



October 17, 2022

Metrolinx (GO Transit)
97 Front Street West
Toronto, Ontario
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Subject: Metrolinx/GO Transit Adjacent Development Guidelines - Update

To whom it may concern,

The Third Party Projects Review team is in the process of revising this document to reflect emerging policies and procedures, and we anticipate that a new version will be released in December 2022. In the interim, the April 2013 Guidelines remain in effect.

If you have any questions please feel free to contact the undersigned at 416.202.0134 or Adam.Snow@Metrolinx.com.

Regards,

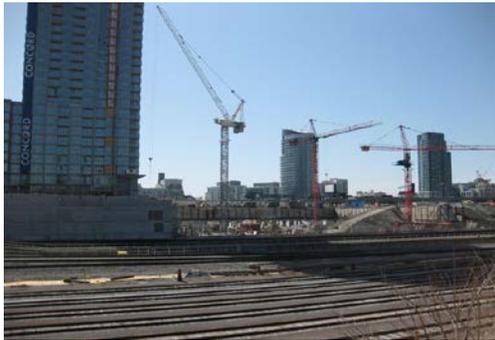
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Adjacent Development Guidelines



Document Approval Information

Document	Effective Date	Approved By
Adjacent Development Guidelines	01 April 2013	Grant Bailie

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Document Approval History

Version #	Date	Approved By	Description
1.0	10 January 2013	Grant Bailie	

Document Revision History

Version #	Date	Revised By	Description
1.0	10 January 2013	Jeff Bateman	Final
2.0	01 April 2013	Jeff Bateman	Updated - new corridor purchase

Document Details

Issuing Department	GO Railway Corridors
Document Owner	Director, Railway Corridors, Operations
Update Authority	Director, Railway Corridors, Operations
Intended Audience	Division Personnel and External Stakeholders
Original Issue Date	01 April 2013
Effective Date	01 April 2013
Expiry Date	01 April 2018
Document Status	Final Version
Review Cycle	Five-Year
File Name	Railway Corridor Management Office Adjacent Development Guidelines
File Location	Railway Corridors

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1. Introduction

GO Transit manages approximately 288 kilometres of Metrolinx-owned railway corridors, corresponding to about 68 per cent of the total railway network that GO Trains regularly operate over. By properly managing and maintaining these corridors and the nearly 535 kilometres of track they contain, GO Transit's Railway Corridors division helps to ensure that, every week, approximately one million train passengers travel to their destinations, safely and reliably.

The Railway Corridors Management Office (RCMO) resides within the GO Transit, Railway Corridors Division.

The RCMO supports safe and reliable train service through a variety of initiatives that include, but are not limited to, trespassing prevention, vegetation management (siteline preservation), anti-whistling initiatives, and general landlord responsibilities, such as debris and graffiti management. To achieve these goals, the RCMO oversees the railway right-of-way maintenance contractor and liaises with the municipalities our corridors pass through and other government agencies such as Transport Canada.

In addition, the RCMO reviews and provides comments on various development related applications for projects located within 300 metres of GO Transit managed railway corridors (including railway yards), to ensure a safe and reliable system and to minimize conflicts between proposed developments and current or planned GO Transit rail services.

2. Purpose

One of the key objectives of this document is to communicate relevant information to interested parties so that they may understand the implications of undertaking a development project in proximity to a GO Transit managed rail corridor and, as necessary, incorporate appropriate standards and "best practices" into their development plans.

The GO Transit adjacent development review process is in place in order to safeguard the integrity of the railway corridor and ensure that all development proceeds in a safe manner and that construction activities do not interfere with the maintenance or operations of GO Transit, nor obstruct future expansion of rail facilities.

GO Transit is committed to providing advice and support to proponents who are planning activities that interface with GO Transit managed railway corridors. As such, the RCMO is the first point of contact for all parties wishing to carry out new construction, repairs, and maintenance or demolition activities on any property adjacent to the railway corridor. Proponents are encouraged to contact GO Transit early in the development approvals process to discuss how these guidelines may be applicable to their project.

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GO Transit's rail corridors are a critical component of the Greater Toronto and Hamilton Area's (GTHA) urban fabric and pass through a diverse range of communities comprised of residential, commercial/industrial, and agricultural uses, as well as vacant lands. GO Transit has an established history of reviewing and commenting on applications for development sites along its respective corridors and has adopted a set of standards and "best practices" intended to enhance safety and compatibility between railway corridors and adjacent development activities.

3. Planning Framework

Land use decisions along railway corridors are generally fragmented and no single level of government has sole jurisdiction to address adjacent development issues.

Under the Provincial Planning Act (RSO2006 – through Ontario Regulations 543/06, 544/06 and 545/06), municipal planning departments must notify railway companies regarding proposed development activity within a 300 metres zone of influence adjacent to railway corridors. Through this process GO Transit has provided comments on a wide range of municipal land development matters including:

- Official Plan Amendments;
- Zoning By-Law Amendments;
- Plans of Subdivision;
- Site Plan Control Applications; and
- Minor Variance or Consent Applications.

The standards or "best practices" referenced in this document are intended to inform and influence municipal land development approval processes and provide a consistent framework for land use decisions made in proximity to GO Transit operated railway corridors. The measures have been developed through years of technical analyses and operational experience, and have been implemented by other rail operators such as CN and CP Rail.

While GO Transit's railway corridors play a critical role from a commuter transportation perspective, they can also serve as physical barriers within a land development context. As communities mature on opposite sides of the corridor, pedestrian desire lines may be created (e.g., between a residential community on one side of the corridor and a school on the other side) and informal connections arise when holes are cut in fencing and pedestrians become trespassers on railway lands.

As such, GO Transit will also provide comments on various land development applications to discourage the creation of new desire lines across rail corridors and pursue formal (grade separated) connections to ensure that safe conditions are maintained, rail activity is not interrupted, and transit services are easily accessible. This approach complements the wider Metrolinx strategy of creating integrated mobility, as well as contributing to the development of higher quality infrastructure for pedestrians and cyclists and providing safer and more pleasant environments.

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It is acknowledged that past planning decisions and administrative practices have resulted in a multitude of development circumstances on properties adjacent to GO corridors, some of which are not consistent with the practices set out in this document and which may consequently be regarded as ‘legal non-conforming’ development. GO Transit’s intent is to ensure that all new development incorporates the measures identified herein. When considering re-development proposals for non-conforming properties, the existing rights will be considered, but any modifications extending beyond the established rights will not be permitted without the implementation of appropriate mitigation measures.

GO Transit may appeal any potential land use compatibility issue to the Ontario Municipal Board, within the legislative appeal period, for Official Plan and Zoning By-law Amendments, Plans of Subdivision, and Minor Variance of Consent applications. Site Plan applications not associated with the above-noted planning applications are not subject to appeal.

4. GO Transit Operated Corridors Map

Figure 1 provides an overview of all GO Transit managed railway corridors. It should be noted that some of these corridors are currently owned by other operators, such as CN and CP Rail and as such, they are the primary commenting agencies for adjacent development activities along their lines. The principles set out in this document are also upheld by these operators.

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Figure 1: GO Transit Managed Railway Corridors

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5. GO Transit Land Use Guidelines

A list of general safety measures, technical studies, and legal agreements typically considered for developments adjacent to the rail corridor are presented in **Table 1**, with each organized on the basis of the applicable land use.

The majority of these measures are to be considered for development located immediately adjacent (with direct exposure) to rail corridors. However, certain measures (such as noise studies and environmental easements) are applied within a zone extending 300 metres from the rail corridor. These measures are also primarily directed at Principal Main Line applications, where train volumes generally exceed 5 trains per day, higher train speeds may be observed, and crossings, gradients and other factors may increase normal railway noise and vibration. All GO Transit corridors are considered Principal Main Lines.

GO Transit considers the measures identified for *residential* development to be mandatory and may refer cases that fail to incorporate these requirements to the Ontario Municipal Board. Measures identified for other (*non-residential*) land uses are recommended and final decisions regarding their applicability are to be established by the local municipal staff together with the proponent. In a case where the proposed development incorporates mixed uses, including residential, the more stringent (residential) requirements would apply.

The general safety measures identified in Table 1 are discussed in section 6 of this report; technical studies are identified in section 7, and warning clause and legal agreements are reviewed in section 8.

Land Use	General Safety Measures			General Technical Studies			Dev. Agreement / Env. Easement
	Setback	Berm	Fencing	Drainage	Noise	Vibration	
Residential	Mandatory 30 Metres	Mandatory 2.5 Metres	As Required 1.83 Metres	As Required	Mandatory	Mandatory	Mandatory
Commercial	Recommended 30 Metres	Recommended 2.5 Metres	As Required 1.83 Metres	As Required	Recommended	Recommended	Not required
Industrial	Recommended 15 Metres	Recommended 2.0 Metres	As Required 1.83 Metres	As Required	Recommended	Recommended	Not required
Institutional	Recommended 30 Metres	Recommended 2.5 Metres	As Required 1.83 Metres	As Required	Recommended	Recommended	Not required
Intensively Used Grounds	Recommended 30 Metres	Recommended 2.5 Metres	As Required 1.83 Metres	As Required	Recommended	Recommended	Not required
Low Occupancy Land Uses	Not Required*	Not Required*	As Required 1.83 Metres	As Required	Not Required	Not Required	Not required
Zone of Influence	Immediately Adjacent Sites (up to 120 Metres)				Sites within 300 Metres	Sites within 75 Metres	Sites within 300 Metres

Table 1: GO Transit Land Use Guidelines - Standard Measures and Studies for Adjacent Development

*Protection for certain uses (e.g., parking garages) may be desirable – to be determined at the discretion of the proponent/municipality.

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6. General Safety Measures

6.1 Building Setback Requirements

Building setback requirements are established to provide a buffer zone that contains the impacts associated with a potential train derailment; permits dissipation of rail-oriented emissions, vibration, and noise; and accommodates a safety barrier. As indicated in Table 1, setback distances vary by land use and occupancy status. The following provides an overview of building setback requirements and conditions:

- The minimum building setback distance is measured from the mutual property line to the building face. The mutual property line is always the reference point for building setbacks, regardless of area conditions.
- Under typical conditions, the setback is measured as a straight-line horizontal distance. **Figure 2** below provides an illustration of a typical setback and berm installation for residential construction.

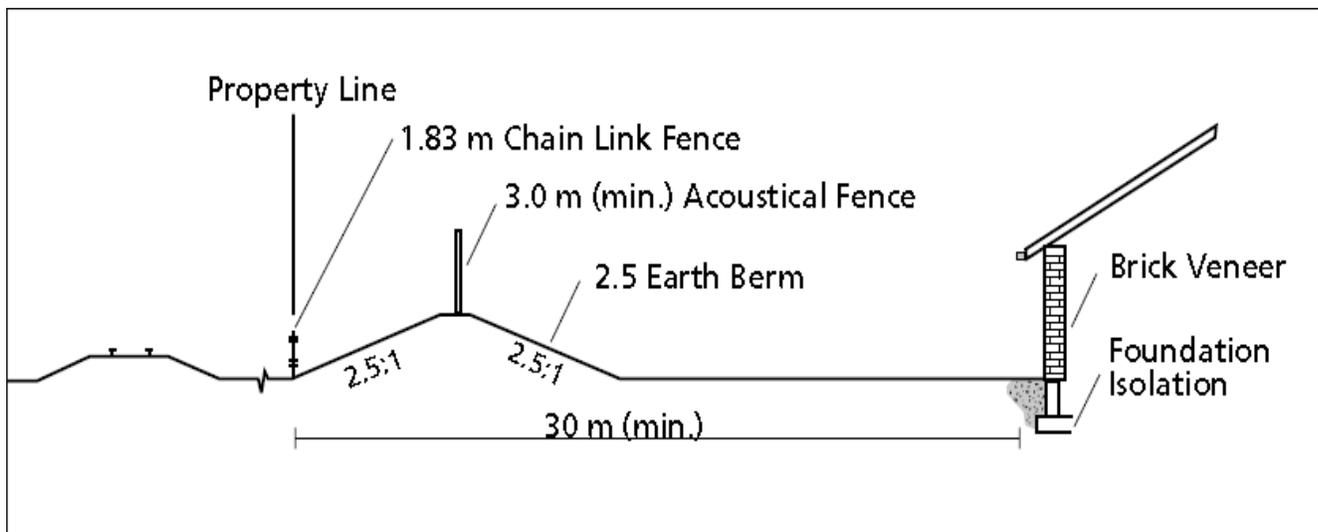


Figure 2: Typical Building Setback and Berm for Residential Construction

Source: Earthtech Canada, "Final Report; Proximity Guidelines and Best Practices", RAC/FCM Proximity Guidelines

- Where circumstances dictate (e.g. spatially constrained urban sites), the building setback distance may be measured as a combination of horizontal and vertical distances, as long as the horizontal and vertical value add up to meet the 30m requirement (illustrated in **Figure 3**).

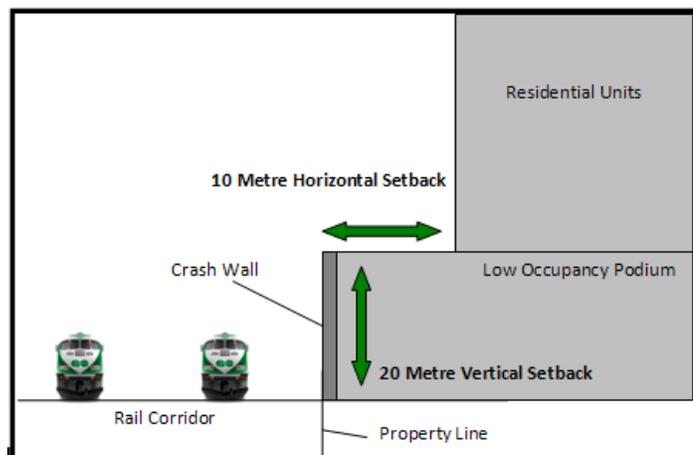


Figure 3: Building Setback - Spatially Constrained Site

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- When the adjacent rail line is located in a cut measuring in the order of 4.0 metres deep or greater, the slope may be included as part of the building setback (measured from the toe of the slope).
- Low occupancy land uses (such as parking, storage, open space) do not require a specific setback and are acceptable uses within the setback zone of another use.
- The mutual property line may be redefined in cases where rail corridor expansion is required and the minimum setback distance would be measured from the new property line.
- Existing building setbacks may vary by location and do not set the precedent for new development.

6.2 Safety Barrier Requirements

Safety Barriers in the form of a berm or crash wall are required to absorb the impacts of a possible derailment and provide physical protection for adjacent properties. As indicated in Table 1, safety barrier requirements vary by land use and occupancy status. The following provides an overview safety barrier requirements and conditions:

Berm:

- Where full building setbacks can be provided, safety barriers are constructed as *berms*. Setbacks and berms are to be provided together in order to afford a maximum level of mitigation (refer to Figure 2).
- In the absence of intervening uses, safety barriers are required for lands within up to 120 metres from the railway corridor, with the required barrier height diminishing with distance.
- Berm heights (measured from the property line elevation) may vary by land use (refer to Table 1).
- Alternate berm designs (e.g., using retaining walls) may be considered for spatially constrained locations. The intent is to provide a level of energy absorption equivalent to that of a standard berm. Such designs will be subject to review/approval by GO Transit's Third Party Project consultant (refer to Section 9.0)
- Berms are to be located adjoining and parallel to the railway property line, entirely on the adjacent private property.
- Returns are to be provided at the ends of the berms, with placement subject to site specific conditions, such that buildings with direct exposure to the rail corridor are suitably protected.
- When the adjacent rail line is located in a cut measuring in the order of 4.0 metres or deeper, no supplemental safety barrier is required.

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Crash Wall:

- Where circumstances dictate (e.g. for spatially constrained urban sites), a crash wall may be required (refer to Figure 3).
- Crash wall specifications are set out in the *Crash Wall Guidelines* document prepared by GO Transit's Third Party project consultant. The proponents engineer must demonstrate that the crash wall will afford a level of protection at least equivalent to a standard berm (with a higher level of protection if no setback will be provided and the subject land use involves a high level of human occupancy). Such designs will be subject to review and approval by GO Transit's Third Party Project consultant (refer to Section 9.0).
- Low occupancy uses (such as parking, storage, passive parks) may not require a safety barrier, although the proponent/area municipality may wish to provide such protection for insurance or other purposes.

6.3 Fencing Requirements

Fencing is established to define railway property and discourage trespassing onto the railway corridor. As indicated in Table 1, new fencing installations are required irrespective of the land use and occupancy status. The following provides an overview of fencing requirements and conditions:

- For all new developments adjacent to the rail corridor, an appropriate fencing type along the boundary line is required to be installed by the property developer as a condition of subdivision/site plan approval.
- The current minimum standard is a 1.83 m high chain link fence. GO Transit also reserves the right to advise the developer whether a higher security fencing type is required. All costs for fencing associated with new developments are paid in full by the property developer.
- In the case of private fencing (residential, commercial, industrial, institutional etc.), the adjacent landowner is responsible for the continued maintenance and upkeep of fencing systems along the mutual property line.
- Noise attenuation and crash barriers are acceptable substitutes for standard fencing installations, although additional standard fencing may be required in any location with direct exposure to the rail corridor.



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- If the selected fencing is comprised of a solid surface, efforts should be made to discourage graffiti – for example, through the use of visually appealing landscaping that prevents direct access to the barrier face.

7. General Technical Studies

7.1 *Noise and Vibration Studies*

Noise and vibration studies may be required to ensure, through an analysis of the surrounding environment, that suitable measures are introduced to mitigate rail oriented noise and vibration impacts. As indicated in Table 1, noise and vibration study requirements vary by land use and occupancy status. The following provides an overview of noise and vibration study requirements and conditions:

- Noise standards are to be applied to residential development within 300 metres of the rail corridor.
- Acoustical analysis is recommended for other non-residential uses where there may be sensitivity to noise (e.g., day care centres, offices with sensitive equipment etc.).
- Noise attenuation barriers may be required for projects (primarily residential) that include outdoor amenity areas. These barriers shall be located adjoining and parallel to the railway right-of-way, having returns at the ends and a minimum total height of 5.5 metres above top-of-rail.
- Other measures (e.g. provision of air conditioning, enhanced windows and building materials, etc.) may also be recommended by a qualified acoustical consultant.
- Trees and standard fencing are not acceptable substitutes for noise barriers.
- Warning Clauses are mandatory for residential units within 300 metres of the rail corridor and may suitably address noise concerns for other non-residential forms of development.
- Special considerations may apply at locations where trains are stored and/or operate at reduced speed/idle, as well as in areas with unique operating characteristics (e.g. use of snow blowers, specialized machinery, etc.).
- Vibration standards are to be applied to development within 75 metres of the rail corridor.
- Isolation measures will be required where vibration levels exceed the established standards.

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7.2 Drainage and Other Technical Studies

Drainage and other studies may be required to ensure, through an analysis of the surrounding environment, that the rail corridor is not adversely affected by, or does not adversely affect area development.

The following provides an overview of drainage and other study requirements and conditions:



- Any proposed alterations to the existing rail corridor drainage pattern (i.e., into and/or out of) must receive approval by GO Transit and be substantiated by a drainage report completed by a Geotechnical Engineer.
- Any development related changes to drainage patterns must be addressed using infrastructure and/or other means located entirely within the confines of the subject development site.
- Other technical studies may be required depending on the characteristics and location of the subject project. For example, additional studies are typically required for properties within the vicinity of the Union Station Rail Corridor (USRC) due to the heavy rail traffic volumes and spatial constraints in that area. Typical studies may include:
 - ✓ Air Quality Study;
 - ✓ Micro Climate (Wind/Snow Accumulation) Study;
 - ✓ Structural Engineering Report; and
 - ✓ Pedestrian Management Plan

Drainage studies and other technical studies may be subject to review and approval by GO Transit's Third Party Project consultant (refer to section 9) depending on the prevailing circumstances.

8.0 Warning Clause and Development Agreements

A Warning Clause is required and may be delivered together with other legal agreements to formalize owner rights and responsibilities with respect to the purchase and development of lands in the vicinity of railway corridors. The need for and nature of development agreements will vary depending on the characteristics and location of the subject project.

The proponent is responsible for all costs related to the preparation and negotiation of the agreements.

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8.1 Warning Clause

To advise new or prospective property owners of the potential adverse impacts resulting from the adjacent railway operations, a Warning Clause will be pursued by GO Transit.

The Warning Clause will be inserted in all Development Agreements, Offers to Purchase, and Agreements of Purchase and Sale or Lease for any new residential dwelling unit within 300 metres of the railway corridor (as well as for other non-residential development projects with noise-related issues). The following is the current version of the warning clause:

Warning: Metrolinx, carrying on business as GO Transit, and its assigns and successors in interest has or have a right-of-way within 300 metres from the land the subject hereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future including the possibility that GO Transit or any railway entering into an agreement with GO Transit to use the right-of-way or their assigns or successors as aforesaid may expand their operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). Metrolinx will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way.

Other warning clauses may be applied depending on prevailing circumstances.

8.2 Development Agreements

In cases where a new development is located immediately adjacent to a railway corridor, the property owner will be required to enter into a Development Agreement with Metrolinx stipulating how GO Transit's interests will be protected throughout the lifetime of the project (from construction start to on-going building occupation). GO Transit's interests typically focus on ensuring that the applicable safety and noise/vibration mitigation measures are suitably provided and maintained.

The Development Agreement will also include an Easement for Operational Emissions, to be registered on title over all associated development property within 300 metres of the rail corridor. In the event that the subject property does not extend to the rail corridor, the easement can be registered through the use of an abbreviated agreement document.

Additional Development Agreements may be necessary on a short-term (e.g. during construction) or on an ongoing basis depending on the nature of the project and the proximity to the rail corridor. Examples of such agreements include:

- ✓ Crane Swing Agreement;
- ✓ Temporary Hording or Fencing Agreement;
- ✓ Tiebacks/Shoring Agreement;
- ✓ Required Maintenance Agreement; and
- ✓ Access Easements

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9.0 Third Party Project Approval

The Third Party Project approval process is in place to safeguard the integrity of the railway corridor and ensure that all work proceeds in a safe manner and that does not interfere with the maintenance or operations of GO Transit, nor obstruct future expansion of rail facilities. What may appear to be a corridor of land with rail lines running along it may in fact be a corridor of complex, tightly packed, high-tech communication and other public and private infrastructure that must be carefully managed.

Proponents of Adjacent Developments should also reference the GO Transit Third Party Approval Process Guidelines for more information.

9.1 Role of Third Party Consultant

In October 2012, GO Transit/Metrolinx awarded a new contract for management of all Third Party Projects to AECOM Canada Ltd. (RQQ-2012-RCM-019). Under the terms of this contract, it is AECOM's responsibility, under the direction of the RCMO, to protect the interests of GO Transit for all proposed works within and, in some cases, immediately adjacent to the railway corridor. Funding is obtained through the proponent to cover AECOM's review and coordination of services. There are different types and levels of analysis, approvals, consultation and timelines that can be expected depending on the nature of the project(s) in question. An overview of the types of projects and activities that will require AECOM's services as part of the approval process for adjacent development, as well as details pertaining to AECOM's typical role in relation to each case, is provided below.

Drainage Review: AECOM's role typically includes:

- reviewing drainage and grading plans/reports to ensure that post development flows do not increase and adversely impact the integrity of the railway corridor and that suitable infrastructure is in place to accommodate site-related drainage;

Crash Wall Analysis: AECOM's role typically includes:

- providing applicable guidelines to the proponent for reference (refer to Appendix A); and
- reviewing crash wall designs and plans to ensure compliance with railway standards and structural guidelines.

Structural Analysis: AECOM's role typically includes:

- reviewing structural (shoring/tieback) plans for any proposed structure(s) that could impact GO Transit facilities or infrastructure.

Access for Working within or Adjacent to the Railway Right-Of-Way: AECOM's role typically includes:

- reviewing and commenting on the scope of work proposed including type of construction activity and machinery to be utilized in order to protect the integrity of the railway and ensure that all operational and safety requirements of GO Transit are strictly followed;

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- ensuring there are no objections or conflicts to the proposed work;
- issuing a “Work Permit” on behalf of GO Transit when all requirements are satisfied.

Railway Orientation/Security Awareness Course - Right-Of-Way Work: AECOM’s role typically includes:

- ensuring all persons performing work at track level have the necessary training to do such work: personnel must display the appropriate hard hat sticker or carry proof of training such as a wallet card and adhere to applicable rules and regulations at all times while within the rail corridor. AECOM also arranges for appropriate flagging protection for the subject work.

AECOM may also be required to review various studies including air quality and micro climate (wind/snow accumulation) studies or pedestrian management plans.

10. Role of Other GO Transit / Metrolinx Departments

RCMO coordinates internal GO Transit/Metrolinx review, comments and approvals as well as coordinating the execution of any required agreements or real estate related issues (e.g. easements, sale of property) as required. The following internal stakeholders may be consulted as part of the adjacent development review process:

Realty Services – provides direction on all property-related issues and is the primary business lead for utility crossing agreements, easements and other land transactions (e.g. sale of property) as required.

Legal Services – facilitates the execution of all legal matters including new and amended development agreements, crossing agreements, temporary use agreements (e.g. crane swing or tieback/shoring agreements) and land transactions.

Risk Management – provides direction for all liability and insurance requirements.

Construction Management Office (CMO) – conducts reviews and provides approvals for any construction or access requirements where GO Transit is the Constructor to ensure that work proceeds in accordance with Occupational Health and Safety best practices. CMO will also provide training to all construction personnel accessing the GO construction zone and coordinate with other contractors working in GO construction zones, and advise of conflicts if any.

Corporate Infrastructure – provides direction to ensure that existing and planned GO Transit infrastructure projects are coordinated with and, most importantly, not adversely affected by adjacent development activities.

Policy Planning and Innovation – provides direction on issues pertaining to GO Transit Service expansion plans and Mobility Hub development initiatives.