



Division "F"
Development Application
and Capital Project
Requirements
Standards and Specifications Manual





Index

Section	Description
F1	Submission Guidelines
F1.1	General
F1.2	Site Alteration Permits
F1.3	Site Plan Development
F1.4	Subdivision Approval
F1.5	Capital Project Requirements
F1.6	General Report Requirements
F1.7	Construction Management Requirements
F1.8	As-Built Submission Requirements
F2	Drawings and CAD Standards
F2.1	General
F2.2	Engineering Drawing Requirements (Site Plans)
F2.3	Engineering Drawing Requirements (Subdivisions)
F2.4	CAD Requirements
F2.5	Infrastructure Management System Data Requirements
F3	Standard Checklists and Documents
F3.1	Engineering and Agreement Submission Checklist
F3.2	Sample O.L.S. Certificate
F3.3	Schedule "D" Estimated Cost of Municipal Services
F3.4	Schedule "D-1" Creditable Services
F3.5	Specifications for Digital Submission of Draft Approved M-Plan
F3.6	Notice of Contractor



Section F1

Submission Guidelines

.1 General

The City's Consolidated Development Application Guide has been developed to describe the process for approval of Official Plan Amendment, Zoning By-law Amendment, Draft Plan of Subdivision, Draft Plan of Condominium, Part Lot Control Exemption and Deeming Bylaw applications. A copy of the guide can be found on the City's website.

This section outlines the requirements for preparation and submission of various documents, drawings, and other information in support of land development as well as municipal capital projects.

All drawings and reports must be prepared and signed by qualified professional(s) with appropriate licenses, certifications, and/or designations in their respective field of expertise.

This information has been developed to assist parties in achieving satisfactory submissions to the City for their intended approval purpose. This is not intended to be a complete and exhaustive list of all requirements and the City reserves the right to modify these requirements as they see fit, based on the type and complexity of the project.

.2 Site Alteration Permits

The City's Site Alteration By-Law prohibits any grading, removal, or placement of soil on lands within the City without an appropriate permit. A Site Alteration Permit (SAP) is mandatory outside of the Site Plan screening area. For land development projects, SAPs are issued at the request of the Developer/Applicant if they plan to carry out any form of site alteration in advance of the subdivision agreement, site plan agreement or servicing agreement.

"Site Alteration" means:

- The placement or dumping of fill on land;
- The removal of topsoil from land;
- The alteration of the land by any means, including the removal of vegetative cover, excavation, the compaction of soil or the creation of impervious surfaces; or
- The combination of any of the activities listed above.

The following sections outline the requirements to support an SAP for pre-grading, pre-servicing, and shoring tiebacks. The requirements must be confirmed by the City's Project Coordinator for each specific project:

.2.1 Pre-Grading

The following is required and must be in place in order to obtain a site alteration permit for pre-grading:

- a) Submission of Site Alteration Permit application
- b) Allocation (by Council) of water and sewer servicing
- c) Letter of Credit in the following amount:

Estimated Value of Work	Letter of Credit Value
<\$250,000	\$20,000
\$250,000 to \$500,000	\$50,000
>\$500,000	\$100,000

The City’s format for a Letter of Credit must be used. A sample can be downloaded here:

<https://www.richmondhill.ca/en/shared-content/resources/documents/template-letter-credit-site-alteration-pool-permit.pdf>

- d) Owner’s and Contractor’s Certificate of Insurance, minimum \$10,000,000 Commercial General Liability and \$5,000,000 Automobile Liability.

The City’s standard forms can be downloaded here:

<https://www.richmondhill.ca/en/find-or-learn-about/certificate-of-insurance-forms.aspx>

- e) Notice of Contractor (Use City Standard Format, See Section F3)
- f) Archaeological Clearance
- g) Tree Preservation/Restoration Plan(s)
- h) EIS Report, Geotechnical/Hydrogeological Report, and Phase 1 ESA
- i) Excess Soils and Fill Management Plans and Notice of Registry
- j) Area Grading Plan(s)
- k) Erosion and Sediment Control Plan(s), including topsoil pile height and location
- l) Adjacency Report
- m) Copy of Proposed M-Plan Approved by Planning

All of the above documentation/reports must be reviewed by the City and all comments and recommendations incorporated prior to Pre-grading. Generally, a complete second Engineering Submission must be made and reviewed prior to Pre-grading proceeding.

A pre-construction meeting with the City must be arranged prior to Pre-grading proceeding.

.2.2 Pre-Servicing Requirements

The following is required and must be in place in order to obtain a site alteration permit for pre-servicing. For Site Plan applications, pre-servicing only applies to installation of municipal sewers and watermain.

- a) Submission of Site Alteration Permit application
- b) Allocation (by Council) of water and sewer servicing
- c) Letter of Credit in the amount of 20% of the estimated cost of work for subdivisions and 100% of the estimated cost of work for site plans.

The City's format for a Letter of Credit must be used. A sample can be downloaded here:

<https://www.richmondhill.ca/en/shared-content/resources/documents/template-letter-credit-site-alteration-pool-permit.pdf>

- d) Engineering Fees as per the Tariff of Fees Bylaw
- e) Owner's and Contractor's Certificate of Insurance, minimum \$10,000,000 Commercial General Liability and \$5,000,000 Automobile Liability

The City's standard forms can be downloaded here:

<https://www.richmondhill.ca/en/find-or-learn-about/certificate-of-insurance-forms.aspx>

- f) Notice of Contractor (Use City Standard Format, See Section F3)
- g) Archaeological Clearance
- h) Tree Preservation/Restoration Plan(s)
- i) EIS Report, Geotechnical/Hydrogeological Report, and Phase 1 ESA
- j) Adjacency Report
- k) Engineering Plans for Municipal Servicing, including Erosion and Sediment Control plans
- l) Permitting and Agency Approvals (MECP, TRCA, LSRCA, MNR, MTO, Region of York, etc.)
- m) Copy of Proposed M-Plan Approved by Planning

All of the above documentation/reports must be reviewed by the City and all comments and recommendations incorporated prior to pre-servicing.

A pre-construction meeting with the City must be arranged prior to pre-servicing proceeding.

If a pre-grading site alteration permit was obtained and the site owner would like to proceed with pre-servicing, a separate pre-servicing site alteration permit must be obtained and a new or amended Letter of Credit must be provided to reflect the new permit. The site owner must also ensure that the Insurance Certificates will not expire prior to completion of pre-servicing works, or issue a new Insurance Certificate.

.2.3 Shoring Tiebacks

A shoring tieback site alteration permit is typically issued to support a shoring permit issued by the Building Department in advance of a site plan agreement and when shoring tie-backs encroach onto City owned lands. The following is required and must be in place in order to obtain a site alteration permit for shoring tiebacks:

- a) Submission of Site Alteration Permit application
- b) Letter of Credit in the amount of 100% of the estimated cost of work to de-stress and remove the tie-back encroachments, including all restoration.

- c) Owner’s and Contractor’s Certificate of Insurance, minimum \$10,000,000 Commercial General Liability and \$5,000,000 Automobile Liability

The City’s standard forms can be downloaded here:

<https://www.richmondhill.ca/en/find-or-learn-about/certificate-of-insurance-forms.aspx>

- d) Notice of Contractor (Use City Standard Format, See Section F3)
- e) Approved shoring and section detail plans
- f) Construction and Traffic Management Plan (refer to Section F1.7)
- g) Erosion and Sediment Control Plan
- h) Dewatering Plan

.3 Site Plan Development

The City’s Site Plan Control By-law #137-09 designates all land within the City as a Site Plan Control Area. As a result, the City must approve any proposed development through the Site Plan or Site Plan Amendment application process. For the purposes of Site Plan Control, “development” includes:

- Constructing, erecting or placing one or more buildings or structures on land;
- Additions or alterations to a building or structure that significantly increases the size or usability of it;
- Establishing a commercial parking lot; and/or
- All new construction and/or additions/modifications to industrial, commercial, institutional, mixed-use and multi-residential developments.

Site Plan control protects property rights and values. It also protects environmental and heritage features of a site and its surrounding areas. The Site Plan approval process ensures that planned structures and the overall development of lands contribute to the development of the community in a positive way.

Additional information on the general requirements and application process can be found in the City’s Site Plan and Site Plan Amendment Application Guide, which is available on the City’s website.

<https://www.richmondhill.ca/en/register-apply-or-pay/Site-Plan-Amendments.aspx>

It should be noted that Site Plan and Site Plan Amendment applications are required to be submitted through the City’s Planning and Infrastructure Department. Submissions are then circulated to other required City departments for comment. All comments are then consolidated and provided back to the applicant.

.3.1 Pre-Submission or Pre-Application Requirements

For Site Plan applications, a pre-submission or pre-application meeting is typically coordinated through the City's Planning and Infrastructure Department. Refer to Appendix 2 in the Site Plan and Site Plan Amendment Application Guide:

<https://www.richmondhill.ca/en/shared-content/resources/documents/2022-Development-Applications/2022-Site-Plan-and-Site-Plan-Amendment-Application-Guide.pdf>

Following the meeting, the City will provide the property owner with a Submission Requirements Letter that outlines the drawings and supporting documents that will be required for a complete application.

.3.2 Submission Requirements

The first submission is to be in accordance with the Pre-submission Submission Requirements letter provided by Planning following the Pre-Submission and/or Pre-Application Meeting.

All design must be in accordance with the City's standards and specifications.

A general description of the requirements for various reports and studies commonly required as part of a complete application can be found in Section F1.6.

All subsequent submissions addressing City and external Agency's comments are to be made through Planning.

.3.3 Site Plan Agreement

All Site Plan applications require a detailed Engineer's Cost Estimate to be submitted for review and approval. The engineer must provide a cost estimate for the site plan works, including but not necessarily limited to the following:

- Site Servicing and LIDs
- Grading
- Asphalt and curbing
- Noise measures, fencing and retaining walls (if required)
- Exterior lighting
- Erosion and sediment control
- Storm sewer outlets/outfalls
- TDM measures

The City may, at their discretion, determine that other separate detailed cost estimates are required for additional items, as may be applicable, which could include shoring and tiebacks, other municipal works to be assumed by the City, private well monitoring by a qualified hydrogeologist, etc.

.4 Subdivision Approval

The City’s Consolidated Development Application Guide has been developed to describe the process for approval of Official Plan Amendment, Zoning By-law Amendment, Draft Plan of Subdivision, Draft Plan of Condominium, Part Lot Control Exemption and Deeming Bylaw applications. A copy of the guide can be found on the City’s website.

<https://www.richmondhill.ca/en/shared-content/resources/documents/2021-Development-Applications/2021-Consolidated-Development-Application-Guide.pdf>

The intent of this section is to describe the requirements to satisfy draft plan approval conditions and for preparation of the subdivision agreement. It should be noted that City review of plans and documents can be completed in tandem with preparation of the subdivision agreement.

.4.1 Pre-Submission Meeting

Prior to commencing work on any engineering submission, the property owner and/or their agent must ensure that they have a complete understanding of the City’s expectations and requirements. This meeting can be coordinated with the Project Coordinator from the Infrastructure Planning and Development Engineering Division, Planning and Infrastructure Department.

.4.2 First Submission Requirements

The initial or first engineering submission shall consist of one digital copy (pdf format) of the information listed below. The Project Coordinator will advise if any hard copies are required after receipt of the first submission

- a) A cover letter from the Consultant identifying the content of the submission and confirming that the design complies with the City’s standards and specifications.
- b) Completed Engineering and Agreement Submission Checklist (Refer to Section F3).
- c) Engineering drawings:
 - i. Title Sheet, including location map
 - ii. Drawing Index
 - iii. Standard Notes Sheet
 - iv. General Servicing Plans
 - v. Sanitary Drainage Area Plan (internal and external)
 - vi. Storm Drainage Area Plan (internal and external)
 - vii. Foundation Drain Collector Drainage Area Plans
 - viii. Area Grading and Lot Grading Plans (include Park Block grading)
 - ix. Erosion and Sediment Control Plans

- x. Construction Management Plans
- xi. Plan and Profile Drawings
- xii. Storm Water Management Plans (excluding landscaping)
- xiii. Typical Sections and Details Plans
- xiv. Any other miscellaneous design and detail drawings

Standard drawing templates as well as standard notes and details can be obtained from the City at the pre-submission meeting.

- a) Sanitary, storm, and foundation drain collector sewer design sheets and computer model input/output files.
- b) Stormwater Management Report and Maintenance/Operations Report (if required).
- c) Geotechnical, Hydrogeological, Excess Soils and Fill Management Reports.
- d) Water Distribution System Analysis Report.
- e) Traffic Impact Study Report.
- f) Noise Report (if required).
- g) Tree Preservation Report and Restoration/Landscaping Plans (if required).
- h) Environmental Impact Study, Environmental Management Plans, and Restoration Plans (if required).
- i) Archaeological Report (if required).
- j) Phase 1 Environmental Site Assessment for all lands to be conveyed to the City.
- k) Architectural Control Guidelines (if required)
- l) Architectural Design Plans (if required)
- m) Cultural Heritage Impact Assessment (if required)
- n) Cultural Heritage Conservation/Landscape Commemoration Plan (if required)
- o) Draft M-Plan - Indicate area of park, open space or SWM blocks on M-Plan.
- p) O.L.S. Certificate (one must be the signed original) as per City standard format. (Refer to Section F3).
- q) All other calculations necessary to check the design.

For the items noted above as "if required", please refer to draft plan approval conditions to verify if the item is required for submission.

A general description of the requirements for various reports and studies commonly required as part of a complete application can be found in Section F1.6.

A separate digital pdf file shall be provided for each document, using the following naming convention:

<5-digit 19T-Number> <Document Name–max 20 characters> <Document Date YYYY-MM-DD>

Please see below for sample naming formats, using 19T-12002:

Reports	12002 Geotechnical 2021-02-03
	12002 SWM 2021-03-04
	12002 Archeological 2021-01-02
Legal Plans	12002 Draft M-Plan 2021-02-03
	12002 Easements 2021-04-01
	12002 OLS Certificate 2021-02-13
Engineering Plans	12002 General Servicing 2021-01-23 (for multiple plans use General Servicing1, General Servicing 2 etc.)
	12002 Area Grading 2021-03-18
	12002 Aida Place PP1 2021-05-12 (for plan profile drawings)

.4.3 Second and Subsequent Submission Requirements

Second and subsequent submissions shall be made, as required, until the design is deemed acceptable to the City and other agencies. Second and subsequent submissions shall not be made until the City’s comments regarding the previous submission have been provided and incorporated. The submission number (1, 2, 3, etc.) and date of submission shall be clearly marked on the documents.

All second and subsequent submissions shall consist of one digital copy (pdf format) of the information listed below. Digital copies shall be provided in accordance with requirements and naming convention outlined in Section F1.4.2.

- a) A cover letter from the Consultant identifying the content of the submission and confirming that the design complies with the City’s standards and specifications. This shall be accompanied by a summary of how each of the City’s comments on the previous submission(s) have been addressed.
- b) Completed Engineering and Agreement Submission Checklist.
- c) Plans, reports and/or other documentation required under the previous submission, revised or updated based on comments from the City or other agencies.
- d) Utility Design Drawings and Coordination Plans
- e) Landscaping Plans for SWM Facilities, Buffer Areas, Entry Features, or Traffic Islands.
- f) Lighting Design, including electrical layout, wiring, details, and photometric analysis (as per IESNA Guidelines).
- g) Registered Boundary R-Plan for the subject lands.
- h) Owner’s Deed for the subject lands.
- i) Parcel Register or Abstract for the subject lands.
- j) Draft M-Plan indicating proposed Street Names, which must be approved by the City.

- k) Draft R-Plans for internal and external easements.
- l) All required forms and supporting documentation for approvals related to the water, sanitary, and storm systems, in accordance with Drinking Water Works Permit and MECP Environmental Compliance Approval Requirements.

In addition to the above, the submission must include:

- a) Cash or Cheque in the required amount for all engineering and legal fees, as specified by the City. The deposit will be credited against fee payments outlined in the subdivision agreement.
- b) Contact name, address and telephone number for lawyer or firm responsible for preparation of legal documents necessary for execution of agreements and registration of M-Plan and/or R-Plan.
- c) List of all Lots and/or Blocks within proposed M-Plan and/or R-Plan affected by the following:
 - i. Engineered Fill
 - ii. Special Foundations
 - iii. Noise Control/Attenuation
 - iv. Retaining Walls
 - v. Sump Pumps
 - vi. Reduced Side Yards (in accordance with zoning by-law special provisions)

Draft copy of Schedule D to the Subdivision Agreement, which is an estimated cost of municipal and parks services internal and external to the proposed development. Costs shall be as tendered, if available. Schedule D shall be prepared using the City standard format (refer to Section F3) and supporting documentation in the form of a detailed breakdown of quantities and unit prices shall also be submitted.

- a) Draft copy of Schedule D-1 to the Subdivision Agreement, which is a summary of Development Charge Credits for creditable services installed as part of the development. Schedule D-1 will not be required where creditable services are not being constructed. The Oversizing Cost identified in Schedule D-1 shall be based solely on the costs identified in the applicable Area Specific Development Charges By-law. A copy of the applicable Development Charge By-law and supporting documentation is available through the City. Schedule D-1 shall be prepared using the City standard format (refer to Section F3).
- b) The following information, at a minimum, shall be submitted to assist the City in preparing Schedule I to the subdivision agreement, which outlines all payments and security requirements. Additional information may be requested at the City's discretion. Schedules D and D-1 must be finalized before Schedule I may be finalized by the City.
 - i. total length of road
 - ii. total length of sanitary sewer

- iii. number of hydrants
- iv. number of valve chambers
- v. number of streetlights

.4.4 Final Issued for Construction Submission Requirements

Once all City and other agency comments have been addressed, a final submission shall be submitted to the City for signature. Prior to submission for signature by the City, all engineering drawings shall be updated to reflect street names and lot numbering in accordance with the approved M-Plan as well as to include the City’s assigned drawing record number in the appropriate location reserved within the standard drawing title block.

The final submission shall consist of the following:

- a) Two (2) full-size and two (2) reduced format (11 x 17) complete hard copy sets of the approved engineering drawings.
- b) Final digital copies of files, including engineering drawings, calculations, reports, M-Plans, R-Plans, etc.
- c) The graphic and database files required for the City’s Infrastructure Management System. Refer to Section F2.

.5 Capital Project Requirements

Submission requirements for capital projects shall conform to the Terms of Reference provided by the City and the Project Charter that is subsequently developed.

All design must be in accordance with the City’s standards and specifications.

All drawings and reports must be prepared and signed by qualified professional(s) with appropriate licenses, certifications, and/or designations in their respective field of expertise.

.6 General Report Requirements

This section is intended to provide general guidance on the minimum requirements for various reports and studies that may be requested by the City. It should be noted that this is not to be considered all encompassing and there may be additional requirements depending upon the nature of the project, site specific conditions, and other factors. The scope of reports and studies should be confirmed with the City prior to commencement of any work.

All reports and studies must be prepared, signed, and sealed by a qualified professional with appropriate licenses, certifications, and/or designations in their respective field of expertise.

.6.1 Geotechnical Report

- a) A description of the project location and scope;

- b) A summary of O. Reg. 406/19 requirements and how they have/will be met;
- c) Identification, description and limits of the existing soil regimes;
- d) Extent of topsoil and its suitability for reuse;
- e) Suitability of native materials for trench backfill;
- f) Discussion on moisture content and water table levels, which may affect the proposed servicing or structural works of the concerned area and surrounding lands;
- g) Discussion on unsuitable material and the procedure for dealing with it;
- h) Recommended pavement design;
- i) Any special recommendation for bedding or backfill materials;
- j) Results of soil sampling and chemical analysis with any recommendations;
- k) Recommendations in dealing with filling conditions within the road allowances, on building lands, in the construction of berms etc.;
- l) Identification of problem areas and recommendations for mitigation;
- m) Any special recommendations to be followed in the design and construction of foundations, including recommended foundation elevations in relation to the groundwater elevation;
- n) The engineering properties of the native material including frost susceptibility, natural moisture content, compaction characteristics, relative density and structural integrity;
- o) Recommendations for achieving proper compaction;
- p) Recommendations for dealing with deep excavation of trenches, requirements for method of dewatering, including rate of dewatering, requirements for treating contaminated dewatered water, and need for permits;
- q) Recommendations for dealing with septic or well systems that may be affected by the proposed works;
- r) Borehole location plan and borehole logs.

.6.2 Hydrogeological Reports

- a) For general road and servicing construction, the report should consider depth of services and identify likely areas where dewatering will be required, the rate of dewatering, requirements for dewatering including discharge requirements, and permits/approvals;
- b) Impacts to existing well water supplies within the project area;
- c) Soil permeabilities and associated properties where the design of septic systems are concerned;
- d) Groundwater impact assessment to area aquifers from construction activities and/or discharge of wastewater;

- e) Test wells and associated testing in accordance with Ministry guidelines to address water taking impact sustainability;
- f) Impacts to nearby surface water bodies;
- g) Specific technical review of well field or wellhead capture zones;
- h) Mitigation measures to protect against any quantitative and qualitative impacts from the development;
- i) Recommendations regarding foundation drainage (i.e., suitability of groundwater recharge vs connection to storm sewers).

.6.3 Traffic & Transportation Impact Study

- a) Description of proposed project, location, and study area;
- b) Traffic counts, data, and any assumptions;
- c) Transportation capacity assessment and intersection capacity analysis for existing conditions;
- d) Site trip generation, distribution, travel mode selection and assignment to the transportation network;
- e) Reassessment of road network and intersection analysis under proposed conditions for predetermined post-development time horizons;
- f) Identification of required network improvements to accommodate the proposed project;
- g) Recommendations for traffic circulation within the development (i.e., internal intersection turning lanes, pedestrian crossings, need for internal traffic signals/IPS)
- h) Access management, including site access location, design and implications for off-site improvements;
- i) Site access evaluation and optimization, including traffic operations and safety assessments;
- j) Pedestrian and cycling access;
- k) Traffic control devices, including signal warrants and vehicular/pedestrian signage;
- l) Speed management/traffic calming;
- m) Parking demand and layout;
- n) Roadway and intersection illumination;
- o) Commercial vehicle movement;
- p) Consideration for transit; and
- q) Figures, diagrams, and copies of all traffic and transportation modelling output files.
- r) Where the site involves a drive-through, additional considerations on aspects of the design are to be covered, including but not limited to, a discussion on the following:

- i. Stacking lanes - should be located to promote efficient on-site circulation; located to avoid conflict with on-site parking; separated from pedestrian areas; linear and as straight as possible, with adequate turning radii provided where required; identification of the number of stacking spaces and ability to accommodate.

.6.4 Noise and Vibration Studies

- a) Description of proposed project, location, and study area;
- b) Details of assessment criteria;
- c) Methods and assessment receiver locations;
- d) Identification and analysis of the impact of noise and vibration from the proposed development on surrounding properties;
- e) Identification and analysis of the impact of noise and vibration from surrounding sources on the proposed development;
- f) Identification and analysis of the impact of noise and vibration generated within the proposed development on itself; and
- g) Recommendations for any mitigation and/or any adjustments to the proposed work, as necessary, to comply with relevant regulations and standards.

.6.5 Stormwater Management Reports

Refer to Division H.

.7 Construction Management Requirements

.7.1 Introduction

The following is a Construction and Traffic Management Guide (CTMG), intended for those tasked with the planning, coordination, and supervision of construction projects. It provides guidance to encourage exemplary construction site management practices while navigating through some of the most common construction activities that arise during the construction of compact, mixed use and high-density developments.

The City of Richmond Hill is committed to working closely with the development industry and consultants to continually improve these requirements. This guide provides a framework for carefully managing construction projects with a focus on mitigation measures to prevent negative impacts to nearby neighbourhoods. The key objective is to ensure the work is undertaken in a safe and effective manner while keeping the general public protected from construction activities. The CTMG does not set out the requirements for workplace health and safety in accordance with the Occupational Health and Safety Act (OHSA) and regulations. The Developer shall be responsible to adhere to the Ontario

Health & Safety regulations and take every reasonable precaution to ensure the construction project is a safe workplace.

The City of Richmond Hill is shifting towards a new urban form that will transform suburban communities into a more vibrant and complete community. Rapid growth and future development will be largely accommodated in more compact, pedestrian-oriented, mixed-use development.

With the majority of future population directed towards intensification areas, more dense and tall buildings are on the horizon. As the City continues to experience a new way of building along transit corridors, urban centres and key development areas, construction challenges associated with vertical build projects can be significant. Construction is fundamental to creating new communities and to revitalize established neighbourhoods; however, construction must be well managed to minimize disruptions to the area residents and businesses and to protect public safety.

Adopting a “good neighbor” approach builds strong working relationships and dynamic communities. Establishing good construction practices is critical to the overall success of the project. Adhering to these requirements will help ensure that the public’s expectations for the use and enjoyment of their properties are met and that their safety and well-being are maintained. By working closely with the City, the Owner can put in place preventative measures and build the trust of the community.

The CTMG addresses site management controls related to construction activity that encroach onto public lands and takes into account relevant aspects of building construction and the likelihood of disruptions, impact on local amenities, dangers or risks involved, traffic management, and any other safety issues that may arise during each stage of construction.

This guide does not intend to anticipate or solve all issues that may arise, but highlights some significant concerns based on the City’s experience and feedback from Residents, Businesses and Developers. This guide outlines the City’s By-laws, expectations, best practices and requirements before, during and post construction. It provides communication tips to help everyone involved move smoothly through the construction process as well as guidance when issues do arise.

Within this context, this guide will focus on the following:

- Intensified developments with underground parking structures
- Infill developments within established neighbourhoods
- Municipal infrastructure within the municipal Right-Of-Way and road closures

.7.2 Overview and Other Considerations

Construction and Traffic Management submissions are typically prepared by the Developer’s Civil Engineer in consultation with geotechnical engineers, hydrogeologists and the Site Construction Manager during the final stages of Development Approvals. The individual(s) preparing the construction management report and plans should have extensive construction knowledge with good understanding of equipment and machinery

required on site, construction trades that will be utilized, and the sequencing of construction related activities and operations during the different stages of construction.

Construction Management Reports and associated plans are required prior to the issuance of any Permits and Agreements. The construction management proposal will be shared with the Local Councilor to demonstrate how construction activities are being undertaken with minimal impact and disruption to the surrounding community. It will be used as a reference if problems arise in relation to the construction of the development.

The Construction Management proposal is a living document and therefore may require periodic updates to reflect the stage of construction and/or any changes to construction activities.

If proposed construction works are required on adjacent private properties, the Developer shall seek formal authorization letters/agreements from the impacted property owners that indicates they have reviewed the scope of work and are allowing the Contractor to enter their lands to perform the work. The City requires copies of all formal authorization letters prior to issuing any permits or agreements.

For detailed Construction Management Report requirements, refer to Section F1.7.3, Construction Management Report Requirements.

For detailed Construction and Traffic Management Drawing requirements, refer to Section F1.7.4, Construction and Traffic Management Drawing Requirements.

.7.3 Construction Management Report Requirements

The Construction Management Report provides a consolidated summary of the construction logistics, emergency contact lists, safety information and mitigation measures for the proposed construction activities.

Understanding the City's By-laws and getting ahead of the issues before they become a nuisance for both the neighbouring residents and the construction team will reduce the complaints and can avoid possible fines. For more information, please refer to <https://www.richmondhill.ca/en/our-services/By-laws.aspx>.

.7.3.1 Project Information

Project information typically comprises of:

- Description of the project
- Construction start date and estimated date of completion
- Days and hours of construction activity
- Emergency preparedness plan and contact name and phone numbers

The Developer to ensure the proposed construction activity conforms to all relevant City By-laws and Standards. For high rise developments, provide estimated dates for each stage of construction (i.e., excavation and shoring, below ground, at grade and above ground).

.7.3.2 Communication Plan

It is important to communicate with your neighbours before applying for construction permits. Informed neighbours are more likely to be understanding of your construction project. The communication plan shall be in the form of a letter and may include a plan to detail when, how and expected timelines to the neighbourhood as well as how the proposed works may impact them.

The Developer will be required to provide draft notices to the City for review prior to delivering the notices to the neighbourhood. The Developer shall also undertake additional consultation before and during the construction period to keep local residents and stakeholders informed of the type, nature of work and the potential impact on the Public amenities. The Developer shall elaborate on how communication will be maintained with the Public during construction so concerns can be addressed quickly.

The communication plan shall outline communication protocols with the City and the Local Councilor and also include emergency contacts for the Developer, the Site’s Construction Manager and Consulting team.

.7.3.3 Pre-construction Adjacency Inspections

The City recommends the Developer and their consulting team inspect and report on the existing conditions of the surrounding properties within the construction zone of influence prior to any construction. A key map indicating the properties within the construction zone of influence, record of participation or denial of the request to inspect to be included in the Construction Management Report. It is best practice for the Developer to retain copies of these records.

.7.3.4 Pre-construction Meeting

Pre-construction meetings are an essential part of the construction process. Prior to commencing work, the Developer shall request a pre-construction meeting with the City.

The purpose of the pre-construction meeting is to discuss roles and responsibilities, communication protocols, and set expectations with all critical players before construction starts. At the meeting, the City, Developer and the Contractor can identify potential issues or conflicts. The Developer shall prepare a comprehensive agenda specific to the Construction and Traffic Management Plan (CTMP) including the mitigation measures that will be employed to minimize the impact of construction to the public and surrounding community.

.7.3.5 Construction Parking

Construction vehicles and machinery used to carry out construction projects, the majority of which include but not limited to earth work and concrete work activities, are not permitted to occupy the City’s ROW per [Municipal Code 1116, By-law 402-89](#) and shall not block access or egress for neighbours. All construction related parking shall be on-site or through special private arrangements for offsite parking. Communicating the scope and the duration of the construction project with your neighbours is recommended.

Construction parking shall be shown on the CMP drawing with the following to be identified in the Construction Management Report:

- Location of on-site construction office/trailer and adequate parking area for construction personnel and field staff for each stage of construction including number of parking spaces.
- A feasible location for on-site commercial and construction parking including all trades personal use vehicles (Public street parking is NOT permitted);
- Where an agreement is reached with neighbouring properties for private offsite parking, temporary access, storage yard, or other use, the Construction Management Report shall include a copy of a letter/agreement with the adjacent property owner
- Construction parking arrangements shall be approved by City staff prior to the commencement of the project and reviewed with the Developer and Contractor at the pre-construction meeting

.7.3.6 Construction Mitigation Measures

Construction Vehicle Queuing, Access and Traffic Control

Vehicular and pedestrian traffic adjacent to construction sites must be safely and thoughtfully managed. Construction trucks (i.e., dump trucks, concrete trucks) staging and queuing, loading and off-loading of materials are not permitted within the City's ROW.

Note: The City has an [Idling By-law 44-20](#) regulating and prohibiting the idling of motor vehicles for more than three minutes. Turn vehicle engines off when not in use.

The Construction Management Report to describe and include at minimal the following:

- Haul routes to the site from the nearest regional road for each stage of construction;
- Identify how the Contractor will enforce the use of approved routes to the site to avoid the infiltration of construction traffic and heavy vehicles into residential neighbourhoods
- Discuss how construction traffic will be accommodated without queuing on public roads
- Construction trucks (i.e., dump trucks, concrete trucks, etc.) queuing for each stage of construction;
- Loading and off-loading of materials;
- Construction access;
- Appropriate traffic control including layouts for signing, temporary lane closures for construction stages, etc. in accordance with OTM Book 7.
- The traffic management of the site shall be monitored and managed throughout the activity period

Mud Tracking

Richmond Hill prohibits the tracking of mud, dirt and debris from private property into a public road per [Municipal Code 801, Highway Obstruction By-law 17-87](#). This By-law regulates the placement or dumping of equipment, material, debris or garbage on a municipal roadway which includes the boulevard or unpaved portions of a roadway. The

Developer shall ensure all mud tracked onto the public road is cleaned up on a daily basis. When the City receives a complaint, the Developer shall have 24 hours to clean the roads.

The report to describe and include at minimum the following:

- Removal of dirt, debris and mud from sidewalks and streets at the end of every working day when excavating, backfilling, cutting masonry, etc. either by washing and/or sweeping;
- Truck loading point to limit the tracking of soil and construction material off site;
- Clean off loose soil, mud and other site debris from trucks and vehicles prior to leaving the site including washing of tires and sweeping/washing of exterior tailgates

Dust Control

Richmond Hill regulates dust as per [Municipal Code, Property Standards 1010](#). The Developer's shall ensure erosion and sedimentation control measures at the perimeter and within the construction site are implemented, monitored and replaced in accordance with City's Standards and Municipal Code 1010. The report shall describe the measures to be taken to reduce the emission of dust such as but not limited to:

- Details on the method and frequency of watering down driveways, trucks, public roads, etc. to minimize airborne dust;
- Addition of calcium chloride or other dust suppression techniques/equipment;
- Utilize wind screens or fence filter to absorb the dust blowing from the site;
- Tarp all trucks leaving the site which have been loaded with soil or debris;
- Use wet saws to cut concrete and stone;
- Provide advanced notice to your neighbours if planned work will be particularly dusty for a lengthy period of time to allow opportunities for the residents to close their windows.

Site Protection and Hoarding

Construction hoarding and fencing is not permitted within the Municipal ROW unless approved by the City. When permitted, hoarding/fencing shall not obstruct public infrastructure (i.e., hydrants, etc.) The Developer shall submit the following for review:

- Type and location of hoarding/fencing with a stabilization plan (e.g., dimensions, materials, installation). All hoarding/fencing within the Municipal ROW shall comply with O. Reg. 213/91 s. 64 and s. 65;
- Overhead protection and clearances for sidewalks, refer to Section F1.7.5.2, Standard Drawings - Overhead Hoarding Protection. Sidewalks must be kept accessible and passible at all times for all users including pedestrians with disabilities (wheelchairs, sight and hearing impaired, etc.) by the Developer's Contractor. Indicate temporary sidewalks and the alternative routes and signage for safe passage;
- Location of gates and their swing paths. Gates shall not swing into the Municipal ROW

Pedestrian Access

Sidewalks serve as key corridors for many different users including pedestrians, people who use mobility assistance devices, e-scooters, wheelchairs, bicycles, skateboards, among others. Any construction project that obstructs a sidewalk must provide mitigation measures, which may include temporary sidewalks that allows safe and convenient passage of pedestrians, or clear directions to a nearby detour.

To ensure complete, safe, useable, and accessible paths of travel for the duration of a project, the Developer shall adhere to Ontario Traffic Manual Book 7, Section 2.6.2 as well as the following:

- Equipment, debris, construction materials or vehicles shall not obstruct the sidewalk at any time;
- During construction, tripping hazards and barriers for pedestrians and people with mobility impairments must be removed to maintain an accessible pedestrian corridor;
- Where required, the contractor shall install and maintain a temporary concrete or asphalt sidewalk and ramps to provide a safe path of travel for all users;
- Where a portion of the pedestrian sidewalk is re-routed due to construction, the path of travel must be clearly defined and signage must be erected by per OTM Book 7 TC-40 Pedestrian Direction and TC-41t Sidewalk Closed. Sidewalks without continuous travel paths or have unsafe crossings are not permitted;
- Temporary closure of designated pedestrian routes and crossings shall be allowed only when construction flaggers are present safely directing pedestrians around hazards;
- Pedestrian access corridors shall be clearly delineated with cones or barricades approved by the City. Caution tape alone is not acceptable to delineate the path of travel or create a barricade

For overhead protection and clearances for sidewalks, refer to Section F1.7.5.2, Standard Drawings - Overhead Hoarding Protection.

Noise and Operating Hours

Noise associated with construction, the operation of equipment, truck idling (refer to Section 3.5.1) is permitted Monday to Saturday between 7 a.m. – 7 p.m. Construction related noise is not permitted on Sundays and statutory holidays per Richmond Hill's [Noise By-law 43-20](#). The Contractor shall be mindful of other noise nuisances such as noisy stationary equipment (such as generators, pumps, compressors), volume of music played, strong language, reversing vehicle sounds and loading/unloading of equipment and materials. The Developer shall ensure noise mitigation measures are in place prior to construction and to address noise complaints immediately.

Construction Vibration

The City is seeking to minimize the adverse effects on adjacent buildings, including heritage structures, from construction and demolition vibration. In the event that the projected zone of influence extends beyond the legal property boundaries of the construction site, the Developer shall provide a formal Declaration that acknowledges the

responsibility of retaining an independent qualified Professional Engineer specializing in vibration control, monitoring and analysis of soil movement to develop a vibration mitigation/monitoring program prior to starting any construction activity on site including but not limited to:

- Pre-construction survey consultation
- Pre-construction measurement of background vibrations
- Pre-construction inspection of adjacent buildings and structures within the zone of influence
- Identify mitigation measures
- Prepare Monitoring Program

A sample Declaration Form is provided in Section F1.7.5.2, Standard Drawings - Vibration Control Declaration.

Having a vibration monitoring program in place does not relieve the Developer of the responsibility for undertaking any necessary actions required to install additional monitoring instruments and independent reading of instrumentation, to ensure that work proceeds in a safe and secure manner.

In the event the City receives vibration complaints (i.e., equipment used for pile driving, compaction, etc.), the Developer shall ensure vibration controls are in effect and report back to the City on the mitigation measures within 24 hours. If the general controls are in compliance but complaints continue to persist, the Developer shall investigate and apply alternative mitigation measures where reasonably available.

Light Pollution

The Contractor shall be mindful of the impact of excessive glare, light trespass and sky glow on adjacent occupants and properties, refer to [Municipal 1050, Light Pollution By-law 63-95](#). Shining lights directly into dwelling units or failing to provide an effective barrier to prevent light from shining into a dwelling unit may also be construed as nuisance lighting (Refer to [Municipal Code 1010, Property Standards By-Law 79-99](#)). Minimize glare where possible and avoid directing light up to the sky or towards adjacent properties and dwellings. Avoid light levels in excess of the recommended light levels required to support safety, security, and conducting respective tasks.

For roadway construction, additional guidance for minimizing glare for roadway users (e.g., drivers, pedestrians) can be referenced in OTM Book 7 - Section 2.6.5; IES RP-8 Sections 19.3 & 19.4; and TAC Guide for the Design of Roadway Lighting Volume 2 – Design, Section 19.4.

Temporary municipal lighting for roadways and sidewalks/pathways should meet the same requirements as permanent municipal lighting and as such shall comply with IES RP-8, Division E of the City’s Standards, and the City’s Light Pollution By-law.

Construction Trailer, Portable Washrooms and Material Storage

Construction trailers, amenity structures and materials must be situated on private property. The report shall describe location of the construction trailer, amenity structures, and make provisions for collection of daily rubbish and removal of waste from the site during permitted hours. The Contractor shall frequently clean the construction site to minimize garbage blowing into the ROW and neighbouring properties. The [Property Standards By-law 79-99](#) sets minimum standards for the maintenance and occupancy of properties.

.7.3.7 On-Site and Excess Soil Management O. Reg. 406/19

As of January 1, 2021, on-site and excess soil management is regulated by O. Reg. 406-19. The Owner is required to comply with the Regulation and shall have a Qualified Person ensure any exporting and importing of fill complies with the Regulation. For properties adjacent to watercourse, environmental area, and where the City has an existing or proposed easements, the Owner shall have the qualified person prepare and undertake all required studies to comply with O. Reg. 406/19 including but not limited to:

- Hydrogeological report;
- Assessment of Past Uses at the source site
- Sampling and Analysis Plan at the source site
- Soil Characterization Report at the source site
- Excess Soil Destination Report for the site plan lands

The Owner should also retain a qualified professional geotechnical engineer to provide full time inspection during the earthworks and fill placement. Prior to importing fill material, the Developer shall provide a list of all sources of fill material and certification from a Geotechnical Engineer stating the fill material has been tested and considered clean fill meeting the requirements of MECP with respect to the current and future land development use. The City may require the following before allowing construction to proceed:

- A copy of the notice in the Registry;
- Copies of the studies prepared by a qualified person demonstrating conformity to O. Reg. 406/19

.7.4 Construction and Traffic Management Drawing Requirements

Construction and Traffic Management submissions are typically prepared by the Developer's Civil Engineer and/or Arborist in consultation with the On-site construction manager during the final stages of Development Approvals. This section describes the types of drawings required prior to the City issuing any Permits and Agreements. All approvals must be in place prior to construction. Please visit the City's website for details regarding:

1. Planning Applications: <https://www.richmondhill.ca/en/find-or-learn-about/Planning-Development.aspx>
2. Engineering Standards and Specifications: <https://www.richmondhill.ca/en/shared-content/resources/documents/epw-standards-specification-manual.pdf>
3. Site Alteration Permit Application: <https://www.richmondhill.ca/en/register-apply-or-pay/Pool-Enclosure-Permit.aspx>
4. Building Permit Application: <https://www.richmondhill.ca/en/register-apply-or-pay/Building-Permits.aspx>
5. Road Occupancy Permit Application: <https://www.richmondhill.ca/en/register-apply-or-pay/road-occupancy-permit.aspx>

Construction and Traffic Management Plans (CTMP) are living documents that should be continually reviewed and updated to reflect changing site conditions such as:

- upon completion of different stages of construction;
- deviation in construction strategy;
- new technology or methodology;
- unforeseen or unique circumstances

.7.4.1 Construction Management Plan

The Construction Management Plan (CMP) is a drawing that provides information about construction activities, duration and parameters the Developer’s Contractor will be upholding during construction. The CMP covers different stages of construction, please refer to Section F1.7.4.2 and Section F1.7.4.3 for details.

The following is typically shown on a CMP Plan:

- Construction and traffic management for each phase of construction. For high rise developments this also includes excavation stage, below ground construction, at-grade and above construction
- Staging area for lifting and hoisting operations
- Shoring and tiebacks, crane location and limits of boom and load swings. Live loads are not permitted to swing over City’s lands and private properties
- Construction vehicle (i.e., dump trucks, concrete trucks) queuing and staging plan.
- Construction and commercial vehicle parking notes: All construction, commercial vehicles associated with site operations as well as Contractor and Trades personal use vehicles must be parked on-site (i.e., not on City streets/roads)
- Construction access point to the site.
- Construction site protection and details (hoarding, overhead hoarding for sidewalks, fencing, gate swing, etc.)
- Construction trailer location.

- Temporary construction dewatering, dewatering rates, quality control measures and proposed point of discharge can be shown on the CMP or on a separate Dewatering Plan
- Location of on-site parking for construction and personal vehicles by the trades and other construction staff. Alternatively, provide a letter confirming the arrangement of off-site parking at a nearby site. Parking on the municipal street is not permitted.
- Mandatory Standard Notes:
 - “For Erosion and Sedimentation Control, refer to < > by <engineering company> dated < >”
 - “York Region approval and ROP is required prior to construction for any work within the Regional ROW.”
 - “All existing public sidewalks shall remain free, clear and passable at all times.”
 - “No live loads are permitted to swing over City lands and privately owned lands.”
 - “No throughway traffic on <local roadway> will be permitted.”
 - “Construction activities to conform to the City’s Noise By-law.”

.7.4.2 Excavation and Underground Parking Construction

Excavation is the process of using techniques and equipment to remove soil, rock and other materials from a site to create space for the construction of an underground parking garage, building foundations, underground sewers and watermain. This work generally involves construction trucks and suppliers to be on site to perform the works.

The City will require the following details shown on the CMP:

- construction site protection and gate swing
- location of construction parking, materials storage and amenities
- site logistics and material management
- haul route and location of construction site access
- construction trucks queuing and traffic management related to excavation works and below ground construction
- Approved shoring plans
- location of temporary construction dewatering, dewatering rates, quality control measures and proposed point of discharge
- crane location and limits of boom swings
- All mandatory standard notes.

.7.4.3 At-Grade and Above-grade Construction

Once the excavation and foundation construction is complete, the at-grade and above-grade construction can create other challenges.

Where applicable, the City will require the following details shown on the CMP:

- site logistics and material management

- site plan location and neighbouring properties/structures
- haul route and location of construction site access
- construction site protection and gate swing
- location of construction parking, materials storage and amenities
- location of temporary construction dewatering if still required
- construction trucks queuing and traffic management related to at-grade and above-grade construction
- location of crane and limits of boom swings
- all mandatory standard notes

.7.4.4 Traffic Control and Detour Plans

Partial, temporary lane closures may be required to allow for the installation, replacement or decommissioning of infrastructure within the right-of-way. In rare occasions, a temporary full road closure may be required to facilitate expedited construction of municipal infrastructure and to provide a greater degree of safety to both the general Public and Contractors during the construction period. The Developer must demonstrate that the full closure is needed by submitting a formal written justification request to the City for review and approval. Full road closures require a minimum of six (6) weeks lead time before construction is scheduled to commence.

Whether a partial or full closure is required, the Developer must submit a Traffic Management Plan (TMP) to the City for review and approval. A TMP is a drawing (or set of drawings) that provides guidance for construction traffic to safely access and egress the construction site with minimal impact to the nearby area, as well as to ensure that existing vehicular and pedestrian traffic can safely be accommodated during the construction period.

A TMP/Detour Plan submitted to the City must be sealed by a licensed professional engineer and include signage, pavement markings and any other traffic control devices required in accordance with Ontario Traffic Manual (OTM) Book 7 – Temporary Conditions. Should construction occur in multiple stages, a TMP/Detour Plan must be prepared for each stage.

The following is typically shown on a Traffic Management Plan/Detour Plan:

- Identification of an appropriate Typical Layout from OTM Book 7 (Figure TL-1 through TL-93) based on the type of closure and duration of work;
- Location and size of the work area;
- Dates and times of planned start and end of closures (for each construction phase);
- Existing and reduced lane widths of the affected roads;
- On-site parking areas and truck lay-by areas (if applicable);
- Swept path analysis of construction vehicles accessing and egressing the construction sites (if applicable); and
- As applicable, type and location of all required:

- Traffic control devices;
- Traffic barrels (TC-54) for lane reductions, shifts or closures;
- Signs (including sign code and graphical representation);
- Traffic control persons (TCP);
- Work vehicles, sign trucks, blocker trucks, or crash trucks;
- Flashing amber lights;
- Vehicle four-way flashers and 360 beacons;
- Portable traffic control signals;
- Barricades or temporary concrete barriers;
- Automated flagger assistance devices; and
- Flashing arrow/bar board signs.

Additional guidance/requirements for the preparation of TMPs include:

- All relevant distances required in the OTM Book 7 Typical Layouts must be clearly identified in the TMP; the actual proposed distances must be shown (generic distances from the OTM Book 7 Typical Layout figures will not be accepted);
- If route detours are required, a schematic map must be provided showing separate detours for each affected origin/destination pair. Detours must be appropriately named (e.g., D-1, D-2, D-3, etc.) and corresponding signage must be shown in the TMP (per Figure TL-42 in OTM Book 7); and
- Preferably, the TMP should be prepared on an up-to-date satellite image background which allows the identification of existing features that may interfere with the proposed temporary signs and traffic control devices.

The purchase/rental, implementation, maintenance and removal of all related TMP/detour signs and traffic control devices/persons is the responsibility of the Developer. Inspection of the implemented TMP/detour signs and traffic control devices will be completed by the City's Municipal Inspector prior to construction.

All work within the City's ROW will require a Road Occupancy Permit, refer to Section F1.7.5.1, Road Occupancy Permit (ROP).

.7.4.5 Tie-back Shoring Section Plan

For developments with underground parking structures, the Developer shall have shoring and section plans prepared by a Shoring Engineer in consultation with the Geotechnical Engineer and Hydrogeologist.

The shoring and section plans are reviewed and approved by the City's Building Division. Development Engineering will check the submission to understand if any shoring tie-backs encroach within City's lands. Shoring piles are not permitted to encroach within City's lands.

Encroachment of shoring tie-backs are permitted within City's lands subject to special conditions and additional securities provided through the Site Plan Agreement or a Site

Alteration Permit (SAP). The Developer can apply for an SAP for shoring tie-back encroachments if the Building Division is prepared to accept a Building Permit application. For detailed requirements and to apply for an SAP, please visit the City's website.

The following to be provided for review and approval:

- Shoring plans and section details submitted to the Building Division;
- Cost estimate by the Shoring Consultant detailing the cost to de-stress the tie-backs by physically disconnecting and removing the tie-back anchors and pins from the shoring wall;
- Construction and Traffic Management report and plan;
- Submission for temporary construction dewatering, Section F1.7.4.6, Temporary Construction Dewatering Plan;
- Erosion and sedimentation control plan(s)
- Tree inventory and preservation plan(s)
- Permits from the Region of York and/or the Toronto and Region Conservation Authority.

.7.4.6 Temporary Construction Dewatering Plan

If temporary construction dewatering is required, the Developer shall have Dewatering Plans prepared by the Civil Engineer in consultation with the Hydrogeologist. Dewatering Plans are reviewed through the Development Planning submission.

Temporary construction dewatering involves the removal/draining of groundwater or surface water from a construction site and excavation pit by pumping and subsequent discharge into a pre-treatment structure prior to discharging to the municipal or regional storm sewer system.

Depending on the amount of water removed, temporary construction dewatering may require a Permit to Take Water (PTTW) from the Ministry (400,000 L/day and greater) or registration of the construction activity in the Ministry's Environmental Activity Sector Registry (EASR) (50,000 L/day and up to 399,999 L/day). For details please visit:

- PTTW: <https://www.ontario.ca/page/permits-take-water>
- EASR: <https://www.ontario.ca/page/environmental-activity-and-sector-registry>

If the groundwater is proposed to be discharged into the City's system, the Developer will need to submit a formal written request to the City's Manager Engineering Subdivisions and Infrastructure Planning is required to obtain permission to discharge to a City sewer.

Temporary construction discharge is generally not supported into the sanitary sewer system unless there are extenuating circumstances. This is in keeping with the City's and Region's program to reduce inflow and infiltration into the sanitary sewer system.

Prior to the City issuing Permissions, the Developer shall provide:

- Supporting geotechnical and hydrogeological reports used to determine dewatering requirements, zone of influence, to assess impacts to existing wells, structures and natural heritage system, and proposed monitoring plan/mitigation measures
- Provide estimated dewatering flow to City sewer and duration
- Assess impacts of dewatering flow to capacity of City sewer
- Provide copy of MECP PTTW or EASR if applicable
- Provide plan showing details of location and type of connection to City sewer
- Provide lab results for quality testing of groundwater sample and compare to Regional sewer use bylaw – identify any issues or additional treatment required
- Assess impacts to natural heritage system at point source sewer discharge location to existing watercourse.

If discharge is proposed to a Regional storm or sanitary sewer, the Developer will need to obtain approval from the Region to discharge temporary construction dewatering flows. Information is available to confirm whether a sewer is owned by the City or Region by requesting information from <https://forms.richmondhill.ca/Environment-and-Infrastructure-Services/New-Engineering-Drawing-Request-Form>.

Impacts to SWM calculations will depend on whether there will be a permanent dewatering system in place and any input from groundwater flows could be taken into account.

A hydrogeological study shall be provided to support the temporary construction dewatering rates and the groundwater quality as well include provisions for groundwater quality testing and feasible filtration treatment methods of the groundwater prior to discharging to the City’s storm sewer system.

.7.4.7 Tower Cranes, Crane Swing and Hoisting Plan

The safe operation of mobile and tower cranes at construction sites is regulated under the Occupational Health and Safety Act through the Ministry of Labour. For more information please visit: https://www.labour.gov.on.ca/english/hs/sawo/pubs/fs_mobilecranes.php

For the purpose of the CMP, the Developer shall identify the location of cranes, details on the type of cranes, and limits of boom and load swings, including staging areas for hoisting material/equipment. Under no circumstances shall the crane swing carry live loads or perform lifting and hoisting operations within City owned lands and right-of-ways.

.7.4.8 Erosion and Sedimentation Control Plan

The Erosion and Sedimentation Control Plan to be prepared in conformity with the City’s Standards, Division I.

.7.4.9 Tree Inventory, Preservation and Invasive Species Plan

The City works to protect community trees and to control the removal of trees on private property through the City’s Standards, Division K and the [Tree Preservation By-law 41-07](#). The By-law requires a permit be obtained before removing or injuring trees. For more

information about the By-law, Permits and guidelines for construction near trees please visit: <https://www.richmondhill.ca/en/find-or-learn-about/Tree-Cutting-Permit.aspx>

In addition to tree preservation, the City is working to minimize the spread of invasive species. Invasive species, once established, can cause significant social, ecological and economic harm. Preventing invasive species from spreading is more effective than attempting to control an established population. Developers can play an important role in preventing the spread of invasive plants by properly cleaning vehicles and equipment before leaving a worksite. Refer to the Ontario Invasive Plant Council’s Clean Equipment Protocol for Industry https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf for more information.

Tree preservation should be one of several factors considered at the outset of planning and design for any development. It is insufficient to recommend removal of a tree “to facilitate the proposed development” or on the basis that the tree “conflicts with the proposed development” unless it is demonstrated that options for preservation of the tree have been duly considered during site design. A Tree Inventory and Preservation Plan includes a Drawing and a Table/Report as described below:

Tree Inventory and Preservation Drawing

A computer-generated scale drawing of the site (refer to Appendix “4”) illustrating the following:

- a) The surveyed location of all trees greater than, or equal to 20 cm DBH on the site and on adjacent properties WITHIN 6 METRES of the subject site boundary. Trees in groupings may be identified by delineating the dripline associated with the grouping if the entire grouping is to be preserved and is located at least 6 metres from any work zone;
- b) The location, size and condition of any vascular plants on site that are a species listed under the Canadian Species At Risk Act, 2002 or the Ontario Endangered Species Act, S.O. 2007 (regardless of the size, health or condition of the individual plant);
- c) An indication as to whether each tree is recommended for preservation or removal;
- d) The location and details of any recommended tree preservation measures to be installed, including preservation measures for trees on adjacent property.

Tree Inventory and Preservation Table/Report

The drawing described above must be accompanied by a table and/or a report which outlines the following:

- a) Descriptions of individual trees including:
 - i. species/name (scientific and common name);
 - ii. diameter at breast height (DBH), condition/health (a general rating of poor, fair, good or hazard based on the presence of cavities, decay, broken limbs/trunk, lean, root damage, form, disease, etc.)

- b) Descriptions of tree groupings including:
 - i. a list of dominant species that make up the canopy and understory;
 - ii. a list of additional species present;
 - iii. an indication of the proportion of trees in each of the following size ranges: 0-10 cm dbh, 11-20 cm dbh, 21-50 cm dbh, >50 cm dbh; and,
 - iv. general comments on the ecology of the tree grouping and the health and structural integrity of the trees within the grouping.
- c) A recommendation as to whether each tree should be preserved or removed and the reason for each recommendation;
- d) Details of tree preservation measures required to protect trees designated for preservation;
- e) Recommendations for the maintenance and management of trees to be preserved (i.e., required pruning, fertilization or cable work) pre- and post-construction; and,
- f) A cost valuation associated with trees to be removed and/or preserved may be required.

.7.5 Standard Details, Permits and Declarations

.7.5.1 Road Occupancy Permit (ROP)

A ROP is required when working on or within City's ROW. The Permit can be applied for online and is required but not limited to the following construction activities:

- Temporary lane closures or road closures
- Mobile crane work
- Work within the ROW including the road and or on or boulevard
- Crossing the boulevard for temporary construction site access

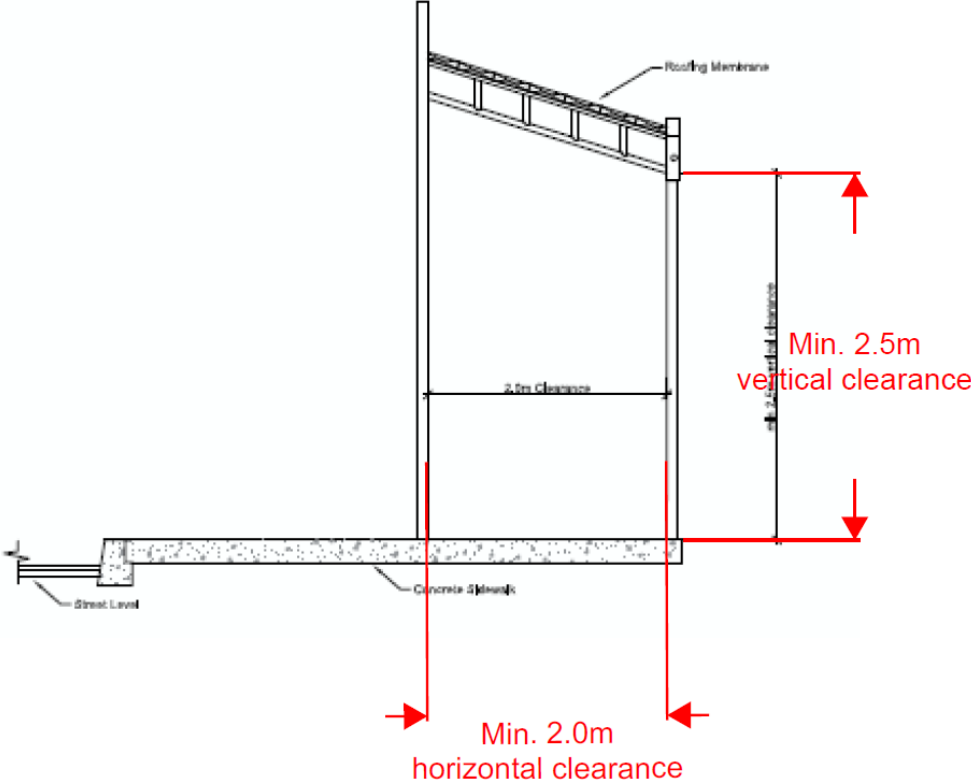
To learn more about ROPs and to apply please visit:

<https://www.richmondhill.ca/en/register-apply-or-pay/road-occupancy-permit.aspx#Activities-within-the-right-of-way>

.7.5.2 Standard Drawings

Overhead Hoarding Protection

Protection from overhead construction or demolition work shall ensure clear headroom as shown below:



Vibration Control Declaration

Site Plan File No.		
Address of Construction and/or Demolition		
Street No.	Street Name	Postal Code
I, <i>(First and Last Name)</i>		
<p>do hereby declare: (confirm the following by checking off each box)</p> <ul style="list-style-type: none"> <input type="checkbox"/> That I am the Owner/Authorized Agent of the Owner named in the above application for a permit. <input type="checkbox"/> That the information supplied by me in the application and in the materials filed by me with the application is correct. <input type="checkbox"/> That pre-construction consultation with the neighbourhood has been undertaken and all concerns and comments have been addressed. <input type="checkbox"/> That adjacency inspections of buildings and structures within the area of influence have been completed and documented. <input type="checkbox"/> That pre-construction measurements of background vibrations have been completed and vibration mitigation measures and a monitoring program have been established and implemented. <input type="checkbox"/> That I will ensure the monitoring of vibrations levels during construction is in accordance with the monitoring program. <input type="checkbox"/> That a written commitment of ongoing review and monitoring by a P. Eng. responsible for vibration control and letter of undertaking by owner has been provided to the City of Richmond Hill. <input type="checkbox"/> That I understand the requirements of City of Richmond Hill with respect to the public communications and complaint protocol, including the provisions for notice to the ward councilor, owners and occupants of properties within the zone of influence one week before the commencement of construction and/or demolition activity that may cause vibrations. <p>And I hereby certify conscientiously believing the above is correct.</p>		

Print Name

Signature

Date

.8 As-Built Submission Requirements

The City requires the submission of as-built drawings and information following construction of all projects.

The submission shall consist of the following:

- a) Two (2) complete hardcopy sets of record drawings signed and sealed by the professional taking responsibility for the information.
- b) A digital copy of record drawings and all supporting plans and notes used in the preparation of the record drawings. All drawings must be provided in both PDF and CAD format.
 - i) PDF files must be:
 - plotted to scale and in proper orientation (landscape/portrait)
 - generated from AutoCad through Adobe Professional (300 dots/inch)
 - file size less than two megabytes
 - named as per the City assigned drawing code
 - ii) For CAD files, all x-refs must be inserted into the parent drawings and purged.
- c) A digital copy of updated storm and sanitary sewer design sheets, (as applicable).
- d) The graphic and database files required for the City's Infrastructure Management System. Refer to Section F2.

The submission will be reviewed to confirm that it is complete and accurate. If the package is not complete, revisions will be required until the City is satisfied with the submission. For land development projects, this must occur prior to proceeding through to assumption.



Section F2

Drawing and CAD Standards

.1 General

The Consultant is strongly advised not to begin preparation of any drawings prior to familiarizing themselves with the City's drawing and submission standards and requirements.

.2 Engineering Drawing Requirements (Site Plans)

Site plan drawing requirements can be found in the Site Plan and Site Plan Amendment Application Guide, which can be found here:

<https://www.richmondhill.ca/en/shared-content/resources/documents/2021-Development-Applications-AODA/2021-Site-Plan-and-Site-Plan-Amendment-Application-Guide.pdf>

.3 Engineering Drawing Requirements (Subdivisions)

The following general drawing requirements shall be followed:

- a) Drawing size shall be A-1 (metric)
- b) Scale on plan and profile shall be 1:500 horizontal and 1:100 vertical, maximum
- c) The scale on lot grading plans and utility co-ordination plans shall be 1:500 maximum and on general servicing plans the scale shall be 1:1000 maximum
- d) The scale on all details shall be 1:50 minimum.
- e) All datum shall be referred to a geodetic benchmark. All development submission plans are to be referenced to City's current horizontal and vertical control monuments map, which can be found on the City's website.
- f) A key plan and north arrow shall be provided on all drawings. The area on the drawing shall be highlighted in the key plan.
- g) All plans and profiles shall be created such that each street in its entirety, including all intersections, may be separately filed. All drawing identification numbers shall ultimately be assigned by the City.
- h) When streets require more than one (1) plan, match lines shall be provided.
- i) In general, east-west streets shall have zero chainage at their westerly limit and north-south streets shall have zero chainage at their southerly limits. Each street shall have unique chainage such that all streets do not start at 0+000.
- j) The lot numbering on all engineering drawings shall be the same as that on the subdivision M-Plan.
- k) City's standard title block shall be used on all engineering drawings. Standard digital templates for engineering drawings can be provided by the City.
- l) All engineering drawings submitted for approval shall be signed and sealed by a Professional Engineer licensed to practice in the Province of Ontario.

.4 CAD Requirements

All Engineering drawings shall be prepared in AutoCAD or Civil 3D format, in accordance with the City's latest CAD Standard, and shall be compatible with the City's Infrastructure Management System Data Requirements

The CAD Standard has been implemented to provide standardised block and layer name conventions for drawings that are submitted to the City. It is important to recognize that strict conformance to the CAD Standard is required. If non-conformance is identified, a submission will be rejected.

It is the Consultant's responsibility to ensure that they obtain the latest CAD Standard from the City prior to commencing their engineering drawings.

.5 Infrastructure Management System Data Requirements

.5.1 General Requirements

The City of Richmond Hill Development Submission Application runs under AutoCAD version 2000i or later and provides a graphic user interface with the tools for the Consultant to create and populate the database components that are required. The City's CAD Standard has been developed to provide Consultants with the tools necessary to satisfy the Infrastructure Management System submission requirements, which is why strict adherence to the CAD Standard is required.

It is the Consultant's responsibility to ensure that the latest version of the Development Submission Application, CAD Standard, as well as application installation and operation requirements are obtained from the City.

It is critical that the Consultant's CAD operator reviews the documentation in advance of starting a new project so that they have a full understanding of the requirements. Failure to comply will ultimately result in a considerable amount of time spent during latter stages of the project correcting block and layering errors.

The CAD Standard is a very simple standard that applies to the sewer and water infrastructure graphic entities that currently exist and/or the proposed sewer and water infrastructure that will be assumed by the City. For all other design components, the Consultant may continue to use whatever block and layering conventions they choose.

.5.2 Requirements for the Final Subdivision Engineering Submissions

The final engineering submission for subdivisions must include the following:

- a) A graphic AutoCAD file of all the sewer and water infrastructure for the project prepared in strict accordance with the current CAD Standard. The submitted graphic file must include the existing and proposed sewer and water infrastructure blocks and layering required in accordance with the current Development Submission Application CAD Standard. The street lines and lot fabric must also be included and the layer names

must conform to those specified. No additional blocks or layers shall exist within the graphic file submitted. The graphic file shall encompass the entire servicing area and must contain no x-refs (i.e., reference files). The graphic file must be tied and georeferenced to the City's horizontal and vertical control network.

- b) An associated database with key fields of information about each asset created and populated. The database file must be created using the City's Development Submission Application. All attribute information related to pipe material, size and associated drawing number(s) must be populated.

Upon receipt, the graphic and database file will be checked by the City in order to confirm completeness and conformity with the standard. If a graphic or database component is found to be incomplete or contain errors, it will be rejected and returned to the Consultant for correction and resubmission.

.5.3 Requirements for the As-Built Subdivision Submission

The as-built submission must include the final as-built graphic file. If the difference between the proposed and as-built location of any sewer or water infrastructure exceeds the prescribed maximum deviation of 1.2m parallel to centreline alignment and 0.5m perpendicular to centreline alignment, then the graphic AutoCAD file must be revised to reflect the as-built location.

All fields of the associated database component must be fully populated with as-built information.

Upon receipt, the graphic and database file will be checked by the City for completeness and conformity to the standard. If a graphic or database component is found to be incomplete or contains errors it will be rejected and returned to the Consultant for correction and resubmission.

The graphic and database files will ultimately be used by the City to import into the City's Infrastructure Management System.



Section F3

Standard Checklists and Documents



Engineering and Agreement Submission Checklist

Project Name:

Date:
19T -

Item	Digital Copy Provided
First Submission	
Submission Checklist	
Engineering - complete set of engineering plans	
Sanitary, Storm, and Foundation Drain Collector Sewer Design Sheets	
Developer/Owner Contact	
Draft M-Plan	
O.L.S Certificate	
Certification Letter	
Stormwater Management & Maintenance/Operations Report (if required)	
Geotechnical/Hydrogeological Report (only 3 copies if no Park Block)	
Water Distribution System Analysis Report	
Noise Report (if required)	
Tree Preservation Report and Landscaping/Restorations Plan (if required)	
Environmental Impact Statement & Management Plan (if required)	
Archeological Report (if required)	
Phase 1 Environmental Site Assessment (if required)	
Architectural Control Guidelines (if required)	
Architectural Design Plans (if required)	
Cultural Heritage Impact Assessment (if required)	
Cultural Heritage Conservation/Landscape Commemoration Plan (if required)	
SECOND SUBMISSION (USE SAME FORMAT FOR SUBSEQUENT SUBMISSIONS)	
Submission checklist	
First Submission Red Line City Comments	
Revised first Submission Reports, Plans and Documentation	see above
Utility Coordination Plans	
Landscaping Plans for SWM Facilities, Buffer Area, Entry Features etc.	
Street Light Plans and Photometric Report	



Item	Digital Copy Provided
Draft M-Plan with Approved Street Names	
Registered or Draft Boundary R-Plan	
Owner's Deed for the Subject Lands	
Parcel Register of Abstract for the Subject Lands	
Draft R-Plan for Internal and External Easements	
MECP ECA Application Forms	
Cash or Cheque Deposit of \$12,266.64 (engineering and legal fees)	
Legal Contact acting for Owner	
List of Affected Lots/Blocks - Fill, Foundation, Noise, etc.	
Draft Schedule D	
Draft Schedule D-1 (if required)	
Information for Schedule I - servicing quantities	
FINAL SUBMISSION REQUIREMENTS	
Final Digital pdf copy of Engineering Plans, Legal Plans and Reports proposed M-Plan	
Two hard copies of approved Engineering Plans (full size and reduced ledger size)	





Sample O.L.S. Certificate (Surveyor's Letterhead)

DATE

City of Richmond Hill
Planning and Infrastructure Department
P.O. Box 300
Richmond Hill, ON L4C 4Y5

Dear Sirs:

Re: Project Name/Owner
19T-Number
Part of Lots and Concession,
City of Richmond Hill

Table 1 Certificate of Areas and Frontages

Lot No.	Zoning (m)	Area (m ²)	Unit Type (SFD/SD)	Unit Count	Frontage (m)	Area (m ²)	Zone Category	By-Law Satisfied
1	18.000	774.4	SFD	1	15.000	502.0	R1	YES
2	18.000	774.4	SFD	1	15.000	502.0	R1	YES
3	18.000	774.4	SFD	1	15.000	502.0	R1	YES
4	18.000	777.5	SFD	1	15.000	502.0	R1	YES
5	20.185	761.6	SFD	1	15.000	502.0	R1	YES
6	18.179	780.5	SFD	1	15.000	502.0	R1	YES
7.	18.234	780.1	SFD	1	15.000	502.0	R1	YES
8.	24.150	1443.9	SD	2	18.000	702.0	R3	YES
9.	24.000	1445.7	SD	2	18.000	702.0	R3	YES
10.	24.000	1446.0	SD	2	18.000	702.0	R3	YES
Totals								

Table 2 Zoning By-Law Requirements

Block No.	Part Number	Frontage (m)	Area (m ²)	Unit Type Land Use	Unit Count	Frontage (m)	Area (m ²)	Zone Category	By-Law Satisfied
11	1	9.5	332.5	TH	1	9.0	315.0	R4	YES
	2	7.0	245.0	TH	1	6.5	227.5	R4	YES
	3	7.0	245.0	TH	1	6.5	227.5	R4	YES
	4	9.5	332.5	TH	1	9.0	315.0	R4	YES
12			23024.0	Parkland					



Block No.	Part Number	Frontage (m)	Area (m ²)	Unit Type Land Use	Unit Count	Frontage (m)	Area (m ²)	Zone Category	By-Law Satisfied
13			32450.6	Open Space					
14			18650.1	EPA 1					
15			24.2	0.3m Reserve					
Totals									

Total Area of **Residential** Lots and **Residential** Blocks = _____ (m²)

Total Area of Roads = _____ (m²)

Total Area of Subdivision = _____ (m²) = _____ (ha)

I hereby certify that:

- i) the areas and frontages of the above-mentioned subdivision comply with the provisions of the applicable by-law;
- ii) all existing buildings or structures on the subject lands or other lands abutting this Plan which are owned by the Owner are situated so as to comply with the applicable zoning by-laws after registration of the Plan (surveyed dimensions to be shown on M-Plan).

SIGNATURE, O.L.S.





Estimated Cost of Municipal Services

Rev. April 28, 2004

	Service	Within the Plan	External to the Plan	Total
A	Public Highway Construction to base course asphalt			
B	Public Highway Construction to surface course asphalt			
C	Sanitary Drainage			
D	Storm Drainage			
E	Water Distribution Systems			
F	Foundation Drain Collector Systems			
G	Service Connections (if not included in C, D, E, F within the plan) (if not included in C, D, E, F external to the plan)			
H	Stormwater Management Facilities (excluding landscaping)			
I	Noise Attenuation Barrier			
J	Bus Shelter Pads			
K	Sewage Pumping Station			
L	Water Booster Pumping Station			
M	Privacy Fencing			
N	Emergency Access Roads			
O	Street Lighting			
	TOTAL ESTIMATED COST OF MUNICIPAL SERVICES			

E. & O.E.

Date:





Estimated Cost of Parks Services

	Service	Within the Plan	External to the Plan	Total
A	Chain Link Fencing			
B	Landscaping for Stormwater Management			
C	Restoration Planting			
D	Entry Features			
E	Screening Planting			
F	Walkways			
	TOTAL ESTIMATED COST OF PARKS SERVICES			

E. & O.E.

Date:





Services Within the Plan(S)

	Service	Oversizing Cost *
A	Collector Road - Construction	\$
B	Collector Road - Land	\$
C	Watermains	\$
D	Sanitary Sewers	\$
E	Storm Sewers	\$
F	Stormwater Management Facility (Construction and Landscaping)	\$
G	Stormwater Management Facility - Land	\$
H	Sidewalks, Landscaping, Street Lighting - Boundary Roads	\$
	SUB-TOTAL	\$

Services External to The Plan(S)

	Service	Oversizing Cost *
A	Collector Road - Construction	\$
B	Collector Road - Land	\$
C	Watermains	\$
D	Sanitary Sewers	\$
E	Storm Sewers	\$
F	Stormwater Management Facility (Construction and Landscaping)	\$
G	Stormwater Management Facility - Land	\$
H	Sidewalks, Landscaping, Street Lighting - Boundary Roads	\$
	SUB-TOTAL	\$
	TOTAL OVERSIZING COST - WITHIN AND EXTERNAL	\$

*Oversizing Cost may include engineering fees, contingencies, G.S.T. and indexing as per the applicable Area Specific Development Charge Bylaw.

Specifications for Digital Submission of Draft Approved M-Plan

The intent of this specification is to facilitate the transfer of the digital data related to a draft approved M-Plan. The specifications have been created in an attempt to minimize any additional work required by both the proponent and the City. We encourage suggestions on how to enhance the process and specifications.

Deliverables

The digital plan submission is comprised of two items:

- Digital plan data as per the specifications; and
- An ASCII file containing descriptive information (i.e., Metadata) related to the digital plan.

The deliverables may be provided on DVD media or may be delivered electronically by email if the files are less than 4.0 Mb. Only one digital submission will be requested and it is anticipated that it will typically be the second submission to Planning & Regulatory Services Department, Development Engineering Division. For the digital file naming convention, the use of the 19T number (and Phase, if applicable) will facilitate referencing for all parties.

Digital Plan Specifications

The digital plan submission is preferred in AutoCAD format (dwg format). The graphic data is required to be copied from your inhouse “layering” system into the following layers/levels of data for submission to the City:

- Layer/Level 1: Survey Lines. This layer will contain boundary linework for all subdivision units;
- Layer/Level 2: Text. This layer will contain text indicating the number of the subdivision unit and road names (if available at time of submission).

Note: Linework must extend from the centre of each monument/survey bar, bend or intersection to ensure a closed polygon exists for each parcel or block.

ASCII Metadata File

A comma delimited ASCII file is requested with the following metadata: City project reference number (i.e., 19T/Phase); Company Name; Project Contact name; Contact telephone number; your project reference number; digital data file name; date of last revision for submitted digital data; software/version used to create the data; coordinate system used for data; data format; and any comments/special notes of clarification required.

Data Distribution

The digital data provided will be integrated with the overall digital property mapping database for the City and will be used for internal purposes including the use for public information. Any external requests for this data will be redirected to the developer of the property.



Notice of Contractor

(To be retyped on Owner's letterhead)

Date

The Corporation of the City of Richmond Hill
P.O. Box 300
Richmond Hill, Ontario
L4C 4Y5

Attention: Mr. Kelvin Kwan, Commissioner of Planning and Infrastructure

Dear Mr. Kwan:

Re: 19T-[file number] - [name of development] - for Plan of Subdivision only

Re: D06-[file number] - [name of development] - for Site Plan only

Notification of Contractor

We hereby advise that we intend to retain the services of **(name of contractor)** who will act as the general contractor with respect to the installation of services within the captioned plan of subdivision or site plan.

Yours truly,

**Approved in accordance with section A.8 of the subdivision agreement.
(exclude this provision for a Site Plan)**

for Commissioner of Planning and Infrastructure

Date