



## **STAFF REPORT ACTION REQUIRED**

### **Procurement Authorization Hillcrest Complex - Streetcar Way Facility Replacement and Harvey Shop Loading Dock - Contract M7-2**

<b>Date:</b>	November 30, 2016
<b>To:</b>	TTC Board
<b>From:</b>	Chief Executive Officer

#### **Summary**

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The purpose of this report is to obtain authorization for the award of Contract M7-2, Hillcrest Complex - Streetcar Way Facility Replacement and Harvey Shop Loading Dock to Buttcon Limited (Buttcon).

The work of this Contract includes a new streetcar way building facility and a loading dock at Harvey Shops.

The subject project was approved through the 2016-2025 Capital Budget process and is now in the procurement stage. A summary of the business case for this project is included in Appendix C for reference.

#### **Recommendations**

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It is recommended the Board authorize:

1. Award of Contract M7-2, Hillcrest Complex - Streetcar Way Facility Replacement and Harvey Shop Loading Dock to Buttcon in the amount of \$27,747,150.00 inclusive of all taxes on the basis of lowest total bid price.

#### **Financial Summary**

Sufficient funds for the expenditure are included in the TTC's 2016-2025 Capital Budget under Building and Structures Projects, which was approved by City Council on February 17, 2016.

Contract M7-2 qualifies for Public Transit Initiative Fund (PTIF) and the funding under this Federal program is being pursued by the TTC.

The Chief Financial & Administration Officer has reviewed this report and agrees with the financial impact information.

The value of operational efficiencies is estimated \$1.8 million annually with a payback period of 17 years.

## **Accessibility/Equity Matter**

The work of this contract will provide accessibility to the Streetcar Way Facility by providing an elevator to the second floor.

## **Decision History**

This report follows the approval of the Streetcar Way Modernization Plan at the September 28, 2016 Board Meeting.

**[https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2016/September 28/Reports/7 Streetcar Way Modernization Plan deferred report.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2016/September%2028/Reports/7%20Streetcar%20Way%20Modernization%20Plan%20deferred%20report.pdf)**

## **Issue Background**

The Work of Contract M7-2 consists of two (2) Work Packages M7-1, Streetcar Way Facility Replacement and M1-91, Harvey Shop Loading Dock. The Harvey Shop component of the work is approximately 10% of the value of the contract.

The Work Packages were combined primarily to achieve cost efficiencies. Additionally, they were combined to take advantage of the same hydro corridor construction access to avoid conflicts with traffic inside Hillcrest. Furthermore, hiring one Contractor for the work of the two packages satisfies the requirement of the Occupational Health and Safety Act to have one person (i.e. the contractor) with overall authority for health and safety matters on the two adjacent work areas.

### **Package M7-1 (Streetcar Way Facility Replacement) – see Appendix (A)**

A functional and operational assessment of the current facilities and methodologies employed by the Surface Way section for its rail bending operations was carried out to assess productivity improvements and health and safety issues. Based on the requirement to replace the existing rail bending building due to significant structural concerns and the requirement to have all Streetcar Way employees vacate both Roncesvalles and Russell yards for the arrival of the Low Floor Light Rail Vehicles (LFLRVs), the construction of the new Streetcar Way Facility within the Hillcrest Complex is the most cost effective means of facilitating the modernization and consolidation of Streetcar Way operations.

The way facility will encompass 2,700 square metres, and will provide space for personnel facilities and the rail bending operation (applying pressure to form curved pieces of rail for streetcar track turns). In addition, 4,000 square metres of outside space for the pre-assembly of special track work (STW) and space for associated equipment and materials will be provided.

The new Streetcar Way Facility will centralize the Streetcar Way operations providing a better work environment for staff and will enable opportunities to operate more efficiently. A key function of the new building will be the ability to bend 24 m rail lengths, which will increase bending output by 40%, and reduce the time required to assemble the STW layouts.

### **Package M1-91 (Harvey Shop Loading Dock) – see Appendix (B)**

The current configuration does not allow for efficient material deliveries to Harvey Shop due to double handling requirement of first delivering to Duncan Shop loading dock.

The Work of this package consists of structural modifications to extend the building by an additional 250 square metres with associated electrical and mechanical modifications and provision for a dock leveler and a bridge crane.

### **Comments**

As discussed in the September 28, 2016 Board Meeting in reference to the Streetcar Way Modernization Plan and reiterated here, the construction of the new Streetcar Way Facility within the Hillcrest Complex is the most cost effective means of facilitating the approved plan.

A business case analysis (Appendix C) was performed and included review of the following options:

- Do Nothing (Status Quo);
- Construct building in Hillcrest complex (Recommended alternative);
- Green Field;
- Leasing Existing Building; and
- Purchasing Existing Building.

The conclusion of the evaluation was that the construction of a facility within the Hillcrest complex was the preferred option as there would be increased efficiency, reduced labour costs, increased rail bending capacity, reduced joint failures, reduced time to assemble, increased quality and it would free-up much needed property at satellite locations. In addition, the Hillcrest complex central location and strategic proximity to the streetcar network makes it suitable to house the new Streetcar Way Facility.

As part of the evaluation process, staff, through one of TTC's brokers, carried out a market search for alternative properties that could accommodate this use including buildings and properties for lease and/or purchase and found none that were in an appropriate location for this use.

TTC staff have also consulted with City of Toronto Real Estate Services Portfolio Management staff and it was confirmed that the City and its Agencies, Boards, Commissions and Divisions (ABCDs) do not have any surplus buildings and/or properties that meets the requirements for size, location and use.

### **Commercial Analysis**

TTC has implemented Infrastructure Health and Safety Association (IHSA) Certificate of Recognition (COR™) safety program as a requirement for award on contracts estimated at greater than \$25 M as of July 1, 2014. All bidders for Contract M7-2 (including every participant of a Joint Venture, if applicable) were required to possess a valid Certificate of Recognition (COR™), as issued by the IHSA, at the time of the closing and for the duration of the term of the contract.

Due to the complexity of the site conditions an additional requirement of the bid was a mandatory site tour. All bidders were required to have a representative present at the mandatory site tour and sign the attendance sign-in sheet, in order for its bid to be evaluated and accepted by TTC.

Specifications and drawings were prepared for Contract M7-2 and a Request for Bids (RFB) was posted on the TTC's Web site and Merx as of July 14, 2016. Due to the value of this requirement TTC Staff was provided the contact info for all companies which possessed COR™ from IHSA and issued advisory letters to companies on the list. Twenty-One (21) companies downloaded copies of the bid documents out of which two (2) submitted a bid by the closing date of September 21, 2016. The bid validity expires on January 19, 2017. See Appendix (D) – Summary of Bids.

Of the twenty-one (21) companies that downloaded the bid documents, thirteen (13) companies attended the mandatory site tour of which four (4) were General Contractors that are COR™ certified. Two (2) of the General Contractors informed the TTC that they would not be bidding due to commitments on current contracts and workload. The other two (2) companies submitted bids.

Buttcon submitted the lowest priced bid, attended the mandatory site tour, they are COR™ certified and did not state any exceptions or qualifications. Buttcon has satisfactorily completed work of a similar size and nature for the TTC in the past and has satisfactory performance reviews on file. Their bid is considered acceptable.

Bondfield Construction Company Limited submitted the second lowest priced bid, attended the mandatory site tour, they are COR™ certified and also did not state any exceptions or qualifications.

The Agreement to Bond submitted by Buttcon covers both a Labour and Material Payment Bond and a Performance Bond and was submitted by Aviva Insurance Company of Canada, who has been verified as a Surety Company licensed to transact business under the Insurance Act of Ontario. As such they are considered financially capable of performing the work.

The successful bidder will be required to execute a Performance Bond and Labour and Material Payment Bond each in the amount of 50% of the contract value.

Awarding this contract to Buttcon would allow for the most cost effective means of the approved Streetcar Way Modernization Plan approved at the September 28, 2016 Board Meeting.

## **Contact**

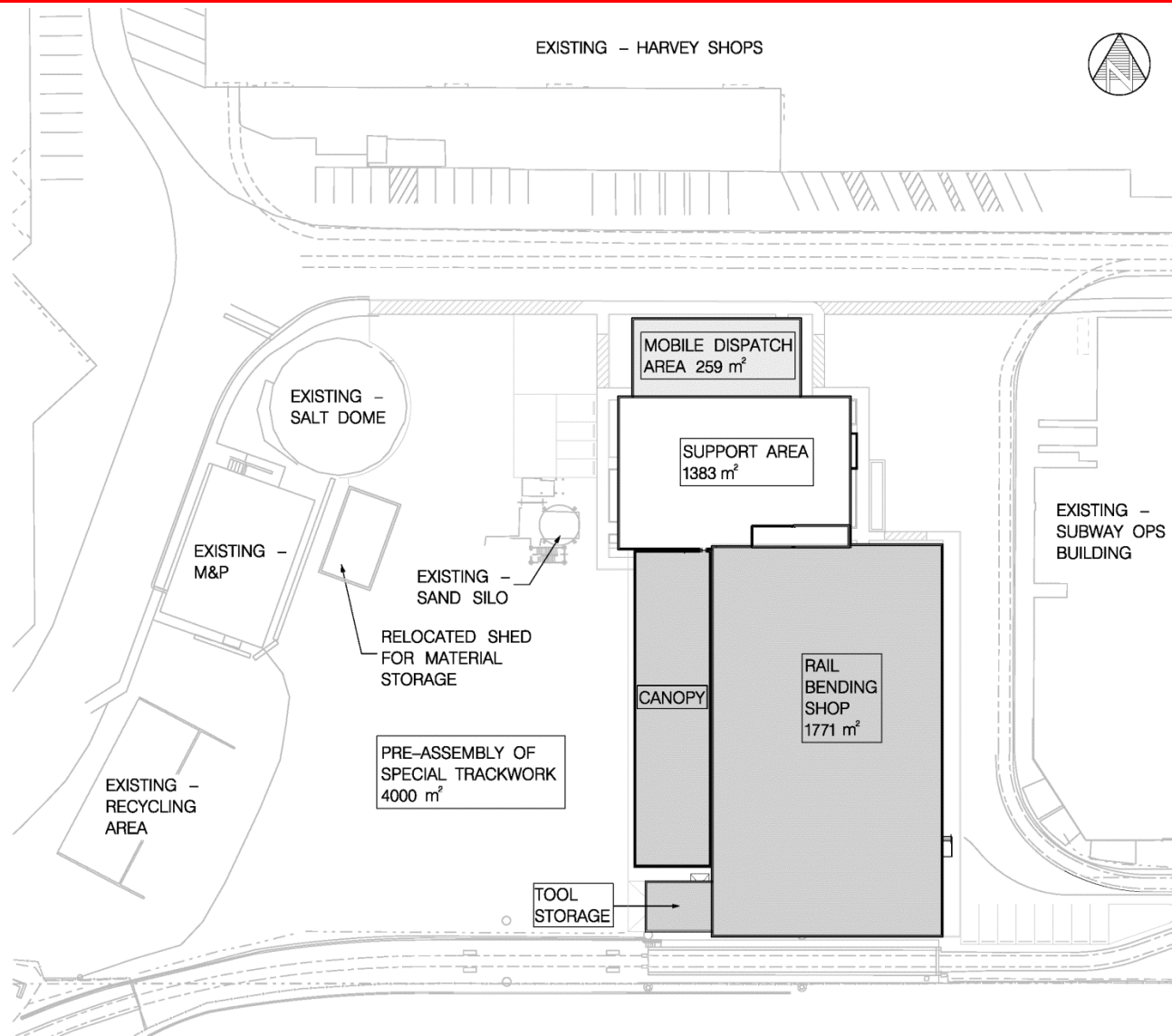
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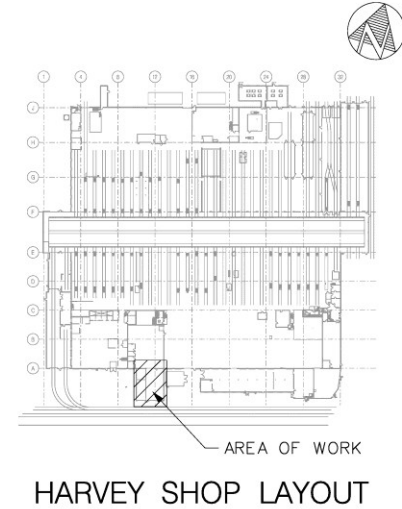
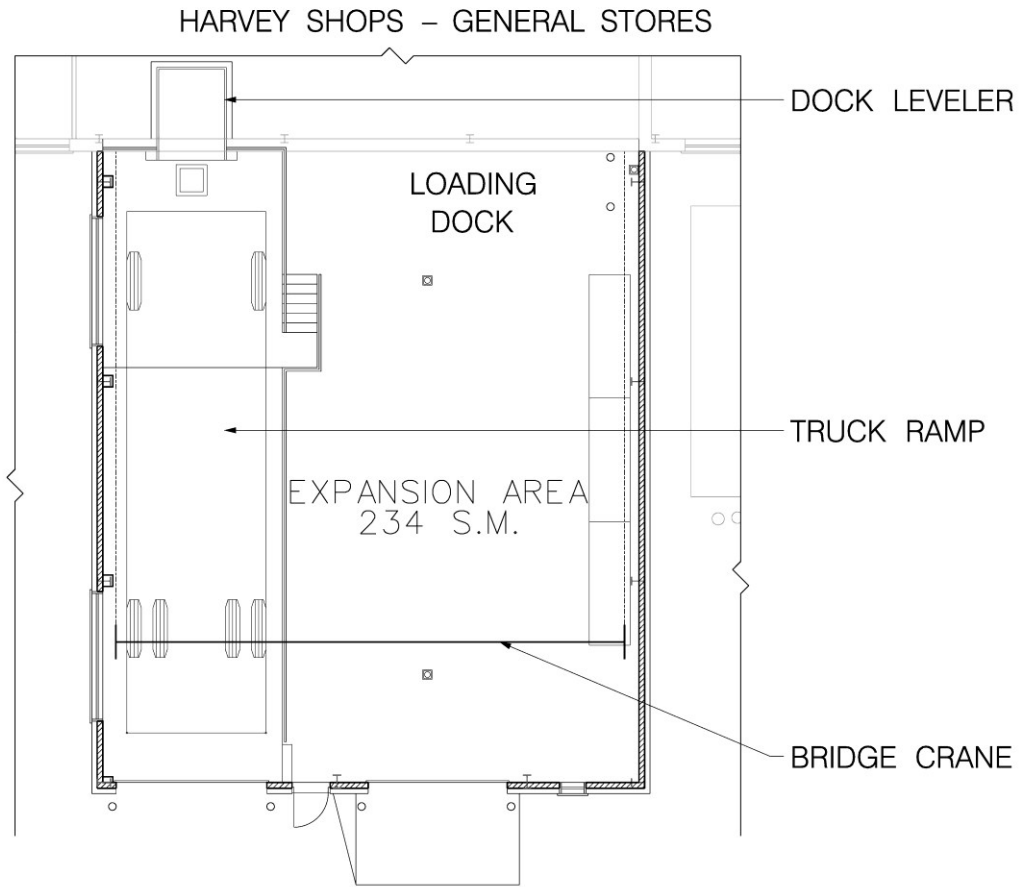
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## **Attachments**

Appendix A - Streetcar Way Facility Replacement – Plan View  
Appendix B - Harvey Shop Loading Dock – Plan View  
Appendix C - Streetcar Way Building Business Case Summary  
Appendix D – Summary of Bids





## APPENDIX C

### Streetcar Way Building Business Case Summary

#### 1. Executive Summary

The purpose of this Business Case summary is to obtain approval from Board members to proceed with the construction of the Streetcar Way Building within the Hillcrest Complex. This building will take approximately two years for construction to complete.

Scope of this project is to construct a new building to create a centralized work location, improve the current work environment, increase rail bending accuracy, reduce failures in welded and mechanical joints and higher overall operational efficiency.

The concept for the Streetcar Way Building was initiated in 2006. In the ensuing years, the project has undergone a number of design iterations, studies including a process flow study, and value engineering study, all of which have culminated into the final design. The foregoing has been coupled with a project justification through analysis of alternatives as further discussed in this report. The building has a total area 2,700 square metres, with space for Streetcar Way staff facilities in their daily operations including rail bending.

The project is included in the 2016-2025 TTC Capital budget and is estimated to be complete within the approved EFC of \$38.76 million.

The value of operational efficiencies over 10 years is estimated at \$23 million resulting in a payback period is 17 years.

#### 2. Primary Drivers for Change

Currently there is insufficient space to accommodate all Streetcar Way operations at one TTC-owned location. Construction and maintenance activities are operated out of Hillcrest Complex, Russell Yard and Roncesvalles Yard. Maintenance activities are conducted out of three aging 'shed'-type structures and two modified cargo containers are used to store tools and materials. The current rail bending building at the Hillcrest location is limited to 12 metre rail length.

#### 3. High Level Scope

The Streetcar Way facility will encompass 2,700 square metres, providing space for Streetcar Way staff facilities in their daily operations including rail bending. In addition, the outside area will include 4,000 square metres for the pre-assembly of special track work (STW) and material storage. Constructing the new facility provides centralized workspace, which will enable opportunities to operate more efficiently. The new building will contain a rail bending shop with the capacity to bend 24 metre long rails.



## 4. Benefits

### Qualitative

There are significant opportunities anticipated in the attainment of TTC's objectives under the 5-Year Corporate Plan, including the following:

- Safety:** Improved workplace safety for employees.  
AODA compliance for employees and visitors.
- Customer:** Service interruptions negatively impact TTC's reputation as a reliable transit provider. Customers, area residents, and the corresponding local Councillors are often critical of unplanned diversions resulting from track deficiencies. One of the main issues that leads to service interruption is the failure of welded and mechanical joints, maintenance crew respond to and average of 10 joint failures per year. The capacity to bend 24 metre rails will reduce the number of rail joints by 40%, thus reducing the occurrence of failures and the subsequent diversions and service interruptions for our customers.
- People:** An overall positive impact for labour relations is anticipated, a better work environment will boost morale and increase productivity. The reduction in head count is attainable through attrition and will be accepted in exchange for a modern, purpose built home for Streetcar Way operations and personnel.

### Quantitative

The estimated value of operational efficiencies over 10 years is \$23 million, the payback period is 17 years.

Expense	Savings per year	Savings 10 years
<b>Supervisors Travel Expense</b>	\$ 12,000	\$ 120,000
<b>Reduction Work time union crew members</b>	\$ 72,000	\$ 720,000
<b>Reduction in Staff and Unionized head count</b>	\$ 658,900	\$ 6,589,000
2 Supervisors		
6 Union members		
2 Seasonal workers		
<b>Current Building Leasing cost</b>	\$ 278,780	\$ 2,787,800
Russell - 17600SqFt		
Roncesvalles - 8200SqFt		
250 Bloor St East		

Expense	Savings per year	Savings 10 years
<b>New Rail bending shop</b>	\$ 31,464	\$ 314,640
Saving Bending duration		
<b>Increase Production</b>		
Welding failure reduction	\$ 74,250	\$ 742,500
Cutting and Drilling savings	\$ 15,048	\$ 150,480
Material savings (24m rails instead of 12m rails)	\$ 300,900	\$ 3,009,000
Reduction in welding and assembling tracks per project is \$27,700	\$ 193,900	\$ 1,939,000
<b>Track installation efficiency</b>	\$ 201,014	\$ 2,010,139
<b>Total Savings</b>	<b>\$ 1,838,256</b>	<b>\$ 18,382,559</b>

## 5. Cost

The total capital project costs including all scope is estimated at \$38,760,000, with a level of confidence corresponding to Class 2 (see below)

Classification based on industry standard AACE (Association for the Advancement of Cost Engineering) guidelines.

Estimate Class	Level of Project Definition	End Usage	Expected Accuracy Range
Class 5	0% to 2%	Concept Screening	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget Approval	L: -10% to -20% H: +10% to +30%
Class 2	30% to 70%	Control Budget or Tender	L: -5% to -15% H: +5% to +20%
Class 1	50% to 100%	Check Estimate or Tender	L: -3% to -10% H: +3% to +15%

## 6. Alternatives Considered

During the initial planning stage a range of potential locations / alternatives were considered:

### 1. Do Nothing (Status Quo)

This approach was not recommended primarily due to the duplication of work at multiple satellite locations, lower production rates, increased labour costs, inability to bend larger pieces of rail and the associated service disruptions due to rail weld and mechanical joint failures;

2. Construct building in Hillcrest complex (Recommended alternative)  
This approach was recommended primarily to increase efficiency, reduce labour costs, increase rail bending capacity, reduce joint failures, reduce time to assemble STW, increase quality and to make available property at satellite locations;
3. Green Field  
This approach was not recommended primarily due to the high investment cost and the lack of real estate availability within the streetcar network;
4. Leasing Existing Building  
This approach was not recommended primarily due the lack of real estate availability within the streetcar network; and
5. Purchasing Existing Building  
This approach was not recommended primarily due to the lack of real estate availability within the streetcar network.

With the exception of the recommended option #2, the remaining alternatives were discounted due to following:

- High cost (initial one-time cost, retrofit to accommodate existing plan);
- Location availability;
- Accessibility issues, and proximity to the streetcar network; and
- Excessive travel, and unnecessary movement and handling of equipment and components.

This report requests approval to proceed with the recommended option as approved previously through the 2016-2025 Capital Budget process.

## APPENDIX D

PROCUREMENT AUTHORIZATION  
HILLCREST COMPLEX – SURFACE WAY FACILITY REPLACEMENT AND HARVEY  
SHOP LOADING DOCK – CONTRACT M7-2

### SUMMARY OF BIDS

COMPANY	TOTAL BID PRICE
BUTTCON LIMITED*	\$27,747,150.00
BONDFIELD CONSTRUCTION COMPANY LIMITED	\$27,843,200.00

\*Recommended company