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# Hamilton Rapid Transit Preliminary Design and Feasibility Study

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## B-LINE

### TRACK PLAN REPORT

Version:2.0



An agency of the Government of Ontario







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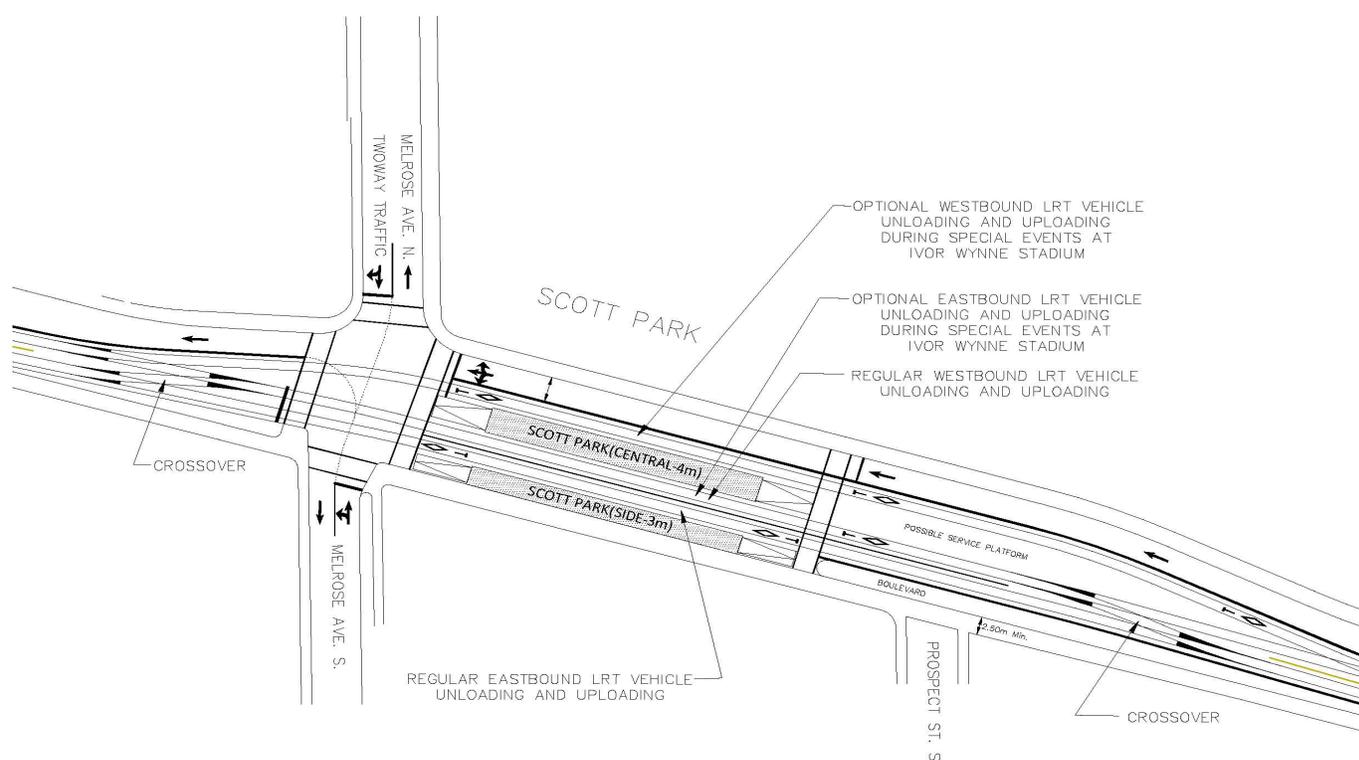
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## 1.0 Introduction

The total length of B-Line is approximately 14 km. There are 18 stops with spacing between them varying from 0.4 km (between Delta and Ottawa) to 1.7 km (between Parkdale and Nash).

## 2.0 Configuration

Five (5) stops are with central platform (McMaster University Terminal, First Place, Wentworth, Sherman and Eastgate Terminal) 11 stops are with opposing side platforms and 2 stops (Parkdale and Nash) are with staggered side platforms. The Scott Park stop has a combination of a side and central platform. The side platform is 3 m wide and serves one eastbound track, while the central platform is 4 m wide with two tracks on either side; the southern track serves as a westbound track during regular operation and as an eastbound track during special events, and the northern track is used as a westbound track during special events only (See Figure 1).



**Figure 1: Track Configuration at Scott Park Stop**

The City of Hamilton (COH) has not finalized yet its choice of the Maintenance and Storage Facility (MSF) location. This represents a challenge in developing the track plan and defining the operational parameters of the system. For the purposes of defining a track plan for the Preliminary Design, the City of Hamilton has instructed that the MSF connection should be assumed to join the B-Line route in Segment 3, between Scott Park and Parkdale Avenue (as defined in Section 4.1.1 below).

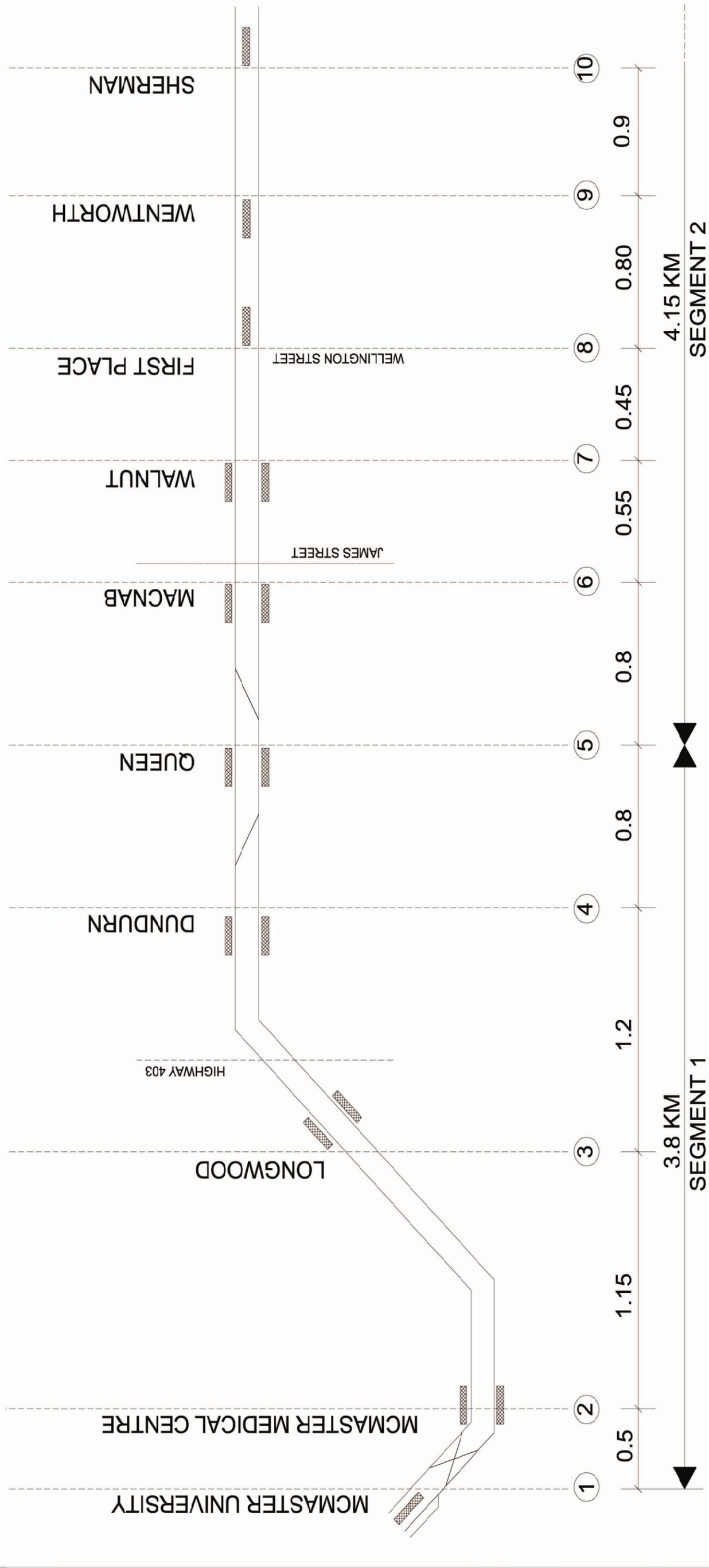
The base configuration of the so described track plan is shown in Figure 2.

### 3.0 Regular Operations

In accordance with the Operational parameters, 19 vehicles will have to be deployed for the morning peak period operation between the hours of 4.30 am to 6.30 am. As the location of the MSF has not yet been determined, it is impossible to determine with certainty how many trains being put into service will head east and west from the MSF track. However a preliminary analysis of the potential to connect the main line to the MSF track along segment 3 has been carried out and it reveals that 17 vehicles will be deployed to the west and 2 vehicles to the east. Such preliminary assumptions an analysis is required to firm up the preliminary operations plan and to preliminarily ascertain operations cost.

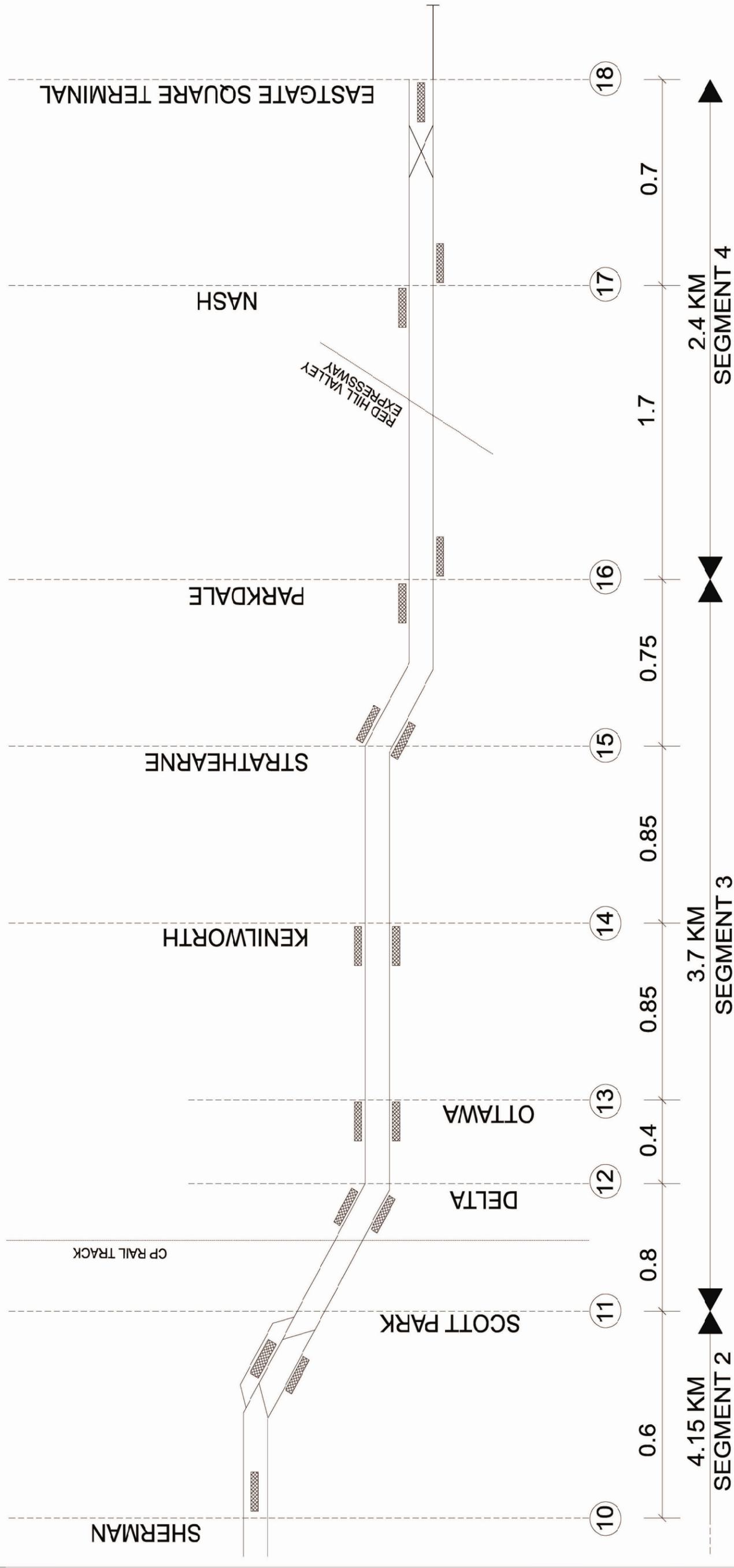
Ideally the connection point of the MSF track to the main line track should fully serve all moves for a direct deployment/withdrawal to/from service. Revenue operations of newly deployed trains could start from the stop closest to the MSF track connection to the east and west, similarly withdrawal of service could also occur at this same stop, such practice will required due timely notifications to system patrons at the terminal stations.

A cross-over along the MSF access track is required for downgraded operations (see Section 4.0 below)



**FIGURE 2**  
**HAMILTON LRT B-LINE TRACK PLAN (PART 1)**

N.T.S.



NOTE: MAINTENANCE AND STORAGE FACILITY ACCESS TRACKS LOCATION TO BE DETERMINED.  
ASSUMED TO BE WITHIN SEGMENT #3 AS PER CITY OF HAMILTON INSTRUCTION.

FIGURE 2

HAMILTON LRT B-LINE TRACK PLAN (PART 2)

N.T.S.

## 4.0 Downgraded Operations

Downgraded operations along the B- Line LRT involve operating the rest of the line when a segment is closed for accident investigations / emergency repairs.

The downgraded operations provided with the proposed track plan are based on the following criteria:

- No bi-directional revenue operations to be considered. This stems from the problems of traffic controls at intersections and the safety issues with the other road users (drivers and pedestrians) not expecting reverse moves.
- The closed segment could be served by shuttle emergency bus services ;
- If the closure extends beyond the operational time of the system, the vehicles which cannot access the MSF will be parked overnight at pre-determined stops.

### 4.1 Proposed Segments for Downgraded Operations

#### 4.1.1 Segments Definition

It is proposed to break the 14 km main line into 4 segments, as indicated in Figure 1:

- Segment 1 : between McMaster University and Queen : 3.8 km and 4 stops;
- Segment 2: between Queen and Scott Park : 4.15 km and 5 stops;
- Segment 3 : between Scott Park and Parkdale : 3.7 km and 4 stops;
- Segment 4 : between Parkdale and Eastgate Terminal : 2.4 km and 1 stop

#### 4.1.2 Downgraded Operations Scenarios

**Segment 1 out of operation:** All operations continue between Queen St. and Eastgate stops. The short reversal at Queen is executed as follows:

- All passengers disembark from the westbound vehicles at Queen westbound platform
- The empty vehicle proceeds west and reverses through the cross-over located just west of Queen, arriving for loading at the eastbound platform of Queen Stop.

**Segment 2 out of operation:**

In the case of Segment 2 out of operation, downgraded operations can be carried out at the west end between McMaster University and Queen. Passengers at Queen travelling west need to be advised to move to the eastbound platform at Queen, which becomes the temporary terminal stop. Alternatively, the train can unload all passengers at the eastbound platform at the Queen stop and continue to the cross-over on the east side to reverse to the westbound platform of Queen.

Operations east of Scott Park can be carried out as follows: Westbound trains will empty on the centre platform at Scott Park, continue west to the cross-over and proceed through the cross-over to the eastbound track in order to maintain revenue operation.

**Segment 3 out of operation:** Due to the short distance (only one intermittent stop) of segment 4, no operations east of Parkdale should be carried out. Segments 1 and 2 can operate between McMaster University and Scott Park. At Scott Park the eastbound vehicles will empty at the Scott Park eastbound platform, continue eastbound and use the cross-over to reverse directions, and board on the centre platform to continue revenue operation.

**Segment 4 out of operation:** Operations continues between McMaster University and the stop just west of the connection to the MSF. The empty trains move onto the MSF entry track, reverse and using a cross-over may switch to the westbound direction.

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