APPENDIX M

Cultural Heritage Evaluation Report – Danforth Avenue Subway
Metrolinx

Cultural Heritage Evaluation Report
Danforth Avenue Subway
Lakeshore East, Mile 327.01
Toronto, Ontario

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Date: December, 2016
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Executive Summary

Metrolinx retained AECOM to conduct a Cultural Heritage Evaluation Report (CHER) for the Danforth Avenue Subway as part of the Lakeshore East Rail Corridor Expansion – Don River to Scarborough GO Station Project Transit Project Assessment Process (TPAP).

Metrolinx is evaluating expanding and improving the Lakeshore East Rail Corridor between the Don River and Scarborough GO Station (Mile 332.50 to Mile 324.97) in the City of Toronto. The proposed works include:

- Addition of a fourth track on the south side between the Don River Bridge and Gerrard Street with the track shifting to the north side between Pape Avenue and Scarborough GO Station
- Widening of bridges at: Woodbine Avenue, Warden Avenue and Danforth Avenue
- Widening works under the Birchmount Road Bridge
- Layout changes at Danforth GO Station
- Retaining walls
- Three culvert extensions: east of Coxwell Avenue (Mile 329.50), east of Kennedy Road (Mile 325.74) and Scarborough Junction (Mile 325.55)

This project will support service reliability and future service expansions as part of the transformational GO Expansion Program.

The project impacts will be assessed following the TPAP, as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) will be prepared for public review.

A field review of the Danforth Avenue Subway, located at Mile 327.01 (Map 1) was undertaken on February 23, 2016 by Emily Game and Michael Greguol, of AECOM.

The Danforth Avenue Subway (Map 1) consists of concrete abutments and a riveted steel plate girder structure that forms a two span crossing over Danforth Avenue, approximately 200 metres east of Warden Avenue. The structure carries two rail lines over Danforth, while a separate, newer span carries an additional third track over Danforth immediately east of the structure. The clearance under the bridge could not be determined; however, the railway embankment was designed to carry the corridor at an average of 18 feet above the road level.

The CHER was prepared according to the Metrolinx Interim Cultural Heritage Management Process and utilizes the criteria in O.Reg. 9/06 and O.Reg. 10/06, as required by the Ministry of Tourism, Culture, and Sport’s (MTCS) Standards and Guidelines for the Conservation of Provincial Heritage Properties (2010). In addition, the CHER was prepared according to the Metrolinx Draft Terms of Reference for Consultants: Cultural Heritage Evaluation Report and Cultural Heritage Evaluation Report Recommendations. As such the recommendations as they relate to this CHER and the potential cultural heritage value or interest of the Danforth Avenue Subway are contained in a separate Cultural Heritage Evaluation Report Recommendations (CHERR) document.

The CHER was prepared by Michael Greguol, M.A., Cultural Heritage Specialist and Emily Game, B.A., Heritage Researcher with AECOM. Charlton Carscallen, M.A., Cultural Resources Technical Practices Manager acted as project lead.
1. Introduction

1.1 Historical Summary

The Danforth Avenue Subway is located on what was historically the concession road between Lot 32, Concession A and Lot 32, Concession B, in the Township of Scarborough, York County. The Grand Trunk Railway (GTR) was constructed through the lots in the 1850s. In 1860, the lots had already been subdivided and the properties on either side of the railway crossing at what would become Danforth Avenue were being used for agricultural purposes. In 1860, the lots are depicted as being owned by Archibald D. Thomson (Concession A) and John Walton (Concession B). By 1878, Concession A still belonged to Thomson, while the Concession B was owned by Frank Thompson. The closest mapped structure at the time was located approximately 600 metres north at what is now the intersection of Danforth Road and Mack Avenue (Maps 3 – 4).

The GTR undertook an ambitious double-tracking program during the 1890s to twin their existing lines between Toronto and Montreal. The GTR became a part of the Canadian National Railway (CN) in the 1920s. In June of 1925, CN began the Toronto Waterfront Grade Separation project, a massive undertaking which included the construction of a viaduct and several subways and bridges along the rail corridor. Metrolinx acquired a portion of the CN Kingston Subdivision in 2011, and the property continues to be maintained as an operating railway corridor, now owned by Metrolinx.

1.2 Description of Property

The Danforth Avenue structure consists of concrete abutments and a riveted steel plate girder structure that forms a two span crossing over Danforth Avenue, approximately 200 metres east of Warden Avenue. The structure carries two rail lines over Danforth, while a separate, newer span carries an additional third track over Danforth immediately east of the structure (Figures 1 – 2).

1.3 Current context

The character of Danforth Avenue at the site of the subway is predominantly residential land use with some recreational/green space uses. North of the railway corridor, Kimridge Avenue, a residential street runs parallel with the railway right-of-way. Just east of the crossing, Danforth intersects with Kalmar Avenue, a north-south oriented residential street. West of the structure, Danforth Avenue, a four lane road continues towards the Don River. Scotia Parkette and the Hollis-Kalmar Park are both small city park areas that are located north and south of the railway crossing on the west side of the structure (Map 1).
Map 1: Aerial Photograph Indicating the Location of the Danforth Avenue Subway
Figure 1: View looking east showing west side of the Danforth Avenue Subway (AECOM, 2016)

Figure 2: View looking west showing east side of the Danforth Avenue Subway. Note, the steel girders shown here are part of the newer structure built immediately east of the older spans (AECOM, 2016)
2. Methodology and Sources

2.1 Study Approach

This CHER was prepared in accordance with Metrolinx’s Interim Cultural Heritage Management Process (Fall 2013) and the MTCS Standards and Guidelines for the Conservation of Provincial Heritage Properties (2010). The CHER was also undertaken according to the guidelines presented in the Metrolinx document, Draft Terms of Reference for Consultants: Cultural Heritage Evaluation Report and Cultural Heritage Evaluation Report Recommendations (February 2014) and outlined in the following tasks:

- Research and Documentation Gathering – gathered from various sources including existing heritage studies, Metrolinx records, public archives, and published materials;
- Writing – an illustrated report based on gathered background history and site investigation materials, and the application of Ontario Regulations 9/06 and 10/06;
- Evaluation, Recommendations, and Statement of Cultural Heritage Value – a summary of the applicable evaluation, and recommendations regarding whether the property meets criteria of being a provincial heritage property, a provincial heritage property of provincial significance, or neither.

As outlined in the Draft Terms of Reference (Metrolinx, February 2014), the heritage evaluation is to be separated into two stand-alone components: a CHER and a CHERR. The CHER includes the research conducted for the CHER and is aimed to address the criteria set out in Ontario Regulations 9/06 and 10/06. The CHERR includes the results of the applied evaluation, and the recommended outcome of the evaluation.

Emily Game and Michael Greguol, Cultural Heritage Specialists for AECOM conducted a site investigation to visually inspect and document the Danforth Avenue Subway on February 23, 2016.

2.2 Secondary Sources

A series of secondary sources were reviewed for the purposes of data collection and analysis as a part of the CHER. The relevant guidelines and reference documents cited above served as a framework for undertaking the study. The Cultural Heritage Screening Report for Built Heritage Resources and Cultural Heritage Landscapes – Lakeshore East Metrolinx Corridor Expansion (CHSR) prepared by AECOM in June 2016 provided a preliminary review of the rail corridor and the potential heritage properties identified along the corridor for the purposes of the study. Background information and applicable research was gathered from the report for the purposes of the CHER. In addition, a series of published materials including published histories pertaining to the history of Toronto, and railway development throughout the 19th and 20th centuries, were consulted for contextual purposes. A complete list of the sources reviewed for the report is contained in Section 14 (Bibliography).

2.3 Primary Sources

Where available, primary source material was consulted to provide a historic context for the evaluation of the potential heritage value of the Danforth Avenue Subway. A review of the following primary sources aided in the evaluation of the structure:

- Illustrated Historical Atlas of the County of York;
- Tremaine’s Map for the County of York;
- National Topographic Series Maps: and
- Canadian Railway and Marine World, 1926-1931.

A complete list of the sources reviewed for the report is contained in Section 14 (Bibliography).
2.4 Consultations

As part of this CHER, AECOM undertook consultation with municipal and provincial staff in order to identify any existing heritage recognitions for the structure. The following individuals and organizations were consulted while undertaking this CHER:

- Yasmina Shamji, Support Assistant, Heritage Preservation Services, City of Toronto;
- Jeremy Collins, Acquisitions Coordinator; Ontario Heritage Trust; and
- Rob vonBitter, Archaeological Data Coordinator, Ministry of Tourism, Culture and Sport.

The results of the consultation efforts have been summarized in Section 6 (Community Input).
3. Heritage Recognitions

3.1 Municipal

As a review of applicable municipal heritage recognitions for the property or adjacent properties, AECOM reviewed the searchable Inventory of Heritage Properties administered by Heritage Preservation Services at the City of Toronto as well as existing Heritage Conservation Districts (HCD) within the City of Toronto, and HCDs currently under study within the city.

The Danforth Avenue Subway property was not included on the City’s Inventory of Heritage Properties. In addition, consultation with Yasmina Shamji, Support Assistant for Heritage Preservation Services, City of Toronto confirmed that the structure is not on the City’s Heritage Register and is not designated under the Ontario Heritage Act.

3.2 Provincial

As a review of applicable provincial heritage recognitions for the property or adjacent properties AECOM reviewed the Ontario Heritage Trust’s (OHT) Provincial Plaque Guide, and list of OHT easements. The subway is neither a subject of a provincial plaque or a provincial easement. In addition, OHT staff was contacted to review the Ontario Heritage Act Register to confirm that the subway is not included on the register and that an OHT easement does not exist for the property.

Erin Semande and Jeremy Collins from the Ontario Heritage Trust confirmed that the OHT did not have an entry relating to the railway structure at Danforth Avenue.

3.3 Federal

As a review of applicable federal heritage recognitions for the property or adjacent properties, AECOM reviewed the online searchable database for the Canadian Register of Historic Places as well as the Directory of Federal Heritage Designations. The Danforth Avenue Subway and the adjacent properties are not subject to any existing federal heritage recognitions.
4. **Adjacent Lands**

The properties adjacent to the railway corridor at Danforth Avenue consist of predominantly residential properties. North of the railway corridor, Kimridge Avenue, a residential street runs parallel with the railway right-of-way. Just east of the crossing, Danforth intersects with Kalmar Avenue, a north-south oriented residential street. West of the structure, Danforth Avenue, a four lane road continues towards the Don River. Scotia Parkette and the Hollis-Kalmar Park are both small city park areas that are located north and south of the railway crossing on the west side of the structure. The closest structures to the corridor at this location are residential dwellings located on Kalmar Avenue, south of the subway, and Eastwood Avenue, east of the corridor.

Properties adjacent to the Danforth Avenue Subway are not subject to heritage recognitions at the municipal, provincial, or federal levels, or designations under the *Ontario Heritage Act*, municipal heritage listings, or heritage easements and/or commemorations.
5. **Archaeology**

Mapping on the City of Toronto’s Open Data website indicates that there is archaeological potential within 50 metres of the property.

In addition, AECOM has completed a Stage 1 Archaeological Assessment (AA) for the project; refer to *Stage 1 Archaeological Assessment, Lakeshore East Rail Corridor Expansion, Don River to Scarborough GO Station (Segment 1), City of Toronto, Ontario (June 2016)*.

The results of the Stage 1 AA indicate that, while the majority of the lands within the study area appear to have been disturbed by past development, there are portions which still retain archaeological potential. This is based on the presence of historic homesteads, the proximity of historic roads and railway, other archaeological sites and certain physiographic features in proximity the study area.

For lands within the study area that contain archaeological potential and will be impacted by the proposed Lakeshore East Rail Corridor Expansion - Don River to Scarborough GO Station Project, AECOM makes the following recommendations:

1) A Stage 2 AA should be conducted by a licensed consultant archaeologist using the test pit survey method at 5 m intervals in areas of archaeological potential.

2) Due to the potential for deeply buried intact archaeological resources on floodplains and beneath land alterations, Stage 2 AA will be required, following *Section 2.1.7, Standard 2* of the *Standards and Guidelines for Consultant Archaeologists*. Should test pitting by hand not reach subsoil (i.e. the area is found to have potential but it may be deeply buried), the survey methodology outlined in *Section 2.1.7, Standard 3* or *Guideline 2* for survey in deeply buried conditions must be adhered to.

3) Areas that are disturbed have been identified and require no further archaeological assessment.

4) The Stage 2 AA will follow the requirements set out in the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).
6. Community Input

As a part of the consultation process for this report, AECOM undertook consultation with Heritage Preservation Services at the City of Toronto, the Ontario Ministry of Tourism, Culture, and Sport, and the Ontario Heritage Trust. The results of the consultation efforts are identified below in Error! Reference source not found..

Table 1: Community Input and Consultation Undertaken for the Danforth Avenue Subway

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<th>Notes</th>
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<tr>
<td>Jeremy Collins, Acquisitions Coordinator, Ontario Heritage Trust</td>
<td>416-325-5017 <a href="mailto:jeremy.collins@heritagetrust.on.ca">jeremy.collins@heritagetrust.on.ca</a></td>
<td>April 12, 2016</td>
<td>The Ontario Heritage Trust does not have an Ontario Heritage Act entry relating to the Danforth Avenue Subway, nor is the structure protected by an existing easement held by the Ontario Heritage Trust.</td>
</tr>
<tr>
<td>Yasmina Shamji, Support Assistant, Heritage Preservation Services, City of Toronto</td>
<td>416-392-1975 <a href="mailto:yshamji@toronto.ca">yshamji@toronto.ca</a></td>
<td>February 1, 2016</td>
<td>The Danforth Avenue Subway is not designated under Part IV of the Ontario Heritage Act, and is not included on the City of Toronto’s Heritage Register. In addition, the City did not identify any further heritage concerns related to the structure.</td>
</tr>
<tr>
<td>Rob vonBitter, Archaeological Data Coordinator, Ministry of Tourism, Culture and Sport</td>
<td><a href="mailto:Robert.vonBitter@ontario.ca">Robert.vonBitter@ontario.ca</a></td>
<td>January 20, 2016</td>
<td>No archaeological assessments completed within 50 metres of study area; resulting in the identification of no archaeological sites. In addition, AECOM submitted a Stage 1 Archaeological Assessment for the Project (Section 5).</td>
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<td>Parks Canada - Canadian Register of Historic Places</td>
<td><a href="http://www.historicplaces.ca">www.historicplaces.ca</a></td>
<td>February 24, 2016</td>
<td>Subject property not included in the Canadian Register of Historic Places</td>
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7. Discussion of Historical or Associative Value

7.1 Historic Theme/Cultural Pattern

7.1.1 Transportation

The earliest roads in Ontario were typically military roads or colonization roads. These roads often followed Indigenous hunting trails or were dictated by the topography of the land which they crossed. The Dundas Road which was opened to connect Toronto with the Thames River, in what is now London, Ontario, and the Kingston Road, designed to provide a military link between Toronto and Kingston were some of the earliest and still functioning roads in southern Ontario.

Following the Crown surveys in Ontario, concession and side roads were opened on a grid that was dictated by the survey type that was used. The roads were cleared and made passable by the early land owners who built their dwellings adjacent to the concession roads. Despite being cleared, road conditions were often poor until the late 19th and early 20th centuries.

Railway transportation – both passenger and freight – greatly improved the transportation network in Ontario beginning in the mid-1800s. The opening of the GTR between Montreal and Toronto in 1856 provided a link between the two cities and provinces that was more easily travelled in comparison to mid-19th century roads. The construction of the route from Montreal to Toronto, and then on to Sarnia by the end of the 1860s resulted in the construction of significant structures such as the Victoria Bridge over the St. Lawrence River, and the St. Clair Tunnel in Sarnia. The GTR was designed to enhance the St. Lawrence-Great Lakes shipping routes in response to the railroads and shipping networks in the United States. As a result it also strengthened the connection and link between the townships, and municipal and provincial economies in Ontario.

Various railway companies were formed in Ontario to create a vast network of rail lines that spread throughout the province by the early-20th century. Nonetheless, most of the companies were merged with or purchased by the CN or the Canadian Pacific Railway (CPR). The GTR became a part of the CN network in 1923. In 2011, Metrolinx acquired a portion of the CN-owned Kingston Subdivision which included the Danforth Avenue Subway.

7.1.2 Grade Separation

When the GTR was completed in 1856, the majority of the railway line crossed roads at grade, most of which had little highway traffic. By the end of the nineteenth century increased railway traffic and the growth of motor vehicle usage, combined with streetcar traffic in urban centres like Toronto, led to large grade separation projects that would result in the construction of railway subways and overpasses to separate road and pedestrian traffic from railway traffic.

The grade separation projects in Toronto typically came in phases or eras between the 1890s and 1930s, and were spearheaded by public works and engineering offices within the City. The Danforth Avenue Subway was built immediately prior to the commencement of the well-known Toronto Waterfront Grade Separation Project that was undertaken in the 1920s. Historic mapping indicates that prior to the 1920s Danforth Avenue terminated at Warden Avenue. However, by 1921, mapping shows the intention to construct an extension of Danforth Avenue east of Warden. It is likely that at the time of the construction of the road extension, a decision was made to construct a subway structure over Danforth in anticipation of upcoming grade separation projects (Figures 3 – 5).
7.2 Local History

The Danforth Avenue Subway is located within the City of Toronto, Ontario. Historically, the subway was located within the Township of Scarborough, in the County of York. The subsections below include historic information related to the settlement and growth of these municipalities.

7.2.1 Settlement History

York County: York County is described in detail in the *Illustrated Historical Atlas of the County of York* of 1878.\(^1\) Governor Simcoe had previously organized Upper Canada into 19 counties, one of which was named York County. The County consisted of two ridings, east and west, bounded by Durham to the east, and the River Thames on the west. York was originally comprised of what are now the municipalities of York, Peel and Halton as well as Durham Region and the City of Toronto. By 1851 it had dramatically reduced in size as Wentworth, Halton, Ontario and Peel Counties had been separated from the County. Survey along the lake began in 1791, with 11 Townships laid out between the River Trent and the head of the Bay of Quinte. In 1798, the County of York contained the Townships of Whitby, Pickering, Scarborough, York, Etobicoke, Markham, Vaughan, King, Whitchurch, Uxbridge, and Gwillimbury. The settlement of York began slowly, with no more than 12 houses built by 1795. In 1805, the Toronto Purchase was completed, with 250,880 acres transferred from the Mississauga’s for 10 shillings. Many of the first settlers were United Empire Loyalists, who were supplied with either a Town lot or 200 acres. In 1794, a number of German families moved to York from New York City. By 1830, the population had grown significantly to 17,025, and York was incorporated as the city of Toronto in 1834.

Scarborough Township: The Geographic Township of Scarborough, now Scarborough, made up the eastern portion of York County. Scarborough was named after the English town of the same name, by Elizabeth Simcoe. It is bordered on the east by Pickering and the Rouge River, to the south by Lake Ontario, to the north by Steeles Avenue and to the west by Victoria Park Avenue. The study area is located in the southwest corner of the township. The Township of Scarborough was surveyed in 1793 using the Single-Front survey system used by the colonial government between 1783 and 1818. The survey was made up of concessions separated by road allowances. The concession was divided into lots of 200 acres and side road allowances were surveyed after every fifth lot. In Scarborough, the survey was modified with side roads between every second lot rather than every fifth lot.

The Canada Company purchased several hundred acres, the Legislature was granted 384 acres, and King’s College purchased approximately 2000 acres. In the early 1800’s the Township consisted mostly of scattered villages. The Township of Scarborough was declared a borough when it joined the Municipality of Metropolitan Toronto (now the City of Toronto) in 1954. It was declared a city in 1983, due to its rapid growth and large population size.

Several historic roads are found within Scarborough, and include Danforth and Kingston Roads. These transportation routes followed early Aboriginal trails. The Danforth was completed in this part of the province in 1799, originally contracted to Mr. Danforth from York to the Bay of Quinte\(^2\). Kingston Road, initially Kingston Street, was first constructed in 1800, connecting Kingston and York.

With the clearing of land for farming and the vast variety and quantity of lumber materials, the lumber industry thrived in this area. As a result, saw mills began to emerge as early as 1804 and eventually dozens could be found along the Highland Creek and the Rouge River. This continued until the depletion of the forests in the area. Grist and

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Flour-mills were also found along the watercourses, but a flood in 1850 carried away the last of the old dams. Other common trades found in the township included blacksmiths, wagon makers, shoemakers, and ship builders. Several 19th century churches and school houses can be found in the immediate vicinity of the study area. The population of the Township was 89 in 1802, with a total of 477 inhabitants by 1820, and 3,821 by 1850.

There were several historic villages located within the township, including the historic village of L’Amaroux, Scarborough Village, the village of Ellesmere, and Agincourt. With the building of the railway lines beginning in 1856, several communities were created at junction stops. The GTR, the location of the current Lakeshore East corridor, runs along the southern portion of the Township. The historic Toronto and Nipissing Railway diverges from the GTR beginning at the Scarborough Junction and crosses the township to the north for approximately two miles (3.2 km). The Ontario and Quebec Railway was opened in 1884.

Within Scarborough, the baseline for the concessions ran east west. The concession lines were opened as road allowances and these have become the major east-west roads within Scarborough. The Don River crosses the southernmost section of the Lakeshore East Rail Corridor, the corridor then continues in a north easterly direction towards what is now known as Danforth Avenue. The corridor then crosses Eastern Avenue, Queen Street East, Dundas Street East, Gerrard Street East, Pape Avenue, Jones Avenue, Greenwood Avenue, Coxwell Avenue, Woodbine Avenue, Main Street, Warden Avenue and Birchmount Road.

1880s to the First World War: The streets on the east side of the Don River were some of the earliest streets developed in Toronto. This development stretched from the mid-1880s to World War One. The houses in the vicinity of the rail corridor are a combination of Second Empire row houses, “Bay-n-Gable” style and examples of Edwardian foursquare. The development of the study area in Victorian and Edwardian periods occurred on a relatively small scale, with local builders or contractors constructing variations on established architectural styles.

7.2.2 Site History

In the 1860s the properties that the GTR cut across in the southern part of Scarborough Township were primarily agricultural properties. At the site of the Danforth Avenue Subway, the lots had already been subdivided and the properties on either side of the railway crossing at what would become Danforth Avenue were being used for agricultural purposes. In 1860, the lots were depicted as being owned by Archibald D. Thomson (Concession A) and John Walton (Concession B). By 1878, Concession A still belonged to Thomson, while the Concession B lot appears to have belonged to a Frank Thompson. The closest structure at the time was located approximately 600 metres north at what is now the intersection of Danforth Road and Mack Avenue.

In 1923, a concrete and steel subway structure was constructed over Danforth Avenue, presumably at the time of the extension of the road east from Warden Avenue. As is typical for early-20th century subway structures, the grading of the road slopes slightly at the approaches to the subway in order to provide a greater clearance under the structure. At the time of the construction of the subway, the properties on north and south side of Danforth Avenue at the location of the crossing were being developed as a suburb development. The builder and fabricator of the structure are unknown.

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3 Boyle 1896, p.131.
7.3 Person/Event/Organization

7.3.1 Grand Trunk Railway

The GTR was created in the 1850s to build a railway line between Toronto and Montreal. The route was opened in 1856 and opened further west to Sarnia by the end of the 1850s. Specifically, a GTR line cut across the southern portion of York Township by 1850s. The line, as depicted on the 1860 Tremaine Map, and the 1877 map shown in the Illustrated Atlas of the County of York follows the shoreline and cuts north to avoid Frenchman's Bay, similar to the Kingston Road. The expansion of the GTR across Ontario was meant to offer competition to the United States’ shipping network.

During the late-19th century the GTR undertook an aggressive double-tracking program to double its service between Toronto and Montreal. By the early-20th century, the GTR had expanded its service through a series of mergers and partnerships with other lines, however, in 1923 the newly formed, and publically-owned CN absorbed the GTR through a reorganization of the company. The CN had assumed operation and management of the line between Toronto and Montreal including its structures such as bridges and culverts, which were maintained throughout the 20th century. In 2011, Metrolinx acquired the Kingston subdivision of the original route which included the Danforth Avenue Subway.
8. Discussion of Design or Physical Value

8.1 Style/Type/Tradition

The structure is designed as a two span subway and currently carries two tracks over Danforth Avenue as part of the elevated rail corridor east of the Don River. A third track is carried immediately east of the crossing, on a separate and much newer steel and concrete structure. The subway consists of concrete abutments and a riveted steel plate girder structure. Unlike many of the other structures along this corridor, the subway does not contain piers that separate the pedestrian walkways from the vehicular traffic. Rather, the structure has two spans that are wide enough to include paved pedestrian sidewalks adjacent to the roadway (Figures 6 – 7). The clearance under the bridge could not be determined; however, the railway embankment was designed to carry the corridor at an average of 18 feet above the road level.

The substructure is constructed of concrete abutments and deck, and steel plate girders, and is built into the earthen railway embankments on the north and south sides of Danforth Avenue. On the north abutment, a cutting in the concrete indicates the date of construction as 1923. The central pier comprises a riveted steel double-warren truss with post that supports the longitudinal side (primary) girders and the transverse girders. Laid on these are thin steel girders running longitudinally and infilled with concrete to form the deck. Only the bottom flanges of the girders are visible between the concrete deck. A conduit runs along the outside of the girder on the west side of the bridge (Figure 11).

The superstructure consists of tall riveted steel plate girders that carry the railway over the road. The steel plate structure is typical of railway bridge and subway structures that were constructed from the early-20th century well into the late-20th century and includes the larger “CN” logo located in the centre of the structure. Immediately east of the 1923 subway are additional concrete partial abutments that are set back from the original abutments and support the new steel structure with the third track. A concrete pier supports the new structure (Figures 8 – 10).

The Danforth Avenue Subway was part of the larger grade separation activities undertaken in Toronto in the early-20th century. Although not a part of the formal Toronto Waterfront Grade Separation project, the subway was built immediately before a large number of subway structures were constructed east of the Don River.

8.2 Function

The structure has always functioned as a railway structure since its construction in 1923. Prior to the Danforth Avenue Subway, the GTR, later CN tracks crossed through the middle of the undeveloped lots on this property at grade. It appears that when Danforth Avenue was extended east of Warden Avenue, the structure was built to continue carrying the railway over the newly constructed road.

8.3 Fabric

The subway consists of both concrete and steel, both common construction materials for railway structures in the early-20th century. The substructure is constructed of concrete. At the turn of the 20th century, most railway structure abutments and piers were built of concrete as opposed to the earlier masonry structures. Railway structures constructed completely of concrete were not used much in Canada until the 1930s, despite being popular for highway construction. The name of the company who completed the concrete could not be determined.

The steel superstructure of the Danforth Avenue Subway was a common building material and element used extensively throughout the late-19th and early-20th centuries. Despite the introduction of structures built entirely of
concrete, steel girders were used well into the 20th century and can be found as part of modern railway structures today. The name of the company who completed the steel work could not be determined.
9. Discussion of Contextual Value

9.1 Social Meaning

The Danforth Avenue Subway was one of the many concrete and steel plate girder railway structures located on the east side of the Don River. In the mid-1920s, the City of Toronto and the CN undertook an expansive grade separation project that resulted in the construction of a large number of subway structures in Toronto. When the grade separations were completed, the structures carried the rail line on an embankment with an average height of 18 feet. The Danforth Avenue Subway, constructed in 1923, was built just prior to the commencement of the large Toronto Waterfront Grade Separation Project, and was built as part of the extension of Danforth Avenue east from Warden Avenue.

The rail corridor that is carried over Danforth Avenue was first constructed in the mid-1850s and is an important rail line and corridor that extends along the shores of Lake Ontario as part of the Toronto to Montreal corridor. The corridor is part of the original GTR route that was constructed throughout the province and continues to operate as an active rail line after over 150 years. The subway structures form a part of the larger landscape and corridor that is part of the original GTR route, and a part of the grade separation efforts that were undertaken by CNR following their acquisition of the route in the 1920s.

9.2 Environment

The Danforth Avenue Subway's context within its surrounding area is historically linked to its environment. Although not a part of the large-scale Toronto Waterfront Grade Separation Project, the subway structure over Danforth Avenue was built to carry the busy rail traffic over vehicle and streetcar traffic, when Danforth Avenue was extended. The structure was built out of the historic necessity to raise the railway corridor above street level.

The character of Danforth Avenue at the site of the subway is predominantly residential land use with some recreational/green space uses. North of the railway corridor, Kimridge Avenue, a residential street runs parallel with the railway right-of-way. Just east of the crossing, Danforth intersects with Kalmar Avenue, a north-south residential street. West of the structure, Danforth Avenue, a four lane road continues towards the Don River. Scotia Parkette and the Hollis-Kalmar Park are both small city park areas that are located north and south of the railway crossing on the west side of the structure.

9.3 Formal Recognition

The Danforth Avenue Subway is not formally recognized at the municipal, provincial, or federal level.
## 10. Data Sheet

<table>
<thead>
<tr>
<th>FIELD</th>
<th>PROPERTY DATA</th>
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<tbody>
<tr>
<td>Property Name</td>
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</tr>
<tr>
<td>Municipal Address</td>
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<td>Municipality</td>
<td>City of Toronto</td>
</tr>
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<td>Metrolinx/GO Transit Rail Corridor</td>
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<tr>
<td></td>
<td>Long: -79.271117°</td>
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<tr>
<td>PIN</td>
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<tr>
<td>Ownership [Metrolinx, other government, or private, and any lease]</td>
<td>Metrolinx</td>
</tr>
<tr>
<td>Aerial photograph indicating location of resource and property boundaries</td>
<td><img src="image" alt="Aerial Photograph" /></td>
</tr>
<tr>
<td>Current photograph of resource</td>
<td><img src="image" alt="Current Photograph" /></td>
</tr>
<tr>
<td>Date of construction of built resources (known or estimated, and source)</td>
<td>Constructed in 1923; inscribed on the abutment</td>
</tr>
<tr>
<td>Date of significant alterations to built resources (known or estimated, and source)</td>
<td>Regular repairs and maintenance appear to have taken place throughout the 20th century. Dates of alterations unknown.</td>
</tr>
<tr>
<td>Architect/designer/builder (and source)</td>
<td>Superstructure fabricated by the Canada Foundry Company, Limited.</td>
</tr>
<tr>
<td>Previous owner(s) or occupants</td>
<td>The Canadian National Railway constructed the subway in 1923, in the same year that they acquired the GTR rail line.</td>
</tr>
<tr>
<td>Current function</td>
<td>Railway subway</td>
</tr>
<tr>
<td>FIELD</td>
<td>PROPERTY DATA</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Previous function(s)</td>
<td>Railway subway</td>
</tr>
<tr>
<td>Heritage recognition/ Protection (municipal, Provincial or federal)</td>
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</tr>
<tr>
<td>Local Heritage Interest</td>
<td>None identified</td>
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<tr>
<td>Adjacent Lands</td>
<td>The properties adjacent to the railway corridor at Danforth Avenue consist of predominantly residential properties. North of the railway corridor, Kimridge Avenue, a residential street runs parallel with the railway right-of-way. Just east of the crossing, Danforth intersects with Kalmar Avenue, a north-south oriented residential street. West of the structure, Danforth Avenue, a four lane road continues towards the Don River. Scotia Parkette and the Hollis-Kalmar Park are both small city park areas that are located north and south of the railway crossing on the west side of the structure. The closest structures to the corridor at this location are residential dwellings located on Kalmar Avenue, south of the subway, and Eastwood Avenue, east of the corridor.</td>
</tr>
</tbody>
</table>
11. Figures

Figure 3: National Topographic Series, showing termination of Danforth Avenue at Warden Avenue, 1909

Figure 4: National Topographic Series, showing termination of Danforth Avenue at Warden Avenue and the planned suburban developments north and south of the railway corridor, 1921
Figure 5: National Topographic Series, showing the extended Danforth Avenue, east of Warden Avenue and the railway corridor passing over the road, 1931

Figure 6: View looking east showing west side of the Danforth Avenue Subway (AECOM, 2016)
Figure 7: View looking northeast showing centre double-warren truss with post steel pier and adjacent concrete pier of the newer structure (AECOM, 2016)

Figure 8: View looking north showing centre double warren truss with post steel pier of 1923 structure and concrete pier from newer structure (AECOM, 2016)
Figure 9: View looking west showing south abutment and as constructed as a part of the new structure (AECOM, 2016)

Figure 10: View looking west showing centre pier of new structure in relation to older structure at rear (AECOM, 2016)
Figure 11: View showing underside of 1923 structure, showing visible bottom flanges, concrete deck, and cross beams (AECOM, 2016)
12. Maps

Map 2: Location of the Danforth Avenue Subway
Map 3: Location of the Danforth Avenue Subway on the 1860 Tremaine Map (Tremaine, 1860)
Map 4: Location of the Danforth Avenue Subway on the 1878 Historic Atlas Map (Miles and Co., 1878).
13. **Chronology**

The following indicates milestone dates, periods, and events in the structural evolution of the Danforth Avenue Subway and its surrounding environment:

1852  The Canadian Government announces its plan to build a railway between Toronto and Montreal

1853  The Grand Trunk Railway is formed by the amalgamation of the Grand Trunk Railway of Canada, Grand Junction Railway, Grand Trunk Railway Company of Canada East, Quebec and Richmond Railway, St. Lawrence and Atlantic Railway and the Toronto and Guelph Railway

1856  The GTR begins operating trains between Toronto and Montreal

1859  The GTR line between Toronto and Sarnia is complete

1887  The GTR begins double tracking the main line between Toronto and Montreal, the work was completed by 1903

1923  GTR becomes part of Canadian National Railway

1923  CN constructs Danforth Avenue Subway

1925  CN begins work on the Toronto Waterfront Grade Separation project

2011  Metrolinx acquires the Kingston Subdivision from CN
14. Bibliography

Telephone and Email Conversations


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“Unusual Concrete Bridges are Built on the Canadian National.” *Railway Age.* Volume 93, No. 11. 1932.

Tremaine, George R. *Tremaine’s Map of the County of York, Canada West.* Toronto: George C. Tremaine, publisher, 1860.

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Electronic Sources
