

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: August 19, 2014

SUBJECT: TPAP AMENDMENT FOR TRAIN STORAGE FACILITY
YONGE SUBWAY EXTENSION

ACTION ITEM

RECOMMENDATION

It is recommended that the Board:

1. Approve the Train Storage Facility Environmental Project Report (EPR) Addendum Yonge Subway Extension.
2. Forward this report to City Council through the appropriate committee for approval, and to authorize staff to submit the EPR Addendum to the Ministry of Environment.

FUNDING

Sufficient funds for this project are included in the TTC's 2014-2023 Capital Budget under Yonge North Subway Extension, as noted on pages 667-669, as approved by the Board on November 20, 2013 and City of Toronto Council on January 29/30, 2014.

BACKGROUND

On April 6, 2009, the Minister of the Environment for the Province of Ontario issued a Notice to Proceed to the Regional Municipality of York (York Region), the Toronto Transit Commission (TTC), York Region Rapid Transit Corporation (YRRTC) and the City of Toronto to construct the Yonge Subway Extension (YSE).

The City of Toronto approved the project conditional on the following further work/projects being undertaken as a pre-requisite:

1. Bloor Yonge Station Capacity to address capacity issues and identify costs to be included as project costs.
2. Downtown Rapid Transit Line and Don Mills LRT including Environmental Assessments to evaluate and move these projects up on Metrolinx's priority list.
3. Subway Rail Yard Needs (SRYN) with any additional facilities requirements added to the project.

On October 2009, York Region and the City of Toronto authorized the TTC and YRRTC to proceed with the necessary studies and further conceptual design for the project: The SRYNS identified a requirement for an additional Train Storage Facility (TSF) and associated supporting facilities in the vicinity of the Richmond Hill Center, the northern terminals of the approved Yonge Subway Extension.

DISCUSSION

The addition of a new TSF and associated supporting facilities to the project is considered a significant change from the approved plan. Any significant change that is inconsistent with a previously approved EPR requires a reassessment of the impacts associated with the proposed change. The identification of new mitigation measures and monitoring systems are required to be documented in an addendum to the previously approved EPR.

The SRYNS identified a requirement for the storage of 14 train sets based on the displacement of four trains from Finch Station and the additional 10 trains required to meet service needs of the extension to Richmond Hill. Five train storage facilities were developed to a conceptual level. The five alignments were presented to a Technical Advisory Committee (TAC) made up of key agency representatives as well as to the public in May 2013. Based on feedback received from the TAC and the public the initial screening resulted in 2 options being assessed in detail. After further design and assessments based on constructability and subway operating requirements a technically preferred option was recommended and presented to the TAC and the public in June 2013. Feedback from the TAC and public changes were incorporated to the preferred option and the necessary studies were carried out to identify impacts and corresponding mitigation for inclusion in the EPR Addendum.

The proposed change to the approved YSE EPR is as follows:

- Extension of the Yonge Subway Extension alignment to approximately 800m north of the approved Richmond Hill Centre Station.
- Underground triple track Train Storage facility for 14 trains located north of the approved Richmond Hill Centre Station.
- Maintenance building for staff access to the train storage facility and associated 30 space employee parking lot.
- Private access roadway
- Ventilation shaft in the vicinity of the northern and of the train storage facility.
- Emergency Exit Building.

JUSTIFICATION

The preferred facility has been established based on environmental factors, technical requirement and consultation with key agencies and the public. Completing the addendum process is necessary to include the train storage facility in the Yonge Subway Extension project.

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03075-980-4

Attachment: Train Storage Facility Draft Environmental Project Report Addendum

RT: Yonge Subway Extension – Train Storage Facility, Environmental Project Report Addendum

**Yonge Subway Extension
Transit Project Assessment Process**

**Train Storage Facility
DRAFT Environmental Project Report Addendum**

April 2014

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

E.1 Background

On April 6, 2009, the Minister of the Environment for the Province of Ontario issued a Notice to Proceed to the Regional Municipality of York (York Region), the Toronto Transit Commission (TTC), York Region Rapid Transit Corporation (YRRTC), and the City of Toronto to construct the Yonge Subway Extension (YSE), from Finch Avenue to the Richmond Hill / Langstaff Urban Growth Centre at Highway 7 as shown in **Figure E-1**. In October 2009, York Region and the City of Toronto authorized the TTC and YRRTC to proceed with the Conceptual Design Study for the project. The City of Toronto approved the project conditional on TTC carrying out a Subway Rail Yard Needs Study (SRYNS) and based on the outcome of that study, any additional required facilities were to be added to the project. The SRYNS identified a requirement for an additional Train Storage Facility in the vicinity of the Richmond Hill Centre; the northern terminus of the approved Yonge Subway Extension. The addition of a new TSF (and associated supporting facilities) to the project is considered a significant change from the approved plan.

Any significant change that is inconsistent with a previously approved EPR requires a reassessment of the impacts associated with the proposed change. The identification of new mitigation measures and monitoring systems are to be documented in an addendum to the previously approved EPR.

This document serves as an EPR Addendum, and documents the impact of the proposed and described herein. The YSE plan, as presented in the 2009 EPR remains intact, and the changes presented herein do not affect the design, operations, or impacts assessed in the 2009 EPR. This Addendum addresses a proposed extension of the proposed YSE to accommodate an underground Train Storage Facility north of the previously-identified terminus of the proposed YSE at Richmond Hill Centre Station.

E.2 The Study Area

The Study Area for the TSF has evolved over a number of studies related to the YSE project. The Project Team, through the SRYNS, identified at a high-level the area in which the proposed TSF was required (i.e. in the vicinity of the



**Figure E-1: YSE
Project Limits (2009)**

Richmond Hill Centre, near the northern end of the proposed YSE). Through a subsequent Conceptual Design Study, the Team developed a series of feasible TSF concepts within that high-level study area. The assessment of the feasible TSF concepts resulted in the identification of a preferred TSF location and layout. The Study Area for this EPR Addendum (see **Figure E-2**) encompasses the area where physical or operational impacts are anticipated as a result of the implementation of the preferred TSF (i.e. the proposed change to the plan presented in the 2009 EPR).

The Study Area for the EPR Addendum was generally defined as the area from the proposed Richmond Hill Centre Station (as approved in the 2009 EPR) northerly to 16th Avenue.

E.3 Description of the Preferred Transit Project

The implementation of the proposed Train Storage Facility would require an underground extension of the Yonge Subway of approximately 800m beyond the end of the approved Richmond Hill Centre Station. The subway extension would continue northerly along the west side of the CN rail corridor to minimize encroachment on the residential development to the west of the rail corridor.

The subway alignment would rise at an approximate 3% grade as it continues northerly from the Station, with the top-of-rail remaining at an elevation approximately 20m below surface grade.

North of the Station, cross-over tracks would be provided to facilitate the transfer of trains to/from the centre track of the storage facility. Crossover tracks are required to facilitate subway operations in this corridor. Crossovers enable trains to transfer between mainline tracks in order to change direction or for failure management purposes (such as manoeuvring around a disabled train). In this facility, the crossover track north of Richmond Hill Centre Station would allow for trains being put into / taken out of service to transfer between the storage facility and the main line.

The storage facility itself would be comprised of three parallel tracks to accommodate additional storage capacity, side-by-side in a triple box structure along the west side of the GO/CN rail corridor that will extend to the north section of Coburg Crescent. The box structure would be approximately 21m wide and 6m in height, generally located at a depth from surface of approximately 14-20m (top of structure/bottom of structure). The structure would be approximately 700m in length.

This facility will house 12 trains for overnight storage and one or two trains will be kept at the Richmond Hill Centre Station platforms overnight.

The final alignment of the TSF would encroach on the current CN right-of-way and a subsurface easement will be required. Based on initial consultation with CN, the following CN non-residential criteria for development next to the rail line are applicable to the proposed TSF:

- A minimum 15 metre building setback, from the railway right-of-way, is recommended for heavy industrial, warehouse, manufacturing and repair use (i.e. factories, workshops, automobile repair and service shops);
- A chain link fence of minimum 1.83 metre height is required to be installed and maintained along the mutual property line;
- Any proposed alterations to the existing drainage pattern affecting Railway property require prior concurrence from the Railway and be substantiated by a drainage report to the satisfaction of the Railway; and,
- Noise and vibration impacts of the project should be evaluated; if the construction of the facility changes the acoustic environment of the immediate setting, it could trigger new discomfort (due to the railway or other sources) for nearby occupants.

Further consultation with CN Rail will be required in subsequent design stages to ensure CN Guidelines and Standards are met.

The proposed extension of the approved YSE and TSF are presented in **Figure E-3**.

Surface Facilities

In addition to the underground storage facilities, the following supporting surface facilities will be required:

- A combined maintenance operators facility and electrical services building, including:
 - A transportation reporting centre;
 - Cargo elevator;
 - Garbage storage room;
 - Small lunch room and locker room;
 - High voltage room;
 - Communications room;
 - Emergency power room;
 - HVAC mechanical room; and
 - Switchgear-switchboard room.
- A ventilation shaft;
- A drop shaft;
- An Emergency Exit Building (EEB); and
- A parking lot for 25-30 spaces premised on 13-14 people needed to bring trains into operation.

It is proposed that these facilities be located at the northern end of the TSF. In order to minimize the impact of these facilities on local the adjacent residential

development, the facilities will be constructed at a lower grade than the adjacent residences, and access to the facility would be provided by a new roadway constructed at the surface above the subway extension alignment, connecting the facility parking lot to Beresford Drive. Further consultation with the Town of Richmond Hill, through the site plan process, will be completed during detailed design.

The detailed plan of the proposed TSF is illustrated in **Figures E-3A & B**. Cross-sections of the proposed works are also provided in **Figure E-4**.

E.4 Potential Impacts of Implementation

The potential impacts associated with the construction and operation of the proposed TSF and associated supporting facilities are documented in detail in this submission. The document also presents commitments made by the proponent to mitigation and monitoring commitments have been

The existing environmental conditions described in the 2009 EPR were reviewed for applicability to conditions at the time of this Addendum (2014) and were determined to be largely unchanged. This EPR Addendum does, however, present an update on existing conditions in the study area, as they relate to:

- Natural Environment,
- Socio-Economic Environment;
- Cultural Environment;
- Transportation; and
- Utilities.

Following the above-noted update of existing conditions in the Study Area, the Project Team assessed anticipated impacts, identified mitigation measures to address those impacts associated with the proposed Transit Project. The environmental effects of the undertaking were classified under three categories:

- Displacement of Existing Features – These include existing features within the Study Area which will be directly affected by the TSF;
- Construction Impacts – These are short-term potential impacts resulting from construction activities; and
- Operation and Maintenance Impacts – These are ongoing, long-term effects arising from the operation and maintenance of the Transit Project.

The impact assessment suggests that the construction and operational impacts of the Project will have limited impacts on the natural, socio-economic, and built environments. Conflicts with major utilities in the area have been avoided to the extent feasible. The established construction monitoring procedures are considered sufficient to mitigate the short-term implications of construction.

The preliminary monitoring and contingency plans for the Transit Project are considered preliminary, dynamic and subject to refinements during design in

consultation with regulatory agencies and the public. The specific monitoring requirements of any environmental permits/approvals/exemptions secured during design will be incorporated into the monitoring and contingency plan at that time. The details of the monitoring and contingency plan will be incorporated into provisions included in the construction contracts package.

E.5 Consultation

The consultation program for the EPR Addendum study was developed based on the public and stakeholder consultation requirements specified under Ontario Regulation 231/08 for a TPAP.

Those consulted included potentially affected land owners, Aboriginal communities, government review agencies, technical agencies, local municipalities, elected officials, and the general public. The following approach was used:

- Prepared Contact/Property Owner Lists: Maintained an active contact list from the TPAP to know who needs to be informed of project updates.
- Established a Technical Advisory Committee made up of key agency representatives including local municipalities and technical review agencies and provide an opportunity for input at project milestones.
- Maintained Website (www.vivanext.com/yonge-subway-extension): Updates to the website advertised and summarized information shared at the Public Information Centres.
- Notice of Public Information Centre (PIC): To notify area residents of the two public open houses and provide information on how to participate/provide comment.
- Hosted PICs: Advertised by newspaper, website and through mailed notification to names on the contact list. Sign-in sheet for meeting attendees and comment stations provided opportunities for input to the project. PICs were held as follows:
 - PIC #1 was held Wednesday, May 1, 2013, at the York Region Building, 50 High Tech Road, Richmond Hill. The purpose of PIC #1 was to present the detailed analysis of the various design options for the TSF, and obtain feedback from agencies and members of the public on the preferred plan.
 - PIC #2 was held Wednesday, June 12, 2013, at the Sheraton Parkway Toronto North, 600 Highway 7 East, Richmond Hill. The purpose of PIC #2 was to update the public on the revised designs and construction techniques, and provide an opportunity for additional feedback.
- Community Liaison: Project team representatives available to provide information, answer questions and manage comments received during the project.

- **[Placeholder – notice to be issued]** Notice of EPR Addendum: To notify relevant technical stakeholders, the general public, and all residents of the Study Area about the completion of the project, and provide information on how to access the final report and provide comment.

Based on feedback generated through consultation with members of the public, stakeholders, local municipalities, affected agencies, and interest groups, design elements and construction impacts of the preferred plan were further analyzed. New mitigation strategies were identified, and design revisions were made to the proposed TSF and associated facilities, resulting in the Project presented in this document.

E.6 Commitments to Future Work

In preparation of this EPR Addendum, YRRTC and TTC have worked closely with key stakeholder agencies to address and resolve any issues or concerns. Additional consultation with key stakeholders was undertaken to review the design changes described in this EPR Addendum. However, not all issues can be addressed within the context of a Transit Project Assessment since the design of the YSE within the area affected by this TSF Addendum has been prepared at a conceptual level and further details are required to finalize property requirements, construction issues and permits/approvals. The following summarize the Proponent's commitments to future action during preliminary and detail design, of the Project in the areas affected by this Addendum:

- **Permits and Approvals:** The Proponent will secure necessary permits for the implementation of the Transit Project, including, but not limited to:
 - Planning approvals (including Site Plan Approval) for above-grade structures and facilities (through York Region and Town of Richmond Hill);
 - Building permits for the stations, Emergency Exit Buildings or other ancillary features (Town of Richmond Hill);
 - Obtain a subsurface easement from CN Rail and associated agreement.
 - Permit to Take Water from the Ministry of the Environment if dewatering exceeds 50,000 litres per day;
 - TRCA permits and approvals for work within a regulated area;
 - Stormwater management, in accordance with Town of Richmond Hill, TRCA and MOE requirements;
 - Sewer discharge approvals, in accordance with Town of Richmond Hill and York Region requirements;
 - Certificates of Approval for noise and air quality related impacts resulting from vent shafts, stations, and parking lots from MOE.
- **Property Acquisition:** The preliminary property impacts identified in this EPR Addendum will be reviewed and confirmed during the detailed design

phase of the study. The Proponent will continue with the property acquisition activities identified in the 2009 EPR.

- **Construction Issues:** In addition to the various construction issues identified in the 2009 EPR and within this report, the Proponent will conduct further research and analysis related to the construction of the Transit Project. Specific tasks include, but are not limited to the following activities:
 - Developing traffic, transit and pedestrian management strategies to be included in construction contract documents;
 - Developing construction access plan for multiple construction contracts within a confined urban area;
 - Undertaking an existing building condition survey prior to, during and post construction;
 - Preparing and implementing tree and streetscape protection and restoration plans;
 - Developing procedures for disposal of excavated materials as part of a soils management strategy in accordance with Ministry of Environment Management Plan;
 - Preparing mitigation, monitoring and contingency plans for groundwater protection in consultation with and accordance with TRCA's Guidelines;
 - Preparing an erosion and sediment control plan, which complies with prevailing TRCA, York Region and Town of Richmond Hill water guidelines and requirements;
 - Protection of railway corridor immediately adjacent to work zone to allow for continued railway operations;
 - Development of a staged large storm sewer relocation plan including two potential crossings over the YSE and two crossings under the railway corridor;
 - Prepare a mitigation plan to reduce the dust emissions generated during construction processes;
 - A Construction Noise mitigation plan should be prepared based on the measures included in Appendix C. Although for some periods and types of temporary construction noise will be noticeable, with adequate controls impacts can be minimized;
 - Pre-construction consultation, vibration monitoring, and site inspections will likely be required. Monitoring will be required during construction; and
 - Post construction Noise and Vibration measurement will be undertaken to confirm "no adverse impact" as predicted in the noise and vibration impact analysis undertaken as part of this process.

- **Consultation:** The 2009 EPR includes a commitment for continued consultation between the Proponent and the public, property owners and stakeholder agencies (including Town of Richmond Hill, York Region Police, Fire and other emergency service providers) during the detailed design of the Transit Project, including the TSF and ancillary facilities.
- **Sustainable Development:** As part of a separate environmental initiative, TTC has developed an Environmental Plan which will guide all TTC projects in terms of sustainable development. York Region has also developed a Sustainability Strategy which will influence the detailed design phase of this project.
- **Canadian Environmental Assessment Act (CEAA) Monitoring:** The Canadian Environmental Assessment Act has undergone significant changes and is no longer “trigger” based. On July 6, 2012 CEAA (2012) came into effect which focuses on assessment of “designated projects.” After reviewing the Regulations Designating Physical Activities, it is understood that the proposed works are not considered to be a “designated project.” Therefore, an assessment under the Canadian Environmental Assessment Act (2012) is not necessary. YRRTC and TTC will continue to monitor the Transit Project for potential CEAA requirements, and, in the event that the CEAA applies to the Transit Project, YRRTC and TTC will consult with the CEA Agency and other stakeholders during design.

Commitments identified in the 2009 EPR that pertain to sections of the Project not covered by this Addendum remain in effect (unless modified through other means).

E.7 Mechanism for Changes to the Approved Plan

The Project presented in this EPR Addendum is not a static plan, nor is the context in which it is being assessed, reviewed, approved, constructed, and used. Given the potential for changes to the Project resulting from the approvals, detailed design, and construction processes, it is prudent to include in the EPR Addendum a comment on the responsibilities of the proponent should changes be required in the Project. The following sections outline how such changes will be addressed.

Design Refinements

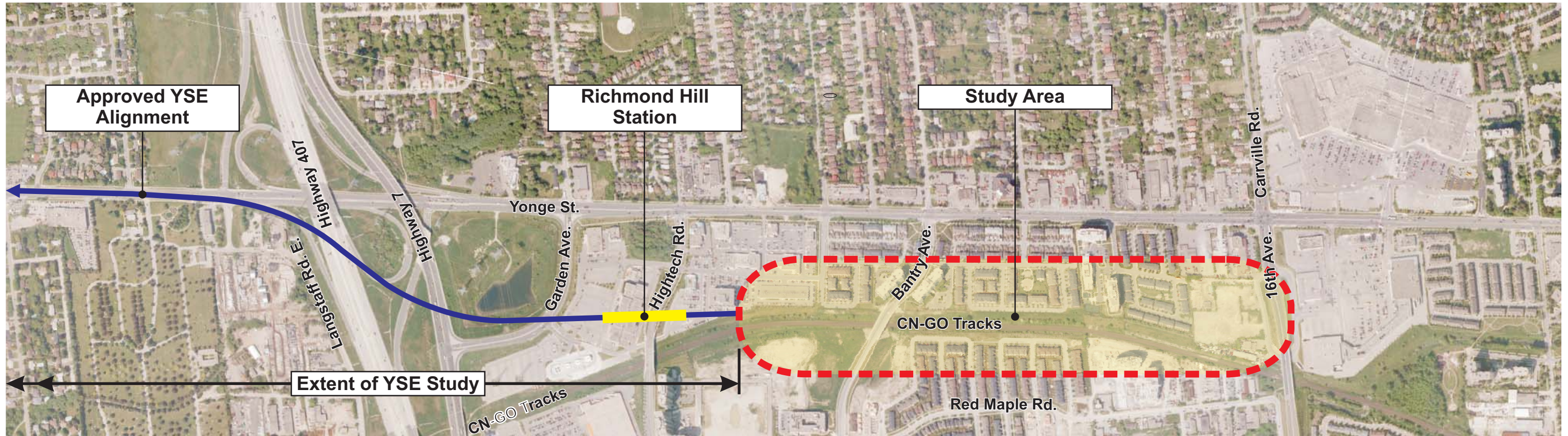
This EPR Addendum identifies the impacts associated with the Project presented herein, and the property envelope within which the Project can feasibly be constructed. The actual layout of project elements are subject to detailed design and any variation from that shown in this EPR Addendum, unless it results in an environmental impact which cannot be accommodated within the committed mitigation measures, do not require additional approval under O. Reg 231/08.

TPAP Addendum Process

If after the Notice of Completion a significant change is made to the project that is inconsistent with the Project documented in this EPR Addendum, an Addendum must be prepared that follows the TPAP process.

If the proposed change is significant a Notice of Environmental Project Report Addendum will be issued in accordance with O. Reg. 231/08, including publication in the local newspaper(s) and posting the notice online. The notice must also be provided to the Ministry of the Environment (Regional Director and Director of the Environmental Assessment and Approvals Branch), every property owner within 30 metres of the site of the change, Aboriginal communities that were given a Notice of Commencement, and any other person who the proponent thinks may be interested in the change to the transit project.

If the proposed change is not significant the Addendum will be documented and placed in the proponent's file.



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JANUARY 2014

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**YONGE SUBWAY EXTENSION
ENVIRONMENTAL PROJECT REPORT ADDENDUM**

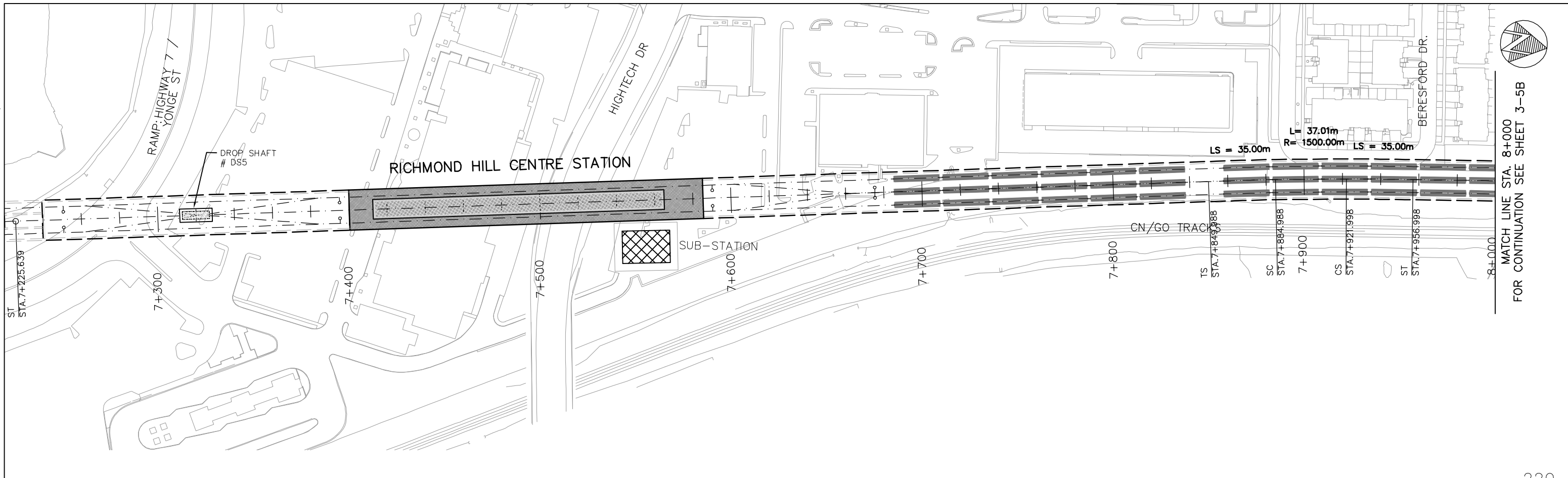
ADDENDUM STUDY AREA

FIGURE

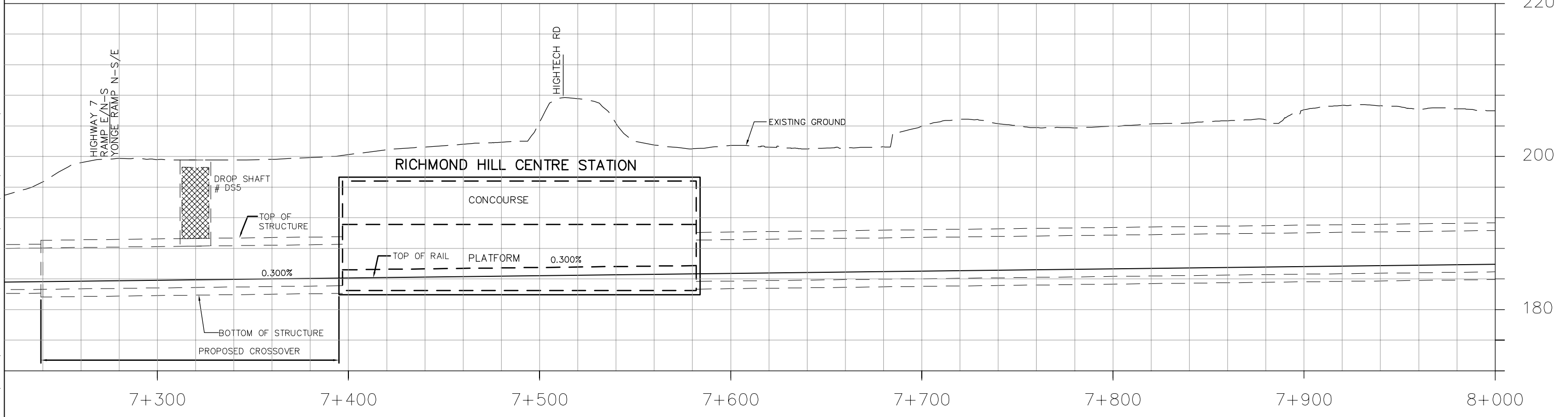
E-2

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MATCH LINE STA. 8+000
FOR CONTINUATION SEE SHEET 3-5B



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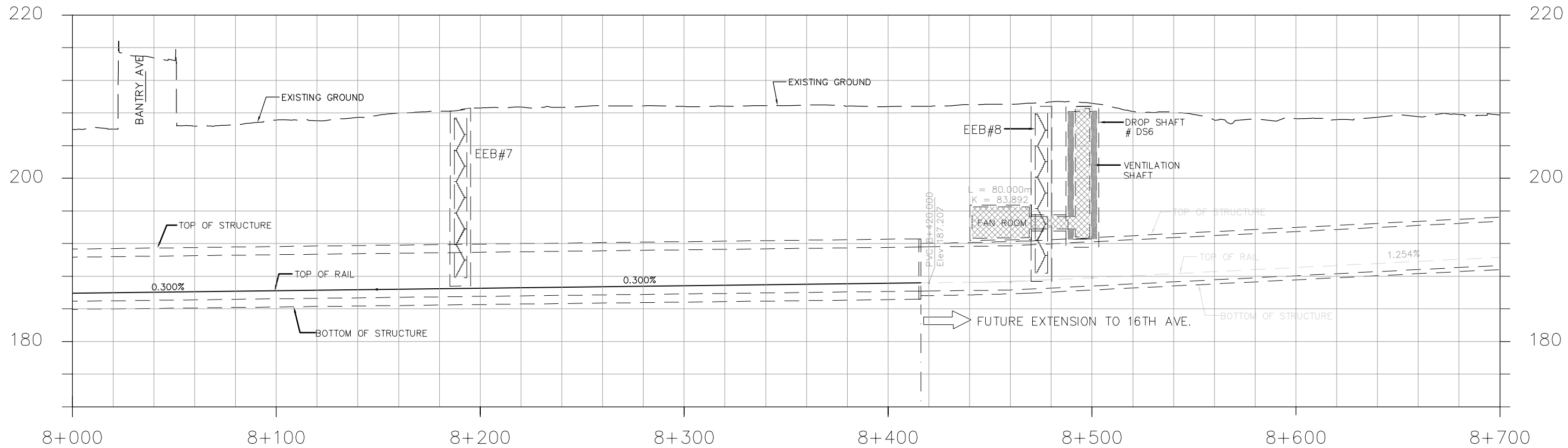
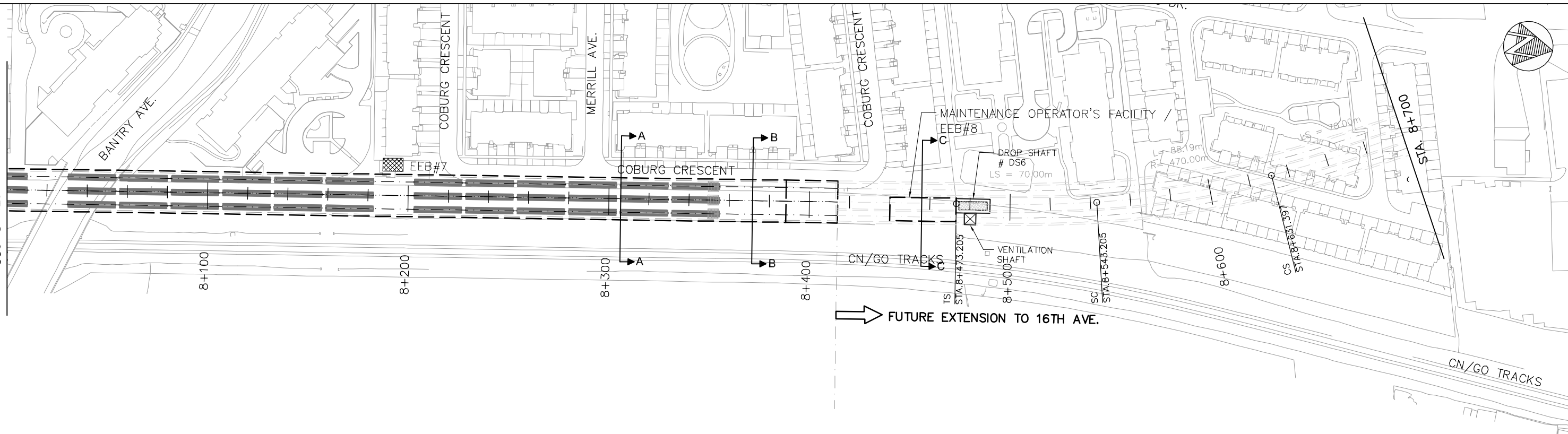
YONGE SUBWAY EXTENSION ENVIRONMENTAL PROJECT REPORT ADDENDUM

PROPOSED YSE TSF
PLAN AND PROFILE
FROM RICHMOND HILL CENTRE STATION TO STA. 8+000

FIGURE

E-3A

MATCH LINE STA. 8+000
FOR CONTINUATION SEE SHEET 3-5A



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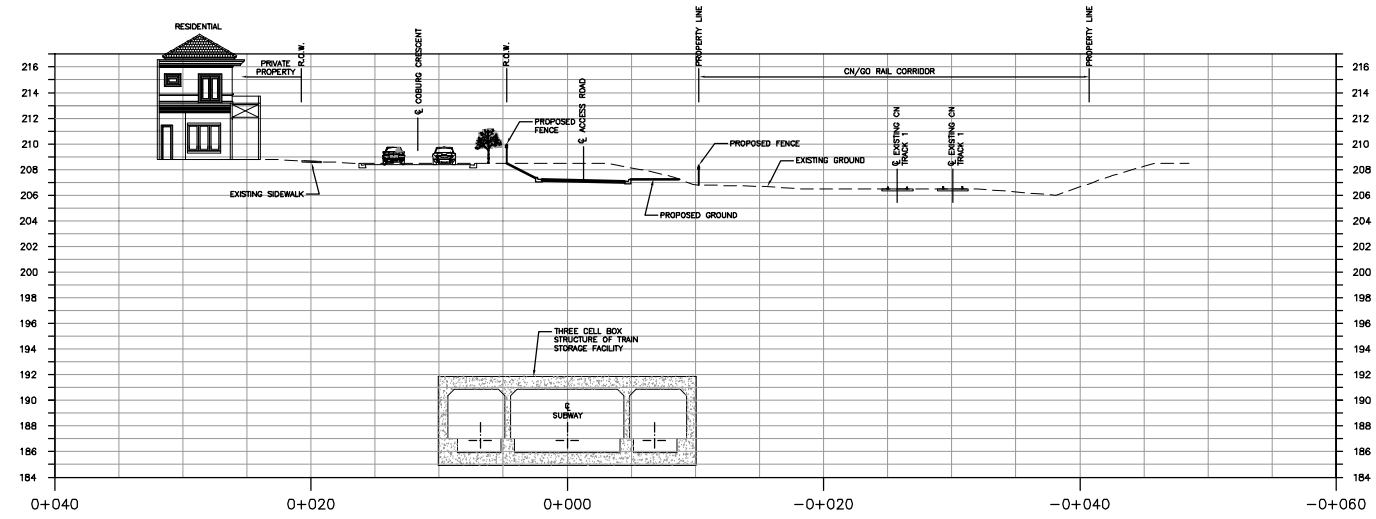
**YONGE SUBWAY EXTENSION
ENVIRONMENTAL PROJECT REPORT ADDENDUM**

PROPOSED YSE TSF
PLAN AND PROFILE
STA. 8+000 TO STA. 8+700

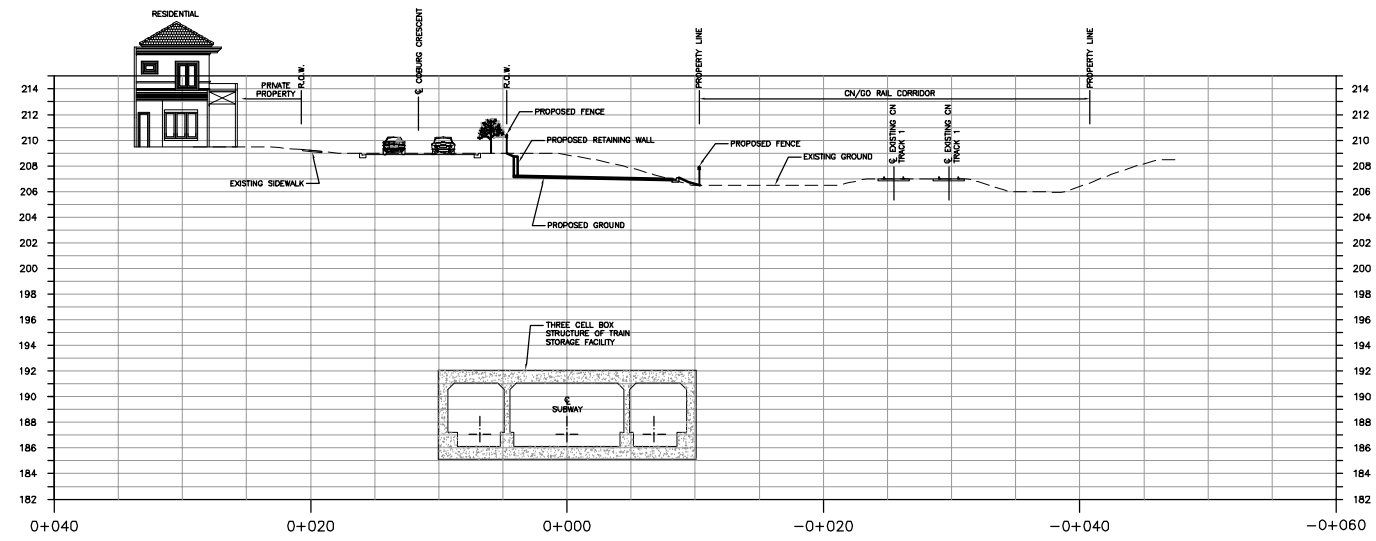
FIGURE

E-3B

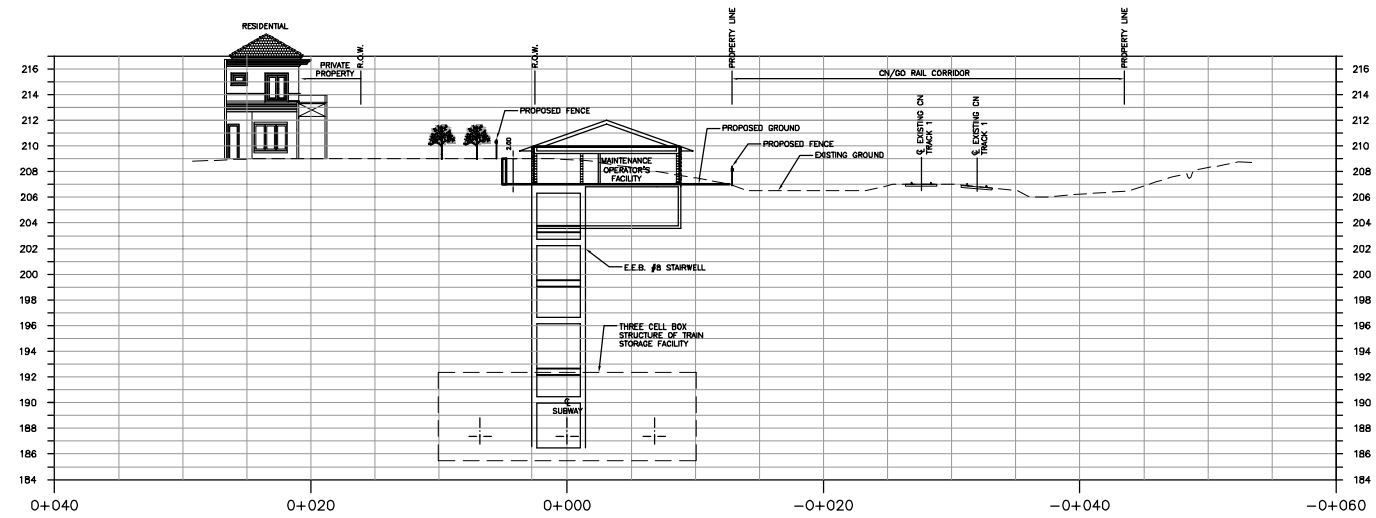
SECTION A-A



SECTION B-B



SECTION C-C



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**YONGE SUBWAY EXTENSION
ENVIRONMENTAL PROJECT REPORT ADDENDUM**

PROPOSED CROSS SECTIONS

FIGURE

E-4