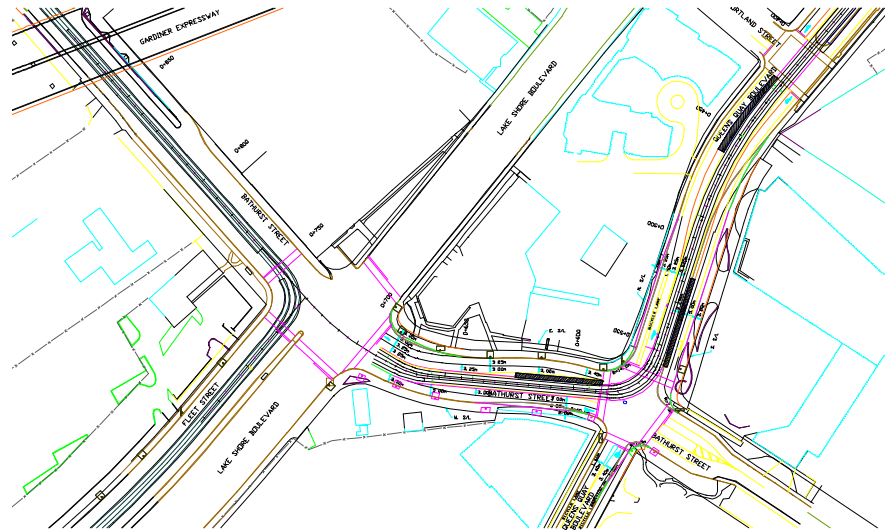


Queens Quay-Bathurst Streetcar Extension

LEA was retained by direct assignment by the City of Toronto to provide detailed engineering design services and contract document preparation for the road widening and streetscaping of Queens Quay, from Portland Street to Bathurst Street, and on Bathurst Street from Queens Quay to the Gardiner Expressway, including intersection improvements. This was a fast-track project, which had to be completed in six weeks.

As part of the Queens Quay streetcar project, the TTC is extending the streetcar along Queens Quay and north on Bathurst Street to join the Bathurst and Fleet Street streetcar line. Other than at intersections, the streetcar travels in its own right-of-way on this line. Because of this requirement it was necessary to widen Queens Quay in order to accommodate the traffic flow on either side of the dedicated streetcar right-of-way. There are also minor grade changes necessitated by the required profile of the streetcar tracks. There are many utilities in the area and a number of them were affected by the road widening and by the track-bed requirements of the TTC. The cross-section of the road involved station platforms in some instances, and a raised curb to prevent vehicles crossing the TTC right-of-way, there were also landscaped separation strips in some areas.

While the TTC completed the design and supervision of the construction of all works within its right-of-way including the streetcar tracks, the City of Toronto required consulting assistance to ensure that its road standards and streetscaping requirements were met, and that vehicular traffic could negotiate the intersections and make safe turns avoiding platforms, streetcars and other potential hazards introduced by the new streetcar line.



LEA checked the horizontal and the vertical alignment of the TTC track and adjustments were made where necessary to ensure adequate profile and cross-fall on the road system. All turning movements at intersections and accesses were checked and problem movements were identified and resolved by design changes. Retaining curbs were designed where space was at a premium and grade differences were increased because of road widening. Land acquisition plans were prepared where essential acquisition was identified in order to ensure an acceptable design. The City's streetscape standards were incorporated into the cross-sectional design, and modifications were made to an existing linear park to preserve as much as possible after the road widening. Utility conflicts were identified and resolved by relocation works where necessary. Streetlighting, traffic signals and overhead utility services were coordinated where possible, to minimize the proliferation of poles and posts in the boulevard and sidewalk areas.

The design was coordinated with the City Fire Department to ensure all requirements for fire truck access were met. Plan profile drawings in Microstation to a scale of 1:200

horizontal, 1:100 vertical were prepared along with standard details, diversion plans, removal drawings, utility location drawings, etc. Tender documents, bill of quantities and engineer's estimate were all prepared and the contract package was completed within the required time scale of six weeks.

PROJECT SUMMARY

Client:
City of Toronto

Location:
City of Toronto, Ontario

Services Provided:
Topographic Survey, Highway Design, Preparation of Contract Drawings and Documents