and municipal tree removal permits will be obtained as required. To support permit applications, an Arborist report would be completed by a qualified arborist during Detailed Design where required. Any damaged trees will be pruned through the implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.	1	C

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7	PF&R - Forestry	B. Williams (RNFP)		EPR Section 4.1.2.7, pg 22 and section 5.1.1.1, pg 60 NER Section 2.2.5.2, pg 5	Tree injuries are considered anytime the minimum tree protection zone for a tree cannot be fully protected and/or if pruning of a tree is required to accommodate the proposed development. Tree protection bylaws relate to both tree removals and tree injuries, therefore permits must be obtained from Urban Forestry/RNFP for tree removals <u>AND</u> tree injuries. This includes removals or injuries on adjacent properties not owned by Metrolinx.	Please see the response to comment #6. Text regarding tree related permits/approvals in Sections 4.1.2.7, Section 5.1.1.1, Table 7-1, Natural Environment Effects Assessment (Appendix B1) and elsewhere in the EPR will be revised to clarify that permits are required for both tree removals and tree injuries.	1	C
8	PF&R - Forestry	B. Williams (RNFP)		EPR Section 5.1.1.1, pg 60 NER Section 3.1.1.3, pg 23	Define the timeframe for monitoring post-planting survival (ie. Planting to be monitored and maintained for a period of no less than 2 years).	Current text in draft EPR will be changed to: Post-planting monitoring of restoration areas will be completed after construction. Should the plantings and/or seed mix not survive, additional seeding and/or plantings will be undertaken with additional monitoring during the growing season, as per the landscaping warranty.	1	C
9	PF&R - Forestry	B. Williams (RNFP)		EPR Section 5.1.1.1, pg 60	Unplanned incidence of Injured or critically damaged trees that are not part of any tree removal or injury permit should be reported to Urban Forestry immediately. Urban forestry may require that a qualified arborist attend the site immediately to assess and remediate tree injury damages.	The following will be added to Section 5.1.1.1, Table 7-1 and the Natural Environment Effects Assessment (Appendix B1): "Where City bylaws apply an unplanned incidence of injured or critically damaged tree that is not part of any tree removal or injury permit will be reported to the City's Urban Forestry department immediately."	1	C
10	PF&R - Forestry	B. Williams (RNFP)		EPR Section 5.5.3.1, pg 72	Design, locations and requirements for proposed retaining wall structures not adequately addressed and therefore difficult to comment on at this time.	The following will be added to Section 5.5.3.1: "The proposed retaining wall locations are identified in Appendix A. Please refer to Section 3.2.4 for additional information regarding retaining walls."	1	C
11	PF&R - Forestry	B. Williams (RNFP)		General	Protocol for notifying neighbour properties with tree removal or tree injury impacts, not well described. The City of Toronto is obligated to undergo a process of notification to any property owner who has private trees or boundary trees impacted by proposed works. A Metrolinx point of contact (name and phone number) should be made available to include on notification letters. The notification process takes a minimum of 4 weeks to complete, starting from the time a complete application is received. Adequate time should be allotted for this process of notification.	This is noted and an appropriate contact will be provided as part of the notification procedures. It is understood that the notification is a requirement flowing from relevant City by-law(s). The EPR is not intended to detail out all of the by-law related requirements but does indicate that applications will be completed and permits/approvals obtained. Please refer to Section 7.2.4 for a general discussion regarding municipal by-laws.	1	C
12	PF&R - Forestry	B. Williams (RNFP)		EPR Section 4.1.3.1, pg 24 NER Appendix A	ELC bullet list of existing ELC's is not consistent and does not include all ELC's found and identified in NER or elsewhere in the EPR.	Acknowledged. The EPR and NER will be revised accordingly.	1	C

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13	PF&R - Forestry	B. Williams (RNFP)		EPR Section 5.1.1.1, pg 60	In addition to avoiding vegetation removal for construction and staging in FOD7-3, all FOD areas and RNFP regulated areas should also be avoided	The following will be added to Section 5.1.1.1: "While impacts to Deciduous Forest (FOD) designated and natural heritage features (e.g. Ravine and Natural Feature Protection areas) cannot be completely avoided, design refinements will be considered during Detailed Design to reduce impacts to FOD and natural heritage features where possible."	1	C
14	PF&R - Forestry	David Bostock (TPPR)		Draft EPR page 26	Wood Thrush: A juvenile bird, if present on survey date, would have been recently fledged, and would not have been singing. Is this a transcription error (i.e., transferring field notes to a report), or the actual conclusion of the surveyor?	Text will be added to the EPR and NER to clarify that both a singing adult Wood Thrush as well as a juvenile were recorded within the study area (Merrill Bridge Road Park).	1	C
15	PF&R - Forestry	David Bostock (TPPR)		General	No Tree Inventory & Preservation Plan Report (TIPPR) for this segment has been provided as yet, therefore Urban Forestry TPPR's ability to provide comment or feedback is limited.	Feedback noted. Please see the response to comment #6.	1	C
16	PF&R - Forestry	David Bostock (TPPR)		Draft EPR pages 59- 60 (5.1.1.1)	Looking ahead to the TIPPR, vagueness in 5.1.1.1 should be eliminated. Phrases like "where possible", and "where appropriate" should be replaced with firm plans and details.	There are two such references in Section 5.1.1.1: 1 - "Where possible, stockpile materials and construction equipment will be stored within the construction footprint." - This reference to "where possible" will remain; text to be added: "Separate laydown and staging areas will likely be required which will be determined during Detailed Design. As laydown and staging areas are identified they will be subject to further environmental due diligence, as required." Refer to Section 7.3 of the EPR for information on the addendum process. 2 - "Construction fencing and/or silt fencing, where appropriate, will be installed, and maintained to clearly define the construction footprint and prevent accidental damage to vegetation or intrusion to adjacent vegetated areas." - This reference to "where appropriate" will be removed.	1	C
17	PF&R - Forestry	David Bostock (TPPR)		General	After the TIPPR is provided, Urban Forestry TPPR's goals in reviewing LSE Segment 1 materials are as follows:	Acknowledged. Metrolinx appreciates receiving this information; however, this level of detail is not necessary to reflect in the EPR.	3	C
17.1	PF&R - Forestry	David Bostock (TPPR)	General	1. Confirm the necessity of proposed tree removals or injuries (to preserve healthy trees where removal/injury can be avoided). Are plans and details consistent with proposed tree protection zones?				
17.2	PF&R - Forestry	David Bostock (TPPR)	General	2. For the purposes of tree permit issuance, confirm and finalize details regarding which trees will be removed, at what time, under what bylaw, and issue permits accordingly.				
17.3	PF&R - Forestry	David Bostock (TPPR)	General	3. Secure appropriate planting as compensation for removed trees, with respect to each relevant bylaw. Compensatory tree planting to be confirmed by MLX in the form of a letter stating the number of trees that will be provided, and confirming payment in lieu of any trees not planted.				
18	PF&R - Forestry	David Bostock (TPPR)		General	When provided, the TIPPR should include a single 'action' column for each tree. Values should be limited to Preserve, Injure, Remove, and Not Regulated. Injury would apply to any regulated tree whose minimum protection zone will not be fully protected.	Acknowledged. Metrolinx appreciates receiving this information; however, this level of detail is not necessary to reflect in the EPR. Comment to be addressed in the Tree Inventory and Preservation Plan Report scheduled for completion during Detailed Design.	3	C

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19	PF&R - Forestry	David Bostock (TPPR)		General	When preparing the TIPPR, it should be understood that after tree protective hoarding has been installed, the hoarding may not be moved or removed until the project is fully complete. In other words, there should be no work of any kind, at any time, within a TPZ.	Acknowledged. Metrolinx appreciates receiving this information; however, this level of detail is not necessary to reflect in the EPR.	3	C
20	PF&R - Forestry	David Bostock (TPPR)		General	Under Toronto's private tree bylaw, Urban Forestry is required to notify all owners of any tree prior to issuance of an injury or removal permit. A list of affected trees (within CoT only) should be submitted to Urban Forestry. The specific address, with property owner information, should be included. A single point of contact from MLX should be provided, so that TPPR's notification letters can direct inquiries directly to MLX. The MLX contact person should be familiar with neighbour and boundary tree issues (this writer will be happy to provide guidance or context to MLX in this area, if desired).	This is noted and an appropriate contact will be provided as part of the notification procedures. It is understood that the notification is a requirement flowing from relevant City by-law(s). The EPR is not intended to detail out all of the by-law related requirements but does indicate that applications will be completed and permits/approvals obtained. Please refer to Section 7.2.4 for a general discussion regarding municipal by-laws.	3	C
21	PF&R - Forestry	David Bostock (TPPR)		General	Regarding replanting requirements, the following ratios will be administered for all regulated removals (except within RNFP land, there is no replanting requirement in connection with tree injuries):	Acknowledged. Metrolinx appreciates receiving this information; however, the ratios will be subject to the Metrolinx Compensation Protocol that Metrolinx is currently consulting with Conservation Authorities and Municipalities about. Please refer to Section 7.2.4 for additional information regarding the Metrolinx Compensation Protocol including that compensation will meet or exceed relevant municipal by-laws and/or policies.	3	C
21.1	PF&R - Forestry	David Bostock (TPPR)	General	• Category 2 (private, neighbour owned or boundary line with ROW, Chapter 813, Art.III): 3:1				
21.2	PF&R - Forestry	David Bostock (TPPR)	General	• Category 3 trees (Parks, Chapter 608, Art.VII): 3:1				
21.3	PF&R - Forestry	David Bostock (TPPR)	General	• Category 5 (city owned street trees, Chapter 813, Art.II): 1:1				
22	PF&R - Forestry	David Bostock (TPPR)		General	Regarding Parks trees: No application form or fee concerning tree removals will be required for Category 3 trees (trees in city-owned parks). These trees remain protected under Chapter 608, and permission from the GM of PF&R is required prior to injury or removal. A letter to the GM of PF&R is required, listing the affected trees, the permission required (i.e., removal or injury), and citing the applicant's reasons for removal/injury. The letter should be addressed to David Bostock, Ass't Planner Urban Forestry TPPR, 150 Borough Dr., 5th Floor, M1P 4N7. ACCESS TO OR THROUGH PARKS IS NOT UNDER TPPR'S PURVIEW.	This information will be added to Section 7.2.4 of the EPR.	1	C
23	PF&R - Forestry	David Bostock (TPPR)		General	In accordance with the Official Plan, replacement trees should be large growing, long lived shade trees, preferably native species (see Policy 1d under Chapter 3.4.1).	Acknowledged. Metrolinx appreciates receiving this information; however, replacements will be subject to the Metrolinx Compensation Protocol that Metrolinx is currently consulting with Conservation Authorities and Municipalities about. Please refer to Section 7.2.4 for additional information regarding the Metrolinx Compensation Protocol including that compensation will meet or exceed relevant municipal by-laws and/or policies.	3	C
24	PF&R - Forestry	David Bostock (TPPR)		General	The payment in lieu of new/replacement trees required but not provided is \$583 per tree. This applies to replacements required as a consequence of the removal of trees in Categories 2, 3 & 5.	Acknowledged. Metrolinx appreciates receiving this information; however, payments will be subject to the Metrolinx Compensation Protocol that Metrolinx is currently consulting with Conservation Authorities and Municipalities about. Please refer to Section 7.2.4 for additional information regarding the Metrolinx Compensation Protocol including that compensation will meet or exceed relevant municipal by-laws and/or policies.	3	C

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LSE Segment 1 (Don River to Scarborough GO S

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Submitting Consultant Transmittal:

Reviewed By: City of Toronto - MCIC DCM Offi Document Name: Draft Environmental Project Report

Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)

Revision Date:

% Completion: Contract No:

Revision Number:

Item No.	Division	Reviewer Name	Part and/or Appendix	Review Comments	Response & Details	Action 1 / 2 / 3*	Status O / P / C**
1	MCIC	Shalin Yeboah	Air Quality	The Assessment focuses on the change in emissions between the two scenarios (future electrification of some of the Metrolinx trains versus these Metrolinx trains remaining diesel powered), rather than considering the potential cumulative effects of the project. In order to understand the regional and local effects of the proposed project, a cumulative scenario should be analysed consisting of the worst case project emissions combined with the worst case future emissions from all existing and planned emissions sources, which means that the air quality effects considered in the current report likely under predict future air quality emissions with the project.	Electrification will invariably result in the removal of the local air emissions from the electrified corridors and the associated air quality impacts will be invariably positive – an improvement in air quality. The study recognizes that the electricity used to propel trains will be associated with some air emissions at electricity generating stations. These emissions are quantified in the study. Thus, the study quantifies the net emissions incurred with electrification; that is the difference between the emissions avoided locally and the emissions incurred at the generating stations. The result is a net reduction of emissions of all air pollutants of concern. Please note that, emissions incurred in electricity generation are considered to be regional air emissions; that is, emissions incurred far from the specific communities that are in the immediate vicinity of the rail lines. Overall with Electrification as mitigation the net cumulative effect is positive.	3	C
2	MCIC	Shalin Yeboah	Air Quality	Although the Assessment of the emissions from the diesel and electric operations of the entire GO Rail Network reports air quality emissions information that includes the Don River to Scarborough GO Station segment of the network, the Assessment findings are not localized or project-specific enough to predict the air quality impacts associated with the proposed project or the air quality that effects that the modification of this segment could have on the City of Toronto.	Please see the response to comment #1.	3	C
3	MCIC	Shalin Yeboah	Air Quality	Since train frequency will increase as a result of service level changes, detailed modelling of emissions from the changes in train volumes and services levels predicted for this rail segment would need to be completed to understand impacts on the local area. As air quality impacts can be localized and short-term, in addition to annual emissions levels, short-term 1 hour, 8 hour and 24 hour standards should be analyzed based on these results.	Please see the response to comment #1.	3	C

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4	MCIC	Shalin Yeboah	Air Quality	<p>Further assessment is required for the project including the following elements:</p> <ul style="list-style-type: none"> • Assessment area should be defined (mileage points) as well as area each side of the rail way and encompass stations and car parks appropriately.; • The assessment should reference relevant air quality guidelines, including the Ministry of Transportation (MTO) Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects. • The assessment should consider the following pollutants: nitrogen dioxide (NO2), carbon monoxide (CO), particulate matter (<2.5 microns in diameter) (PM2.5), acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, benzo(a)pyrene. Total Suspended Particulate Matter (<44 microns in diameter) (TSP), PM10, lead, ozone and sulfur dioxide (SO2). Where pollutants have been screened out or not considered, a discussion should be included. • Background pollutant concentrations should be identified via monitoring stations in the project vicinity so that existing localized ambient air quality conditions can be considered and effects of development of this segment on existing City emissions levels can be understood. • Appropriate air quality modelling should be completed for the project segment based upon project-specific train volumes and service levels and associated changes in infrastructure. Modelling should consider 1 hour, 8 hour and 24 hour predicted concentrations, in addition to annual concentrations. The modelling scenarios, emission sources and emission factors should be referenced. Modelling assumptions and limitations should be well documented. • The modelling results should be compared to the Provincial Ambient Air Quality Criteria (AAQC) and Federal Ambient Air Quality Standards (CAAQs) and considered in comparison to the existing air quality emissions in the City of Toronto to the extent feasible. • Cumulative air quality impacts should be considered. • Project specific construction-related air quality impacts should be considered. 	<p>Please see the response to comment #1.</p> <p>Given the assessment methodology, the assessment area is sufficiently defined and includes the Study Area for the Lakeshore East Rail Corridor Expansion from Don River to Scarborough GO Station.</p> <p>Relevant guidelines are referenced in both the Air Quality Baseline Conditions Report (Appendix B2a) and the Air Quality Impact Assessment Report (Appendix B2b). The MTO Environmental Guide is intended primarily for road traffic and does not directly apply to rail traffic.</p> <p>The majority of the pollutants notes have been considered.</p> <p>Air quality monitoring stations were included in the characterization of baseline conditions.</p> <p>The following is noted in Section 5.3 of the EPR:</p> <p>Air quality impacts from construction activities are largely unavoidable, but are only temporary in nature and their impacts can be minimized with adequate controls. Construction activities will involve heavy equipment that generates air pollutants and dust. In general, the total emissions from construction activities are expected to be minimal compared to the total regional emissions, especially over the long term.</p>	1	C
5	MCIC	Shalin Yeboah	Air Quality	<p>These 'worst case' scenario emissions, including cumulative development, should be evaluated in the context of relevant standards and regional emissions contributions and considered in the context of current City air quality emissions levels.</p>	<p>Please see the response to comments #1 and #4.</p>	1	C
6	MCIC	Shalin Yeboah	Air Quality	<p>A more detailed consideration of construction activities associated with the addition of a fourth track, bridge widenings, culvert modifications, and the installation of retaining walls should be included.</p>	<p>Please see the response to comment #4.</p>	1	C
7	MCIC	Shalin Yeboah	Air Quality	<p>The general mitigation measures reported in the Assessment include keeping equipment in good operating condition, minimizing equipment idling time, reducing travel speed, minimizing haul distances, and efficiently staging activities. Although many of these measures would in fact apply to the project, more specific discussion of project impacts is needed to understand if any additional measures are required.</p>	<p>Please refer to the mitigation details provided in Section 5.3 of the EPR.</p>	1	C
8	MCIC	Shalin Yeboah	Air Quality	<p>All work proposed within this vicinity of this project must be coordinated with the City of Toronto's Capital Works Program</p>	<p>Metrolinx will coordinate with the City of Toronto Capital Works Program on works proposed within this vicinity; this commitment will be added to bulleted list in Section 7.2.4 of the EPR</p>	1	C

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9	MCIC	Shalin Yeboah	Noise and Vibration	The Noise Sections (Baseline and Assessment) provided for review are incomplete and presented in preliminary draft format. It is recommended that these sections provide more detailed information to understand the methods used, potential impacts identified, and mitigation proposed for the project. Information provided in both the Sections and the Noise and Vibration Report need to be consistent, including references to the total number of receptors and impacts. Incorrect figure references were provided in the Assessment Section (Figures reference Anticipated Construction Vibration Levels at Various Distances to Receptors, but show proposed sound barriers in the corridor). In addition, supportive text needs to be added to describe the figures which depict existing barriers, new mitigation, and retrofit mitigation to place them in context.	The noise sections of the EPR, i.e. Sections 4.4 and 5.4, were provided as separate files from the main EPR and are complete with the exception of figure and table reference numbers that are to be filled in to flow with the remaining EPR. Figure references will be checked and corrected as may be required. Introductory text for figures will also be reviewed and clarified as appropriate.	1	C
10	MCIC	Shalin Yeboah	Noise and Vibration	According to the AECOM November 2016 Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO Station) Project DRAFT Environmental Project Report, the proposed project would consist of the addition of a fourth track, bridge widenings, culvert modifications, and the installation of retaining walls on this segment. There doesn't appear to be enough support to confirm the need or consideration for these specific components in the Noise and Vibration Report for the proposed Don River to Scarborough GO Station segment, please provide more detail	Please note that the Noise and Vibration Impact Assessment Report (Appendix B3) only considers future electrification of the Lakeshore East Rail Corridor with four tracks between Don River and Scarborough GO Station and does not consider associated infrastructure for the corridor expansion e.g. construction of bridge/culvert widenings, retaining walls etc. These elements will be addressed during Detailed Design when mitigation for noise and vibration is refined.	3	C
11	MCIC	Shalin Yeboah	Noise and Vibration	The modelling and technical details of the Report appear sound, but conclusions are often unclear and the use of technical language makes it difficult to decipher what the expected impacts of the project actually are.	It is believed that the reference to technical language relates to the Noise and Vibration Impact Assessment Report (Appendix B3). The summaries provided in the EPR, i.e. Sections 4.4 and 5.4, are intended to provide summaries that can be understood by non-specialists.	1	C
12	MCIC	Shalin Yeboah	Noise and Vibration	Ground-borne noise, which is often a sensitive issue around rail facilities, was not assessed in the report. Ground-borne noise is the noise created by ground-borne vibration transmitting into a building structure and causing the interior surfaces, such as walls, to vibrate, resulting in potentially audible noise that can be considered a nuisance. It is recommended that this be included in the report	With tie-on-ballast track, ground-borne noise is not as significant a concern as ground-borne vibration given the concentration of vibration in the lower frequencies and the fact that air-borne noise is more significant for above grade railways. This is consistent with best management practices in other jurisdictions. Ground-borne noise or vibration-induced noise is more of a concern for below-grade transit or at-grade transit with stiff concrete bases where the dominant frequencies of vibration exceed 60 Hz (i.e. move more clearly into the audible range of human hearing).	3	C
13	MCIC	Shalin Yeboah	Noise and Vibration	A general assessment of predicted construction sound levels at nearby receptors was completed in the Noise and Vibration Report. The analysis consists of calculations based upon the FTA guidelines that provide sound levels for typical equipment used in construction activity. No actual details of the calculations completed are provided. Consistent with best practice, details of these calculations should be included in an appendix.	Relevant calculations are appended to the Noise and Vibration Impact Assessment Report (Appendix B3).	3	C
14	MCIC	Shalin Yeboah	Noise and Vibration	There is a general reference to applicable by-laws in the noise report (page 26 and Appendix G), but it is recommended that the report, consistent with best practice, state that construction shall be completed in accordance with the City of Toronto Noise By-Law and consideration given to temporary noise barriers, acoustic enclosures, and equipment compliance checks in all of the areas where noise is predicted to exceed FTA standards.	The following details noted in Section 7.2.4 of the EPR will be added to Section 5.4 of the EPR: Although Metrolinx, as a Provincial Agency, is not subject to municipal permits and approvals, Metrolinx will adhere to the intent of the relevant permits/approvals requirements to the greatest extent possible, and will submit applications for review and information. Metrolinx will endeavour to adhere to municipal Noise By-laws and policies in areas where it operates.	1	C
15	MCIC	Shalin Yeboah	Noise and Vibration	The Construction Noise Management Plan should outline measurement and reporting methods that will be used to demonstrate compliance with the project noise limits, rather than list general construction mitigation measures that could potentially reduce noise. The Noise and Vibration Report should include a Construction Noise Management Plan or Construction Vibration Mitigation and Monitoring Plan consistent with best practice.	It is believed that this comment refers to the Noise and Vibration Impact Assessment Report (Appendix B3). Please refer to the mitigation measures outlined in Section 5.4 of the EPR which includes details regarding Construction Noise Management Plan which will be developed prior to construction.	3	C

Item No.	Division	Reviewer Name	Part and/or Appendix	Review Comments	Response & Details	Action 1 / 2 / 3*	Status O / P / C**
16	MCIC	Shalin Yeboah	Noise and Vibration	<p>Additional mitigation measures recommended for construction noise and vibration would include:</p> <ul style="list-style-type: none"> • A more detailed noise and vibration assessment of construction shall be completed when the specifics of construction equipment are finalized. This assessment should consider minimizing construction related noise and vibration levels, while balancing construction schedules and expediting construction activity. The goal of any mitigation should be to practically minimize noise impacts, while allowing for construction to proceed as efficiently as possible. • All equipment used must adhere to guidelines as placed in MOE's NPC-115 guidelines for construction equipment (not just when noise complaints arise). • In rail corridors, night work is often required for activities such as track shifts or bridge span installation. Every effort should be made to minimize impacts on the neighborhood by limiting nighttime noisy activities. • Trains passing construction zones are required to use bells and whistles to warn construction personnel for safety reasons. This should be minimized as much as practical while ensuring the safety of everyone involved. • Construction equipment has safety features such as backup alarms while backing up (beeping sound). This is for the protection and safety of the workers, and is legally required. Consideration shall be given to the use of broadband rather than tonal backup beepers. • A proactive communications protocol is recommended that would advise residents in advance of nighttime construction or particularly noisy construction at any time. 	<p>Thank you for the suggestions. Metrolinx will consider these recommendations and add mitigation as appropriate to Section 5.5 of the EPR.</p>	1	P
17	MCIC	Shalin Yeboah	Noise and Vibration	<p>Based on information provided in the Report Appendices, it appears that existing noise measurements for current GO trains at a crossover switch were collected. However, existing measurements should also be collected at nearby sensitive receptors in order to understand the existing noise environment and determine potential impacts within the City of Toronto.</p> <p>Some of the assumptions considered in the analysis are not clearly explained. For example, according to the Report Section 3.3.4., "At the majority of the nearest receptors along the LSE rail corridor, the ambient noise was assumed to be significantly lower than the noise from existing rail activity and was therefore not assessed". It is unclear what ambient noise represents here and why it was not assessed. Ambient conditions including existing rail activity should be assessed in the analysis consistent with FTA Guidelines and in order to understand impacts to the City.</p>	<p>Existing impacts are more appropriately assessed through modelling and compared to modelled results for future scenarios. Background noise levels were assumed to be default levels of 55 dB (day) or 50 dB (night) unless there were major highways nearby, in which case highway noise modelling results were considered. This approach was agreed upon as appropriate for an EA based on preliminary design information. Measurements of background levels would present challenges to obtain (e.g., how to exclude noise from train operations?) and comparisons between measured levels and future predicted levels would inherently be affected by biases in the modelling, making this of questionable value.</p> <p>Ambient noise is clearly defined in the MOE/GO joint protocol as the "noise from road traffic and existing industry", and "excludes transient noise from aircraft and railways". Ambient conditions therefore do not include existing rail activity. The MOE/GO joint protocol allows demonstration of ambient levels higher than 55 and 50 dBA for daytime and nighttime respectively to increase the objective sound level. Based on a qualitative review of the area, there were no areas of notably high ambient levels identified along LSE Segment 1. Therefore ambient levels were neither modelled nor measured, and the default objective sound levels of 55 and 50 dBA for daytime and nighttime respectively were applied. In many cases, there may be elevated ambient levels in front of houses which back onto the rail corridor, but these elevated levels are of no interest, since they are not at the point of assessment for the rail study.</p>	3	C
18	MCIC	Shalin Yeboah	Noise and Vibration	<p>Some of the statements in the Noise and Vibration Report are unclear, making it difficult to deduce impacts to the project segment. According to the Report, Section 3.6.1, impacts are only predicted to be significant and mitigation considered for nighttime noise (59 receptors under the diesel scenario and 37 receptors under the electric scenario). Significant daytime noise impacts also need to be considered in line with FTA standards. In the Report, Sections 3.6.3 and 3.6.4, the summary of impacts to the TPF and layover sites is general. Consistent with best practice, predicted noise levels associated with these elements should be compared to the criteria/thresholds.</p>	<p>Section 3.6.1 of the report shows whether impacts are "Insignificant", "Noticable", or "Significant" for both daytime and nighttime noise. These ratings are defined in the GO/MOE joint protocol. The protocol only requires mitigation to be considered where the impacts are "Significant". Since no impacts were "Significant" during the daytime, the protocol does not require mitigation to be evaluated.</p> <p>Sections 3.6.3 and 3.6.4 reference tables 4 and 5 respectively. Tables 4 and 5 show predicted noise levels associated with these elements compared to the MOE exclusion limits, which are the applicable criteria/thresholds.</p>	3	C

Item No.	Division	Reviewer Name	Part and/or Appendix	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
19	MCIC	Shalin Yeboah	Noise and Vibration	According to the Report, Section 3.7, "Noise barriers can be formed of earthen berms, engineered noise walls, or some combination of the two". Based on this statement, more detailed information on noise reductions and the proposed sound barriers should be included in the analysis	Please refer to the mitigation commitments in Section 5.4 including: The next steps that Metrolinx will follow in identifying what type of noise mitigation will be implemented and where, include: 1. Further analysis of the noise mitigation options will be undertaken to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility as per the Protocol. 2. Metrolinx will carry out additional public engagement once detailed design has progressed and updated analysis results are available.	3	C
20	MCIC	Shalin Yeboah	Noise and Vibration	According to the Report, Section 3.7.1 and 3.7.2, numerous barriers were investigated for impacted receptors. However, it is unclear which of the specific barriers listed in the report would meet the abatement criteria, which would be of importance to understand predicted impacts within the City. Barriers 001 to 041 included in the Report are proposed for the project Don River to Scarborough segment. Details of these proposed barriers and their feasibility from Tables 6a, 6b, 7a and 7b from the Report should be included in the Assessment Section consistent with best practice and FTA standards.	The study considered 5 m noise walls with a minimum surface density of 20 kg / m ² . Please refer to Section 5.4 of the EPR for a summary of barrier details and associated mitigation commitments.	3	C
	MCIC	Shalin Yeboah	Noise and Vibration	According to Section 3.7 of the report, "It is preferable that barriers are sound absorptive at least on the railway side, and this is mandatory in situations where parallel barriers (e.g., barriers on both sides of a railway) are proposed". It would be also helpful to call out locations where parallel barriers were assessed.	Thanks for the comment. Please refer to Figures 3a to 3g and 4a to 4g of Appendix B3 for barrier locations. We will consider making this information more explicit as we finalize the reports.	1	C
21	MCIC	Shalin Yeboah	Noise and Vibration	According to the Report, Section 3.7, "Construction activities associated with infrastructure required for future RER rail service are not addressed here". Additional information is needed on why consideration of these activities is not included to support this statement. In addition, in line with best management practice and FTA guidance, the assessment of construction vibration should be separated into two parts, one for annoyance and one for damage.	The statement noted from Noise and Vibration Impact Assessment Report (Appendix B3) is in the context of the Electrification EA and not the rail corridor expansion. Activities associated with the Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO Station) Project are included in Section 3 of the EPR. Please note that while the FTA guidance is considered, Metrolinx is not subject to FTA guidance.	3	C
22	MCIC	Shalin Yeboah	Noise and Vibration	In areas with many sensitive receptors and buildings such as within the City, vibration measurements should be conducted and details of where they were collected should be included in the report. According to the report, assuming all other factors being constant, electric locomotives are expected to be lighter than diesel locomotives (less mass from fuel and the diesel engine), which is expected to result in a slight drop in vibration levels. More detailed analysis of vibration impacts should be conducted at this stage to support the proposed mitigation and address any impacts to sensitive receptors within the City. According to the report, "Mitigation such as ballast mats, under sleeper pads or resilient fixation should be investigated for all receptors with similar conditions (i.e., 75 m distance to proposed new switches or other special trackwork, or 20-25 m distance to proposed new tracks) as the evaluated receptors". Mitigation options should also be further described. It is recommended that further information about next steps in the mitigation process and how site specific vibration mitigation will be selected and applied should be included in the report.	(Operational) Vibration effects were predicted in accordance with the methods of the United States Department of Transportation - Federal Transit Administration (FTA, 2006). Adjustments were made to the FTA calculations to account for Vehicle speed; Track type and track conditions; Type of locomotive power; and Condition of wheels (i.e., wheel wear). A literature review was conducted to compare the gross weight of a diesel MP40 locomotive and an electric locomotive with a similar horsepower rating. It was determined that the difference in locomotive weight was not significant enough to have an impact on the vibration levels; therefore, the operational vibration assessment of GO trains applies to both diesel trains and electric trains. Further analysis of the vibration mitigation options will be undertaken during Detailed Design to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility.	3	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

* Actions:
 1 = Will comply
 2 = Discuss, clarification required
 3 = Not applicable because

** Status:
 O = Open, not resolved
 P = Pending incorporation in design/EA Reports
 C = Closed, implementation complete



Submitting Consultant Transmittal:

Reviewed By: City of Toronto - Transportation Services Document Name: Draft Environmental Project Report Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station) Revision Date:

% Completion: Contract No: Revision Number:

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	Cycling Infrastructure			Maps 4-3A/b/c/d Page 67	Legend should read Cycling Facilities and not Cycling Routes (shared roadways) as some identified are designated bike lanes and not shared roadways	Maps 4-3A-D will be revised to read 'Cycling Facilities'.	1	C
2	Cycling Infrastructure			4.6.2 Cycling Counts Page 52	Why were counts done in December - this is not true representation of cycling volumes (need to be done in summer to get true numbers). Table 4.9 shows detail on Pedestrian Counts where are Cycling Count details.	Drawing on information included in the Traffic Impact Study (Appendix B5), the following will be added to Section 4.6.2: "While it is not typically ideal to complete pedestrian and cyclist counts in December, Toronto experienced generally mild weather conditions in December 2015. On the day of data collection, temperature was recorded at high of 12 degrees Celsius and with low of 4 degrees Celsius. There was no precipitation (e.g. rain, snow, etc.) and no snow accumulation on the ground. According to Environment Canada, the highest wind speed was recorded that day at 19 km/h. As a result, it is believed that the traffic data collected is suitably representative for the purposes of this assessment."	1	C
3	Cycling Infrastructure			Page 52	Mentioned that there is no existing infrastructure on Woodbine but should recognize planned infrastructure and all planned infrastructure for the area as part of the 10 Year Cycling Plan.	Please note that Section 4.6.1 (p. 52) addresses current existing conditions. Section 5.6.2 addresses anticipated impacts and includes recognition and consideration of the planned infrastructure, per the 10 Year Cycling Plan, including bike lanes along Woodbine Avenue between Queen Street East and O'Connor Drive.	3	C
4	Right of Way Management	Bob Taylor		Appendix A - Plates CT-005 CT-006 CT-015 CT-015	1.5m of snow storage area required behind back of sidewalk or back of curb (on roads where there is no sidewalk)	The bridge widenings will not change the existing road cross-sections and as a result design will accommodate the existing storage.	3	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

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Submitting Consultant Transmittal:

Reviewed By: City of Toronto - City Planning Document Name: Draft Environmental Project Report Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station) Revision Date:

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Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments		Action 1/2/3*	Status O/P/C**
1	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	Environmental Project Report (EPR) Executive Summary, Project Components	A map showing the project limits (e.g. figure 1-1) and a simplified diagram showing the preferred design track shifts (as was used in some of the TAC presentations) would be useful. Why is the term "project components" as opposed to "project description" used here?	A map showing the project limits and a simplified diagram showing the preferred design track shifts will be included in the Executive Summary. "Project Components" will be revised to read "Project Description" in the Executive Summary.	1	C
2	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Executive Summary, Socio-Economic and Land Use	Reference to section 4.4 is incorrect.	This section reference will be corrected to Section 4.5.	1	C
3	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR General	The report should include information regarding the anticipated or proposed construction schedule. Specifically, this should include proposed timelines on when the construction will begin, how long it will last, and how/if it is currently being anticipated to be coordinated with electrification in the Project Description section.	Schedule details will be added to Section 1.1 of the EPR to indicate that construction is anticipated to occur from 2018 through 2021 and work will be coordinated with the Electrification project. Electrification related construction is anticipated to extend beyond 2021.	1	C
4	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Section 3.2.5	The section states that the track and grading design accommodates the proposed OCS pole layout locations, in addition to other electrification requirements, for future electrification of the Lake Shore East Rail Corridor. The report should make reference to the separate electrification EA where further details and associated impacts and mitigation of electrification are to be made available.	The following will be added as an introductory statement in Section 3.2.5: Electrification of the Lakeshore East Rail Corridor (and other corridors) is subject to a separate Environmental Assessment.	1	C
5	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR 5.5.1.2 Potential Operation Effects	"No direct effects to residential, commercial, and institutional uses are anticipated." The noise study including an assessment of the feasibility of mitigation has yet to be completed, so shouldn't there be a qualifier on this statement?	"No direct effects" will be revised to "No direct physical effects". Refer to Appendix B3 for the Draft Noise and Vibration Impact Assessment Report.	1	C
6	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR 5.5.1.3 Potential Operation Effects	"No direct effects to recreational uses are anticipated." The noise study including an assessment of the feasibility of mitigation has yet to be completed, so shouldn't there be a qualifier on this statement?	"No direct effects" will be revised to "No direct physical effects". Refer to Appendix B3 for the Draft Noise and Vibration Impact Assessment Report.	1	C
7	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Section 5.5.2.1	"the addition of the fourth railway track may also result in the need to acquire portions of public parkland." Shouldn't this be listed as a potential operational effect? Are these areas included in the "property may be required" areas identified in the Appendix A drawings, or would they be additional?	Permanent property requirements identified to date (i.e. based on Preliminary Design) are identified in Appendix A. Currently permanent property is not anticipated to be required from City park lands. City land impacts will be further reviewed with the City during Detailed Design.	3	C

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8	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Section 5.5.3	The section and study will benefit from a conceptual illustration or two of "significant public facing retaining wall locations" (and their potential mitigation/treatment). This could help allay some potential City staff and resident concerns regarding aesthetics at this very important early stage of the project. Too often we have seen aesthetic issues deferred to detailed design/ left to the AFP process where there is more potential for "surprises".	<p>Please note that 100% Detailed Design will be completed for this project and the City will be engaged through the Detailed Design development.</p> <p>In keeping with Section 3.2.4, the following will be added to Section 5.5.3:</p> <p>"During Detailed Design, property requirements will be further investigated. Where expanding the corridor grade is not feasible, retaining walls will be constructed. Currently proposed new retaining walls are shown on the design plates in Appendix A. The design of significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective will be reviewed by the Metrolinx Design Review Panel (MDRP)."</p> <p>In addition, the following commitment will be added to the bulleted list in Section 7.2.4 of the EPR:</p> <p>"Through the Detailed Design process Metrolinx will engage the City of Toronto to discuss retaining wall standards."</p>	1	C
9	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Section 5.6	(As info, and in particular relating to the western portion of the study area) The section states that no capital projects are currently planned to be implemented up to and including the 2018 horizon year in proximity to construction site locations. Beyond the 2018 horizon, in relation to the City's and TTC transit planning , the implementation schedule for this project could overlap with the implementation of new stations in the western portion of the study area associated with Smart Track. Planning for the downtown Relief Line subway in this general area is also continuing to advance. Also, the Gardiner Expressway reconstruction will be occurring in a similar horizon. The construction effects in specific areas and/or along specific haul routes could be long lasting and highly coordinated construction management planning will be required to mitigate these cumulative effects.	<p>The following will be added to Section 5.6:</p> <p>"Metrolinx will coordinate with the City, TTC and other relevant organizations to consider and address projects proposed beyond 2018. For additional information please refer to Section 6.2."</p> <p>Metrolinx is aware of the City/TTC infrastructure initiatives such as the Gardiner Expressway reconstruction including the Hybrid 3 alignment option, which has been considered in the conceptual planning of the East Harbour station and its potential impacts upon the Don Valley Bridge. Metrolinx is also a TAC member for the Downtown Relief Line subway. Metrolinx will continue to coordinate and actively engage with City staff as the planning and TPAP process for the respective SmartTrack stations along LSE corridor progresses.</p>	1	C
10	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	General	Will MX third party be providing comments on the active site plan application adjacent the corridor at 14 Trent Avenue? The last comments received from MX for this site was at the rezoning stage in 2013.	Comments were originally provided in January 2014. Metrolinx has been working with the developer on various issues on the basis of those original comments – with activity intensifying lately as they are close to construction. If additional information is required please contact Adam Snow, Third Party Projects Officer.	3	C
11	City Planning - Transportation Planning	D. Brutto	Toronto and East York District	EPR Section 3.7, Design Plates, Danforth GO	Section 3.7 and the design plates should reflect the latest planning directions for Danforth GO Station, including identifying a potential link to the Canadian Tire site to the north.	The corresponding design plate in Appendix A will be updated. Please note that potential links are being addressed through the Danforth GO Station Connectivity Study in coordinating with the ongoing City led Danforth Avenue Study and will not be reflected in the EPR design plates.	1	C

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12	City Planning - Community Planning	D. Woolfson	Toronto and East York District	Danforth GO Station Planning Study	The EPR makes no reference to the City's Danforth Planning Study underway (for further information on the study, please review the following website at www.toronto.ca/danforthstudy). The Danforth Planning study area is adjacent to the Rail Corridor between Main Street and Victoria Park Avenue, which includes the Danforth GO Station. Of particular importance is the need to ensure appropriate, safe and easy pedestrian connections can be provided between Main Street subway station, Danforth Avenue and the future Danforth GO station. As part of the City's Planning Study's scope of work, City Planning staff will be exploring how to improve pedestrian connectivity and would like to work with Metrolinx to leverage opportunities from the Danforth GO station planning study. The City's study will also update assumptions for land use around the station area in consideration of specific input from the local community. City Planning has had initial agreement with Metrolinx Danforth Station Planning team regarding the need for, and importance of coordination of the studies. Contact Daniel Woolfson at 416-392-7574 or Daniel.Woolfson@toronto.ca .G33	Acknowledgement of the City led Danforth Avenue Study will be added to Section 3.7 of the EPR. This will also explain the relationship between that study and the TPAP for the rail corridor expansion. It is noteworthy that potential links are being addressed through the Danforth GO Station Connectivity Study in coordination with City Planning and will not be reflected in the EPR.	1	C
13	City Planning - Community Planning	D. Woolfson	Toronto and East York District	Danforth GO Station Planning Study	Following from above, the proposed re-location (shifting east) of the new Danforth GO station platform and station building) may create an overall more difficult pedestrian condition for connections between the Main Street subway station, Danforth Avenue and the GO station. o What potential improvements for pedestrian connectivity have been discussed at this time? Future public realm and streetscaping improvements (including, but not limited to, wayfinding opportunities, heritage references, street furniture, etc.) as well as clear and enhanced (including weather protection) pedestrian connections between the stations should be identified as part of the Danforth GO station planning team and study. One comment that City Transportation Planning staff have already made to the Metrolinx Station Access team is to identify a potential link to the Canadian Tire site to the north. Has Metrolinx consulted with the Canadian Tire site owner? o Has Metrolinx consulted with TTC regarding the potential for an additional future (eastern) access to the Main Street Subway Station?	Please see the responses to comments #11 and #12.	1	C

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14	City Planning - Community Planning	D. Woolfson	Toronto and East York District	Danforth GO Station Planning Study	The Appendix A preliminary design plates show the future conceptual shifted platforms/ new station building. o The shifted (new) station building proposal requires a severance of the storage property, which would potentially conflict with existing planning policy and the overall future land use planning directions being developed by the City through the Danforth Planning Study. Has Metrolinx consulted with the storage property owner? o We would like to better understand the potential impacts of not shifting the platform(s)/station building. In particular, tradeoffs between potential shorter term impacts/costs to the Main Street bridge vs future enhancements to connectivity between higher order transit/Danforth Avenue should be more closely analyzed.	The corresponding design plate in Appendix A will be updated. Please note that potential links are being addressed through the Danforth GO Station Connectivity Study in coordination with City Planning, and will not be reflected in the EPR design plates. Metrolinx has already had initial conversations with the Storage property owner. The property impacts to the storage lands are not as significant as initially thought and will be primarily isolated to the west side of the property. The abutment would be required to be relocated approximately 6m. The future road elevation would impact the access to the community center permanently as well as the accessible entrance to the GO station. The platform shift is 150m east and has been deemed a reasonable mitigation instead of reconstructing the bridge.	1	C
15	City Planning - Community Planning	D. Woolfson	Toronto and East York District	Danforth GO Station Planning Study	The conceptual property/plans for relocated Danforth GO station building / shifted platforms should not be identified in the design plates until additional discussions have been held with City staff.G26	Conversations are ongoing between Metrolinx Planning and City Planning.	3	C
16	City Planning - Transportation Planning	N Norouzi	Scarborough - East District	page 43, Section 4.5.3.1 (Draft EPR)	Birchmount neighborhood should be called Birchmount Park.	This will be corrected.	1	C
17	City Planning - Transportation Planning	N Norouzi	Scarborough - East District	Figure 4-3A (Draft EPR)	Greenwood Avenue and Dundas Street within the study area have dedicated bike lanes, which are missing on the figure. There are multiple dashed-lines shown on the figure that are not representing the bike lane situation of the study area or mislabeled (ex. Jones Street). this figure needs to be corrected. I also suggest to use a better designated sign for recreational areas and a separate designated one for bike lanes.	The dedicated bike lanes on Greenwood Avenue and Dundas Street will be added to the figure. The figure will also be updated to correctly represent the bike facilities. A different symbol will be used for recreational uses and a separate symbol for bike lanes.	1	C
18	City Planning - Transportation Planning	N Norouzi	Scarborough - East District	page 52, Section 4.6.1 (Draft EPR) & page 18 (Socio-Economic & Land Use Effects), Section 5.8.3	The last paragraph of this section needs to be revised to talk about an existing bike lane on Dundas Street intersecting with Greenwood Avenue, Jones Avenue and Logan Avenue; as well as Woodbine Avenue starting next year.	Section 4.6.1 and the Socio-Economic & Land Use Effects Assessment Report (Appendix B4) will be revised will be updated to include these existing and planned bike lanes.	1	C
19	City Planning - Transportation Planning	N Norouzi	Scarborough - East District	page 18 (Socio-Economic & Land Use Effects), Section 5.8.3	City Council dated October 5-7, 2016 approved a bicycle lane to be installed on Woodbine Avenue from Queen Street to O'Connor starting next year. This section needs to talk about bike lane on Woodbine Avenue as a result of this decision.	Appendix B4 will be updated to reference the approved bike lane on Woodbine Avenue.	1	C
20	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District					
21	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District					

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22	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	ii - project components	should this not include, or at least make reference to the possibility of, noise mitigation installations (walls/berms/etc.), or at least identification of locations where noise mitigation is required/feasible? I assume that bridge and other barriers are part of the electrification EA and not this study	Noise mitigation measures will be added to the list of project components in the Executive Summary and Section 1.1 of the EPR.	1 C
23	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	iii - first paragraph	protective fencing installed 50m around any Butternut trees? Seems excessive	As per MNR requirements, this only applies for confirmed pure Butternut if the lands therein are considered regeneration habitat; this is determined during targeted surveys for the presence/absence of Butternut, the requirement for which is further confirmed during Detailed Design through consultation with the MNR. Refer to Section 5.1.1.5 of the EPR for further information.	3 C
24	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.15 - S 3.2.4	the design of public facing retaining walls should be reviewed by Metrolinx Design Review Panel in partnership with the City of Toronto	Please see the response to comment #8.	1 C
25	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.16 - S 3.5	"Based on preliminary design functional impacts are anticipated to the City road right-of-ways." What are these impacts? Can the report not at least identify the types of impacts?	Section 3.5 will be clarified to say: "These functional impacts are only anticipated to be temporary through the staging of the construction which will be determined through detailed design and reviewed with the City."	1 C
26	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.18 - S 3.9	earlier work suggested that property from the City's road right of way would be required along Kimridge Avenue. Is this no longer the case	Property impact at Kimridge Avenue will be more refined through detailed design.	1 C
27	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.43 - S 4.5.3.1	Clairlea neighbourhood is significantly north of LSE Segment 1, Cliffcrest is east of the segment. Birchmount should be called Birchmount Park	The EPR and the Socio-Economic and Land Use Characteristic Study (Appendix B4) will be updated to clarify neighbourhood locations and names accordingly.	1 C
28	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	Figure 4-3A	Bike lanes on Greenwood Avenue and Dundas Street are missing. These are not 'shared roadways' but separate bike lanes, as are others which have been mislabelled as shared roadways. Why are recreational areas designated with a bicycle? Are these cycling locations of some kind? Suggest a different graphic for this item.	Figure 4-3A will be updated to represent these bike lanes correctly. The Figure will also be revised with different symbol representing recreational uses and a separate symbol for bike lanes.	1 C
29	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	Figure 4-3B & 4-3C	The area at the southeast corner of Danforth Avenue and Main Street should be noted as a high density mixed use area. Also the Danforth retail strip is clearly a main commercial area	Figures 4-3B & 4-3C will be updated to identify these areas.	1 C
30	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	Figure 4-3C	Why is the Loblaws at Vic Park and Musgrave identified and Shoppers World immediately to the north is not? What about the Canadian Tire and self storage area next to the Main Street high density residential development? And the Danforth retail strip?	Figure 4-3C will be updated to identify these commercial areas.	1 C
31	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.51 - S 4.6.1	what is "v/c ratio"? What are these numbers supposed to mean or convey?	Section 4.6.1 will be revised to spell out volume-to-capacity ratio (v/c ratio). It will also be noted that generally-speaking v/c ratios lower than 0.85 are considered good / acceptable. A ratio between 0.85 and 1.00 show that intersection / approach / movement (whichever is applicable) nears its capacity and a ratio above 1.00 shows that intersection / approach / movement operates over theoretical capacity.	1 C

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments		Action 1/2/3*	Status O/P/C**
32	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.52 - S 4.6.1	Council has approved conversion of Woodbine Avenue from Queen Street to O'Connor from 4 lane vehicle with time sensitive parking, to 2 lane vehicle with bicycle lane and intermittent permanent parking lane.	Thank you for this additional information. Appendix B5 will be revised to reflect this information and any corresponding details will be noted as appropriate in Section 5.6 of the EPR.	1	C
33	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.52 - S 4.6.1	What about the bike lane on Greenwood? The final paragraph of this section is rather confusing. Every intersection where a bike lane is present has separate bike facilities. That would include all intersections along Dundas, Lakeshore, Greenwood, and Woodbine starting next year.	Text will be added to Section 4.6.1 to clarify that the focus of the Traffic Impact Study was on the cycling facilities that are going to be on roadways that cross under the rail bridges (i.e., Woodbine Avenue, Danforth Avenue, and Warden Avenue) where bridge construction works are expected to impact traffic movement along the roads crossing under. The cycling facilities at other locations within the Study Area are not going to be impacted by the construction works.	1	C
34	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.71 S - 5.5.2.1	With bike lanes expected on Woodbine Avenue within the next year, this section may need to be revised	See responses to comments #19 and 32 above.	1	C
35	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.72 S - 5.5.3	this section misses entirely the effect of corridor expansion at Kimridge Avenue, where it remains unclear what is proposed to occur. However, it appears there would be a wall and all existing vegetation would be removed. The section is vague on how the City will be engaged regarding design of walls, which is unacceptable. The approach to how the City will be engaged must be clear prior to detailed design	Please see the responses to comments #8 and #26.	1	C
36	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.97 Table 7-1	Under Aesthetics, and as noted above, the approach to engaging the City in design review should be clarified prior to Detailed Design	Please see the response to comment #8.	1	C
37	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.5-6 S - 4.2, 4.3, 4.4, 4.5	The Blake-Jones, Greenwood-Coxwell, Woodbine Corridor and East End-Danforth community descriptions should include a statement regarding mid-rise residential developments which are being proposed, already approved, and in a few cases built along Danforth Avenue - a development pattern that the City supports in principle	The EPR and Sections 4.2, 4.3, 4.4 and 4.5 of the Socio-economic and Land Use Characteristic Study (Appendix B4) will be revised to include the suggested development information.	1	C
38	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.6 S - 4.6	A statement should be included that recognizes the Kingston Road corridor, where significant new mid-rise residential development has been planned, proposed, approved and built	A statement will be added to the EPR and Section 4.6 of Appendix B4 to address the Kingston Road corridor.	1	C
39	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	P.6 S - 4.8	The Clairlea community is not within the Study Area. The Birchmount Park community is. Please revise accordingly.	The EPR and Appendix B4 will be updated to clarify neighbourhood locations and names accordingly.	1	C
40	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.10 S - 5.2	As noted in comments on the draft EPR document, the Danforth Avenue commercial strip is ignored, including those portions of it on the north side of the identified commercial area in bullet #3	The EPR and the Socio-Economic and Land Use Characteristics Study (Appendix B4) will be updated to include the Danforth Avenue commercial strip.	1	C
41	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p. 20 S - 6.1.1.1	Bullet #2 is unclear as to which properties are affected. Between the Danforth and Warden grade separations is open space on city owned property - one property on the north and one on the south. So where are the six properties which are affected? Or is it really properties west of Warden and north of the rail corridor	Design Plates show that there is city lands that may be impacted between Danforth and Warden. This bullet will be revised in the EPR and in Section of 6.1.1.1 in the Socio-Economic and Land Use Characteristics Study (Appendix B4) to indicate that impacts on property will be defined during Detailed Design.	1	C

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments		Action 1/2/3*	Status O/P/C**
42	City Planning - Community Planning	T. Schwerdtfeger	Scarborough - East District	p.24 S - 6.5.1.1 & 6.5.2.1	this section misses entirely the effect of corridor expansion at Kimridge Avenue, where it remains unclear what is proposed to occur. However, it appears there would be a wall and all existing vegetation would be removed. The section is vague on how the City will be engaged regarding design of walls, which is unacceptable. The approach to how the City will be engaged must be clear prior to detailed design	Please see the responses to comments #8 and #26.	1	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

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Submitting Consultant Transmittal:

Reviewed By: City of Toronto - ESC Services Document Name: Draft Environmental Project Report Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station) Revision Date:

% Completion: Contract No: Revision Number:

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	ECS - Third Party Utility Review	Allen Wu		General	The designs for modification of the existing culverts and the associated stormwater management requirements must also be in accordance with the Council adopted City of Toronto Wet Weather Flow Management Guidelines.	Any works to municipal culverts will follow the guidelines - this will be noted in Section 7.2.4 of the EPR.	1	C
2	ECS - Third Party Utility Review	Allen Wu		General	Relocation and redesign of any City sewer and watermain infrastructure to avoid conflicts with the proposed works shall be in accordance with City's Design Criteria for Sewers and Watermains.	This will be noted in Section 7.2.4 the EPR.	1	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

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Submitting Consultant Transmittal:

Reviewed By: City of Toronto - Parks, Forestry and Recreation Document Name:

Revised By:

Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)

Revision Date:

% Completion: Contract No:

Revision Number:

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	Parks, Forestry & Recreation - Parks	Erika Richmond		General	Metrolinx to time work adjacent to parkland to provide the least disturbance by avoiding construction in parks from May - September.	While it will not be possible to avoid construction from May - September, a commitment will be added to the EPR to minimize construction related disturbance to parks to the extent feasible.	1	C
2	Parks, Forestry & Recreation - Parks	Erika Richmond		Sec. 3.1 page 10-11	Include a list of all parks and school yards adjacent to the study area corridor along with the lists of crossings, watercourses and GO stations.	Please refer to Sections 5.4.1 and 5.7 of Appendix B4.	3	C
3	Parks, Forestry & Recreation - Parks	Erika Richmond		Sec. 3.1 Fig. 3-1 A and B	Label all Parks and school yards adjacent to the study area corridor.	Figure 3-1 addresses existing rail infrastructure; due to the small scale of the figure, labelling parks and school yards would not be visible. Green spaces and parks are noted on Figures 4-3A to 4-3D. Please see the responses to comments #7 and #8.	1	C
4	Parks, Forestry & Recreation - Parks	Erika Richmond		Sec. 3.2.4 Retaining Walls and Grading page 13-14	Provide cross sections of the typical retaining wall designs, both the standard and the reinforced slope option. Provide the heights of the retaining walls in the various proposed locations. It is difficult to comment on the impacts of the walls without details regarding heights.	<p>Please note that 100% Detailed Design will be completed for this project and the City will be engaged through the Detailed Design development.</p> <p>In keeping with Section 3.2.4, the following will be added to Section 5.5.3:</p> <p>"During Detailed Design, property requirements will be further investigated. Where expanding the corridor grade is not feasible, retaining walls will be constructed. Currently proposed new retaining walls are shown on the design plates in Appendix A. The design of significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective will be reviewed by the Metrolinx Design Review Panel (MDRP)."</p> <p>In addition, the following commitment will be added to the bulleted list in Section 7.2.4 of the EPR:</p> <p>"Through the Detailed Design process Metrolinx will engage the City of Toronto to discuss retaining wall standards."</p>	1	C

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5	Parks, Forestry & Recreation - Parks	Erika Richmond		Sec. 3.2.4 Retaining Walls and Grading page 13-14	PFR requires significant and meaningful consultation on public facing retaining walls located in PFR parks. PFR requires that the public facing retaining walls in Parks comply with the following principles: 1. Walls must be accessible, easily maintainable and graffiti resistant. 2. Walls must be a public amenity and provide a net benefit to the community and parkland. This can be achieved by incorporating public art, interpretive signage or building low maintenance growing retaining walls. Examples of these types of treatments are included with these comments. 3. Retaining wall typologies must be appropriate for the specific location. For example, some areas will require walls that provide bold visual impact, and some a low visual impact. Some are in high vandalism locations, and in some areas, green walls will be appropriate. 4. Prior to the DRP, PFR requires stakeholder design meetings.	Thank you for sharing these principles. Please see the response to comment #4.	1	C
6	Parks, Forestry & Recreation - Parks	Erika Richmond		Sec. 3.4 Existing Grade Separation Structures and 3.5 Bridges - page 16	Will the pedestrian bridge overpass at Raleigh to Woodrow Park require any modification?	The pedestrian bridge overpass bridge is not anticipated to be impacted with the addition of the fourth track on the north side of the ROW. A protection retaining wall to support the north abutment for this bridge shall be developed during Detailed Design.	1	C
7	Parks, Forestry & Recreation - Parks	Erika Richmond		Fig 4.3 A -D pages 45-48	Label all Parks and school yards adjacent to the study area corridor, and: 1. include full extent of Natal Park. 2. Show pedestrian crossings at Raleigh/Woodrow Parks and from Monarch Park to the Rail Garden.	Figures 4-3A to 4-3D will be revised accordingly.	1	C
8	Parks, Forestry & Recreation - Parks	Erika Richmond		4.5.3.7 Parks and Open Spaces	How did MX determine the size and significance of parks to list? Merrill Bridge Park (listed) is similar size to Stephenson Park and Natal park (not listed). List all parks and school yards adjacent to the study area corridor.	Section 4.5.3.7 of the EPR will be revised with a consistent approach to naming significant parks and will include all parks and school yards within the Study Area.	1	C
9	Parks, Forestry & Recreation - Parks	Erika Richmond		5.5.2.1 Potential Construction Effects on Recreational Uses, Parks and Open Spaces	Will the pedestrian bridge overpass at Raleigh to Woodrow Park and the underpass from Monarch Park to The Rail Garden be impacted by and during construction?	The pedestrian bridge overpass at Raleigh to Woodrow Park is not anticipated to be impacted with the addition of the fourth track on the north side of the ROW. A protection retaining wall to support the north abutment for this bridge shall be developed during Detailed Design. The pedway underpass tunnel from Monarch Park to The Rail Garden is sufficiently long to allow a fourth track to be added to the north side of the ROW and as a result there is no anticipated impact.	1	C
10	Parks, Forestry & Recreation - Parks	Erika Richmond		5.5.2.1 Potential Construction Effects on Recreational Uses, Parks and Open Spaces	Which portions of public parkland is MX anticipating the need to acquire? Are the areas under consideration already included in Appendix A, or is there additional land under consideration? Why would this decision be made during detailed design instead of in the EPR? PFR needs to be informed which land and parks are going to be impacted.	Permanent property requirements identified to date (i.e. based on Preliminary Design) are identified in Appendix A. As part of the EA there have been no identified parks lands required. The requirement for permanent and temporary lands may be modified through detailed design.	3	C

Item No.	Division	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
11	Parks, Forestry & Recreation - Parks	Erika Richmond		5.5.2.3 Mitigation page 71	"Mitigation" of potential effects of the acquiring of public parkland. List what forms this mitigation will take.	In addition to other mitigation details, the following is noted in Section 5.5.2.3: If property taking of public parkland is confirmed during Detailed Design, appropriate mitigation will be determined through consultation with the City of Toronto to reduce potential effects.	1	C
12	Parks, Forestry & Recreation - Parks	Erika Richmond		5.5.3.1 Aesthetics Potential Construction Effects	The list of parks impacted by retaining walls is not complete. Woodrow/Raleigh Parkette, Elward Mansion Parkette and Blake Street Public School grounds will also be impacted by retaining walls. See above for PFR requirements for retaining walls in parks. PFR requires meaningful engagement in the design process.	The list of parks in Section 5.5.3.1 will be reviewed and revised to ensure all relevant parks are listed. Please refer to comment #4 regarding PFR engagement.	1	C
13	Parks, Forestry & Recreation - Parks	Erika Richmond		5.5.5 Property page 73	List the PFR properties that are being considered for acquisition.	Please see the response to comment #10.	1	C
14	Parks, Forestry & Recreation - Parks	Erika Richmond		5.6.2 Pedestrian and Cycling Routes	Will the pedestrian bridge overpass at Raleigh to Woodrow Park and the underpass from Monarch Park to The Rail Garden be impacted by and during construction?	Please see the response to comment #9.	1	C
15	Parks, Forestry & Recreation - Parks	Erika Richmond		7.4 Future Commitments page 89	Will Metrolinx be responsible for the upkeep of retaining walls in City of Toronto Parks?	There are no retaining walls identified to be constructed on Municipal park lands at this time. Retaining walls will be constructed on Metrolinx property and as such be maintained by Metrolinx. Maintenance access may be required and will be reviewed with the City during Detailed Design.	1	C
16	Parks, Forestry & Recreation - Parks	Erika Richmond		Appendix A - Preferred Design - Plates	Label all Parks and school yards adjacent to the study area corridor.	The Appendix A design plates will be revised to include all parks and school yards adjacent to the study area corridor.	1	C
17	Parks, Forestry & Recreation - Parks	Erika Richmond		Appendix B4 - Socio-Economic and Land Use Report	Include the pedestrian and cyclist only crossings at Raleigh to Woodrow Park and from Monarch Park to The Rail Garden.	Appendix B4 will be updated to include these crossings.	1	C
18	Parks, Forestry & Recreation - Parks	Erika Richmond		Appendix B4 - Socio-Economic and Land Use Report	All notes above regarding the impacts, labelling and inclusion of parks should also be addressed in Appendix B.	Appendix B4 and the EPR will be updated accordingly.	1	C

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LSE Segment 1 (Don River to Scarborough GO Station)

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Submitting Consultant Transmittal:

Reviewed By: MNRF	Document Name: Draft Environmental Project Report	Revised By:
Designer:	Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)	Revision Date:
% Completion:	Contract No:	Revision Number:

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	Natural Environment	Melanie Shapiera, MNRF	MS	Draft EPR	<p>I've reviewed the draft EPR for the Don River to Scarborough project. I have no immediate comments, but recognize that moving forward MNRF will be consulted during detailed design regarding:</p> <ul style="list-style-type: none"> Performing additional bat monitoring surveys prior to construction (to address newly listed SAR including Little Brown Myotis, Northern Myotis, Eastern small-footed myotis, and Tri-coloured bat) and possible ensuing mitigation/compensation/authorization Implementation of timing windows (in-water, tree removal for breeding birds, tree removal for bats, etc.) Additional surveys required for butternuts and the corresponding authorization if removals are necessary (registration or permit) 	Acknowledged. MNRF will be consulted during detailed design to confirm the requirement for pre-construction bat surveys and possible mitigation/compensation/authorization, confirmation of timing windows, and confirm the requirement for butternut surveys/authorization.	1	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Sta

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Submitting Consultant Transmittal:

Reviewed By: MOECC Central Region/Toronto Distric Document Name: Draft environmental Project Report

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Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)

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Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	MOECC Review Comments	MX Responses & Details	Action 1/2/3*	Status O/P/C**
1					DRAFT EPR: The appended reports regarding the electrification of the GO Transit network do not sufficiently assess the local or regional diesel emissions of the infrastructure and service changes proposed in the dEPR.	The planned new track infrastructure on LSE Segment 1 is expressly for electrified RER service. Metrolinx is not intending on introducing new diesel service on this planned new track infrastructure and as such electrified RER service is the full build scenario for this TPAP. Electrification is a fully funded project and has been committed to by the Province as part of its' plans for RER service in the GTHA. If the Province's plans to provide electrified RER service is significantly delayed or otherwise changed, Metrolinx will commit to undertaking a review of the assumptions made in this EPR. This will be clarified in Section 1.2 of the EPR, and will be added as a commitment to Table 7-1. Electrification will invariably result in the removal of the local air emissions from the electrified corridors and the associated air quality impacts will be invariably positive – an improvement in air quality. The study recognizes that the electricity used to propel trains will be associated with some air emissions at electricity generating stations. These emissions are quantified in the study. Thus, the study quantifies the net emissions incurred with electrification; that is the difference between the emissions avoided locally and the emissions incurred at the generating stations. The result is a net reduction of emissions of all air pollutants of concern.	1	C
2					DRAFT EPR: The dEPR did not follow the "Air Quality Workplan: Segment 1 of Lakeshore East" outline for an Air Quality Impact Assessment (AQIA) submitted in March 2016 for the ministry's review.	As the project progressed it became apparent that as the Electrification Project is also conducting an air quality study of the entire LSE Segment 1 corridor, there would be duplication of effort, and potentially conflicting results and/or confusion. A concerted effort was warranted for the two projects. Therefore it was decided to forego the workplan and take a more streamlined and consistent approach. This was accomplished by utilizing the Electrification Project's Air Quality Impact Assessment Report (July 2016) for the LSE Segment 1 Project.	3	C
3					DRAFT EPR: The dEPR indicates that the proposed works will include the addition of a fourth track. However, page 10 states that Metrolinx will "increase the number of mainline tracks in this section to four tracks during construction to allow for continues operation of the rail service." Please clarify if the addition of a fourth track is a permanent infrastructure change to the Don River to Scarborough GO Station portion of the Lakeshore East Rail Corridor, or if the fourth track is a temporary addition during construction activities.	The addition of a fourth track is permanent infrastructure. The language on page 10 will be revised to remove ambiguity.	1	C
4					DRAFT EPR: As mentioned in Section 4.3 Air Quality, although the baseline conditions information provided in Appendix B2a may be relevant to the dEPR, it does not replace the need for an assessment of future conditions. The AQIA is required to assess local impacts on sensitive receptors and the environment, particularly future conditions before proposed electrification.	Please refer to response to comment #1.	3	C
5					DRAFT EPR: Section 4.3.1 indicates that the study area used for baseline conditions is 30 metres on either side of the rail right of way. Please change this to 300 metres, as per the Workplan.	The sentence in question will be removed from the report. The specific distance from the right of way is not relevant to this study, as the approach taken involved assessment of general background air quality for the regions in the study area regardless of their specific distance from the Metrolinx rail corridors. With this in mind, Section 4.3.1 of the EPR and Appendix B2a - Air Quality Baseline Conditions Report, will be revised to remove the reference to 30 m and to include the explanation above for clarification.	1	C

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6					DRAFT EPR: Acrolein should be included in the list of contaminants of concern in Section 4.3.1 of the dEPR.	The following sentence will be added to explain why acrolein was excluded: "Acrolein has previously also been identified as a contaminant of concern in similar transportation studies, however ambient monitored concentrations of acrolein are very limited. Ambient monitoring of acrolein occurred at only one station within the study area, and this station became inactive in 2006. As this data is very limited and may no longer be representative of the air quality in the vicinity of the rail corridors, it was excluded from further analysis."	1	C
7					DRAFT EPR: As indicated in the ministry's comments on the Workplan, even though the locomotives will use ultra-low sulfur fuel, it is recommended to model SO2 to screen for maximum predicted concentrations in light of the upcoming SO2 standard, which is expected to be announced at the end of 2016. Please see the links below for additional information http://www.cme.ca/en/current_priorities/air/caaqs.html ; https://news.ontario.ca/ene/en/2016/03/province-releases-2014-air-quality-report.html	SO2 concentrations from locomotive diesel engines are known to be well below any existing and proposed AAQC on a project basis. There have been many transit air quality assessments performed throughout Ontario over the past decade which have consistently, and without exception, demonstrated this fact. SO2 is generally omitted from these studies and the decision to do so is justifiable – it is emitted in small amounts from diesel exhaust but the use of low-sulphur diesel fuels have significantly reduced its emissions such that it is no longer a concern. Furthermore, the emissions of SO2 from natural gas combustion (for the electrification scenario) are even lower and generally considered negligible altogether. Regarding the workplan, as the project progressed it became apparent that as the Electrification Project is also conducting an air quality study of the entire LSE Segment 1 corridor, there would be duplication of effort, and potentially conflicting results and/or confusion. A concerted effort was warranted for the two projects. Therefore it was decided to forego the workplan and take a more streamlined and consistent approach. This was accomplished by utilizing the Electrification Project's Air Quality Impact Assessment Report for the LSE Segment 1 Project.	3	C
8					DRAFT EPR: Section 4.3.2 states that NAPS stations are not influenced by major emission sources and highways. However, this is not always the case. For example, Station 35125 is situated directly beside Highway 401.	Correct. Please refer to Appendix B2a (Section 3.2 on page 16); to characterize baseline conditions, monitoring stations were identified as belonging to one of three land use categories. Only the suburban category notes "but not from major emission sources and highways". The Lakeshore East Rail Corridor Expansion from Don River to Scarborough GO Station was identified as falling within the Suburban category.	3	C
9					DRAFT EPR: Please indicate if the data provided in the table under section 4.3.2 represents an average of the data from the stations labelled as suburban in the map. As indicated in Appendix B2a, this data likely provides higher concentrations than a typical suburban area as the Metrolinx stations are influenced by local construction activities. Please indicate which stations and which years of data were used to create this table. If the same data that was discussed in Appendix B2a, Section 3.3 was used, this discussion should be included in the dEPR.	Yes, data provided in the Table 4-2 (Summary of Suburban Baseline Conditions) represents an average of the data from the stations labelled as suburban in the map. All the data that was used to create tables 4-1 through 4-3 is summarized in Appendix A. Specifically for Table 4-2, the data included all stations labelled as "suburban" as listed in appendix A. The specific stations used varied for each contaminant since not all contaminants were measured at each station. In addition, the years assessed were generally 2009 through 2013, but also included the year 2014 for some stations if the data was available at the time of preparing this report. Yes, the data from Table 4-2 is the same as what was discussed in Section 3.3. The EPR will be updated to include this discussion.	1	C
10					DRAFT EPR: Please note that the titles for Figures 4-3A, 4-3B, 4-3C and 4-3D indicate that the maps are for the Guildwood to Pickering project	Titles for Figures 4-3A, 4-3B, 4-3C, and 4-3D will be updated.	1	C

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11					DRAFT EPR: Section 5.3 describes the assessment of emissions between electrification and diesel trains with the current infrastructure for six rail corridors. It does not provide a local, quantifiable assessment of the emissions and impacts on sensitive receptors in the study area for the current scenario (2015) and future scenario (2025) of the Don River to Scarborough portion of the railway, where the future scenario represents the infrastructure and service changes indicated in the EPR's preferred alternative. Figure 4-3C, which shows retirement, educational, religious and medical institutions within 300 m of the rail right of way, demonstrates the need for thorough assessment of local air quality impacts. As electrification is subject to future approval in a separate EA process, it should be assumed that the implementation of this dEPR's preferred alternative will be carried out using diesel powered trains, preferably Tier 4.	Please refer to response to comment #1.	3	C
12					DRAFT EPR: During construction, please apply best management practices to mitigate any air quality impacts caused by construction dust. Please note that the ministry recommends that non-chloride dust suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures, please refer to Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. Report prepared for Environment Canada. March 2005. http://www.bieapfrempp.org/Toolbox%20pdfs/EC%20-%20Final%20Code%20of%20Practice%20-%20Construction%20%20Demolition.pdf	Dust resulting from construction activities will be minimized by watering or applying other dust suppressants, covering up stockpiles, reducing travel speeds for heavy vehicles, minimizing haul distances, and efficiently staging construction activities. A Dust Control Plan will be developed for implementation during construction. The dust control measures will conform to recognized standard specifications such as Ontario Provincial Standards Specification (OPSS) and <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</i> (March 2005), as practical.	1	C
13					GO Rail Network Electrification TPAP, Final Air Quality Baseline Conditions Report : Appendix B2a provides an assessment of current conditions on all of the rail lines in the GO Rail Network Electrification TPAP and discusses how electricity will be provided to the trains. While some of this information could be applied to the Current Scenario portion of an Air Quality Impact Assessment, this Appendix on its own is not an Air Quality Impact Assessment for the Don River to Scarborough Go Station EA.	Please refer to response to comment #1.	3	C
14					GO Rail Network Electrification TPAP, Final Air Quality Baseline Conditions Report: Section 1.3 indicates that the study area used for baseline conditions is 30 metres on either side of the rail right of way. Please change this to 300 metres, as per the Workplan.	Please refer to response to comment #2.	3	C
15					GO Rail Network Electrification TPAP, Final Air Quality Baseline Conditions Report: Acrolein should be included in the list of contaminants of concern Section 3.2 of Appendix B2a.	Please refer to response to comment #6.	3	C
16					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Appendix B2b provides an assessment for the net change in regional emissions due to electrification of six rail lines. It is not an Air Quality Impact Assessment for the Don River to Scarborough Go Station transit project.	Please refer to response to comment #1.	3	C
17					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Appendix B2b compares the net reduction in total emissions between electrification and Tier 2 diesel-powered trains. Please clarify if a study to assess the difference in emission reductions between electrification and Tier 4 diesel-powered trains has been done.	As mentioned in response to comment #2, the Electrification Project's Air Quality Impact Assessment Report (July 2016) was utilized for the LSE Segment 1 Project. A study to assess the difference in emission reductions between electrification compared to all Tier 4 diesel trains was not undertaken. However, the electrification project examined emission reduction from the existing Tier 2/Tier 3 fleet compared to the future electrification scenario which includes a mixed fleet of electric trains and Tier 4 diesel trains.	3	C

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	MOECC Review Comments	MX Responses & Details	Action 1 / 2 / 3*	Status O / P / C**
18					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Section 1.1 indicates that Appendix B2b does not include the new infrastructure, such as the preferred alternatives proposed in the draft EPR, required to provide increased GO service levels as these are being assessed in other EAs. Therefore, Appendix B2b may support the dEPR by giving a general overview of benefits of future, potential electrification, but it is not a representative assessment of the potential impacts of the diesel-powered service increases and infrastructure changes proposed in the Don River to Scarborough GO Station EA. Although it is the intention to electrify the rails, this is subject to future approval and subsequent implementation, and therefore it is assumed that there will be a period of time where increased numbers of diesel trains will be operating in this segment of the Lakeshore East Rail Corridor.	Please refer to response to comment #1.	3	C
19					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Please elaborate on how the minimum infrastructure requirements, mentioned in Section 2.1.1, represent a credible worst-case scenario, as opposed to the maximum service levels capable in the proposed infrastructure modifications.	The credible worst-case scenario is based on established service goals upon which the minimum infrastructure needs were determined. Increase to the service levels would require additional infrastructure due to operational and safety considerations. Current rail regulations are principally governed by Transport Canada and the US Federal Rail Administration; while Metrolinx, CN and CP are the principal sources of operational policies, standards, and rules. Other contributors to rail policy are the American Railway Engineering and Maintenance of Way Association (AREMA) and the American Public Transportation Association (APTA). Collectively, these regulators and associates set limits on how railways are designed, operated and maintained. Therefore the proposed infrastructure and service levels represent a worst-case scenario.	3	C
20					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Section 2.1.1.1 indicates that average values were used across several segments when the speed and engine horsepower remained fairly consistent. Please explain how average values represent a worst-case scenario.	The speed and throttle setting profiles are provided in Appendix B3 (Appendix D). These profiles were recorded from a 12-car train set (the maximum allowable), which made all station stops (i.e. not express service).	3	C
21					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Section 2.1.1.1 indicates that the number of electric trains that will be running was based on the 2025 weekday trains schedule, while Section 1.1 indicates that this report does not assess proposed new infrastructure. Please explain this discrepancy.	There is no discrepancy. Section 1.1 of Appendix B2b - Air Quality Impact Assessment Report explains how the infrastructure changes to increase the level of service to 2025 levels were / are being addressed as part of separate environmental assessments. The scope of this assessment is to assess the air quality from changing the diesel trains to electric trains. For this, it was necessary to assume that the higher level of service is already in place, but not to assess any infrastructure changes to achieve this higher level as those changes have already been assessed separately.	3	C
22					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Please explain how the preferred alternative for providing a net reduction in local and regional emissions is to electrify the GO Rail Network using fossil fuel power when as assessment of a Tier 4 train scenario was not completed. Furthermore, when assessing net emissions, the future infrastructure and service plans should be used.	A more detailed description of the current fleet will be added to Appendix B2b - Air Quality Impact Assessment Report. Of the existing fleet, about 90% comply with Tier 2/3 emission standards, and 10% comply with Tier 1 emission standards. A second diesel emission scenario will be added to the analysis where all locomotives comply with Tier 4 emission standards. A more detailed description of the fleet will be added to the Air Quality Impact Assessment Report that is consistent with the Air Quality Baseline Conditions report, and will include Tier 4 trains.	1	P
23					GO Rail Network Electrification TPAP, Final Air Quality Impact Assessment Report: Section 3.1.1.1 indicates that trains that will not be electrified are excluded from this assessment. Are any Metrolinx trains not scheduled to be electrified? Air Quality Impact Assessments are not only meant to assess the project's contributions to air quality, but also the cumulative impacts. Therefore, the background concentrations as well as the emissions from all other trains on the corridor should be added to the Metrolinx train emissions to provide a more comprehensive assessment of the air quality impacts in the study area.	Under the future service plan that is available, all MX trains on LSE from Don to Scarborough would be electrified (service plan for Bowmanville extension is TBD). VIA and CN will remain diesel.	3	C

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24					<p>Workplan: The Air Quality Workplan provided in March, 2016 for the ministry's review indicated that the Air Quality Impact Assessment for the Don River to Scarborough would include a modelled assessment of the current (2015), future build (2025), and future no build (2025) scenarios. This assessment would include emissions from Metrolinx GO trains as well as CN and VIA trains, and road traffic at GO stations, GO parking lots, kiss-an-ride lanes, and local public roads in a study area of 300 m on each side of the rail right-of-way. Contaminants of concern were to include NO2, PM2.5, CO, formaldehyde, acetaldehyde, benzene, 1,3-butadiene, acrolein and benzo(a)pyrene. The ministry's comment response indicated that a worst-case scenario was to be assessed and that modelled concentrations were to be added to the 90th percentile background concentrations to determine the maximum potential concentration at nearby sensitive receptors. These concentrations were also to be compared against the ministry's Ambient Air Quality Criteria and the Canadian Ambient Air Quality Standards.</p> <p>As the above described assessment was not completed, the dEPR and relevant supporting documents did not sufficiently assess air quality impacts from the implementation of this project.</p>	Please refer to response to comment #2.	3	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

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Submitting Consultant Transmittal:

Reviewed By: MOECC - EAB	Document Name: Draft Environmental Project Report	Revised By:
Designer:	Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)	Revision Date:
% Completion:	Contract No:	Revision Number:

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
1	All	Karan Jandoo		General - Climate Change	<p>Metrolinx should give consideration in the EPR to the effects of climate change as part of its assessment for the proposed project and what can be done to lesson any potential risks. This may include:</p> <ul style="list-style-type: none"> • Considering any effects on the study area / local environment that would reduce the natural environment's ability to remove carbon from the atmosphere; e.g. greenhouse gases. • Considering the consequences that a changing climate could have for the project and its proposed facilities (e.g. stormwater management works, and flood protection for bridge crossings) and its environmental effects, both in the present and in the future. 	<p>A Stormwater Management Plan will be developed during detailed design for the project. This is noted in Sections 3.6 and 5.1.2 and in Table 7-1 of the EPR.</p> <p>Climate change and sustainability have been addressed by the Electrification Project; refer to Sections 9.13 and 9.14 of the draft EPR (January 2017). The EPR will include a summary of this information, provided in a new Section 6.</p>	1	P
2	Planning / Design Team	KJ		General - Design	Although it is understood that Metrolinx identifies markers along the rail line in Miles, it is recommended to also include the referenced distances in kilometres, wherever possible.	References to mile markers are general practice and widely accepted for railway infrastructure.	3	C
3	Planning	KJ		Section 1.1 (Project Overview)	It is recommended that Metrolinx amend and reorder the list of proposed works in order moving East to West – (Toronto to Kingston).	Noted.	3	C
4	Planning	KJ		Section 1.2 (Purpose of Transit Project)	The Draft EPR references that Metrolinx is moving forward with RER (Regional Express Rail) which will include a 15-minute service in core areas. Please clarify the approximate number of GO train trips in the future, and approximate number of passengers carried upon implementation of the 15 minute service. Furthermore please define core area, and whether the Description of Study Area – section 1.3 is part of the core area in reference.	Metrolinx will provide information on number of GO train trips in the future upon implementation of the 15 minute service in Section 1.2. In Section 1.2, "core areas" will be changed to "along the Lakeshore East Corridor".	1	P
5	Planning			Section 1.3 (Description of the Study Area)	Section 1.3 (Description of the Study Area) of the draft EPR describes the Study Area as the "section of the rail corridor broadly between Danforth GO Station and Scarborough GO Station, more specifically from the Don Yard, East of Cherry Street (Mile 332.50) to Midland Avenue, East of Scarborough GO Station (Mile 324.97)". Figure 1-1 presents this section of the Lakeshore East GO rail corridor as the Transit Project Assessment Process (TPAP) Study Area. It is acknowledged that specific study areas were delineated for individual studies and impact assessment reports completed as part of the TPAP; however, an overall Study Area or study areas (e.g. regional and local), should be defined and shown in Section 1.3.	The Study Area used for the TPAP is the shaded area shown on Figure 1-1, which includes a 300 m buffer beyond the rail right-of-way (ROW) between the west and east boundaries. This Study Area is sufficient to assess the anticipated impacts of the project.	3	C
6	GIS			Figure 1-1	It is recommended that Metrolinx highlight the west boundary (Mile 332.50) and the East boundary (Mile 324.97) in the Figure 1-1.	Metrolinx will include the west and east boundaries of the Study Area on Figure 1-1.	1	P
7	Planning			Section 2.1.1.2 (Public and Stakeholder Consultation)	It is recommended that Metrolinx update this section in the EPR with any comments heard at the focused public consultation sessions carried out in November 2016, within the study area and any comments heard outside the study area in relation to the proposed Lake Shore East Rail Corridor Expansion- Don River to Scarborough Go Station Transit Project.	The revised EPR will include summaries and description of public consultation activities that occurred during Pre-TPAP and TPAP.	1	P

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8	GIS			Section 3 (Project Description)	The Project Description should provide an overview of the preferred project undertaking and its components. The inclusion of a figure showing the overall project and the locations of new track construction, bridge structure modifications, grade separations, culvert extensions, road closures and station upgrades, would be useful to assist the reader in navigating through this section.	The overview of project elements listed in Section 1.1 will be restated in the first paragraph of Section 3. Figures 3-1A and 3-1B will be renamed to "Existing and Proposed Rail Infrastructure within the Study Area".	1	P
9	Planning / GIS			Section 3.1 (Existing Rail Infrastructure)	Section 3.1 (Existing Rail Infrastructure) would be more appropriately placed after Section 1.3 to illustrate the operational constraints associated with the existing rail infrastructure. Figures 3-1A and 3-1B in Section 3.1 can also be improved to show existing rail infrastructure with greater clarity. The following are some suggestions: <ul style="list-style-type: none"> • Identify sections of the corridor where there are currently only three rail tracks; • Add mile markers/post intervals along the rail corridor; • Add mile markers at all the crossings (pg.10) 	Section 3 will be improved based on the response to comment #8 above. The suggested improvements to Figures 3-1A and 3-1B are not possible due to the small scale of the figures, however the requested information can be found on the Design Plates provided in Appendix A.	3	C
10	Planning			Section 3.2 (Key Design Criteria)	In addition to stating key design criteria based on Metrolinx and City of Toronto design standards in Section 3.2 (Key Design Criteria), a summary of how specific input from public, agency and Aboriginal communities was incorporated into project design considerations would demonstrate the effectiveness of consultation activities.	A summary of how input from public, agency, and Indigenous communities was incorporated into project design considerations will be included in Section 6 of the EPR.	1	P
11	Planning / Design Team			Table 3-1	Please include Km/h equivalences for MPH speeds.	Table 3-1 will be updated to include km/h equivalences for MPH speeds in Section 3.2.2.	1	P
12	Planning / Design Team			Section 3.5 (Bridges)	Please provide the mile marker for the four bridges indicated.	Mile markers will be provided for the four bridges discussed in Section 3.5.	1	P
13	Planning / Design Team			Section 3.9 (Property Impacts)	Please provide more information about the six (6) properties required to be acquired.	Information on these six properties is sufficient in the EPR. Further information such as the area of the property required shall be confirmed during Detailed Design, based on confirmed alignments and acquisition requirements.	3	C
14	Planning			Section 4 (Existing Conditions)	An introductory paragraph stating the purpose of determining existing conditions, the environments examined, and a summary of studies completed during the TPAP, would be beneficial.	The introduction already provided in Section 4 will be enhanced.	1	P
15	Natural Environment			Section 4.1.2 (Designated Features)	Please provide a list of ANSIs, ESAs and PSWs found within the Study Area.	ANSIs, ESAs and PSWs within the Study Area are discussed in Sections 4.1.2.1 to 4.1.2.3. These sections will be reviewed and updated as applicable.	1	P
16	Transportation			Section 4.6 (Traffic and Transportation)	Include information on existing transit service and ridership within the study area.	Ridership information is beyond the scope of the EPR. Existing transit service information will be added to Section 4.6 and clarified in Appendix B5.	1	P
17	Planning			Section 5 (Assessment of the Potential Effects and Proposed Mitigation Measures)	Provide an overview of the assessment process and document the criteria used to assess the potential impacts of the preferred undertaking on key natural, socioeconomic, and cultural environment features within the Study Area.	An introductory paragraph will be included in Section 5.	1	P

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18	Natural Environment			Section 5.1.1.1 (Vegetation Cover and Designated Natural Areas)	Under the "Mitigation" sub-heading, it may be useful to mention that tree protection measures will follow municipal by-laws and policies, such as City of Toronto's Tree Protection Policy and Specifications for Construction Near Trees (March 2016).	Please note that the following commitment is already included in Section 5.1.1.1 and Table 7-1 of the EPR: Permits and approvals related to City of Toronto Tree By-laws and municipal tree removal permits will be obtained as required.	3	C
19	Communications			Appendix C	It is acknowledged that Appendix C (Consultation Materials) will be updated as the Project progresses. Please also include the minutes of meetings held during the TPAP process.	Minutes of meetings held during the TPAP will be included once the TPAP commences and meetings take place.	3	C
20	Planning			Table 7-1 (Future Commitments)	All mitigation measures and commitments identified in Sections 5, 6, and 7 should be included in Table 7-1 of Section 7.4 (Future Commitments). Commitments should be categorized by project phase: design, tender, construction and operation.	All mitigation measures and commitments identified in Sections 5, 6 and 7 will be included in Table 7-1 of Section 7.4. Table 7-1 will also be categorized by project phase: Detailed Design, Tender/Pre-construction, Construction and Operations/Post-construction to indicate when commitments will be fulfilled.	1	P
21	All			Table 7-1 (Future Commitments)	Table 7-1 should include monitoring and reporting commitments for all listed mitigation measures and actions, as per the requirements of the Transit Regulation which requires that the EPR include environmental monitoring. The table should also identify the responsible party for carrying out monitoring and reporting activities, and the timing of these activities. An example could be "an environmental monitor will conduct weekly checks of tree protection fencing and sediment erosion controls during construction". Another example could be "Metrolinx will assign a public relations officer to document and address concerns during construction and operation." For clarity, when stating mitigation measures, monitoring and reporting activities, please strive to use the word "will" as opposed to "should", "must" or "recommended" to indicate a commitment in the EPR.	The requirement for a Environmental Mitigation and Monitoring Plan (EMMP) will be added to Section 7.4, which will detail responsibility for carrying out monitoring and reporting activities, including frequency/timing and compliance process. The EMMP will include all mitigation measures, categorized by project phase and will identify the party responsible for implementation.	1	P

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Designer:	Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)	Revision Date:
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Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Post- August 16, 2017 MOECC Response and Details	Action 1/2/3*	Status O/P/C**
1	Noise & Vibration	Header Merza, MOECC EAB	HM	EPR	(a) November 2016 EPR Report The noise and vibration comments listed below are applicable to the noise and vibration sections of the EPR Report.	Noted.	No additional response required.	3	C
2	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(b) December 5, 2016 Noise and Vibration Report (1) Assessment Locations: the building facades were used to assess noise during the day and night. This is incorrect. The daytime location is the outdoor living area (OLA) taken at 3 metres from the rear facade at 1.5 metres above ground level, while the nighttime location is the building facade at the bedroom window at 4.5 metres above ground level (for two storey houses). The location for vibration assessment is 5 to 10 metres away from the building foundation in a direction parallel to the tracks.	It is acknowledged that the the location of the OLA must be 3 metres from the façade, the façade must be located at the rear of the building and the location of a vibration receptor must be 5-10 metres from the façade. The OLA and façade receptors were placed in the same locations given the large number of receptors associated with this particular project. It should be noted that although the report shows a limited number of points of reception, this is a subset of thousands of individual points of reception that were evaluated for each corridor. The façade receptors were evaluated at a height of 4.5 m above grade. The OLA were evaluated at a height of 1.5 m above grade. Both points of reception were located at the same point on the receiving property. A sensitivity analysis was conducted, and concluded that this simplification would not result in significant changes in the results of the study. Further description of this approach will be included in the report. To meet the 1995 MOEE / GO Transit Protocol guidance, the vibration points of reception should have been placed to be 5 to 10 meters from the building façade. As the assessment is a change assessment, as long as the vibration point of reception is chosen to be the same in both the pre-project scenario and post-project scenario, this would have no impact on the result for most cases.	RWDI to document that a conservative approach was taken in the placement of OLAs in order to expedite an analysis of the 250m km of track work. 5 metre noise barriers were assumed for mitigation at the edge of the rail right-of way. RWDI to document that a sensitivity analysis was completed to confirm that the assessment met the intent of the 1995 MOE/GO Transit Protocol and as justification for the deviation. Metrolinx to provide the Sensitivity Analysis to MOECC.	3	C
3	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(2) Noise Barriers: three types of barriers were investigated, namely: existing barriers; future barriers deemed not feasible; and future barriers deemed feasible. For this project, there are four different types of barriers, namely: existing barriers not subject to retrofit; existing barriers subject to retrofit; future barriers deemed not feasible; and future barriers deemed feasible. These four types of noise barriers should be depicted in figures that clearly show their locations, lengths and heights.	Four types of barriers are provided in the figures. In Figure 3s, the existing barriers, existing barriers requiring retrofit and investigated future barriers are shown. In Figure 4s, investigated barriers deemed technically feasible are shown. The information requested is available in the set of figures, but it would be difficult to show all 4 barrier types in the same figure. The dimensions for all barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail can be found in the Table section. The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). A column will be added to the tables to show the barrier heights. The tables will be updated to include the lengths and heights of existing barriers. It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations.	RWDI to revise the legend in the Noise and Vibratirion Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR. Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (existing barriers subject to retrofit; existng noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables. Language will be added to allow for modification if required during detailed design. Metrolinx to include language in the EPR that it commits to constructing noise walls. This commitment will be carried forward to the contract.	3	C
4	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(3) Assessment Scenarios: a future no build scenario was mentioned in the noise report. In accordance with the applicable MOEE / GO Transit Protocol dated January 1995, there are two assessment scenarios; namely Pre-Project (includes ambient sound level and existing rail service) and GO Transit Project. The assessment of noise and vibration impacts should be based on the two assessment scenarios included in the 1995 Protocol.	Metrolinx is using electrification as final mitigation for the LSE Segment 1 Project. The planned new track infrastructure on LSE Segment 1 is expressly for electrified RER service. Metrolinx is not intending on introducing new diesel service on this planned new track infrastructure and as such electrified RER service is the full build scenario for this TPAP. The report looked at a future no build scenario, but the assessment was only based on two assessment scenarios as per the 1995 Protocol – present vs. electric future build. The electric future build assumes the 4th track is in place.	No additional response required.	3	C
5	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(4) Prediction of Road Traffic Noise: the RLS-90 algorithm implemented in CadnaA software was used for prediction of road traffic noise. This model is not approved by the MOECC. Prediction of road traffic noise shall be carried out using the ORNAMENT algorithm / STAMSON software.	Spot checks have been conducted to verify that the RLS-90 model produces similar results to the ORNAMENT algorithm. Nonetheless, the modelling will be updated to use a spreadsheet implementation of the ORNAMENT algorithm.	No additional response required.	3	C

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6	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(5) Prediction of Rail Traffic Noise: the FTA algorithm implemented in CadnaA software was used for prediction of rail traffic noise. This model is not yet approved by the MOECC. These predictions should be verified at representative receptor locations using the FTA software.	In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in CadnaA was used. The CadnaA implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model. Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC. A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the CadnaA implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms, through the electrification project.	MOECC advised that it accepts use of the FTA software, however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.	3	C
7	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(6) Existing Vibration Levels: these levels were predicted at eight receptor locations. Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses since GO, VIA and CN trains are currently travelling along the entire rail corridor. Future vibration levels can be predicted using the FTA Manual (2012).	Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting existing measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Modelled existing vibration levels were evaluated against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.	RWDI clarified that a limited number of relevant representative receptor locations were used for the Lakeshore East Corridor (amongst hundreds of other across all of the corridors) expansion for new track. MOECC advised that this methodology is not easily defensible. Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.	3	C
8	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(7) Vibration Receptors: eight receptors were selected for the vibration impact assessment. More receptors should be selected to represent the vibration sensitive land uses along the entire length of the rail corridor (50 km long). The selected receptors should include the existing buildings, planned buildings and vacant lots, where applicable. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol. The selected receptors can also address the vibration impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual.	As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches. The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor. Vibration impacts due to construction was evaluated against structural damage and perceptibility limits. As construction could occur at any location along the rail corridor, it was assumed that the sensitive receptors would be located in close proximity. For this reason, distance setbacks were recommended to ensure that vibrations construction damage and perceptibility levels were not exceeded.	RWDI/Metrolinx confirmed that approved development information was requested from the various municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment. Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.	3	C
9	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(8) Vibration Control Measures: three different alternative control measures were recommended for the six receptor locations where vibration levels were predicted to exceed the applicable limits. Specific vibration control measures should be recommended for all affected locations. Furthermore, figures should be provided to clearly show the locations and extents of the recommended vibration control measures.	The GO Rail Network Electrification TPAP vibration study identifies areas where vibration mitigation will be considered as well as options for mitigating increased vibration levels. Vibration mitigation solutions can include but are not limited to, ballast mats, under sleeper pads or resilient fixation. The Noise and Vibration Impact Assessment is a preliminary evaluation that will be refined during detailed design. The type of vibration mitigation has not been determined. This will be reviewed further during detailed design. Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.	The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design. Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.	3	C
10	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(9) Table 1: one hundred and four noise receptors are listed in Table 1. It is preferred if these noise receptors are categorized by the different rail sections listed in Tables 2a and 2b.	Table 1 will be updated to show the different rail sections listed in Tables 2a and 2b. This will be done for all reports in Appendix S.	No additional response required.	3	C
11	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(10) Tables 7a and 7b: the titles of these tables indicate that the investigated noise barriers are technically feasible whereas the title of the last column in these tables indicates technical infeasibility. This contradiction should be explained.	The titles for Table 7a and Table 7b will be updated for clarity. This will be done for all reports in Appendix S.	No additional response required.		

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Post- August 16, 2017 MOECC Response and Details	Action 1/2/3*	Status O/P/C**
12	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(11) Figure 1a: this figure shows the locations of the GO Stations and Traction Power Facilities. This figure should also show the locations of the Layover Sites and the East Rail Maintenance Facility.	Figures 2a to 2m show the locations of the layover sites and the East Rail Maintenance Facility.	No additional response required.	3	C
13	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(12) Figures 2a to 2m: these figures show the locations of the noise and vibration receptors. The selected noise and vibration receptors should represent the worst case (i.e. the closest and most expose) receptors with respect to the current undertaking. Furthermore, the receptors should represent all the noise and vibration sensitive land uses that are existing, planned for future construction as well as vacant lots, where applicable.	A detailed analysis was completed to ensure that results for the worst-case and representative receptors were included in detail in the reports. The reporting shows only representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. In general, for areas where a new track is installed adjacent to an existing track without special track work, the area where there is more than a 25% increase in vibration level doesn't extend further than a few meters from the rail right of way. Most impacted receptors are located in areas of special track work, where the area of influence is much larger. As per the 1995 MOEE / GO Transit Protocol, noise and vibration impacts must be evaluated at lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision. From aerial photography if it appeared that construction of development was underway, a receptor was placed. City of Toronto provided detailed data on planned residential developments with approved building permits. This data was incorporated into the assessment. Data provided from other Municipalities was not provided in a manner that allowed specific identification of receptors for evaluation. Furthermore, data was not provided for all municipalities, leaving gaps with no data along the length of the corridor. Therefore, only a screening level assessment was completed for this information. Given the large extent of the study area, Metrolinx has not contacted each municipality to where approved plans have been issues. From aerial photography if it appeared that construction of development was underway, a receptor was placed. Otherwise, the development will assess rail noise and barrier requirements through the re-zoning, land use process.	Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities. Please also refer to Comment responses #8 above.	3	C
14	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(13) Appendix F: this appendix includes sample vibration calculations. Sample noise calculations should also be included.	In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used. The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model. Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC. A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.	Metrolinx confirmed that sample noise calculations will be included in Appendix F.	3	C
15	Noise & Vibration	Header Merza, MOECC EAB	HM	Electrification Noise & Vibration Report	(14) Appendix G: this appendix lists the noise-bylaws in six municipalities. Reference should also be made to the specific noise and vibration bylaws pertaining to construction, where applicable.	The by-laws listed only pertain to construction noise and vibration.	No additional response required.	3	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

* Actions:
 1 = Will comply
 2 = Discuss, clarification required
 3 = Not applicable because

** Status:
 O = Open, not resolved
 P = Pending incorporation in design/EA Reports
 C = Closed, implementation complete



Submitting Consultant Transmittal:

Reviewed By: MTCS Document Name: Draft Environmental Project Report
 Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)
 % Completion: Contract No:

Revised By:
 Revision Date:
 Revision Number:

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. # / Spec Section / Page #	Review Comments	Response & Details	Action 1 / 2 / 3*	Status O / P / C**
1	MTCS	MTCS	MTCS		The Draft EPR does not sufficiently address the cultural heritage component required under an EA or the TPAP. Under Ontario Regulation 231/08 and the TPAP, the EPR must describe the local environmental conditions, assess the project impacts and describe measures proposed for mitigating any negative impacts. The EPR should also describe all studies carried out, and include a summary of data collected as well as their results and conclusions.	<p>MTCS comment received and noted.</p> <p>Metrolinx decision is that the Draft Environmental Project Report (EPR) sufficiently meets the requirements of Ontario Regulation 231/08 and the Transit Project Assessment Process (TPAP). Existing conditions have been described, which includes the results of initial cultural environment studies.</p> <p>Metrolinx undertakes a Stage 1 Archaeological Assessment (desktop studies and background research) for a project's Study Area and makes a commitment in the EPR to complete necessary Stage 2, 3 or 4 Archaeological Assessment during Detailed Design, as required.</p> <p>Additionally, Metrolinx undertakes the completion of a Cultural Heritage Screening Report (CHSR) for a project's Study Area as well as Cultural Heritage Evaluation Reports (CHER) for those properties subject to direct impacts (demolition, removal, alteration) from a project. A high level description of impacts is provided and a commitment to undertake a Heritage Impact Assessments (HIA) during Detailed Design is made within the EPR, as required. A commitment for the completion of CHERs during Detailed Design for indirectly impacted properties is also included in the EPR, as required.</p> <p>The initial cultural environment studies allow for an understanding of the existing conditions in a Study Area by identifying locations or infrastructure with potential archaeological or cultural heritage value that requires further assessment during Detailed Design. The requirement for further cultural environmental studies (for example Stage 2 Archaeological Assessment, Cultural Heritage Screening Reports and Heritage Impact Assessments) is included as a commitment in the EPR. All commitments made in the EPR are required to be implemented as per the requirements of Ontario Regulation 231/08.</p> <p>We are aware of ongoing discussions between Metrolinx, MTO, MTCS, and MOECC to come to a resolution on this issue.</p>	3	C
2	MTCS	MTCS	MTCS		<p>The Draft EPR must be revised to describe the local environmental conditions</p> <p>The Draft EPR references and appends only a Cultural Heritage Screening Report (CHSR) dated November 2, 2016 prepared by AECOM. The CHSR a preliminary study to identify properties meeting the screening criteria for potential cultural heritage value or interest, for which further evaluation is to be undertaken. It is only through evaluation of a property that it can be determined whether it has cultural heritage value or interest, and is considered to be a cultural heritage resource. Please be aware that the TPAP must identify and consider all properties having cultural heritage value or interest regardless of ownership.</p> <p>Prior to issuing the Notice of Commencement, each of the properties meeting the screening criteria should be evaluated to determine whether it has cultural heritage value or interest, and is considered to be a cultural heritage resource. The results of the evaluations should be documented in a Cultural Heritage Evaluation Report (CHER) and the results summarized in the EPR.</p>	Please refer to response to comment #1 .	3	C
3	MTCS	MTCS	MTCS		<p>Please be aware that the Cultural Heritage Screening Report is not part of the Metrolinx Interim Heritage Management Process. MTCS would be pleased to meet with Metrolinx personnel to offer advice in developing terms of reference to address the cultural heritage component of an EA or TPAP in an efficient and cost-effective manner.</p> <p>Additionally, the Draft EPR references and appends only a Stage 1 archaeological assessment (AA) (PIF #P088-0090-2016) that has been undertaken for the rail corridor. The Stage 1 AA identified a number of areas having archaeological potential and recommended that Stage 2 AA be undertaken for areas to be impacted. A Stage 2 AA (e.g. land survey, test pitting) determines whether any archaeological resources are present and whether further archaeological assessment is required. If archaeological resources are found, then a Stage 3 AA determines the extent of archaeological sites and recommends appropriate mitigation measures (e.g. long-term avoidance and protection or excavation).</p> <p>As such, the existing archaeological conditions can only be after a minimum Stage 2 AA. Prior to issuing the Notice of Commencement a Stage 2 archaeological assessment (and Stage 3 where recommended by a Stage 2 assessment) is to be completed to clearly identify archaeological resources and sites. This will ensure that the proponent is able to address any net effects and identify mitigation measures in the EPR.</p>	Please refer to response to comment #1 .	3	C

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4	MTCS	MTCS	MTCS		<p>The Draft EPR must identify, assess and evaluate the impacts that the project might have on cultural heritage resources.</p> <p>If the project is to impact any identified cultural heritage resources (see above - cultural heritage resources identified through evaluation and preparation of a CHER, AND / OR archaeological resources/sites identified through Stage 2 and 3 AA), then potential project impacts must be clearly identified in the EPR. All potential impacts, whether direct or indirect, should be identified. For example, the draft EPR refers to bridge widenings, modifications and property acquisition, yet no specific details as to the potential impacts are provided.</p>	Please refer to response to comment #1 .	3	C
5	MTCS	MTCS	MTCS		<p>The Draft EPR must describe any proposed measures for mitigating any negative impacts the project might have on the cultural heritage environment (including archaeology).</p> <p>Mitigation measures must be informed and supported by appropriate technical studies. Where an identified cultural heritage resource is to be impacted, a Heritage Impact Assessment, by a qualified person, is to be prepared to consider and recommend alternative strategies to conserve the cultural heritage value or interest of the property, and alternately to recommend measures to mitigate project impacts. The results and recommendations of any Heritage Impact Assessments should be described and summarized in the EPR.</p> <p>Additionally, in areas where archaeological resources or sites have been identified, the Stage 3 AA would propose appropriate avoidance and protection strategies or mitigation measures. The results and recommendations of the archaeological assessment(s) should be described and summarized in the EPR.</p>	Please refer to response to comment #1 .	3	C
6	MTCS	MTCS	MTCS		<p>Prior to issuing the Notice of Commencement, please send technical cultural heritage studies (i.e. CHERs, HIAs, archaeological assessments) to MTCS for review. In addition, CHER and HIA studies should be sent to the City of Toronto's Heritage Preservation Services for review, and made available to local organizations or individuals who have expressed interest in doing so.</p>	<p>As noted in the EPR, the Stage 1 Archaeological Assessment Report was submitted to MTCS for review as part of licence requirements. A copy of the MTCS acceptance letter will be provided in the archaeology appendix.</p> <p>A Cultural Heritage Screening Report was prepared during the TPAP for all properties in the Study Area. The Draft EPR and its appendices were provided to MTCS and to the City of Toronto for regulatory review; this included an opportunity for review by the City's Heritage Preservation Services. CHERs are reviewed by the MHC and provided to MTCS for information. Section 5.7.2 will be clarified to note that HIA studies will be completed during Detailed Design in consultation with the City of Toronto and MTCS as required, and will be provided to MTCS for review.</p> <p>During the 30 day public review period, the revised Draft EPR and its appendices will be available for review.</p>	2	P
7	MTCS	MTCS	MTCS		In addition, please find attached MTCS's report-specific comments. Our comments and recommendations reflect and are consistent with the comments above. However, we will be able to provide more meaningful and constructive recommendations once the cultural heritage environment and potential impacts are identified.	Noted. Comments received in the letter and in the table are included in this comment/response table.	3	C
8	MTCS	MTCS	MTCS		In this regard, prior to issuing the Notice of Commencement, please send MTCS a revised Draft EPR for review and additional comments.	The revised Draft EPR will be available for review during the 30 day public review period.	3	C
9	MTCS	MTCS	MTCS	Project Overview (p. i)	<p>Draft EPR Reference: The Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO) Project (the Project) involves the addition of a fourth railway track and associated bridge widenings and culvert modifications on the Lakeshore East Rail Corridor between the Don River and the Scarborough GO Station.</p> <p>MTCS Comments/Recommendations: The EPR should include specific information as to what is meant by "bridge widening and modifications".</p> <p>If any cultural heritage resources (including bridges and culverts) are to be altered, demolished, removed, or otherwise impacted, this must be clearly stated in the EPR.</p>	Section 3.5 of the EPR will be updated to include more information on bridge widening and modifications.	2	P

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10	MTCS	MTCS	MTCS	Cultural Heritage (p. v)	<p>Draft EPR Reference: A Cultural Heritage Screening Report (CHSR) was conducted to identify properties within the Study Area with recognized or potential cultural heritage value or interest. The properties are identified to determine where further assessment, e.g. Cultural Heritage Evaluation Report (CHER) or Heritage Impact Assessment (HIA), is warranted during Detailed Design.</p> <p>Through the CHER process, any property within the Study Area that may be identified as a Provincial Heritage Property will be reviewed to identify if further heritage assessment studies are required. If a Provincial Heritage Property is identified and is contemplated for removal, demolition or transfer from provincial control, Metrolinx will engage MTCS to gain feedback and to initiate a HIA. This will be determined after the review and approval of the Metrolinx Heritage Committee.</p> <p>Further details describing the anticipated cultural heritage effects and how they will be mitigated are provided in Section 5.7 of this EPR.</p> <p>MTCS Comments/Recommendations: CHERs and where necessary HIAs must be completed prior to issuing the Notice of Commencement. The results of the CER and HIAs must be included in the ERP.</p> <p>Be aware that the TPAP must consider all properties having cultural heritage environment to consider and address in the TPTP includes all properties determined to have cultural heritage value or interest, regardless of ownership.</p> <p>Impacts, including removal, demolition and alteration, must be identified in the ERP.</p> <p>Section 5.7 does not describe specific project effects or mitigation measures.</p>	Please refer to response to comment #1 .	3	C
11	MTCS	MTCS	MTCS	Archaeology (p. v)	<p>Draft EPR Reference: The findings of the Stage 1 Archaeological Assessment (AA) determined that the Study Area retains the potential for archaeological discoveries in certain areas and therefore, a Stage 2 AA will be completed. If land that requires a Stage 2 AA is found to be previously disturbed, steeply sloped or poorly drained, photographic documentation of the conditions is all that is required. Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act.</p> <p>Further details describing the anticipated effects to archaeological resources and how they will be mitigated are provided in Section 5.8 of this EPR.</p> <p>MTCS Comments/Recommendations: Stage 2 archaeological assessment (and maybe a Stage 3 if recommended by the Stage 2) must be completed prior to issuing Notice of Commencement. The outcomes and recommendations should be summary and addressed in the EPR.</p>	Please refer to response to comment #1 .	3	C
12	MTCS	MTCS	MTCS	2.1.1.1 Existing Environmental Conditions	<p>Draft EPR Reference: The existing environmental conditions within the overall Study Area and within discipline-specific study areas were established as part of the pre-planning activities. Each of the primary environmental factors were assessed by practitioners using industry standard techniques.</p> <p>MTCS Comments/Recommendations: The existing cultural heritage conditions have not been established and are not described or reflected in the draft EPR. Nor have "industry standard techniques" been met with regard to the built heritage/cultural heritage landscapes component.</p>	Please refer to response to comment #1 .	3	C
13	MTCS	MTCS	MTCS	3.1 Existing Rail Infrastructure (p. 11)	<p>Draft EPR Reference: Some of the existing grade separated structures mentioned above will need spatial and structural modification to accommodate the new fourth track.</p> <p>MTCS Comments/Recommendations: Please clarify. The potential effects of any "modifications" to bridges/culverts/structures identified as having as cultural heritage value or interest, must be clearly described and mitigation measures as recommended in the Heritage Impact Assessment must be include in the EPR.</p>	Section 3.5 of the EPR will be updated to include more information on bridge widening and modifications.	2	P

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14	MTCS	MTCS	MTCS	3.2.4 Retaining Walls and Grading (P 14)	<p>Draft EPR Reference: Grading for the new fourth track will be designed with the intent to minimize additional land acquisition requirements and reduce footprint impacts as warranted and feasible. . . . The design of significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective will be reviewed by the Metrolinx Design Review Panel (MDRP).</p> <p>MTCS Comments/Recommendations: If any cultural heritage resources (including archaeological resources/sites) are to be impacted this must be clearly stated in the EPR. Also, if any cultural heritage resources are to be impacted, the MDRP should include a qualified heritage person to advise and provide input</p>	<p>Please refer to response to comment #1 .</p> <p>The design of significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective will be reviewed by the Metrolinx Design Review Panel (MDRP).</p>	3	C
15	MTCS	MTCS	MTCS	3.5 Bridges p16-17	<p>Draft EPR Reference: Widening to the following existing bridge structures are needed to accommodate the fourth track: a) Woodbine Avenue b) Warden Avenue c) Danforth Avenue d) Birchmount Avenue Murals under bridges may be impacted to some extent during construction. Mural reinstatement/extension will be coordinate with City staff and/or the local Councillor and community as appropriate. Based on the preliminary design functional impacts are anticipated to the City road right-of-ways. This will be confirmed through Detailed Design.</p> <p>MTCS Comments/Recommendations: NOTE: each of these bridges is older than 40 years, and meet the threshold criteria of having potential cultural heritage value or interest. CHERs/HIAs are required for these properties prior to issuing the Notice of Commencement. If the murals are found be heritage attributes of the structures, then mitigation for their conservation may be required.</p>	<p>Of the four bridges identified, none were found to be provincial heritage structures so the murals are not heritage attributes. CHERs were prepared for Birchmount and Danforth; however, did not meet the criteria. Warden and Woodbine were screened out when the Cultural Heritage Screening Report was completed, as they are not considered to be a Potential Provincial Heritage Property.</p>	3	C
16	MTCS	MTCS	MTCS	p16-17	<p>Draft EPR Reference: The Woodbine Avenue Bridge was constructed in 1954. The bridge functions as a railway bridge. There is a mural on road facing components of the bridge.</p> <p>MTCS Comments/Recommendations: See comment above</p>	<p>Please refer to response to comment #15.</p>	3	C
17	MTCS	MTCS	MTCS	p16-17	<p>Draft EPR Reference: The Warden Avenue Bridge was constructed in 1951. The bridge currently functions as a railway bridge. A mural was completed in 2013 on road facing components of the bridge, celebrating the history of Scarborough and the two neighbourhoods joined by the underpass (Oakridge and Birch Cliff).</p> <p>MTCS Comments/Recommendations: See comment above</p>	<p>Please refer to response to comment #15.</p>	3	C
18	MTCS	MTCS	MTCS	p16-17	<p>Draft EPR Reference: The Danforth Avenue structure, built in 1923, consists of concrete abutments and a riveted steel plate girder structure that forms a two span crossing over Danforth Avenue, approximately 200 m east of Warden Avenue. The structure carries two (2) rail lines over Danforth, while a separate, newer span carries an additional third track over Danforth Avenue immediately east of the structure. More details on this bridge, related to heritage, are presented in Section 4.7.1.</p> <p>MTCS Comments/Recommendations: See comment above. NOTE: there is no Section 4.7.1 in the Draft EPR. Section 4.8.1 – relates to Existing Conditions of the cultural environment. . Section 4.8.1 refers only to screening report which is not sufficient to identify the cultural environment.</p>	<p>Please refer to response to comment #15.</p> <p>The EPR will be updated to reference Section 4.8.1.</p> <p>Please refer to response to comment #1 .</p>	2	P

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19	MTCS	MTCS	MTCS	p16-17	<p>Draft EPR Reference: The Birchmount Avenue Bridge was built in 1957 which carries vehicular traffic over the Metrolinx Lakeshore East Rail Corridor. The structure was designed as a continuous three (3) span reinforced concrete structure, supported on intermediate concrete piers and concrete abutments. Its total span is 165 feet and an overall width of 62 feet. The structure appears to have been built as designed. The structure has functioned continuously as an overpass structure since its construction in 1957. More details on this bridge, related to heritage, are presented in Section 4.7.1.</p> <p>MTCS Comments/Recommendations: See comment above.</p> <p>Section 4.8.1 – relates to Existing Conditions of the cultural environment. . Section 4.8.1 refers only to screening report which is not sufficient to identify the cultural environment.</p>	<p>Please refer to response to comment #15.</p> <p>The EPR will be updated to reference Section 4.8.1.</p>	2	P
20	MTCS	MTCS	MTCS	3.6 Culverts p 17	<p>Draft EPR Reference: Three (3) culverts are proposed to be modified. These culverts are as follows: <ul style="list-style-type: none"> • Scarborough Junction (Mile 325.55) • East of Kennedy Road (Mile 325.74) • East of Coxwell (Mile 329.50 – Small's Creek) </p> <p>MTCS Comments/Recommendations: If any culverts are older than 40 years, CHERs/HIAs are required for these properties prior to issuing the Notice of Commencement. Additionally, "modifications" should be described.</p>	<p>Scarborough Junction (Mile 325.55) was replaced in 2016 and is a new culvert.</p> <p>East of Kennedy (Mile 325.74) was a 600mm (2') pipe. It is not visible and was not found during the 2014 inspection and appears to be completely buried.</p> <p>East of Coxwell (Mile 329.50) has an outlet side that is completely buried and inaccessible. The inlet is via a manhole to the north. The culvert is not accessible.</p> <p>Section 3.6 will be revised to note that further detailed review of culverts will be conducted during Detailed Design; this will determine the type and extent of modifications required. The associated details will be reviewed with the City of Toronto, TRCA and appropriate agencies during Detailed Design.</p>	2	P
21	MTCS	MTCS	MTCS	3.9 Property Impacts P 18	<p>Draft EPR Reference: The ultimate intent of the Preliminary Design of the fourth track expansion along Lakeshore East Rail Corridor is to minimize property impacts and reduce the property acquisition requirements by utilizing engineering solutions to retain the track structure caused by expansion of the track corridor. Areas where engineering solutions were not possible include: <ul style="list-style-type: none"> • At the east-end tie-in where the grade is significantly higher than the adjacent lands to the south side of the corridor. Approximately 942 metres squared (m2) of additional property will be required in this location in addition to structural retaining walls. • Six (6) properties along the north side of the corridor between the Danforth Avenue and Warden Avenue grade separation structures require additional property to be acquired. This is a result of the fourth track centreline impacting the property line. Therefore, a design including a ditch has been provided in this area with the additional property requirements marked out in the drawings. • A 421 m2 area east of Victoria Park Avenue will be required. This is due to the sudden decrease in available land (i.e., the property line shifting closer to the tracks). At this location, the property line lines up more or less with the extents of the subballast. • To accommodate the service track (lead into yard) to the east of the Don Valley, approximately 410 m2 of property is required. </p> <p>MTCS Comments/Recommendations: If any of these properties to be impacted are identified as cultural heritage resources, the impacts and mitigation measures must be considered in an HIA, and the results summarized in the EPR.</p>	<p>Please refer to response to comment #1.</p> <p>Property acquisitions during Detailed Design trigger the requirement for both archaeological and cultural heritage screenings.</p>	3	C
22	MTCS	MTCS	MTCS	4.8.1 Cultural Heritage (p 53-54)	<p>Draft EPR Reference: 4.8.1.1 Methods A Cultural Heritage Screening Report (CHSR) was conducted to identify properties within the Study Area with recognized or potential cultural heritage value or interest. The properties are identified to determine where further assessment may be required as part of a Cultural Heritage Evaluation Report (CHER). Properties with no potential are screened out of the cultural heritage assessment process. The CHSR is provided in Appendix B6.</p> <p>A field review of the Study Area was conducted in February 2016 to identify built heritage resources and cultural heritage landscapes of 40 years or older within the study area. For the purposes of this CHSR, the assessment area was defined as properties that share a property boundary with existing railway corridor were considered to be potentially impacted.</p> <p>4.8.1.2 Findings In total, one (1) Cultural Heritage Landscapes and 30 Built Heritage Resources were identified adjacent to the existing Lakeshore East Rail Corridor and are listed below. In addition, the CHSR identified two (2) Heritage Conservation Districts (HCDs): Designated Riverdale HCD and Proposed Queen Street East HCD.</p> <p>See Draft EPR for additional text.</p> <p>MTCS Comments/Recommendations: The CHSR is a screening report, and does not sufficiently identify the cultural heritage environment. in the study area.</p> <p>Any individual properties within the HCD must be evaluated and the potential impacts identified and considered.</p>	<p>Please refer to response to comment #1 .</p>	3	C

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23	MTCS	MTCS	MTCS	4.8.2 Archaeology (p 55)	<p>Draft EPR Reference: 4.8.2.1 Methods A Stage 1 Archaeological Assessment (AA) was conducted for the Study Area to include the Lakeshore East Rail Corridor with a 300 m buffer from the outside limits of the rail line corridor. The purpose of the Stage 1 AA was to determine whether there is any potential for the Project to impact known, or previously undocumented, archaeological resources within the Study Area. The Stage 1 AA is provided in Appendix B7</p> <p>See Draft EPR for additional text.</p> <p>MTCS Comments/Recommendations: The Stage 1 Archaeological Assessment is not sufficient to identify whether archaeological resources are present. A minimum of Stage 2 archaeological assessment (Stage 3 where recommended by the Stage 2) is required prior to issuing the Notice of Commencement. The results and recommendations of the Stage 2 should be included in the ERP.</p>	Please refer to response to comment #1 .	3	C
24	MTCS	MTCS	MTCS	5.4 Noise and Vibration (p70)	<p>MTCS Comments/Recommendations: Vibration could be a negative impact to cultural heritage resources adjoining or in close proximity to the tracks. Please ensure that vibration impacts are considered as part of any HIAs for identified cultural heritage resources.</p>	MTCS comment received and noted.	3	C
25	MTCS	MTCS	MTCS	5.5 Socio- Economic and Land Use 5.5.3 Aesthetics (p 72)	<p>Draft EPR Reference: 5.5.3.1 Potential Construction Effects Construction activities, including the presence of construction equipment, staging areas and temporary fencing, may also result in undesirable temporary aesthetic effects. Specifically at Warden Avenue and Woodbine Avenue, bridge construction activities may result in temporary obstruction to views and/or degradation of existing murals on the bridge underpass.</p> <p>Retaining walls will be required in some locations to support the construction of the additional fourth railway track. Preliminary design shows 3.8 km in retaining walls and 2 km of retaining walls will be public facing. Aesthetic effects of the construction of retaining walls and bridge widenings may include visual impacts to parkland at Scotia Parkette, Oakridge Park, Kenworthy Park, Merrill Bridge Road Park, Gerrard-Carlaw Parkette, and Jimmie Simpson Park, and on the north side of Danforth Avenue. Visual impacts may affect user enjoyment of parks.</p> <p>5.5.3.2 Potential Operations Effects Public-facing retaining walls may result in permanent visual effects, obstruction of views, and user enjoyment of parks during operations. Accordingly, undesirable aesthetic effects associated with the presence of these structures will continue throughout the operation of the Project.</p> <p>5.5.3.3 Mitigation If existing murals are degraded due to construction, reinstatement/extension of the murals will be coordinated with City staff and/or the local Councillor and community as appropriate. Designs for key elements of the Project, including significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective, will be reviewed by the Metrolinx Design Review Panel (MDRP). The approach to engaging the City in design review will be determined during Detailed Design.</p> <p>MTCS Comments/Recommendations: Temporary construction and staging areas in areas where archaeological potential has been identified must be included in the Stage 2 (and maybe Stage 3).</p> <p>If any of these bridges/structures are determined to have CHVI, it should be noted and cross referenced in the "aesthetics" section.</p> <p>Retaining walls that will be constructed adjacent to CHRAs must be considered as an impact.</p> <p>Where "views" and visual impacts have been identified as a heritage attribute for CHRAs, then potential impact to the "view" must be considered</p> <p>If the murals are located on bridges/structures that determined to have CHVI and they are identified as being a heritage attribute,</p>	<p>The Stage 1 Archaeological Assessment for the project did not include temporary construction and staging areas beyond the right-of-way as these were not known at that time. All required archaeological assessment for temporary construction and staging areas will be completed prior to construction; these areas will be identified during Detailed Design.</p> <p>See response to comment #15 above; as none of the bridges have been identified as having CHVI, aesthetics is not an issue from a heritage point of view.</p> <p>Locations of retaining walls will be reviewed during Detailed Design; if retaining walls are identified to be adjacent to CHRAs, further heritage assessment will be completed as required during Detailed Design.</p> <p>As none of the bridges were found to have CHVI, "views" is not a heritage attribute.</p> <p>None of the murals are located on bridges/subways with CHVI. As noted in the EPR, if existing murals are degraded due to construction, reinstatement/extension of the murals will be coordinated with City staff and/or the local Councillor and community as appropriate.</p>	3	C
26	MTCS	MTCS	MTCS	5.7.1 Potential Effects (p 75)	<p>Draft EPR Reference: The CHSR recommended a CHER be completed for thirteen (13) Built Heritage Resources, which will be completed as part of this Project and will be reviewed by the Metrolinx Heritage Committee to determine their cultural heritage value. The CHSR also recommended a Heritage Impact Assessment (HIA) be conducted for the two (2) identified HCDs. The CHSR is provided in Appendix B6.</p> <p>Through the CHER process, any property within the Study Area that may be identified as a Provincial Heritage Property will be reviewed to identify if further heritage assessment studies are required. If a Provincial Heritage Property is identified and is contemplated for removal, demolition or transfer from provincial control, Metrolinx will engage MTCS to gain feedback and to initiate an HIA. This will be determined after the review and approval of the Metrolinx Heritage Committee.</p> <p>MTCS Comments/Recommendations: Under the TPAP the EPR must identify the potential effects on the cultural environment. The CHSR appended to the Draft EPR does not identify potential impacts.</p> <p>Potential impacts to all CHRAs, regardless of ownership, must be identified.</p> <p>NOTE: section 5.5.5.1 identifies private and public lands to be acquired. If any land is to be acquired from an identified heritage property, regardless of ownership, it is considered to be an impact and must be considered in the HIA.</p> <p>Additionally, these potential impacts must be disclosed during the public consultations.</p>	<p>Please refer to response to comment #1 .</p> <p>Property acquisitions during Detailed Design trigger the requirement for both archaeological and cultural heritage screenings.</p>	3	C

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
27	MTCS	MTCS	MTCS	5.7.2 Mitigation (p 75-76)	<p>Draft EPR Reference: CHERs will be completed for the 13 Built Heritage Resources during Detailed Design.</p> <p>HIAs will be completed for any provincial heritage properties through the CHER process upon MHC determination. In addition, the CHSR recommended HIA completion for Designated Riverdale HCD and Proposed Queen Street HCD.</p> <p>These HIAs will inform appropriate mitigation measures for each specific heritage attribute.</p> <p>Consultation with MTCS and/or the City of Toronto will be completed as appropriate to inform mitigation.</p> <p>MTCS Comments/Recommendations: See comments above. Must be completed during TPAP. No oversight or opportunity for review or community engagement during Detail Design.</p> <p>Results of the CHERs and HIAs should be presented at the public consultations as part of the TPAP.</p> <p>Consultation should include:</p> <ul style="list-style-type: none"> • MTCS • Heritage Preservation Services of City of Toronto • Toronto Historical Board (e.g. MHC) • Any other individual or group with an interest in heritage matters. 	Please refer to responses to comments #1 and #6.	3	C
28	MTCS	MTCS	MTCS	5.8.1 Potential Effects (p. 76)	<p>Draft EPR Reference: As described in Section 4.7.2, a Stage 1 AA was carried out for the Study Area, and was submitted to MTCS in accordance with Section 65 of the Ontario Heritage Act.</p> <p>The findings of the Stage 1 AA (see Appendix B7) determined that the Study Area retains the potential for archaeological discoveries in certain areas. Therefore, a Stage 2 AA will be completed on any lands that will be impacted by the Project if it is shown as retaining potential for archaeological resources (see Figures 4-4A and Figure 4-4B).</p> <p>MTCS Comments/Recommendations: There is no Section 4.7.2 in the draft EPR.</p> <p>Section 4.8.2 refers to the Stage 1AA. As noted the Stage 1AA identified areas of potential, and recommended further assessment in some areas.</p> <p>Neither Section 5.8.1 nor the Stage 1AA identify potential effects of the project.</p> <p>As stated above, a minimum of a Stage 2AA (and possibility Stage 3) must be completed prior to issuing the Notice of Commencement.</p> <p>Additionally the EPR must identify areas where impacts and/or ground disturbance is likely to occur.</p>	<p>The EPR will be updated to reference Section 4.8.2.</p> <p>Please refer to response to comment #1 .</p>	2	P
29	MTCS	MTCS	MTCS	5.8.2 Mitigation (p. 76)	<p>Draft EPR Reference: As the Stage 1 AA was completed through desktop review, some areas identified as retaining archaeological potential may be screened out based on site conditions observed during the Stage 2 AA field reconnaissance.</p> <p>If required for lands being impacted by the Project, a Stage 2 AA will be undertaken for areas that cannot be visually determined to be previously disturbed, poorly drained or steeply sloped and should involve a property survey by the standard test pit assessment method at an interval of 5 m. Test pits that are a shovel width in diameter will be excavated 5 mm into subsoil with all soil screened through 6 mm aperture hardware cloth and all cultural material collected for analysis.</p> <p>If land that requires a Stage 2 AA is found to be previously disturbed, steeply sloped or poorly drained, photographic documentation of the conditions is all that is required.</p> <p>Should the proposed work extend beyond the Study Area, the Stage 1 AA must be revised to determine the archaeological potential and requirement for further Stage 2 AA work of any additional lands.</p> <p>MTCS Comments/Recommendations: Section 5.8.2 provided only general information as to archaeological methods.</p> <p>The Draft EPR must clearly identify the areas that will be impacted and state what the anticipated effects will be. This can only be done after a Stage 2 AA (and possibly Stage 3, if recommended by the Stage 2) is completed.</p> <p>Appropriate mitigation is site-dependent and can only be determined at a Stage 3 AA.</p>	Please refer to response to comment #1.	3	C

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
30	MTCS	MTCS	MTCS	6.1.2.2 Public Meeting #1 (p77)	<p>Draft EPR Reference: PIC#1 held in Nov 2016</p> <p>MTCS Comments/Recommendations: It is not clear how the current cultural conditions were presented to the public?</p> <p>As noted above, the CHSR and a Stage 1AA are not sufficient to identify the cultural environment.</p>	<p>During the 30 day public review period, the revised Draft EPR and its appendices will be available for review.</p> <p>Please refer to response to comment #1.</p>	3	C
31	MTCS	MTCS	MTCS	6.2.1 Metrolinx Design Review Panel (p. 80)	<p>Draft EPR Reference: The Metrolinx Design Review Panel (MDRP) includes internal and external members from a range of design professions including:</p> <ul style="list-style-type: none"> • Architecture • Urban Design • Landscape Architecture • Engineering • + ad hoc members as expertise is required <p>The purpose of the MDRP is to integrate design excellence into Project evaluation, ensure appropriate design guidelines are in place and establish a design review process including a design review panel with a high standard of professional expertise. Designs for key elements of the Project, including significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective, will be reviewed by the MDRP.</p> <p>MTCS Comments/Recommendations: NOTE: the MDRP does not supersede or negate the need for full and proper heritage assessment.</p> <p>If any bridges/structures are to be impacted (altered) then modification designs must have input from a qualified heritage professional provided through a Heritage Impact Assessment.</p>	<p>MTCS comment received and noted.</p> <p>Please refer to responses to comments #14 and #15.</p>	3	C
32	MTCS	MTCS	MTCS	7.2.2.3 Ministry of Tourism, Culture and Sport (p. 86)	<p>Draft EPR Reference: Archaeology A Stage 1 AA was carried out for the Study Area, and this has been submitted to MTCS in accordance with Section 65 of the Ontario Heritage Act. A Stage 2 AA is recommended on any lands that will be impacted by the Project if it is shown as retaining potential for archaeological resources.</p> <p>MTCS reviews reports prepared by licensed archaeologists, including archaeological assessment reports, to ensure that the licensed archaeologist has met the terms and conditions of his or her licence including MTCS requirements for fieldwork and reporting. MTCS then provides the consultant archaeologist with a letter. If the report complies with MTCS requirements, the letter confirms that the MTCS have entered it into the Ontario Public Register of Archaeology Reports. Approval authorities can use this letter to verify that a development proponent has addressed concerns for archaeological sites on the property that was assessed. If the report does not comply with MTCS requirements, the MTCS letter identifies concerns with the report and requests further archaeological fieldwork and/or revisions to address the concerns. MTCS staff will review and respond to additional reporting once submitted.</p> <p>MTCS Comments/Recommendations: Future commitments should be more specific and reflect the recommendations of a minimum Stage 2AA (and possibly Stage 3AA).</p>	<p>Please refer to response to comment #1.</p>	3	C
33	MTCS	MTCS	MTCS		<p>Draft EPR Reference: Cultural Heritage If any property within the Study Area becomes classified as a Provincial Heritage Property as a result of a CHER, the property will also be reviewed to identify if further heritage assessment studies are required. If a Provincial Heritage Property is identified and is contemplated for removal, demolition or transfer from provincial control, Metrolinx will engage MTCS to gain feedback and to initiate an HIA. This will be determined after the review and approval of the Metrolinx Heritage Committee.</p> <p>MTCS Comments/Recommendations: NOTE: the TPAP must address all identified cultural heritage resources, regardless of ownership, whether provincially owned or not.</p> <p>For example, the CHSR, identified individual properties designated under Part IV of the OHA and also at least two Heritage Conservation Districts under Part V of the OHA.</p>	<p>Please refer to response to comment #1.</p>	3	C
34	MTCS	MTCS	MTCS	Noise and Vibration (p. 97)	<p>Draft EPR Reference: Note to Draft: Mitigation measures to be updated once available once study is complete.</p> <p>MTCS Comments/Recommendations: See comments above. Construction vibration has the potential to impact cultural heritage resources, and should be considered on a property specific basis, where appropriate.</p>	<p>MTCS comment received and noted.</p>	3	C

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
35	MTCS	MTCS	MTCS	Socio-Economic Environment Aesthetics (P. 97)	<p>Draft EPR Reference:</p> <ul style="list-style-type: none"> If existing murals are degraded due to construction, reinstatement/extension of the murals will be coordinated with City staff and/or the local Councillor and community as appropriate. Designs for key elements of the Project, including significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective, will be reviewed by the Metrolinx Design Review Panel (MDRP). The approach to engaging the City in design review will be determined during Detailed Design. <p>MTCS Comments/Recommendations:</p> <p>See comments above. If these murals or structures are found to have cultural heritage value of interest, further study and on mitigation be may necessary.</p>	Please refer to response to comment #15.	3	C
36	MTCS	MTCS	MTCS	Cultural Heritage (p 99)	<p>Draft EPR Reference:</p> <ul style="list-style-type: none"> CHERs will be completed for the 13 Built Heritage Resources during Detailed Design. HIAs will be completed for any provincial heritage properties through the CHER process upon MHC determination. In addition, the CHSR recommended HIA completion for Designated Riverdale HCD and Proposed Queen Street East HCD. These HIAs will inform appropriate mitigation measures for each specific heritage attribute. Consultation with MTCS and/or the City of Toronto will be completed as appropriate to inform mitigation. <p>MTCS Comments/Recommendations:</p> <p>See comments above and in the attached letter</p> <p>In order to sufficiently identify the existing cultural heritage environment as required under O. Reg 231/08 and the TPAP, technical heritage studies (e.g. CHERs and HIAs) must be completed and the results described and summarized in the EPR.</p> <p>As such, CHERs and HIAs must be completed prior to issuing the Notice of Commencement.</p> <p>Consultation: MTCS and the City of Toronto's Preservation Services staff should be sent the technical studies for review and input. The studies should also be made available to local organizations or individuals who have expressed interest in reviewing them.</p>	Please refer to responses to comments #1 and #6.	3	C
37	MTCS	MTCS	MTCS	Archaeology (p 99)	<p>Draft EPR Reference:</p> <p>As the Stage 1 AA was completed through desktop review, some areas identified as retaining archaeological potential may be screened out based on site conditions observed during the Stage 2 AA field reconnaissance. If required for lands being impacted by the Project, a Stage 2 AA will be undertaken for areas that cannot be visually determined to be previously disturbed, poorly drained or steeply sloped and should involve a property survey by the standard test pit assessment method at an interval of 5 m. Test pits that are a shovel width in diameter will be excavated 5 mm into subsoil with all soil screened through 6 mm aperture hardware cloth and all cultural material collected for analysis. If land that requires a Stage 2 AA is found to be previously disturbed, steeply sloped or poorly drained, photographic documentation of the conditions is all that is required.</p> <p>MTCS Comments/Recommendations:</p> <p>As noted above, a minimum of a Stage 2 AA (and possibly Stage 3) should be undertaken to inform the TPAP, and must be completed prior to issuing the Notice of Commencement.</p>	Please refer to response to comment #1.	3	C
38	MTCS	MTCS	MTCS		<p>Draft EPR Reference:</p> <p>Should the proposed work extend beyond the Study Area, the Stage 1 AA must be revised to determine the archaeological potential and requirement for further Stage 2 AA work of any additional lands.</p>	This is a continuation of EPR Reference from comment #37.	3	C
39	MTCS	MTCS	MTCS		<p>Draft EPR Reference:</p> <p>Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.</p>	This is a continuation of EPR Reference from comment #37.	3	C

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
40	MTCS	MTCS	MTCS	Permits and Approvals Required p 102	<p>Draft EPR Reference:</p> <ul style="list-style-type: none"> • A Stage 1 AA was carried out for the Study Area, and this has been submitted to MTCS in accordance with Section 65 of the Ontario Heritage Act. A Stage 2 AA is recommended on any lands that will be impacted by the Project if it is shown as retaining potential for archaeological resources. MTCS staff will review and respond to additional reporting once submitted. • If any property within the Study Area becomes classified as a Provincial Heritage Property as a result of a CHER, the property will also be reviewed to identify if further heritage assessment studies are required. If a Provincial Heritage Property is identified and is contemplated for removal, demolition or transfer from provincial control, Metrolinx will engage MTCS to gain feedback and to initiate an HIA. This will be determined after the review and approval of the Metrolinx Heritage Committee. <p>MTCS Comments/Recommendations:</p> <p>As a licensing requirement under the OHA, all archaeological assessments must be submitted by the licensee to the MTCS for review by ministry staff.</p> <p>All provincial heritage properties are subject to the provisions of the Standards and Guidelines for the Conservation of Provincial Heritage Properties. In some circumstances, MTCS Minister's consent may be required. A sufficient level of technical study should be completed as part of the TPAP and prior to issuing the Notice of Commencement, in order to identify specific properties and circumstances that require MTCS Minister's consent. This will also ensure that Metrolinx can provide any additional documentation that may be required to support the consent so as not to unnecessarily delay the TPAP or the project.</p>	Please refer to responses to comments #1 and #6.	3	C

Review Comments Spreadsheet

LSE Segment 1 (Don River to Scarborough GO Station)

*** Actions:**
 1 = Will comply
 2 = Discuss, clarification required
 3 = Not applicable because

**** Status:**
 O = Open, not resolved
 P = Pending incorporation in design/EA Reports
 C = Closed, implementation complete



Submitting Consultant Transmittal:

Reviewed By: TRCA
 Designer: Contract Name: LSE Segment 1 (Don River to Scarborough GO Station)
 % Completion: Contract No:

Revised By:
 Revision Date:
 Revision Number:

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1 / 2 / 3*	Status O / P / C**
1	TRCA	TRCA		Draft EPR	TRCA as an organization is very supportive of transit development and encourages agencies and municipalities to develop sustainable transportation options in their planning and development of sustainable communities. The TRCA Living City Policies (LCP Section 6.4, 6.7 and 6.8) promotes and advocates the incorporation of sustainable transportation policies, green infrastructure and ecological design into community development and infrastructure building.	Acknowledged.	3	C
2	TRCA	TRCA		Draft EPR	Please note that although TRCA policies support transit development and understands that they may be a need for transit infrastructure to cross regulated areas or to site transit infrastructure within a natural hazard lands, Section 8.9 of the LCP clearly indicates that, i.) in siting infrastructure, our policy is to avoid, <i>mitigate</i> and remediate risks associated with flooding, erosion or slope instability; and, ii.) protect, rehabilitate and restore existing landforms, features and functions.	Acknowledged.	3	C
3	TRCA	TRCA		Draft EPR	Please ensure that the following TRCA policy programs and guidelines are referred to during the detailed design of the project. Sections of these guidelines and programs will be applicable to components of the project, and has to guide aspects of the design and construction processes associated with project implementation within the TRCA regulated areas identified above. Particularly for the detailed design of the culvert at Smalls Creek and bridge works at the Don River. • TRCA Stormwater Management Criteria – (2012); • Low Impact Development Guidelines for Storm Water Management Design; • GGHACA Erosion and Sediment Control Guidelines for Urban Construction (2006); • TRCA Geotechnical Engineering Design and Submission Plan Guidelines; • TRCA Crossing Guidelines; • TRCA Post Construction Restoration Guidelines; • TRCA Ecosystem Compensation Guidelines for Metrolinx; • TRCA Seed Mix Guidelines; and, • TRCA Environmental Impacts Statement Guidelines. Link to TRCA website where all these documents can be downloaded at: https://trca.ca/planning-permits/procedural-manual-and-technical-guidelines/#submission-guidelines ; and, https://trca.ca/planning-permits/projects-that-require-a-permit/infrastructure-planning/ .	The following will be added to Section 7.2.4.1 and Table 7-1 of the EPR: TRCA policies, programs and guidelines will be considered as appropriate through the Voluntary Project Review process during Detailed Design.	1	P
4	TRCA	TRCA		Draft EPR Summary - Section 3/P11	There are two TRCA regulated areas impacted by the proposed 4th track including Don River and Smalls' Creek. In addition, please note that there is a proposed development site bounded by Gerrard Street to the south, Victoria Park Avenue to the west, the rail corridor to the north and Warden Avenue to the east. A wetland (approximately 140 m from the rail corridor) is being compensated and the area to be planted may be adjacent to the rail Right of Way. Further discussions would be needed regarding proposed works in this area.	EPR (Sections 4.1.2.4 and 5.1.1.2 and Table 7-1) and NER will be updated with this information and a commitment included to consult with the TRCA and City as appropriate. TRCA will be consulted to determine the boundaries of the wetland compensation area.	1	P
5	TRCA	TRCA		Draft EPR Summary - Section 3.6/P17	TRCA strongly encourages incorporating Low Impact Development (LID) stormwater management options that will an excellent way to achieve effective mitigative measures during extreme weather events at the two stations where works are proposed. Furthermore, it is recommended that Metrolinx include the TRCA and area conservation authorities - Low Impact Development Guidelines for Storm Water Management design document (2010) as a reference/guideline for design of project components.	Please note that, while the Study Area extends to the Scarborough GO Station, station works are limited to modifications at the Danforth GO Station. Please see the response to comment #3.	3	C
6	TRCA	TRCA			Please note that the TRCA staff, on behalf of the City of Toronto, has recently completed slope stability and trail connection (timber staircase) works at the Smalls Creek just south of the tracks. When undertaking construction of the culvert modification works at Smalls Creek and the retaining walls at this location, Metrolinx may need to contact the City of Toronto for details of the works and be mindful of the works undertaken at this location in order to not impact the newly constructed stairs, boardwalk and slopes. City of Toronto staff contact is Wendy Strickland, (wstrick@toronto.ca).	The following commitment will be added to Section 5.5.2.3 and Table 7-1 of the EPR: During Detailed Design the City of Toronto will be consulted regarding works in the vicinity of Smalls Creek with a focus on avoiding or mitigating impacts to the newly constructed stairs, boardwalk and slopes.	1	P

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1/2/3*	Status O/P/C**
7	TRCA	TRCA			Please add a commitment in the EPR document that Metrolinx will adhere to the Ecosystem Compensation Guidelines for Metrolinx Projects and that TRCA and City of Toronto Urban Forestry should be collaboratively consulted regarding direction for vegetation impacts and compensation within our regulated areas on a site specific basis once impacts are confirmed during the detailed design.	Please see the response to comment #3. Please note that the following commitment is included in various locations within the EPR including Section 7.2.4 and Table 7-1: Metrolinx is currently consulting with Conservation Authorities and Municipalities to establish a Metrolinx Compensation Protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies. Permits and approvals related to City of Toronto Tree By-laws and municipal tree removal permits will be obtained as warranted.	3	C
8	TRCA	TRCA		Appendix A - Dwg. No. C-017	Table 7-1: Summary of Future Commitments and Monitoring Requirements: Please include impacts to the Lower Don River Trail as one of the key issues and commitments to be discussed going forward. There are no mention of the impacts to the trail anywhere in the report. Please make the necessary revisions to the section.	The following text will be added to Section 5.5.2.1 of the EPR: Based on the Preliminary Design, the Lower Don River Trail is not anticipated to be impacted.	1	P
9	TRCA	TRCA		Draft EPR Summary - Section 3.2/P14	Section 3.2 Key Design Criteria - 3.2.4 Retaining Walls and Grading: Please consult with TRCA and the City of Toronto Urban Forestry for the works within the ravine for the construction of the retaining wall within the Small's Creek ravine to ensure that proposed retaining walls are to reduce impacts to the treed areas at this location. Please include a commitment to consult with TRCA to discuss implications to adjacent natural features. Impacts to the natural cover should be avoided where possible. Where impacts may not be avoidable, minimization and mitigation to reduce impacts will be required. Where impacts occur, compensation to avoid overall net loss of ecological function within the ESA (Small's Creek) will be provided to the satisfaction of TRCA and City. Where impacts may be temporary, full site restoration will be provided, including soil restoration and the planting of native herbaceous, shrub and tree species, in consultation with and to the satisfaction of the City and TRCA. Invasive species identified by the Invasive Species Council of Ontario should not be planted.	As noted in Section 5.1.2, the need for in or near water works at Small's Creek will be determined during Detailed Design. A commitment will be added to Section 5.1.2 mitigation and to Table 7-1 stating that "If in or near water works at Small's Creek, or natural features associated with this creek, is required, TRCA will also be consulted through the Voluntary Project Review Process." Any required compensation will be addressed through the Voluntary Project Review Process with TRCA and the Metrolinx Compensation Protocol (under development with municipalities and Conservation Authorities). Please see Sections 7.2.4 and 7.2.4.1 of the EPR and the response to comment #7.	1	P
10	TRCA	TRCA		Draft EPR Summary - Section 3.2/P15	Section 3.2 Key Design Criteria - 3.2.4 Retaining Walls and Grading: Please ensure that the construction of the retaining walls is in line with TRCA LCP requirements and based on the necessary technical studies (geotechnical, natural heritage). The location of these features should have the necessary setback requirements from the erosion hazards that have been assessed through appropriate technical studies. Please ensure the design of the facing of the retaining walls consider and incorporate natural heritage elements and sustainable features.	TRCA will be engaged through the Detailed Design development through the Voluntary Project Review Process. Please see the response to comment #3.	3	C
11	TRCA	TRCA		Draft EPR Summary - Section 3.2/P15	Section 3.2.5 Electrification Accommodations: Please consider including the requirement of vegetation removals for electrification accommodations and compensation protocols currently under discussion with TRCA and other municipalities. Please add a note indicating that TRCA's Ecosystem Compensation Guidelines for Metrolinx Projects should be adhered to and TRCA staff would provide further direction for vegetation impacts and compensation within our regulated areas on a site specific basis once impacts are confirmed.	While coordination is occurring between the projects, Electrification vegetation removal requirements will be addressed through the Electrification EPR (separate TPAP EPR). Mitigation will be addressed in accordance with the Metrolinx Compensation Protocol (under development with municipalities and Conservation Authorities). Please see the response to comment #7.	3	C
12	TRCA	TRCA		Draft EPR Summary - Section 3.9/P73	In Section 3.9 and again Section 5.5.5 - Property: Staff notes that the ultimate design of the Preliminary Design of the fourth track expansion along Lakeshore East Rail Corridor is to minimize property impacts and reduce the property acquisition requirements by utilizing engineering solutions to retain the track structure caused by expansion of the track corridor. Please note that there are TRCA properties on the north and south sides of the tracks just west of Don River at the mouth of the Don River. Please note that if TRCA properties are required for this undertaking, TRCA needs to be notified early on in the process than later. Please note that as part of property impacts, any TRCA property requirements – temporary (for construction staging) or permanent will require an Archaeological Assessment prior to construction commencement. The archeological assessment must be undertaken by TRCA staff at the expense of the Proponent.	Based on Preliminary Design, TRCA property is not anticipated to be required to the west of the Don River. As noted in Section 5.5.5.3, specific property requirements will be determined during Detailed Design and affected landowners consulted to support identification of mitigation. It is understood that if TRCA property is required for works at any location, Permission to Enter and archaeological assessment will be required; all archaeological assessment conducted on TRCA property is to be undertaken by TRCA staff. Please note that Stage 1 Archaeological Assessment has been completed and takes into consideration previously completed archaeological assessments on file with the Ministry of Tourism, Culture and Sport. Please refer to Sections 4.8.2 and 5.8 and Appendix B7 for additional information.	3	C
13	TRCA	TRCA		Draft EPR - Section 4.1.2.5 & Appendix B1 - Sections 2.2.4 and Section 3.1	Please note that the project study area is close to, within or adjacent several TRCA's Terrestrial Natural Heritage Target System Strategy (TNHSS) areas for the Don River and Lake Ontario Waterfront watersheds. Thus, there may be opportunities to work with Metrolinx to identify natural heritage enhancement opportunities to offset the loss in habitat that would result from the implementation of this project. Please also refer to item # 21.	Mitigation will be addressed in accordance with the Metrolinx Compensation Protocol (under development with municipalities and Conservation Authorities). Please see the response to comment #7.	3	C
14	TRCA	TRCA		Draft EPR Summary - P17	Section 3.8 - Utilities - Staff notes that there are numerous utilities located in the project area that run in a variety of directions and relocations may be required to enable and facilitate works. It is important to confirm the projects that will occur within TRCA areas of interest early in the process. Particularly if there are relocations that will be undertaken by a third party as it is possible that these third parties may be subject to the specific TRCA regulatory requirements. (Gas, power, Bell, etc.).	SUE investigation shall be carried out prior the detailed design to confirm the conflict with the third party utilities. TRCA regulatory requirements shall be considered during relocation/ protection process of the utilities	3	C

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15	TRCA	TRCA		Draft EPR - Appendix B1 - Section 4.1.2.7/P22	Section 4.1.2.7 - It is indicated that Metrolinx is currently consulting with the CAs and Municipalities to establish a compensation protocols for Metrolinx projects. In case, the TRCA's Ecosystem Compensation Guidelines for Metrolinx Projects is not finalized, alternative compensations need to developed in consultation with the City of Toronto Urban Forestry and TRCA that will be in line with the draft Ecosystem Compensation Guidelines for Metrolinx Projects.	Please note that the following commitment is included in various locations within the EPR including Sections 4.1.2.7 and 7.2.4 and Table 7-1: Metrolinx is currently consulting with Conservation Authorities and Municipalities to establish a Metrolinx Compensation Protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies. Permits and approvals related to City of Toronto Tree By-laws and municipal tree removal permits will be obtained as warranted.	3	C
16	TRCA	TRCA		Draft EPR Summary - Section 3.6/P17	The Draft Environmental Project Report (EPR) proposes to defer discussions regarding culvert modifications to the detailed design stage. However, to ensure that the proposed culvert modifications to Small's Creek crossing is sufficiently sized and appropriately designed, these discussions should proceed at the EA stage, unless it can be confirmed that there are no proposed impacts on forests, wetlands, and aquatic habitat or priority areas for habitat and wildlife connectivity as outlined in our Crossing Guidelines for Valley and Stream Corridors (2015). Please note that in or near water works on Small's Creek may have the warm water timing window applied (July 1st - March 31st). Section 3.6 Culverts - Please ensure that a commitment is included in the EPR that relevant hydraulic studies and natural heritage impact studies will be undertaken and the results of these studies will be incorporated into the design of the culvert located at Mile 329.50 - Small's Creek which falls within TRCA regulated area.	TRCA will be engaged through the Detailed Design development through the Voluntary Project Review Process. Please see the response to comment #3. Section 3.6 will be revised to add: "Further detailed reviews of these culverts will be conducted during Detailed Design. This will determine the type and extent of modifications required. The associated details will be reviewed with the City of Toronto, TRCA and appropriate agencies during Detailed Design. Based on Preliminary Design, the Small's Creek culvert is not anticipated to be impacted."	1	P
17	TRCA	TRCA		Draft EPR - Appendix A - Dwg. Nos. CT-017 & CT-016	Drawing Nos. CT-017 & CT-016: With regards to works at the Don River, please note the TRCA fill requirements and ensure that any grading within the flood plain does not take away from flood storage capacity. Similarly, appropriate studies need to be undertaken for works within the flood plain and flood hazard for all works at this location and extending to east of Queen Street East. Please note that typically TRCA does not encourage grading within the floodplain. Please ensure that all works located east of Don River are in line with TRCA's The Living City Policies. Please ensure that TRCA is involved early on for all works between Cherry Street west of the Don River and upto north of Queen Street East at the detailed design stage.	Please note that 100% Detailed Design will be completed for this project and TRCA will be engaged through the Detailed Design development through the Voluntary Project Review Process. Please see the response to comment #3.	3	C
18	TRCA	TRCA		Draft EPR - Appendix B - Section 2.1/ P3	Please note that there is a development site bounded by Gerrard Street to the south, Victoria Park Avenue to the West, the rail corridor to the north and Clonmore Drive to the east. The developer is in the process of obtaining approvals to fill a man-made wetland located approximately 140 m south of the rail corridor. To compensate for this wetland, the developer is proposing to convey the woodlot located adjacent to the rail corridor in the NE portion of the development site to the City of Toronto. Please be advised that any proposal to acquire additional ROW in this woodlot may impact discussions regarding the purpose and intent of the compensation lands. TRCA highly recommend that you contact Jennifer Kowalski at the City of Toronto (cc'd below) for more information. Jennifer may be contact at: jkowals@toronto.ca.	Please see the responses to comments #4 and #7 above.	3	C
19	TRCA	TRCA		Draft EPR - Appendix A - CT- 017	Please provide specific information regarding the proposed spatial and structural modification to the Canadian National Rail (CNR) Don River Bridge as this may impact natural heritage functions. Please confirm if modifications to the bridge are required as additional studies, such as an ecological impact assessment, may be required.	No modification work is required to the Canadian National Rail (CNR) Don River Bridge structure.	3	C
20	TRCA	TRCA		Draft EPR Summary - Section 5.1, P59/Appendix B - Table 3-1, P23	In Section 5.1, it is indicated that approximately 20.25 ha. of natural vegetation communities within the existing rail corridor may be removed/affected. Please confirm whether this removals is for only this segment or for all of the Lakeshore East Rail Corridor Expansion (Don River to Pickering GO Station). It is understood that discussions regarding habitat and tree compensation are ongoing between Metrolinx, TRCA and the City of Toronto. A commitment to compensation in accordance with those ongoing discussions should be embedded within the EA.	Section 5.1.1.1 of the EPR and Section 3.1.1.1 of the NER will be updated to clarify that this area of removal is only for Segment 1. Please note that the following commitment is included in various locations within the EPR including Section 7.2.4 and Table 7-1: Metrolinx is currently consulting with Conservation Authorities and Municipalities to establish a Metrolinx Compensation Protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies. Permits and approvals related to City of Toronto Tree By-laws and municipal tree removal permits will be obtained as warranted.	1	P
21	TRCA	TRCA		Draft EPR	At detailed design, TRCA will require a robust, multibarrier erosion and sediment control plan that complies with the TRCA guidelines. For more information regarding the ESCs, please refer to the Erosion and Sediment Control Guidelines for Urban Construction (2006) available at: https://trca.ca/planning-permits/projects-that-require-a-permit/infrastructure-planning/	Please see response to comment #3 above.	3	C
22	TRCA	TRCA			Please ensure that vegetation plantings used are native, non-invasive species to the extent possible wherever vegetation removals and plantings are involved.	The following commitment is included in Section 5.1.1.1 and Table 7-1: A planting plan will be either developed in consultation with the City of Toronto and the TRCA, or provided as a standardized approach developed by Metrolinx in consultation with the agencies.	3	C
23	TRCA	TRCA			Please note that all proposed restoration plantings and seed mix should be native and habitat appropriate. This can be addressed at detailed design stage, however, a commitment needs to be indicated in the EA.	Please see response to comment #22 above.	3	C

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24	TRCA	TRCA		Draft EPR Summary - Section 5	TRCA supports and commends the recommendations for mitigation found within Section 5 of the Draft EPR. Please add a commitment in the EA that these recommendations will be added on the plans at detailed design.	Commitments made in the EPR are required to be implemented as per the requirements of Ontario Regulation 231/08 (Transit Project Regulation).	3	C
25	TRCA	TRCA		Draft EPR	Site specific geotechnical study is required in support of the proposed expansion for bridges, culverts, retaining walls, embankments cuts stability assessments and slope stability and erosion hazards assessments for the valleys. The geotechnical report should be submitted in support of the work, which includes all necessary geotechnical analysis and recommendations. The report should be also submitted as signed and sealed by a Licensed Professional Engineer. A commitment needs to be indicated in the EA document.	The following will be added to Section 5.2.3 of the EPR: A geotechnical report will be completed during detailed design. Please see response to comment #10.	1	P
26	TRCA	TRCA		Draft EPR	All structures including the foundations, piers, abutments, wing walls, retaining walls and culverts should be designed by qualified engineer using the geotechnical information. The cross-sections should be prepared showing all necessary details and specifications as signed and sealed by a Licensed Professional Engineer. All engineering drawings should be also submitted as signed and sealed by a P.Eng. in support of the works. Though this can be discussed in detail during the detail design stage however this should be indicated and committed to in the EA document.	Please see response to comment #10.	3	C
27	TRCA	TRCA			As the works include construction of retaining walls and slopes to accommodate the fourth track, it is very important that emphasis be place on the need to undertake all relevant technical studies that relate to natural hazards (hydraulic, geotechnical and natural heritage) that will examine, inform and improvements to the design from the onset of the project.	Any technical studies required for the design of retaining structures shall be done so as part of the detailed design. Please see response to comment #10.	3	C
28	TRCA	TRCA		Draft EPR	Cross sections should be prepared in sufficiently close intervals to show the existing ground vs. proposed grades, cuts, embankments, walls, and etc.	Please see response to comment #10.	3	C
29	TRCA	TRCA		Draft EPR	At Williamson Ravine, given the proximity of the slope grading as a result of the work should be minimized and studied to ensure that the slope stability is not negatively impacted.	As noted in Section 5.1.1.1: The northern boundary of the Williamson Park ESA is immediately adjacent to the Lakeshore East Rail Corridor. The addition of a fourth track will occur north of the Williamson Park ESA; therefore, potential vegetation removal within this area would be associated with the extension of the existing culvert east of Coxwell (Mile 329.50 – Small's Creek) and would be minimal and limited to within the Lakeshore East Rail Corridor. Vegetation removal proposed in areas outside of the Lakeshore East Rail Corridor, if required for the culvert modifications (i.e., staging areas), will be kept to a minimum and will avoid the Williamson ESA. Please see response to comment #10.	3	C
30	TRCA	TRCA		Draft EPR	All stockpiling, stagings and storages should be shown located with sufficient setbacks (minimum of 15 m) from the top of bank/slope to minimize the potential adverse effects.	Please see response to comment #10.	3	C
31	TRCA	TRCA		Draft EPR	The construction methodology including the type of machinery and limits of temporary excavations, required stabilizations should be specified and properly designed.	Please see response to comment #10.	3	C
32	TRCA	TRCA		Draft EPR	For retaining walls, global stability should also be checked by a geotechnical engineer to confirm that a minimum safety factor of 1.50 is met. Further, the retaining walls should be designed by structural engineer for interval stability and the cross-sections, details, and specifications should be submitted as engineers stamped.	Please see response to comment #10.	3	C
33	TRCA	TRCA		Draft EPR	Where the work results in cuts, then slope stability assessment by a qualified geotechnical engineer is required to ensure that the cuts remain stable in both short and long term.	Please see response to comment #10.	3	C
34	TRCA	TRCA		Draft EPR	For utilities, if they run through the crossings, please provide information on their alignment on the site plan and cross-sections. Please also specify the method of installation, appropriate geotechnical recommendations are required.	Please see response to comment #10.	3	C
35	TRCA	TRCA		Draft EPR	For high embankments, stability assessment is required by geotechnical engineer to confirm that the embankments stay stable and no failure initiates as a result of the embankments.	Please see response to comment #10.	3	C
36	TRCA	TRCA		Draft EPR	As general construction recommendations, site preparations, inspection and material testing is required for successfully construction of the proposed undertakings. On site full time geotechnical engineer should be retained by the proponent during constructions to ensure due diligence. This should be indicated in the EA document.	Please see response to comment #10.	3	C
37	TRCA	TRCA		Draft EPR Summary - Section 3.1, P11	Section 3.1 of the Draft EPR states that the CNR Don River Bridge will need "spatial and structural modification to accommodate the new fourth track." However, the report does not describe these modifications or discuss the potential impacts of these modifications. Section 3.1 should be updated to include this information. Please note that without this information, staff is unable to confirm impacts, therefore, signoff is not provided at this time.	No modification work is required to the Canadian National Rail (CNR) Don River Bridge structure. Section 3.1 will be modified to include this statement, and clarify which structures will require "spatial and structural modification".	1	P
38	TRCA	TRCA		Draft EPR Summary - Section 4.1.5.2, P35	Section 4.1.5.2 includes information about the existing condition of the Don River adjacent to the project area. However, this section does not include information about the flooding conditions through this area. The Canadian National Rail (CNR) Don River Bridge is located in the Lower Don River flood vulnerable area where there are numerous hydraulic constraints including the existing CNR Don River Bridge. Thus, even minor modification have potential flooding implications which should be considered in the EPR. Section 4.1.5.2 should be updated to include this information.	Please see response to comment #37.	3	C

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39	TRCA	TRCA		Draft EPR Summary - Section 5.1.2., P66	The potential construction and operational effects, including conveyance and flood impacts, associated with modifications to the CNR Don River Bridge should be discussed in Section 5.1.2. A hydraulic assessment will need to be completed to quantify potential impacts. TRCA staff recommend undertaking the hydraulic assessment as soon as possible so that the design team understands the potential impacts and mitigation and so that the project can be coordinated with the ongoing Don Mouth Naturalization and Port Lands Flood Protection Project.	Please see response to comment #37.	3	C
40	TRCA	TRCA		Draft EPR Summary - Section 3.6, P17	Section 3.6 identifies a number of existing culverts which may need to be modified to accommodate the extra width and grading of the forth track. The potential construction and operational effects, including stormwater conveyance and flooding, associated with these culverts should be discussed in Section 5.1.2. Hydraulic assessment will need to be completed for all culverts that require modification and Metrolinx should commit to mitigating any stormwater conveyance impacts. Section 5.1.2 should be updated to include this information.	A Stormwater Management Report will be conducted as part of the detailed design. This is noted in Sections 3.6 and 5.1.2 and in Table 7-1 of the EPR.	3	C
41	TRCA	TRCA		Draft EPR Summary - Figure 3-1 A	Figure 3-1A - is supposed to depict Existing Rail Infrastructure in Study Area. However, the Legend identifies "proposed bridge and proposed culvert widening" locations. If the proposed widenings reflect other approved planning processes as "existing conditions", then other approved EA conditions should be added to this figure such as the proposed tie-off points of the Floodplain Landform (FPL)/Valley Wall Feature (VWF) along the Don Roadway and north and south of the Eastern Avenue Underpass on the east side of the railway tracks. These are "existing conditions" that need to be considered. However, if the proposed bridge and culvert widenings reflect what needs to be done for the preferred alternative, the Figure Heading is incorrectly labelled as that does not reflect the existing conditions. Either two different figures (one existing and one proposed) be established, or the label of the map should be revised to reflect what is being presented.	Figure 3-1A shows key existing and proposed infrastructure, appropriate to the scale of the figure. Figures 3-1A and 3-1B will be renamed to "Existing and Proposed Rail Infrastructure within the Study Area".	1	P
42	TRCA	TRCA		Draft EPR Summary - Figure 3-1 A	It is also recommended that a subsequent map should be included regarding "potential infrastructure" that reflects likely changes to the existing conditions in the near future given the near finalized condition of the respective EAs. It is acknowledged that EAs that have not yet been approved, technically do not have planning standing yet. However, those planning efforts are nearing completion and should be acknowledged in this document. Such as the proposed new crossing for the Broadview extension under the rail corridor, and the comprehensive flood protection/grading plan (as per the Port Lands and South of Eastern Master Plan - available at: http://www.portlandsconsultation.ca/), and the proposed widening of the bridge at Don Roadway as part of the Gardiner EA (Hybrid 3). For Don Mouth Naturalization and Port Lands Flood Protection Project EA, please refer to: https://trca.ca/conservation/green-infrastructure/don-mouth-naturalization-port-lands-flood-protection-project/	Acknowledged; this will be considered for the Final Draft EPR.	3	C
43	TRCA	TRCA		Draft EPR Summary - Figure 4-1	Terrestrial Natural Heritage should have the alignment of the future Don Mouth Naturalization delineated in the map and referenced as it is an Approved EA.	Acknowledged; this will be considered for the Final Draft EPR.	3	C
44	TRCA	TRCA		Draft EPR Summary - Section 4.2.2.2, P39	The report describes the bedrock in Section 4.2.2.2 Overburden Geology. However, the report does not reference the fact that much of the top surficial layer consists of heterogenous fill, which includes sand, clay, rubble, cinder and other materials based on past lake filling and urban development activities, including the construction of the elevated railway embankment in question. Please revise to report accordingly.	Additional information will be added to Section 4.2.2.2 as required.	1	P
45	TRCA	TRCA		Draft EPR Summary - Section 4.7, P52	Under the Section 4.7 Utilities mentions utilities, however, there is no mention of Enbridge Gas, Hydro One and other gas/oil systems (e.g. Trans-Northern Pipelines Inc.) in the area. Please revise and clearly add the various utility owners in the area.	Section 4.7 will be reviewed and updated to include applicable utilities as required. Note that Section 4.7 includes a preliminary list of utilities, that will be confirmed during detailed design.	1	P
46	TRCA	TRCA		Draft EPR - Figure 4-4A	Archaeological Assessment Potential Resources Stage 2 Test Pitting at 5m intervals required (purple shading on west side of Don River in West Don Lands, under the bridge (south side) and in Don Landing (immediately north of bridge)) were highly disturbed for construction of flood protection and consists of introduced lands for the flood protection in the West Don Lands (over the last 10 years). TRCA suggests that the purple shading be limited to the west of the Bayview extension and West Don Lands Corktown Commons if any is undertaken. No test pits into the flood protection landform is required nor allowed. Please also refer to item #12 and revise this figure accordingly.	The purple shaded areas require Stage 2 AA due to the potential for deeply buried archaeological resources; the addition of this information was requested by MTCS.	3	C
47	TRCA	TRCA		Draft EPR - Chapter 5 - Effects and Mitigation	There was no mention of potential effects and mitigation measures based on the following items: a) Approved Don Mouth Naturalization and Port Lands Flood Protection Project: Key flood protection measures have been authorized to tie-in with the existing railway embankment at Don Roadway and Eastern Avenue Underpass; b) Completed Lower Don River West Remedial Flood Protection Project: Flood Protection Landform in West Don Lands has specific tie-in and grading requirements that must be retained where the railway meets the flood protection; c) Port Lands and South of Eastern Master Plan Class EA - while not approved, it is nearing completion and requires a new Broadview underpass with expanded flood protection tie-ins and drainage with the railway embankment; and, d) Gardiner Expressway EA though not approved but finalized - requires opening of bridge crossing on east side of Don River through railway embankment to accommodate Hybrid 3 option. Please update this chapter to add this information.	No modification work is required to the Canadian National Rail (CNR) Don River Bridge structure.	3	C

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48	TRCA	TRCA		B6 - CULTURAL HERITAGE REPORT - MAJOR ISSUE MISSING - Page 20 & 21 - BHR 1	BHR 1, P20: The Don River Bridge is not a single bridge. The main structure over the river was made in 1926 as indicated. The 3 spans to the east followed much later to accommodate the DVP (2 lanes) and access to the two Unilever properties at the time (north and south of the bridge). The span on the west of the original bridge was completed in 2007 by TRCA, Waterfront Toronto and CN as part of the West Don Lands flood protection.. The reference of Corktown Commons on the west bank is the public realm layer overlying the critical flood protection landform that was completed between 2005 and 2015 by IO, WT, TRCA and the City of Toronto. A critical tie-off to the landform connects to the railway embankment on the south side of the Corktown Commons which is necessary to maintain Permanent Flood Protection for the City of Toronto. Please revise this page for accuracy of data and revise likewise.	It is understood that the Don River Bridge consists of spans that were constructed at various times since the original bridge in 1926. The construction of the spans of the DVP, as well as the most recent span in 2007 over the trail is identified and described in the Cultural Heritage Evaluation Report (CHER) for the Don River Bridge. The data sheet for the bridge in the Cultural Heritage Screening Report (CHSR) was undertaken as a starting point for further investigation so the complete history of the bridge was not documented when undertaking this specific report. The construction history of the bridge is documented correctly in the CHER. Regarding the reference to Corktown Commons, the section of the data sheet related to adjacent lands is for description of surroundings only, and is meant to flag any adjacent heritage properties. As such, a description of public realm layering and flood protection as it relates to the area may not be appropriate for this section of the CHSR.	3	C
49	TRCA	TRCA		B6 - CULTURAL HERITAGE REPORT - MAJOR ISSUE MISSING - Page 59 - Screening for BHR 1	The data on this page fails to recognize that the westernmost span of the Don River Bridge was installed in 2007. Please revise and include the most updated and recent information.	Please see response to comment #48 above. The installation of the 2007 span, and a more thorough construction history is documented in the resource-specific Cultural Heritage Evaluation Report (CHER) for the Don River Bridge.	3	C
50	TRCA	TRCA		Appendix A, Dwg. Nos. CT-016 & CT-017	The drawings indicate the preferred design of the new fourth track proposed south side of embankment. Please note that the TRCA has been working on the design of Floodplain Landform (FPL) in the area flanked by Eastern Avenue. The proposed works requires: a) New retaining wall north of Eastern Ave Underpass close to area where Landform tie-off for Eastern Avenue Underpass is required (under existing DMNP EA approvals); b) New retaining wall south of Eastern Ave Underpass to approximate location of future Broadview underpass (under the near final draft of the Port Lands and South of Eastern Master Plan). Also, coincides with Landform tie-off for Eastern Avenue Underpass is required (under existing DMNP EA approvals); and, c) New property is required from Don Roadway to other side of approximate future Broadview underpass. This is the area where a tie-off to the embankment is required for FPL or Valley Wall Forestry (VWF) for the Don Roadway (under existing DMNP EA approvals). This drawing does not depict new widening of the DVP under the railway embankment that is recommended by the Preferred Alternative for the Gardiner EA. The Preferred Alternative plates make no mention of other existing approved EA requirement conditions in relation to their proposed preferred alignment - landform tie-offs (DMNP EA), and the anticipated EA approval elements for other EAs underway (Gardiner EA bridge widening, Broadview Avenue widening). The concern regarding that we are able to tie-off the landform required in First Gulf with the proposed retaining wall as required was also discussed and conveyed at a City of Toronto-TRCA-Metrolinx staff coordination meeting held on March 10, 2016, wherein the projects in the area was presented by Metrolinx staff and discussed. Nor is there a mention in the report of a City consideration, an LRT extension of the Broadview underpass under the railway embankment is currently proposed in their Master Plan for the South of Eastern and Port Lands area. This has coordination requirements with Metrolinx regarding their proposal for a substation and the retaining wall.	We will review these projects and confirm if the LSE Seg 1 (Don River to Scarborough GO Station) project will impact or be impacted by any of these developments. Language will be added to the EPR (new Sections 4.5.4 and 5.5.6 "Planned Land Use" will be added) to acknowledge these developments and how the projects interface, if at all. It will be noted that Metrolinx will coordinate with TRCA and the City of Toronto as appropriate. Design Plates provided in Appendix A will be updated as required.	1	P
51	TRCA	TRCA		B7 _ ARCHAEOLOGY REPORT - Map 1 of 7 page 23	Map 1 of 7, page 23, reflects conclusions and comments in primary Draft report. Please note that there has been extensive construction and studies that occurred over the last 15 years in the West Don Lands that removed and replaced huge volumes of soil from Cherry Street to the Don River, and in particular the Bayview extension to the Don River. The area is highly disturbed, having gone through many rounds of industrial disturbance, filling and construction. 1) The report has no mention of the completed flood protection works in the West Don Lands that ties in with the expansion plans at the west end of the study area. Please be advised that these flood protection works must be protected; 2) The report makes no mention of the APPROVED Individual EA for the Don Mouth Naturalization and Port Lands Flood Protection Project EA (web link provided above), which requires tie-off with the flood protection features and the expanded railway embankment east of the Don Roadway and around the Eastern Avenue Underpass; 3) The report makes no mention of the completed Gardiner Expressway Individual EA (currently being reviewed for approval) that calls for another bridge span to be constructed on the east side of the Don River through the railway embankment; 4) The report makes no mention of the nearly completed Port Lands and South of Eastern Master Plan Class EA (currently being finalized) that calls for a new railway grade separation for a future Broadview Avenue extension through the railway embankment, nor the need to establish a comprehensive grading and drainage system for flood protection along the entire southern limit of the railway embankment, which has implications on the property acquisition identified and the proposed retaining walls; 5) While early in the planning, the report does not acknowledge plans for a Smartrack / Go station at the future Broadview extension; 6) The report recommends archaeological test pits every 5 m along the rail corridor west of the Don River, despite the fact that this entire area is lake/valley fill, and has been heavily disturbed multiple times over the last 100 years, most recently, the last 10 years with the construction of the western span of the Don River Bridge and West Don Lands Flood Protection Landform; and, 7) The cultural report does not recognize that the Don River Bridge was constructed in 1926, 1949 and 2007 (TRCA, WT and CN). Please ensure to revise the report to embed these in respective sections of the report.	In our original report submitted to MTCS, Map 1 of 7 (page 23) indicated that all lands west of the Don River were disturbed and required no further archaeological work. After reviewing the report, MTCS required us to change our recommendation to accommodate the possibility of deeply buried resources. Therefore we revised the map to show that Stage 2 AA was required in this area (potential for deeply buried resources). The report was then accepted by MTCS. As depicted on Design Plate #17 found in Appendix A, the western limit of the study area is just west of the Don River. No modification work is required to the Canadian National Rail (CNR) Don River Bridge structure, therefore it is not anticipated that Stage 2 AA work will be required in this area. Please see response to comment #50 above. This list of projects will be reviewed for applicability to the Stage 1 Archaeological Assessment (AA) and the information will be used to help inform the Stage 2 AA as required.	1	P

Item No.	Discipline	Reviewer Name	Reviewer ID	Dwg. #/ Spec Section/ Page #	Review Comments	Response & Details	Action 1 / 2 / 3*	Status O / P / C**
52	TRCA	TRCA		General	<p>Section 4.4 and 5.4: Noise barriers and walls have been proposed on both sides of the tracks in several locations within this segment. Staff notes that these features affect TRCA regulated areas (just east of the Don River and Smalls Creek). Please confirm and indicate how the long term maintenance associated with these features (noise barriers/walls) will be performed on site. Please note that alternative designs should be considered during the detailed design phase for areas where maintenance is anticipated to occur within a natural feature, where feasible. Please add a note in the relevant section of the EPR (Section 4.4 or 5.4) that TRCA staff will be included in the discussions associated with the design of these walls/barriers. Additionally, staff has met with Parks Canada and the City of Toronto regarding the design of the retaining walls and landscaping for sections of the corridor that will be within or adjacent to public areas. Comments will be provided under separate cover in the near future.</p>	<p>Please note that the following information is provided in Section 5.4 and Table 7-1:</p> <p><i>At this stage in the design, the type of noise mitigation is not being defined but Metrolinx is thinking ahead to what options will best meet community needs. Noise walls are typically the most effective at reducing noise, and they also take up much less space than a berm. There are also other technologies that work to reduce the noise generated by the wheels on the rails – like rail dampeners and resilient wheels – that may also be feasible.</i></p> <p><i>Further analysis of the noise mitigation options will be undertaken during detailed design to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility.</i></p> <p>TRCA will be engaged as appropriate through the voluntary review process. The voluntary review process is addressed in Section 7.2.4.1 and Table 7-1.</p>	3	C
53	TRCA	TRCA		General	<p>Section 4.3: Staff notes that there is a proposed paralleling station at the Don Yard Layover. "Figure 4-X: Air Quality Baseline Conditions Study Area" and "Figure 4-XX: Air Quality Monitoring Stations Included in the Characterization of Baseline Conditions" indicates proposed paralleling station at the Don Yard Layover. It is not clear from these figures the exact location of this station, however, as parts of the Don Yard Layover Facility falls within the Regional Floodplain and there are natural features/cover on site, please include TRCA staff in the discussions regarding the exact location and alternative designs during the detailed design phase.</p>	<p>Please note that the proposed paralleling station is Electrification related infrastructure and is not part of the Lakeshore East Rail Corridor Expansion from the Don River to Scarborough GO Station. Note that the "Don Yard TPS" is incorrectly labelled on the figures and should read "PS". This will be corrected in the Final EPR. TRCA will be further consulted on this infrastructure through the separate TPAP for the Electrification project.</p>	1	P