Natural Environment – Study Results

A Natural Environment study looks at existing terrestrial and aquatic conditions, to assess the potential environmental effects on species (Wildlife) and habitat (including Trees and Vegetation). Potential effects identified for the Scarborough Junction Grade Separation Project are limited to the rail corridor and Corvette Park multi-use crossing. A sample of these potential effects are summarized below.

Environmental Components	Potential Effects	Proposed Mitigation Measures
• Trees and Vegetation	• Tree/vegetation removal or injury • Establishment of invasive species	• If a tree requires removal or injury, compensation and permitting/approvals will be undertaken in accordance with the Metrolinx Vegetation Guideline (2020) including measures to reduce establishment of invasive species. • All applicable bylaws and regulations for tree removals outside of Metrolinx properties will be adhered to. • Vegetation removals will also consider and mitigate potential impacts to migratory birds, Species at Risk, and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.
• Wildlife	• Disturbance, displacement or mortality of wildlife (due to permanent loss of habitat) • Disturbance or destruction of migratory bird nests	• Prior to construction, investigation of the Project Footprint for wildlife and wildlife habitat will be undertaken to confirm findings of previous surveys, as appropriate. • If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. • All works will comply with the Migratory Birds Convention Act (1994) and the Endangered Species Act, (2007). • If construction occurs during the nesting season (April 1 to August 31), a nest search will confirm whether migratory birds are nesting in the Project Footprint prior to vegetation removal. • If removal/replacement of structures/buildings are determined to be required during detailed design, they will be inspected for potential use by Barn Swallow or Species at Risk bats prior to removal.

No Species at Risk (SAR) were identified, and there are no project interactions with aquatic features

Archaeology – Study Results

A Stage 1 Archaeological Assessment (AA) was undertaken for the project to assess archaeological potential and avoid any impacts to archaeological resources.

- Based on recommendations from the Stage 1 AA, a Stage 2 AA was undertaken at two small areas at Danforth Road/Midland Avenue intersection and Corvette Park.
- No archaeological resources were identified during the Stage 2 survey. At this time, no further AA is required.
- Though no archaeological resources were found, mitigation measures have been identified for construction if unexpected artifacts are encountered, or changes occur to the Project.
- Indigenous communities have been engaged since the pre-planning phase of the Project and will continue to be engaged regarding any future archaeology work.

Potential Effects	Proposed Mitigation Measures
• Potential for the disturbance of archaeological resources	• If unexpected archaeological materials are encountered (or suspected), all work will stop. The site will be protected from impact until assessment by a licensed archaeologist. • If the Project Footprint is altered and falls outside of the assessed area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered, all work will cease. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted. • All Archaeological Assessment findings will be shared with Indigenous communities, as per Metrolinx procedures.

Archaeological Assessments are undertaken in accordance with the Standards and Guidelines for Consultant Archaeologists (MHSTCI 2011).

Cultural Heritage – Study Results

A *Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment* looks at properties (structures and/or landscapes) with known or potential cultural heritage value or interest. It assesses the potential effects from the proposed infrastructure and recommends mitigation measures to minimize any adverse effects. A sample of these potential effects are summarized below.

Potential Effects	Proposed Mitigation Measures

• Potential indirect impacts to three properties (70 Granger Ave., 87 Granger Ave., and 112 Granger Ave.) due to installation of new/ modified infrastructure adjacent to the property (such as construction vibration)	• Selection of construction staging and lay-down areas will follow Metrolinx selection procedures, which include avoiding Cultural Heritage Resources (CHR) wherever possible or effectively mitigating impacts where not possible.
	• Given the vicinity of the CHRs to Project activities, condition surveys and vibration monitoring are recommended.
	• Where construction activities are anticipated in a 50 meter buffer zone, the following vibration monitoring activities are proposed as part of the development and implementation of a detailed Construction Noise and Vibration Management Plan:
	  • Pre-construction vibration assessment and condition surveys
	  • Vibration monitoring program
	  • Post-construction condition survey
	• If there is a change in project design post TPAP that causes any additional heritage properties to be impacted above and beyond those described in this EPR, additional impact assessment work and heritage studies will be undertaken in accordance with applicable legislation.

Socio-Economic and Land Use – Study Results

A Socio-Economic and Land Use study looks at current and future land use conditions in the study area. A sample of these potential effects are summarized below.

Potential Effects	Proposed Mitigation Measures
• Property acquisition – permanent and temporary • Access disruption • Loss of privacy	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. • Access to businesses during construction will be maintained at the Danforth Road / Midland Avenue area, where feasible. Where regular access cannot be maintained, alternative access and signage will be provided. • Fencing will be considered to address privacy concerns adjacent to the Corvette multi-use crossing east pathway to Wolfe Avenue.
• Nuisance effects from construction activities • Aesthetics / visual effects during construction and operation	• Transparent barriers will be considered at the corner of Danforth and Midland to improve visibility for traffic and pedestrians. • Appropriate finish(es) for the retaining walls will be determined based on municipal planning and urban design policies and objectives, surrounding land uses, adjacent built form, and pedestrian, cycle and automobile traffic levels. • Staging/lay-down areas will be selected in accordance with Metrolinx procedures and City of Toronto protocols. • Staging/lay-down areas will be located in areas that minimize adverse effects to sensitive receptors. • Construction schedule delays will be avoided to the greatest extent possible in order to minimize the duration of construction and corresponding visual impacts. • The surrounding community will be notified of initial construction plans, as well as any future modifications as they occur. • Prior to construction a Communications Protocol and a Complaints Protocol will be developed, during construction.

The removal of at-grade crossings will eliminate conflicts between vehicles and trains, improving traffic flow and pedestrian/cyclist movement.

Transportation / Traffic – Study Results

Potential Effects	Proposed Mitigation Measures
• Construction will result in the need for temporary road / lane closures, changing access to nearby land uses. • Modifications to traffic signal timing at adjacent intersections may be required.	• Traffic Control and Management Plan(s) will be developed prior to construction. • Access to nearby land uses will be maintained to the extent possible, during construction. • Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules in advance of construction activities occurring. • Temporary traffic signal timing modifications may be assessed/implemented to optimize traffic operations and capacity of affected and adjacent intersections. • Advance notification signage will be placed along the road network in the vicinity upstream of the affected areas to advise motorists of construction and road disruptions. • Municipal paramedic services will be given an opportunity to review emergency response plans and access/egress points to construction sites.
• Construction may result in access restrictions to local bus routes, temporary changes in bus stop shelters/locations and temporary disruptions to the existing rail corridor.	• Danforth Road/Midland Avenue intersection: three lanes of traffic are proposed to remain open during construction through a staged detour, to maintain traffic flow along Danforth Road. • St. Clair Avenue East bridge: to minimize the impacts to nearby traffic signals, it is anticipated that the existing four traffic lanes will be maintained during construction. • Ensure that the public is notified in advance of any potential service disruptions. • Consult with local transit agencies to establish a suitable mitigation strategy to be implemented.
• Temporary effects on cyclists / pedestrians during construction such as temporary, partial or full sidewalk closures. • Increased distance to travel at Corvette multi-use crossing.	• Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs. Existing sidewalks and crossings will be maintained to the extent possible. • Simultaneous closures of the existing Corvette multi-use crossing, and Midland Avenue/Danforth Road crossings should be avoided. • Construction schedules will be shared with the public to encourage adjustments to travel patterns and behaviours accordingly and help reduce traffic impacts during peak hours.

Construction Air Quality - Study Results

The Construction Air Quality study looked at potential sources of emissions during the construction of the proposed infrastructure, assessed potential effects on the air quality, and provided recommendations on how to best mitigate and/or reduce these effects. A sample of these potential effects are summarized below.

Potential Effects	Proposed Mitigation Measures
• Activities that generate airborne dust, fumes, and odours including construction-related activities such as earth moving and materials handling • Exhausts (from tailpipe) from fuel combustion of construction equipment and heavy vehicles	• A detailed Construction Air Quality Management Plan will be developed and implemented to limit the generation and dispersion of airborne dust and combustion due to construction activities, as well as monitoring requirements for each of the sites. • A Communications Protocol and a Complaints Protocol will be developed. • Compliance with the specific air quality criteria and limits in the Metrolinx Environmental Guidance for Air Quality and Greenhouse Gas Emissions Assessment (2019) will be demonstrated. • Baseline air quality will be assessed by continuous measurement of local ambient concentrations of solid and liquid particles in the air (such as dust) over a minimum period of one week, where large local sources of pollution, such as highways, directly affect the zone of influence of the Project. • Monitor continuously any contaminant that is predicted to exceed its relevant air quality exposure criterion during any phase of the Project and at any receptor. • Potential for adverse effects on ambient air quality caused by construction will be minimized through scheduling of construction activities (e.g., staggering activities, limit number of equipment used at the same time). • All applicable best practices identified in the Environment Canada document, Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (2005) will be implemented.

Construction Noise and Vibration - Study Results

The Construction Noise and Vibration assessment looked at current noise and vibration conditions, assessed potential noise and vibration effects, and provided recommendations on how to best mitigate and/or reduce these effects. A sample of these potential effects are summarized below.

Potential Effects	Proposed Mitigation Measures
• Noise during construction may cause annoyance, disturb sleep and other activities, and affect human heath.	• A detailed Construction Noise Management Plan will be developed prior to construction. • Mitigation measures will be proposed for sensitive receptors that fall within the zone of influence and evaluated using noise modeling. • Meet the noise exposure limits documented on the Metrolinx Guide for Noise and Vibration Assessment (2019) • Measures designed to reduce noise at the point of reception will be implemented.
• Vibration during construction may result in damage to buildings and other structures, as well as public annoyance and complaints.	• A detailed Construction Vibration Management Plan will be developed prior to construction. • A 15-metre setback distance will be established between the construction vibration source and nearby buildings, where possible, to minimize impacts. • Construction/maintenance methods and equipment with the least vibration impacts will be selected.