RELIEF LINE SOUTH

Environmental Project Report

Section 7 - Future Commitments

TORONTO

METROLINX

HDR

7 Commitments to Future Work

During this Transit Project Assessment Process (TPAP), the City of Toronto, TTC, and Metrolinx have worked closely with key stakeholder agencies to address and resolve any issues or concerns that have arisen through the development of the conceptual design for the Relief Line South. Preliminary and detailed design phases to follow will provided the level-of-detail required to finalize property requirements, planning initiatives, and construction issues. This Section should be read in conjunction with mitigation and monitoring measures described in **Section 6**.

The future commitments for each feature can be sorted in three categories:

- Design (D);
- Construction (C); and
- Operations and Maintenance (O).

The future commitments are outlined by feature in **Table 7-1** through **Table 7-33**.

Table 7-1: Future Commitments for the Natural Environment

Feature	Future Commitments	Category (D, C, and O)
Natural Environment	Trees will be protected in accordance with the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees (2016b) where applicable.	C
Natural Environment	A replanting/restoration plan will be developed to compensate for trees cleared for the project, including new plantings of trees and shrubs where possible. Any tree clearing must be conducted in compliance with the City of Toronto's Trees By-law. Completion of an arborist report may be required to identify each tree that will be impacted by the Project.	D, C
Natural Environment	All revegetation must follow City vegetation compensation protocols. Urban Forestry's replacement tree planting compensation ratios for trees approved for removal are 1:1 for City owned trees and 3:1 for privately owned trees.	C
Natural Environment	Best management practices will be put in place during construction to prevent adverse impacts to potential habitat for species at risk within the study area.	C
Natural Environment	A tree inventory will be completed.	D
Natural Environment	The tunnel crossing proposed under the Don River may be subject to a warm water timing window due to the risk of a frac-out as described in the Environmental Project Report. Staff will confirm this requirement during the design phase of the project. Additional geotechnical and hydrological investigation will be carried out at this location.	D
Natural Environment	It will be confirmed that the depth of the top of the subway tunnel below the Don River is sufficient and consideration is included in the design and construction of the tunnel to address future downcutting of the river bottom.	D
Natural Environment	Unavoidable natural heritage losses will be compensated for based on TRCA Compensation Protocol for Loss of Ecosystem or the City of Toronto Tree and/ or Ravine and Natural Feature Protection Bylaws.	C

Table 7-2: Future Commitments for Fish and Fish Habitat

Feature	Future Commitments	Category (D, C, and O)
Fish and Fish Habitat	A Request for Review will be prepared and submitted to Fisheries and Oceans Canada for where the alignment crosses the Don River.	D
Fish and Fish Habitat	Per the ***Fisheries Act*** (Government of Canada 1985b), federal and provincial/territorial authorities should be notified without delay if an environmental event (e.g., deposit of deleterious substance in water) occurs that is outside of the normal course of events. The Canadian environmental notification system uses provincial 24 hour (h) authorities as the first point of contact. In turn, these authorities inform Environment and Climate Change Canada.	O

Table 7-3: Future Commitments for Terrestrial Ecosystems

Feature	Future Commitments	Category (D, C, and O)
Terrestrial Ecosystems	Determine, in consultation with City of Toronto, whether the Ravine and Natural Feature Protection By-law applies to this Project.	D
Terrestrial Ecosystems	If vegetation clearing is required during the nesting season (as defined under the Migratory Birds Convention Act), a qualified avian biologist will be retained to conduct a nesting survey. If active nests are found, a site-specific mitigation plan will be prepared in consultation with the Canadian Wildlife Service.	C

Table 7-4: Future Commitments for Built Heritage Resources and Cultural Heritage Landscapes (1/3)

Feature	Future Commitments	Category (D, C, and O)
Built heritage resources and cultural heritage landscapes	Heritage Impact Assessments (HIAs) will be conducted during detailed design for properties of known cultural heritage value or interest that will be directly impacted to determine the appropriate mitigations. These studies should be conducted in accordance with guidance provided by the MTCS and the City of Toronto's ***Terms of Reference for Heritage Impact Statements***. Any alterations to these properties will require heritage permit approval from the City of Toronto Heritage Preservation Services and consultation with MTCS. Properties that require HIAs are: • 250 Queen Street West/ 155-161 John Street • 250 University Avenue/ 180 Richmond Street West • 100 Queen Street West • Permanent above-ground components within the right-of-way within the Queen Street West Heritage Conservation District If impact to 250 Queen Street West/ 155-161 John Street cannot be avoided, evaluation conducted for the HIA will use the criteria prescribed in both *O. Reg. 9/06* and *O. Reg. 10/06*, in consultation with MTCS.	D
Built heritage resources and cultural heritage landscapes	Cultural Heritage Evaluation Reports (CHERs) will be conducted during detailed design for properties of potential cultural heritage value or interest that will be directly impacted. This includes the following properties: • 229-243 Langley Avenue (5 properties) • 180 Carlaw Avenue • 972-974 Queen Street East (2 properties) • 507 King Street East • Sir Adam Beck Memorial If the CHERs find these properties have cultural heritage value or interest, HIAs should be conducted during detailed design in accordance with guidance provided by the MTCS and the City of Toronto's ***Terms of Reference for Heritage Impact Statements***, and in consultation with the City of Toronto Heritage Preservation Services and MTCS. The CHER for 972-974 Queen Street East will determine if the building on the combined properties meets the criteria prescribed in both *O. Reg. 9/06* and *O. Reg. 10/06*, in consultation with MTCS.	D

Table 7-5: Future Commitments for Built Heritage Resources and Cultural Heritage Landscapes (2/3)

Feature	Future Commitments	Category (D, C, and O)
Built heritage resources and cultural heritage landscapes	A pre-construction structural condition assessments will be conducted during detailed design for the following properties that will be potentially impacted by vibration from adjacent construction or excavation: • 646 Danforth Avenue (listed heritage property) • Gerrard Street East Subway (Provincial Heritage Property) • 489-495 King Street East (potential built heritage resource) • 19 Sackville Street (listed heritage property) • 6-12 Sumach Street (potential built heritage resources) • 153 Eastern Avenue (listed heritage property) • 171 Eastern Avenue (potential built heritage resource) • 216 Queen Street East (listed heritage property) • 130-132 Queen Street West (designated, Part IV) • 60 Queen Street West (designated, Part IV) The City of Toronto Heritage Preservation Services will be consulted to determine if HIAs will be required to confirm the heritage attributes of the listed heritage properties, and if CHERs should be conducted for properties of potential cultural heritage value.	D
Built heritage resources and cultural heritage landscapes	The location and extent of cut-and-cover excavation will be reviewed and confirmed as early as possible during detailed design. If cut-and-cover excavation extends beyond the right-of-way, and may impact properties identified to have CHVI or potential CHVI, HIAs (for protected heritage properties or listed heritage properties) or CHERs and subsequent HIAs (for potential cultural heritage resources evaluated to meet the O. Reg. 9/06 and 10/06 criteria for CHVI) may be required to determine the appropriate mitigation. These studies should be conducted during detailed design in accordance with guidance provided by the MTCS and the City of Toronto's Terms of Reference for Heritage Impact Statements, and in consultation with the City of Toronto Heritage Preservation Services and MTCS.	D
Built heritage resources and cultural heritage landscapes	Known and potential cultural heritage resources will be monitored with digital seismographs for vibration impact during adjacent excavation and construction. All adjacent work should cease immediately if site-specific thresholds are exceeded.	C

Table 7-6: Future Commitments for Built Heritage Resources and Cultural Heritage Landscapes (3/3)

Feature	Future Commitments	Category (D, C, and O)
Built heritage resources and cultural heritage landscapes	Should any heritage attribute or CHVI of a property of a known cultural heritage resource be damaged as a result of construction or operational vibration damage, the Statement of Cultural Heritage Value (SCHV) or Interest would guide the repair or restoration of the damaged elements. For known and potential cultural heritage resource that have not had a SCHVI prepared, CHERs will be conducted to guide the repair or restoration of the damaged elements.	**D, C, O**
Built heritage resources and cultural heritage landscapes	Should any heritage attribute or CHVI of a property of a known cultural heritage resource be damaged as a result of construction or operational vibration damage, the Statement of Cultural Heritage Value (SCHV) or Interest would guide the repair or restoration of the damaged elements. For known and potential cultural heritage resource that have not had a SCHVI prepared, CHERs will be conducted to guide the repair or restoration of the damaged elements.	D, C, O
Built heritage resources and cultural heritage landscapes	The study area used for this EPR will be confirmed at later design phases when the location of above and below-grade facilities, construction methods, and construction plans are confirmed. Additionally, during the preparation of the City of Toronto Vibration Control Form prior to construction, alternative vibration criteria for older buildings may be considered, as appropriate.	D
Built heritage resources and cultural heritage landscapes	Temporary fencing will be erected at the lot line of identified heritage properties to provide a physical marker for project personnel, and to reduce the risk of accidental collision from heavy equipment or other project vehicles.	C
Built heritage resources and cultural heritage landscapes	Further recommended studies, such as CHER, HIA, archaeological assessments, are to be completed as early as possible during the detailed design stage to inform project planning and to develop appropriate mitigation measures, and in consultation with MTCS and City of Toronto, Heritage Preservation Services.	D

Table 7-7: Future Commitments for Aesthetics

Feature	Future Commitments	Category (D, C, and O)
Aesthetics	Construction sites will be hoarded to minimize visual intrusion of construction activity. Where appropriate, additional measures will be taken to improve the appearance of hoarding and areas around the construction site, such as through the integration of public art and attractive lighting, in line with City of Toronto requirements.	C

Table 7-8: Future Commitments for Archaeology

Feature	Future Commitments	Category (D, C, and O)
Archaeology	All required Archaeological Assessment, as indicated by Maps 19-A–I of **Appendix 6-3** (Stage 2 and Stage 3 if recommended by the Stage 2AA), will be completed as early as possible, and prior to the completion of detail design.	D
Archaeology	Relevant indigenous communities will be informed of Stage 2 Archaeological Assessment findings.	D
Archaeology	Should deeply buried archaeological resources be identified during ground disturbance activity associated with future development of the project area, ground disturbance activities should be immediately halted and the Archaeology Division of the Culture Programs Unit of the MTCS notified. The proponent shall engage a licensed archaeologist to carry out archaeological fieldwork in compliance with the Ontario Heritage Act. Any person discovering human remains must immediately notify the police as well as the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services.	C

Table 7-9: Future Commitments for Soils and Bedrock (1/2)

Feature	Future Commitments	Category (D, C, and O)
Soils and Bedrock	Conduct additional site-specific subsurface investigation to further characterize the soil and bedrock conditions along the tunnel alignment and assess the potential for ground movement and settlement during construction. The assessment of potential ground movement/settlement will have a particular focus on existing built features in the project area.	D
Soils and Bedrock	Additional geotechnical and hydro-geological studies of the soft soil under the Don River will be conducted to understand the soil characteristics, including the adhesion limits. In addition to the use of bentonite based soil conditioners, additional ground-improvements such as jet-grouting may be necessary at this location.	D
Soils and Bedrock	The preliminary and detailed design reports will evaluate the overburden and bedrock in terms of hydrostratigraphy.	D
Soils and Bedrock	The preliminary and detailed design reports will include an assessment of the location and width of the Bedrock valley located on the proposed route just west of the mouth of the Don River between stations 3+000 and 3+300.	D
Soils and Bedrock	The preliminary and detailed design report will assess the whole Relief Line South route for the presence of other Bedrock Valleys. This could be completed by geophysical survey (e.g., microgravity and micro-seismic). Boreholes would be used to confirm the interpretation.	D

Table 7-10: Future Commitments for Soils and Bedrock (2/ 2)

Feature	Future Commitments	Category (D, C, and O)
Soils and Bedrock	A geotechnical and hydrogeological investigation program including boreholes extending to the bottom of the proposed tunnel will be carried out during preliminary and detailed design stages. Detailed delineation of the bedrock/interface will aid in minimizing ground loss while tunnelling through mixed face conditions.	D
Soils and Bedrock	The preliminary and detailed geotechnical investigation programs will include testing to measure and quantify Benzene, Toluene, Ethylbenzene, and Xylenes concentrations in shale and subsurface gases (to assess potential gassiness of the tunnel horizon) along the proposed alignment. Tunnel spoil disposal options and worker health and safety requirements should be developed during the detailed design and incorporated into the Contract Documents.	D
Soils and Bedrock	Swelling tests and in situ stress testing will be carried out during preliminary and detailed geotechnical investigations. The tunnel designer is to consider in situ stresses and the potential for swelling in the liner design.	D
Soils and Bedrock	A geotechnical investigation to identify the Existing Top-of-Slope and determine the Long-Term-Stable Top-of-Slope will be carried out where necessary, in line with the requirements outlined in the TRCA's Geotechnical Engineering Design and Submission Requirements (November 2007).	D

Table 7-11: Future Commitments for Soils, Stormwater, and Groundwater (1/2)

Feature	Future Commitments	Category (D, C, and O)
Soils, Stormwater and Groundwater	Reports and plans to show how groundwater discharge will be addressed will be included during a subsequent design phase.	D
Soils, Stormwater and Groundwater	Prepare a stormwater management plan.	D
Soils, Stormwater and Groundwater	Prepare a soil, excavated material and groundwater management plan by a Qualified Person as per O. Reg. 153/04, as amended, prior to construction for managing soil materials onsite (including excavation, location of stockpiles, reuse, and offsite disposal). The soil and groundwater management plan will be prepared in accordance with Management of Excess Soil - A Guide for Best Management Practices (MECP 2014), any new regulatory requirements and industry best practices. A copy of the soil and groundwater management plan will be provided to MECP, Toronto District office for comment.	D
Soils, Stormwater and Groundwater	Develop and implement an Environmental Spills Prevention and Response Plan to ensure proper mitigation and notification procedures are in place during construction. Consultation with the local source protection authority is recommended for their input during the development of the Plan, which will satisfy the requirements of the Source Protection Plan.	D, C
Soils, Stormwater and Groundwater	Groundwater quality samples will be collected prior to construction and this information used to develop an appropriate water discharge plan. Further, if required, the water discharge plan would provide a discharge methodology that protects surface water quality.	D, C
Soils, Stormwater and Groundwater	In situ hydraulic conductivity testing will be undertaken during the preliminary and detailed geotechnical investigations to delineate the zones of high permeability along the proposed alignment. Detailed design of the stations and tunnel will incorporate groundwater control methods to minimize the impact of dewatering on the watercourses, surrounding infrastructure and sensitive features.	D
Soils, Stormwater and groundwater	A pedestrian passage crossing Queen Street east of James Street will be monitored for damage due to any settlement due to excavation or dewatering.	C

Table 7-12: Future Commitments for Soils, Stormwater, and Groundwater (2/2)

Feature	Future Commitments	Category (D, C, and O)
Soils, Stormwater and groundwater	In addition to the City of Toronto's Wet Weather Flow Management Guideline, Toronto Green Streets Guideline for low impact development strategies for stormwater management will be considered during subsequent design phases.	D
Soils, Stormwater and Groundwater	The following reports will be submitted in support of the SPC application during subsequent design phases, as per the Site Plan Control Application requirements: • Stormwater Management Report • Hydrogeology Report for Groundwater Discharge • Site Servicing Report	D
Soils, Stormwater and Groundwater	The station components will be designed to meet TRCA storm water management criteria to the extent possible. In addition to meeting City Green Standards, the City will consider including low impact development options into the surficial design of the stations. Refer to the TRCA and area Conservation Authorities - Low Impact Development Guidelines for Storm Water Management Design document (2010).	D
Soils, Stormwater and Groundwater	Discuss potential to include siphon rehabilitation prior to or as part of the Relief Line South construction.	D, C
Soils, Stormwater and Groundwater	All station boxes will be designed water tight and there will be no permanent discharge required. This will be confirmed with structural engineers who design the structures. If groundwater is to be discharged to the City's sewer system, Hydrogeology Reports will be required to identify the groundwater quantity and quality.	D
Soils, Stormwater and Groundwater	Construction debris, including excavated earth, will be appropriately managed, stored, and removed from the site.	C

Table 7-13: Future Commitments for Contamination

Feature	Future Commitments	Category (D, C, and O)
Contamination	Complete a Phase One Environmental Site Assessment and if recommended complete a Phase Two Environmental Site Assessment during detailed design, including, as applicable, prior to property acquisition.	D, C
Contamination	Prepare and implement a Soil and Groundwater Management Strategy for the management and disposal of excess and contaminated soils/groundwater, in accordance with applicable environmental legislation, regulations and guidelines. Additional consideration of potential risks from the moderate-risk and low-risk sites should also be considered from the perspective of potential human health impacts.	D, C
Contamination	The preliminary and detailed design reports will include an assessment of industrial/commercial areas and possibly contaminated sites along the route.	D
Contamination	Additional site-specific investigations will be performed prior to construction to further assess the potential presence of contaminated soils, bedrock, and/or groundwater along the tunnel alignment, and to establish excess materials management measures during construction.	C
Contamination	For construction activities adjacent to the Don River, mitigation will include installation of appropriate sediment barriers to prevent surface runoff carrying disturbed soils into the watercourse. In addition, a fuel spill response plan will be developed for use in the event of a fuel spill to prevent the transfer of contaminants to the river.	C
Contamination	During construction there is a risk of spills or discharge of pollutants or contaminants by the contractor. The contingency plan identified in **Section 6.2.3** should be put in place.	C
Contamination	A soil management plan will be developed to address potential surface material contaminants.	D
Contamination	Additional environmental sampling, analysis, and/or risk assessment will be undertaken to establish and quantify potential risks to human health associated with construction activities at contaminated sites. Moderate and low-risk sites will be evaluated for potential risks for human health impacts.	D, C

Table 7-14: Future Commitments for Drainage and Hydrology (1/2)

Feature	Future Commitments	Category (D, C, and O)
Drainage and Hydrology	Prepare an Erosion and Sedimentation Control Plan, which complies with prevailing TRCA and City of Toronto guidelines and requirements.	C
Drainage and Hydrology	Conduct Hydrologic Analysis and Modelling to define the level of impact on flow rates and runoff volumes as a result of the above ground structures. Develop and implement a Stormwater Management Strategy based on Hydrologic Analysis and Modelling. The Stormwater Management Strategy will meet the TRCA Stormwater Management Criteria (2012), City of Toronto Wet Weather Flow Management Guidelines (2006) and follow the MECP Stormwater Management Planning and Design Manual.	D
Drainage and Hydrology	A detailed analysis of the drainage and pumping systems for the Relief Line South will be reviewed during the detail design stage.	D
Drainage and Hydrology	The proposed Broadview subway station is located in the Don River Valley, Special Policy Area (SPA) and flood plain area. Thus, depending on the timelines for the station construction, the City will address existing flood plain management requirements if the station is developed and implemented prior to implementation of the flood protection at this location.	D
Drainage and Hydrology	Key station structures will be subject to flood proofing requirements including the station entrance and ventilation shaft located south of Sunlight Park Road at Broadview Avenue, the station entrance on the north side of Sunlight at Lewis Street, ventilation shaft at just west of the rail corridor on the south side of Eastern Avenue. TRCA will require that the entrances be flood proofed to the Regulatory flood elevation plus 30 cm freeboard. These tunnels will need to be designed to ensure no hydraulic connection between this location and the areas that have flood protection. Technical studies confirming this requirement should be provided in order to obtain TRCA support.	D
Drainage and Hydrology	Structures with underground connections such as the connection to the proposed Broadview LRT and the SmartTrack station south of the railway embankment will be flood proofed to the above noted regulatory flood elevation and 30cm freeboard. They will also be designed to ensure no hydraulic connection between the north floodplain and areas south of the embankment.	D

Table 7-15: Future Commitments for Drainage and Hydrology (2/2)

Feature	Future Commitments	Category (D, C, and O)
Drainage and Hydrology	TRCA cannot support any features at this location that exacerbates the current flooding issues at this location or elsewhere as a result of the proposed works. These requirements must be confirmed through appropriate technical studies to the satisfaction of TRCA staff. The City must ensure that vehicular and pedestrian movement meets MNRF depth, velocity, and depth/velocity product criteria. TRCA will require confirmation to this effect. A hydraulic model will be required to demonstrate the proposed station and ramps will not cause negative off-site impacts. The MIKE hydraulic model with the Port Lands Flood Protection and Infrastructure Enabling project implemented should be used for this analysis. Any features that require filling or re-grading to achieve compliance with flood depth and velocity criteria will not be permitted unless it has been demonstrated in an environmental study or technical report that satisfies TRCA staff that this filling or grading will not result in adverse impacts on the flooding and erosion, or increase the risk to public safety, or the susceptibility to natural hazards is not increased and no new hazards are created.	D
Drainage and Hydrology	Any entrance or public spaces located within the flood plain is to have a comprehensive public safety protocol in place for egress and ingress, emergency preparedness and service access for evacuation purposes in case of a flood.	D
Drainage and Hydrology	A Flood Contingency Plan is required if works will occur in the current flood plain; the plan will explain how the works will be staged and how the site will be evacuated during a storm event. The plan should also identify what items will remain in place during the storm event and how items that would have the capacity to cause an obstruction to flow or a spill will be removed from the Regulatory Flood Plain. The plan will include a requirement to monitor the weather to ensure that works occurring within the flood plain are undertaken in favorable weather conditions.	D
Drainage and Hydrology	Compliance with TRCA Stormwater Management criteria and LID stormwater management measures is required during detailed design. The EMP should include a detailed monitoring plan that uses adaptive management to effectively manage environmental impacts of groundwater dewatering required to facilitate construction.	D

Table 7-16: Future Commitments for Environmental Mitigation and Monitoring (1/2)

Feature	Future Commitments	Category (D, C, and O)
Environmental Mitigation and Monitoring	A Waste Management and Reduction Plan will be developed during subsequent design phases, and should follow the requirements in O. Reg. 102/94- Waste Audits and Waste Reduction Work Plans	D
Environmental Mitigation and Monitoring	An Environmental Monitoring and Management Plan (EMMP) will be completed which will include the commitments of the Construction Management Plan and any other potential environmental impacts or approval requirements that arise during detail design and during additional environmental studies, as required. The EMMP includes relevant mitigation measures and requirements for potential environmental impacts and include a list of the required permits and approvals for the Project. Once permits and approvals are received for the Project, or findings from additional environmental studies are received, the Consultant will be responsible for updating the EMMP to include any additional mitigation measures or requirements. Any new monitoring or reporting requirements will also be reflected in the EMMP. The Proponent will be responsible to implement the requirements of the EMMP during detail design and construction. This includes providing environmental monitoring services and adhering to reporting requirements as detailed in the EMMP, providing instruction to the design team and Contractor as required, and issuing preventive and/or corrective action requests as required. The EMMP includes a procedure for preventive and corrective action in the event of findings of non-compliance during environmental monitoring, as well as follow up and reporting procedures.	O

Table 7-17: Future Commitments for Environmental Mitigation and Monitoring (2/2)

Feature	Future Commitments	Category (D, C, and O)
Environmental Mitigation and Monitoring	Station design will be coordinated with the proposed entrances, tunnel connections to SmartTrack and Broadview LRT, and the station vents, to ensure the location of these features does not impede the location of the potential future FPL in this location. There will be no structures on or through the clay core of any potential future FPL in this location. Station entrances and vents will be located away from the potential future FPL to the extent possible. TRCA will work with the subway design team if there is a need to accommodate any station features on the future dry side and slopes of any potential future FPL to ensure it can meet design constraints and minimize the potential for catastrophic failure. In addition, depending on the locations of features on the dry side of the potential future FPL, there may be a need to make adjustments for placement of supplementary fill for these station structures in order to minimize localized compression. The siting of structures, subsurface components and setbacks requirements, grading, and fill placement, servicing etc. will be coordinated amongst the project team with consideration given to the integration of potential future FPL design.	D, C
Environmental Mitigation and Monitoring	• A detailed plan for the monitoring of settlement and its impact on the City's infrastructure will be developed during preliminary/detailed design • A mitigation strategy in case of settlement will be developed during preliminary/detailed design	D

Table 7-18: Future Commitments for Air Quality, Noise and Vibration

Feature	Future Commitments	Category (D, C, and O)
Air Quality, Noise and Vibration	All equipment used must adhere to guidelines as placed in MECP's NPC-115 guidelines for construction equipment. A noise complaint should trigger an investigation into whether the equipment meets the recommended sound level limits from NPC- 115 and NPC- 118, and whether further controls are technically, administratively and economically feasible. Controls should be considered with preference to source control, then pathway control, and lastly receptor control options.	C
Air Quality, Noise and Vibration	Develop a Noise and Vibration Management Plan in accordance with City of Toronto bylaws. The Plan would include a detailed monitoring program, strategies for defining separation distances, maintenance of temporary roads and equipment, mitigation measures, and a proactive communications and complaints response protocol and measures to comply with bylaws. Consideration should be given to monitoring of vibration during vibration intensive activities, to confirm that levels do not approach those required for structural damage.	C
Air Quality, Noise and Vibration	Further, surface noise and vibration studies will be undertaken to verify the impact and any associated mitigation measures (if required) at sensitive receptor locations (e.g. schools, daycares, hospitals, etc.), to ensure that sounds and vibration levels are within acceptable limits for protection of human health and structures during design, construction, and operations.	D, C, O
Air Quality, Noise and Vibration	Where vibration impacts are anticipated, a pre-construction condition assessment will be conducted. For properties having CHVI, the CHVI and heritage attributes must be known and clearly understood at the time of the pre-construction condition assessment.	D, C

Table 7-19: Future Commitments for Utilities (1/2)

Feature	Future Commitments	Category (D, C, and O)
Utilities	If a conflict is confirmed that requires re-design, the City/ TTC should issue a formalized request for Toronto Water to coordinate Wet Weather Flow re-design work.	D
Utilities	Conduct geotechnical analyses to determine if the 6 m cover assumption (approximately one tunnel diameter) carried through the conceptual design phase beneath the Mid-Toronto Interceptor sewer on Gerrard is sufficient.	D
Utilities	Coordinate with Toronto Water in the design of Carlaw station to determine a solution for the existing 1800mm sanitary sewer running beneath Carlaw.	C
Utilities	Develop utility and municipal servicing relocation plans with service providers. Contact utility companies including the City of Toronto (watermains, stormwater and sanitary sewers), Bell Canada, Rogers Communications Partnership, Cogeco Data Services, Telus Communications Company, Enbridge Gas, Enwave, and Toronto Hydro Electric System Limited during the Detailed Design Phase to confirm plant location and to discuss relocation strategies / cost sharing.	D
Utilities	Conduct pre- and post-construction surveys for all utilities, within the zone of influence of the Project's construction, and monitor as appropriate during construction.	C
Utilities	Undertake Subsurface Utility Engineering Survey in key locations to confirm the DMOG utility mapping early during the Detailed Design Phase of the project.	D
Utilities	Utilities information for the West Don Land area to be reviewed during detailed design.	D
Utilities	Impacts to the existing utilities will be avoided to the greatest extent possible. Minor utilities that are not in direct conflict with the Relief Line South alignment or stations will be supported and protected during construction where possible.	C
Utilities	A utility monitoring plan for construction will be developed during the Detailed Design phase of the project. The purpose of the monitoring plan is to ensure compliance with the utility conflict mitigation plans. The monitoring plan will ensure that the Constructor complies with any applicable environmental regulations, permitting and other mitigation measures identified during detailed design.	D

Table 7-20: Future Commitments for Utilities (2/2)

Feature	Future Commitments	Category (D, C, and O)
Utilities	Impacts to the existing utilities will be avoided to the greatest extent possible. Minor utilities that are not in direct conflict with the Relief Line South alignment or stations will be supported and protected during construction where possible.	C
Utilities	A utility monitoring plan for construction will be developed during the Detailed Design phase of the project. The purpose of the monitoring plan is to ensure compliance with the utility conflict mitigation plans. The monitoring plan will ensure that the Constructor complies with any applicable environmental regulations, permitting and other mitigation measures identified during detailed design.	D
Utilities	In the Detail Design phase when the alignment and station design is refined, the designer will meet with Enwave and TDHC to determine the most functional, cost efficient resolution for steam tunnels. The designer should also continue to work with the utility owner through the design and construction process The Enwave steam tunnels on Queen St W are in direct conflict with the tunnel and station boxes and will require relocation. No service interruption to St. Michael's Hospital will be considered.	D
Utilities	Ensure the utilities relocations are prepared in accordance with the requirements of the City's Design Criteria for Sewers & Watermains, and the Municipal Consent Requirements (MCR).	D
Utilities	Should the Relief Line South Project result in a Hydro One station expansion or transmission line replacement and/or relocation, an environmental assessment (EA) will be required as described under the Class Environmental Assessment for Minor Transmission Facilities (Hydro One, 2016). This EA process would require a minimum of 6 months to be completed and associated costs will be allocated and recovered in accordance with the Transmission System Code. The EA proponent will be identified at a later stage should this be triggered.	D
Utilities	Permanent easements will include the easements required for relocated sewers and watermains if they are relocated outside of Municipal right-of-way. Easement width requirements are identified in the City's Design Criteria for Sewers and Watermains.	D
Utilities	The depth, cover and material of the existing 3000mm mid Toronto interceptor sanitary sewer will be clarified during detailed design. Potential impacts to this interceptor will be identified, and a protection system will be provided if the interceptor is to remain in place.	D
Utilities	When underground utility relocation is determined during detailed design, the minimum depth of cover and vertical and horizontal clearances will be included from the existing and proposed City infrastructure. The minimum clearance and separation will be in accordance with **Appendix O** of the MCR.	D
Utilities	Utility impacts and relocation strategies will be determined during detailed design.	D

Table 7-21: Future Commitments for Urban Design

Feature	Future Commitments	Category (D, C, and O)
Urban Design	Work with the City of Toronto to ensure that the design and disposition of the various functional elements of the Project comply with current City of Toronto planning and urban design policies and guidelines and the Transportation Services' current City standards applicable to streetscape elements within the public right-of-way i.e., pedestrian and cycling facilities and street furniture. A Design Brief outlining the Project alignment and station sites' context is to be provided to clarify and guide the building and site designs and development expectations.	D
Urban Design	The Downtown Parks and Public Realm Plan proposes to realign University Avenue at Queen Street West to make a new linear park. The proposed HVAC relief and intake in the central boulevard must be coordinated with future realignment plans.	D
Urban Design	Locations of stations, exits and other related structures need to be carefully integrated into the existing context. This should be resolved during detailed design in coordination with Metrolinx, TTC, and the City.	D
Urban Design	Streetscapes impacted by the project will be improved. This can be planned, designed and funded as part of during detailed design.	D
Urban Design	Efforts will be taken to ensure proposed designs prepared during detailed design go to the City's Design Review Panel early enough to benefit from the panel's advice.	D
Urban Design	The station proposed at Nathan Phillips Square needs to be assessed in light of the revitalization project. This will be resolved during the design process in coordination with Metrolinx, TTC, and the City.	D

Table 7-22: Future Commitments for Property Impacts (1/2)

Feature	Future Commitments	Category (D, C, and O)
Property Impacts	The City of Toronto will negotiate temporary easements and construction agreements with property owners on a case-by-case basis. To the extent possible, following construction, the lands acquired will be restored to pre-construction conditions.	D
Property Impacts	Contractor(s) will be required to minimize any inconvenience caused by construction activities to business owners, residents, and property owners.	C
Property Impacts	Undertake Designated Substances Surveys for any buildings or structures which require demolition.	D
Property Impacts	Initiate a compensation process with the City of Toronto where station facilities or other required surface structures are sited within a City-owned park. The intent will be to mitigate any potential impacts to the local community and compensate for any compromised park functions.	D
Property Impacts	If easements are required below existing properties, a reverse support easement above the tunnel/structure will be acquired. Existing and future property owners should be consulted before undertaking any excavations that would change the loading on the subway box.	D
Property Impacts	Conduct a detailed real estate impacts analysis when design reaches 30%.	D
Property Impacts	Coordinate with Toronto Parks, Forestry & Recreation Division in the preliminary design of the Sherbourne Station and associated subway features in Moss Park. The entrance and other features should be integrated within the new community centre development planned for that site.	D
Property Impacts	Conduct the required studies to identify required protections for a future western extension of the Relief Line.	D
Property Impacts	Several areas have been identified as possibly being impacted by surface structures associated with the Relief Line South, including parks, playgrounds and greenspace. Impact mitigation will be developed in coordination the City of Toronto Parks, Forestry & Recreation division. Where mitigation is not possible, opportunities to ensure equal or greater access to these spaces that should be considered during detailed design include: • Localized improvements • Addition of greenspace elsewhere • Relocating and/ or enhancing children's play areas	D

Table 7-23: Future Commitments for Property Impacts (2/2)

Feature	Future Commitments	Category (D, C, and O)
Property Impacts	Based upon construction projects being undertaken across the city in close proximity to TDSB school sites, the mitigation measures will likely include, but not be limited to the following: • Paid duty officers to be in place during morning, lunch time and end of the school day dismissal for crossing streets/crosswalks during the construction and/or borehole activities. • All existing entrances to the Schools to remain clean and clear from debris. Construction safety officers and flag persons to be available to provide safe pedestrian passage to and from the school building; • 12 foot hoarding to be installed around any construction close to the school sites. All gates to be monitored and closed at all times; • A traffic management plan to be reviewed and approved by the TDSB; • A regular communication plan to be approved by the TDSB that outlines on-going construction and addresses school community issues, including school public meetings on a regular basis and separate meetings on tunnelling and discussion of any future impacts (noise, vibration) upon completion. An environmental compliance manager and community liaison officer to be in place who will ensure that the TDSB is notified immediately with respect to all communications related to reported accidents and emergencies and will provide the TDSB with a • communications plan for all public notices; • The TDSB to be provided with: a pre-construction survey before the commencement of any construction and a post-construction survey after the construction is completed; fire and safety plans; evacuation plans; geotechnical investigation protocols; noise, vibration, air quality, soil quality and ground condition reports; dust management plans; and monitoring data collected during the term of the Project and up until 18 months after the Project is completed; • All agreements for access and monitoring and other legal documents, as required, to be executed by the City of Toronto or the TTC or both in a form and content satisfactory to TDSB Legal Counsel, including appropriate indemnities and insurances. No agreement with a third party or a consortium or any contractor or sub-contractor companies retained by the City of Toronto or the TTC or both to undertake the construction of the Project; • No parking to occur on TDSB lands or in front of the Schools. Any ticketing and towing to be actively undertaken by the TTC; • Mitigation at the Schools to include air quality and noise monitoring which may result in additional building protection, including, but not limited to, scaffolding, window protection, new windows, installation of air conditioning, etc.; • The TTC to cover the cost of an engineering consultant hired by the TDSB to be on-site and to monitor and review all activities and include recommendations for mitigation; • The TTC to assign an on-site consultant to work with the TDSB and be available at all times during construction activities; • All health and safety measures to be at the sole cost and expense of the TTC; and • Prior to site access, tunnelling, etc., an agreement to be executed in a form and content satisfactory to TDSB Legal Counsel.	D, C

Table 7-24: Future Commitments for Access

Feature	Future Commitments	Category (D, C, and O)
Access	Consider during preliminary design an additional entrance on the southeast corner of Queen and Sherbourne to improve access to/from the northbound bus stop.	D

Table 7-25: Future Commitments for Flood Protection

Feature	Future Commitments	Category (D, C, and O)
Flood Protection	Undertake a Class Environmental Assessment (EA) to identify a preferred flood protection solution to the north section of the railway embankment east of the Lower Don River prior to construction. Coordinate Relief Line South design of stations and tunnels within the study area with the EA proponent (TRCA).	D
Flood Protection	Incorporate appropriate mitigation measures into the design and construction of the line and station so as to avoid compromising the integrity of the West Don Lands FPL and future flood protection solutions east of the Lower Don River.	D, C
Flood Protection	Sections of the proposed Broadview Avenue LRT will be susceptible to flooding following the implementation of the future potential FPL. Hydraulic connection and siting of pedestrian connections in flood vulnerable areas will be avoided. The LRT connection will be designed in line with TRCA's flood proofing requirements and there will be no hydraulic connections between the two systems including ingresses and egresses.	D
Flood Protection	The subway will be crossing two flood protection solutions on each side of the Don River (the Flood Protection Landform that is constructed in the West Don Lands, and future potential FPL solution on the east side of the river). Appropriate mitigation measures will be incorporated into the subway design and construction of the station to avoid compromising the integrity of both the flood protection features.	D
Flood Protection	Appropriate geotechnical analysis will be carried out and provided to TRCA to demonstrate/ confirm that the proposed subway construction would not have negative impacts on the West Don Lands FPL. TRCA will be consulted during detailed design regarding the scope of these studies to ensure all concerns are addressed.	D

Table 7-26: Future Commitments for Health and Safety

Feature	Future Commitments	Category (D, C, and O)
Health and Safety	Safety policies for staff and standard specifications for construction contracts will require full compliance with the following Acts and Regulations: • The Ontario Occupational Health and Safety Act (OHSA), • The Ontario Regulations for Construction Projects • Workplace Hazardous Materials Information System (WHMIS) Regulations • The Canadian Environmental Protection Act and regulations • All other legislation, regulations and standards as applicable.	C
Health and Safety	Temporary construction site lighting will be positioned to minimize light infiltration into adjacent residential properties while meeting construction safety requirements.	C
Health and Safety	Health-related indicators (including social equity, healthy neighborhoods, and public health and the environment) should be considered throughout the detailed design phase as recommended by Toronto Public Health.	D
Health and Safety	During subsequent design phases, the design for safety walkways will be optimized so that zero-clearance areas for workers at track level are not created.	D

Table 7-27: Future Commitments for Emissions

Feature	Future Commitments	Category (D, C, and O)
Emissions	In order to minimize uncontrolled stray currents, the mitigation measures identified in **Section 6.3.4** should be taken in addition to the measures applied to the traction powder return system.	O
Emissions	The subway traction power distribution system will be undergrounded and have no direct connection to earth.	O
Emissions	The running rails will be insulated from earth with the use of pads and hardware, and by the isolation of all rail associated metal ware from earth. The negative running rails will be connected to the AC ground system through a floating negative automatic grounding switch. The switch operates (and alarms) only during abnormal conditions. The insulating pads under the rails will have the provisions identified in **Section 6.4.2**.	D
Emissions	Similar to other locations where TTC's subway crosses a high-pressure steel pipeline, the monitoring program identified in **Section 6.4.2** will be put in place.	O

Table 7-28: Future Commitments for Policy

Feature	Future Commitments	Category (D, C, and O)
Policy	Secure an Official Plan Amendment (OPA) to modify Map 4 to designate the recommended Relief Line South corridor as a "Transit Corridor" in the City of Toronto Official Plan.	D

Table 7-29: Future Commitments for Transportation

Feature	Future Commitments	Category (D, C, and O)
Transportation	A transit service planning review will be undertaken for the area bounded by Danforth Avenue, Greenwood Avenue, Lake Shore Boulevard, and the Don River to determine, at an indicative level, the surface transit routes that should connect and/or terminate at Gerrard Station. A terminus operations assessment will also be undertaken to develop and evaluate options and select a preferred option for exchanging passengers from surface transit routes to the Relief Line South at Gerrard Station. The assessment will be coordinated with the station area planning for the Gerrard Station area, which will consider the preferred streets and blocks network for the station area. It will undertake conceptual design of required facilities, and identify any implications for the design of the station.	D
Transportation	Engage in enhanced coordination around the Broadview Relief Line South and East Harbour SmartTrack stations. The station concourse level should accommodate a substantial below-grade pedestrian connection south to the SmartTrack station and the East Harbour development at the Broadview Station. A knock-out panel has been provided in the conceptual design of the Relief Line South station to protect for this future connection.	D
Transportation	Consider a fully accessible entrance at the Sackville Street station entrance at Sumach Station.	D
Transportation	Conduct a Traffic Impact Study and develop a Traffic Management Plan for construction to address the following: • Pedestrian, cyclists, and vehicular traffic bypasses around construction sites; • On-street and off-street parking; and • transit service reliability	C
Transportation	Coordinate with the City of Toronto to confirm any current or planned projects on the Don Valley Parkway in the vicinity of the planned crossing of the Don Valley	C
Transportation	Conduct further discussions with Metrolinx to confirm approvals and monitoring requirements for construction adjacent to the GO Transit infrastructure around the proposed Gerrard and Broadview Stations.	C
Transportation	Conduct a Traffic Impact Study for the operation of the new stations.	O
Transportation	Investigate in partnership with the TTC maintenance and storage facility requirements beyond Greenwood Yard and tail track storage should the line be extended north of Danforth.	O
Transportation	Coordinate with the Relief Line North Project Assessment project team during the preliminary and detailed design of the Relief Line north tail tracks on Pape Avenue.	D

Table 7-30: Future Commitments for Systems

Feature	Future Commitments	Category (D, C, and O)
Systems	Substations are located during the conceptual design phase to account for their property impacts; however, substation spacing will be confirmed during later design phases via a verifiable computer simulation based load flow analysis.	D

Table 7-31: Future Commitments for Pedestrians and Cyclists

Feature	Future Commitments	Category (D, C, and O)
Pedestrians and Cyclists	In cases where a sidewalk may be closed temporarily on one side of the roadway with approval from the City, a safe and reasonable alternative pedestrian route with appropriate signage must be provided. All pedestrian facilities must meet or exceed the Province's and City's accessibility standards as outlined in the Accessibility for Ontarians with Disabilities Act (AODA).	C
Pedestrians and Cyclists	Where possible, separated cycling facilities should be provided during construction. Where there is insufficient space, lane widths should be wide enough to allow for safe passage of cyclists. Where lanes widths would be too narrow to accommodate safe passing by vehicles, clear "share-the-road" signage should be provided at regular intervals encouraging cyclists to take up the whole lane when passing through the construction area.	C

Table 7-32: Future Commitments for Consultation

Feature	Future Commitments	Category (D, C, and O)
Consultation	Develop a Consultation Plan for the Detailed Design and construction phases of the Project. This will include a community relations program that will provide businesses, residents and commuters with regular Project information and responses to enquiries.	D
Consultation	Create a Construction Liaison Committee made up of community stakeholders in order to respond to, proactively monitor and address construction issues.	C
Consultation	Provide a Project Information Office that is open to the public. TTC Community Relations Officers will be on-hand during the week to speak to visitors and share information about the Project. The Project Information Office will also be used to hold meetings and workshops with stakeholders.	C
Consultation	Consult with emergency service providers – fire, police and emergency medical services – to develop plans to maintain emergency access during construction	C
Consultation	Develop a communications plan / protocol to address any changes in TTC, GO Transit, and inter-regional bus carrier services during construction.	C
Consultation	Conduct further consultation with emergency service providers on the Project's facility design details (e.g., fire routes to stations)	O

Table 7-33: Future Commitments for Other Features

Feature	Future Commitments	Category (D, C, and O)
Other	Prepare a monitoring plan in accordance with subsection 9.2.8 of Ontario Regulation 231/08 to verify the effectiveness of mitigation measures.	D, C, O
Other	Station design will be coordinated with the proposed entrances, tunnel connections to SmartTrack and Broadview LRT, and the station vents, to ensure the location of these features does not impede the location of the future potential FPL that is selected for this location. There will be no structures on or through the clay core of any future potential FPL in this location. Station entrances and vents will be located away from the future potential FPL to the extent possible. TRCA will work with the subway design team if there is a need to accommodate any station features on the future dry side and slopes of any future potential FPL to ensure it can meet the future potential FPL design constraints and minimize the potential for catastrophic failure. In addition, depending on the placement locations of features on the dry side of the future potential FPL, there may be a need to make adjustments for placement of supplementary fill for these station structures in order to minimize localized compression due to their location. During detailed design, TRCA will work with the project team regarding siting of structures, subsurface components and setbacks requirements, grading, and fill placement, servicing etc. with integration with future potential FPL design.	D, C

7.1 Permits and Approvals

In addition to the commitments for future work, the Toronto Transit Commission and the City of Toronto have worked closely with stakeholder agencies to identify the permits and approvals which may be required during the preliminary and detailed design phases. The permits and approvals required for the TPAP for various items are outlined in **Table 7-34** through **Table 7-43**.

Table 7-34: Permits and/or Approvals for the Natural Environment

Feature	Permits and/or Approvals	Category (D, C, and O)
Natural Environment	Obtain permits to remove and injure trees protected by City by-laws. All trees on the City street allowance, within City Parkland, Ravine and Natural Feature Protection Areas, and trees 30cm diameter (at 1.4m above grade) and larger on all other types of land are protected by City By-laws and require permits for their removal and injury. All protected trees for which removal or injury has not been permitted must be fully protected throughout construction in accordance with the City's Tree Protection Policy and Specifications for Construction Near Trees. Proponents will be required to make application for and acquire City permits to allow the removal or injury of all trees protected by the City's tree by-laws.	D
Natural Environment	Permits required from Toronto and Region Conservation Authority (TRCA) for activities within a TRCA regulated area.	C

Table 7-35: Permits and/or Approvals for the Terrestrial Ecosystems

Feature	Permits and/or Approvals	Category (D, C, and O)
Terrestrial Ecosystems	Obtain the following permits prior to construction from the City of Toronto in accordance with the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees Guidelines: • Permit to Remove Healthy City-owned Tree • Permit to Injure or Destroy Trees on Private Property	D
Terrestrial Ecosystems	Obtain a Ravine and Natural Feature Permit, as applicable, from the City of Toronto.	D

Table 7-36: Permits and/or Approvals for the Built Heritage Resources and Cultural Heritage Landscapes

Feature	Permits and/or Approvals	Category (D, C, and O)
Built heritage resources and cultural heritage landscapes	Conduct HIAs during detailed design on directly impacted protected or listed heritage properties, and potential cultural heritage resources determined to have cultural heritage value or interest through a Cultural Heritage Evaluation Report. Secure heritage permit approval from the City of Toronto Heritage Preservation Services and approval from the MTCS.	D, C

Table 7-37: Permits and/or Approvals for Groundwater

Feature	Permits and/or Approvals	Category (D, C, and O)
Groundwater	Obtain an Environmental Activity and Sector Registry from the Ministry of the Environment, Conservation and Parks (MECP) for locations where dewatering exceeds 50,000 litres per day, and/or a Permit to Take Water (PTTW) where dewatering exceeds 400,000 litres per day.	**C**
Groundwater	The preliminary and detailed design reports should be completed at the level of a Category 3 Hydrogeological Assessment for a PTTW as one or several PTTWs will likely be required during construction.	**D**
Groundwater	Obtain Discharge Permit/Agreement with the City of Toronto for dewatering during construction.	**C**
Groundwater	Obtain Discharge Permit/Agreement with the City of Toronto for dewatering during operation.	**O**

Table 7-38: Permits and/or Approvals for Environmental Mitigation and Monitoring

Feature	Permits and/or Approvals	Category (D, C, and O)
Environmental Mitigation and Monitoring	A list of required permits and approvals will be included in the Environmental Monitoring and Management Plan (EMMP) once completed. Once permits and approvals are received for the Project, or findings from additional environmental studies are received, the Consultant will be responsible for updating the EMMP to include any additional mitigation measures or requirements. Any new monitoring or reporting requirements will also be reflected in the EMMP.	O
Environmental Mitigation and Monitoring	Climate change considerations will help to inform the detailed design stage. LIDs will be considered in the design of the subway and surface features accesses and stations. Green infrastructure options related to energy conservation and efficiency, as well as options to reduce greenhouse gas emissions and promote resiliency/ adaption will be considered. Consideration will be given to risk associated with natural hazards, such as flooding due to severe weather.	D

Table 7-39: Permits and/or Approvals for Air Quality, Noise and Vibration

Feature	Permits and/or Approvals	Category (D, C, and O)
Air Quality, Noise and Vibration	Obtain MECP Environmental Compliance Approvals for all relevant stationary noise sources such as Heating Ventilation and Air Conditioning equipment, ventilation shafts and transformers.	D, C, O
Air Quality, Noise and Vibration	Obtain Noise By-Law Exemption or Noise By-Law Amendment, if required, in accordance with City of Toronto By-Law requirements, for 24-hour tunnelling and other scheduled critical construction activities.	C
Air Quality, Noise and Vibration	Complete a City of Toronto Vibration Control Form prior to construction.	

Table 7-40: Permits and/or Approvals for Utilities

Feature	Permits and/or Approvals	Category (D, C, and O)
Utilities	Obtain the following permits and approvals from the City of Toronto or the MECP: • Water and sewer connections • Utility Cut Permit • Site Service Permit • Sewage Works Approval • Environmental Compliance Approval Application - Sewage Works • Drinking Water Works Permits and Municipal Drinking Water Licenses • Sewer Use Permit for Discharge of groundwater into Sanitary or Storm or Combined Sewer	C

Table 7-41: Permits and/or Approvals for Urban Design

Feature	Permits and/or Approvals	Category (D, C, and O)
Urban Design	Comply with and obtain development approvals, permits and/or licences through the City of Toronto standard Site Plan Approval process as applicable for all sites; to include but not be limited to minor variances and zoning by-law amendments as identified through design development and preliminary and formal Site Plan Application submission.	D

Table 7-42: Permits and/or Approvals for Property Impacts

Feature	Permits and/or Approvals	Category (D, C, and O)
Property Impacts	Obtain Permission to Enter Agreements with private and public property owners for pre-construction investigations.	D
Property Impacts	Obtain demolition permits from the City of Toronto for demolition of buildings and structures.	D
Property Impacts	Obtain Building Permits and other related permits (e.g., Designated Structures Permit, Sign Permit / Sign Variance Permit, Site Services Permit, Heating, Ventilation, Air Conditioning (Mechanical) Permit, Plumbing Permit, etc.) from the City of Toronto, as required for new structures, including stations and stand-alone support structures.	C

Table 7-43: Permits and/or Approvals for Transportation

Feature	Permits and/or Approvals	Category (D, C, and O)
Transportation	Obtain the following City of Toronto permits for construction within the existing City of Toronto road allowances. • Road Cut Permit – Major Construction (Civil Works and Utility Relocations); and, • Street Occupation Permit.	C
Transportation	Obtain Highway Alteration By-Law approval from the City of Toronto, as applicable, for permanent alterations to municipal roads.	D
Transportation	The contractor will be required to prepare and submit a detailed and comprehensive Traffic and Transit Management Plan for review and approval by the appropriate City and TTC departments. The Traffic and Transit Management Plan will include the sub-plans listed in **Section 6.3.5**.	D

7.2 Impact Monitoring

Impact monitoring is a necessary continuation of the construction and operational application of the proposed works. It is designed to evaluate the need to review or update the environmental protection and mitigation measures during future design phases, or to trigger the implementation of contingency plans that may include remedial measures needed to achieve Project goals and objectives.

A monitoring plan will be prepared in accordance with Subsection 9(2)(8) of Ontario Regulation 231/08. The objectives of the monitoring plan are to:

- Augment existing information and databases, where required;
- Determine the accuracy of impact predictions and the effectiveness of environmental protection measures (see **Section 6**);
- Ensure compliance with Federal (including monitoring for Canadian Environmental Assessment Agency (CEAA) triggers), Provincial and local legislation and regulations; and
- Ensure that TPAP commitments, plans and programs are carried out as planned.

7.3 Construction Compliance and Impact Monitoring

Compliance with the mitigation measures identified in **Section 6** and the commitments documented in this Section will be monitored by TTC under its Compliance Monitoring Program. Preceding construction, a compliance monitoring plan will be created. This plan will describe how compliance with all the commitments outlined in this Environmental Project Report (EPR), as well as conditions of any permits and approvals will be monitored during the construction phase of the Project. Compliance reports will summarize the results of the compliance monitoring plan for construction and state compliance with commitments outlined in this EPR and the conditions of any permits and approvals.

7.4 Operational Compliance and Impact Monitoring

The TTC has standard procedures for spills management, accidents or malfunctions, and infrastructure inspection. These procedures will be followed during the operation phase of the Project. For monitoring of the natural and social environment the following steps should be incorporated:

- Monitoring must be directed at fulfilling one or more objective sets, be subject to analysis and lead to potential actions;
- Monitoring should be for identifying problems, establishing a background reference, and evaluating the effectiveness of controls;
- Technology performance monitoring should be to confirm that the facility operates as designed, if remedial design improvements are needed, or if it needs maintenance. This will assist in improving future designs;
- The monitoring program will be directed at connecting impact analysis with technology performance assessment;
- The strategy will recognize and incorporate existing monitoring programs; and
- The monitoring will lead to reporting on results and taking appropriate follow-up action. This is a key component that fulfils due diligence expectations.

7.5 Environmental Project Report Addendum Process

The TTC will prepare an addendum to the EPR if significant changes to the Project occur after the Notice of Completion is issued. This will be done in accordance with Section 15 of the Ontario Regulation 231/08. Steps to complete the Addendum will include:

1. Preparation of an Addendum to the EPR;
2. Preparation of a Notice of Addendum to the EPR; and
3. Distribution of the Notice of Addendum to relevant stakeholders, the public and the MECP