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**TO:** GENERAL COMMITTEE

**SUBJECT:** AWARD OF CONTRACT 2012-116T - DESIGN AND CONSTRUCTION OF ROAD AND RAILWAY GRADE CROSSING WARNING SYSTEMS

**PREPARED BY AND KEY CONTACT:** J. S. CAPLING, P. Eng.  
PROJECT ENGINEER (Ext. 4453)

**SUBMITTED BY:** R. S. KAHLE, M. Eng., P. Eng.   
DIRECTOR OF ENGINEERING

**GENERAL MANAGER APPROVAL:** R. W. MCARTHUR, P. Eng.   
GENERAL MANAGER OF INFRASTRUCTURE, DEVELOPMENT & CULTURE

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** C. LADD   
CHIEF ADMINISTRATIVE OFFICER

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**RECOMMENDED MOTION**

1. That Contract 2012-116T for Design and Construction of Road and Railway Grade Crossing Warning Systems – 3 Locations, be awarded to Condor Signal & Communication Inc., in accordance with their tender dated September 11, 2012, in the amount of \$382,433.53.
2. That additional funding be provided for this project, in the amount of \$107,000 from the tax capital reserve (13-04-0440).

**PURPOSE & BACKGROUND**

3. The purpose of this staff report is to seek additional funding and to award Contract 2012-116T and proceed with the work to complete the project.
4. As per section 5.2.h of the Purchasing Bylaw, General Managers and Departments Heads do not have the authority to award contracts if there are insufficient funds available in the appropriate accounts.
5. As part of the Huronia Road Class EA Phases 3 & 4 Report completed in 2011, detailed safety assessments were completed for the 2 railway crossings on Huronia Road and one on Little Avenue.
6. The subject railway is operated as the Barrie Collingwood Railway. It is operated by Cando Contracting Ltd. on behalf of the Corporation of the City of Barrie. The railway line is known as the Beeton Subdivision and the three (3) road crossings are located at Mile 81.72 (Huronia Road south of Ellis Drive), Mile 82.28 (Huronia Road south of Herrell Avenue), and Mile 83.01 (Little Avenue west of Huronia Road).
7. The detailed safety assessments that were completed for each crossing identified and recommended a number of operational components that should be implemented at each of the crossings including improvements to signage, pavement markings and vegetation removal to improve sightlines. The recommendations also include the need for grade crossing warning systems at each of the three (3) road and railway grade crossings consisting of flashing lights and bells (FLB).

8. The requirements and warrants determining the need for grade crossing warning systems are set out in the Canadian Railway-Roadway Grade Crossings Standards and the Railway-Roadway Grade Crossings Policy prepared by Transport Canada. A grade crossing warning system at an unrestricted grade crossing is required if the forecasted cross product of the average annual daily traffic of trains and engines on the line of railway and the average annual daily number of vehicles on the road that pass over the grade crossing exceeds 1,000.
9. The current cross product values for the three (3) grade crossings are as follows:
  - a) Mile 81.72 – Huronia Road south of Ellis Drive = 14,000
  - b) Mile 82.28 – Huronia Road south of Herrell Avenue = 12,000
  - c) Mile 83.01 – Little Avenue west of Huronia Road = 14,000
10. Gate controls are not warranted at this time but are expected in 10 to 20 years as traffic volumes and/or train traffic volumes increase. Gate controls are required when the forecasted cross product of vehicles per day and trains per day exceeds 50,000. It is anticipated that grade crossing warnings systems consisting of flashing lights and bells and gates (FLB & G) will be installed when the widening of Huronia Road occurs. Improvements to Huronia Road are currently not included the proposed 2013 Business Plan.
11. This project was originally tendered as Contract 2012-104T. The tender closed July 10, 2012 and no bids were received. Staff looked into possible reasons as to why no bids were received and the primary reason was determined to be the specialized nature of the work and that the qualified, prospective bidders were unaware of the opportunity. The project was re-tendered as Contract 2012-116T with enhanced advertising to reach the qualified prospective bidders.
12. Tenders for Contract 2012-116T closed on September 11, 2012 at 2:00 p.m. Three (3) tenders were opened on September 11, 2012 at 2:15p.m. The submitted bids (excluding HST) are:
  - a) Condor Signal & Communication Inc. \$382,433.53
  - b) PNR Rail Works \$387,166.00
  - c) A&B Rail Services \$612,734.00
13. The bid submitted by PNR Rail Works was disqualified for failing to acknowledge the addenda that were issued. Acknowledgement of all issued addenda is a mandatory submission requirement.
14. The Engineer's Estimate for the work in the tender was \$340,000.00.
15. The total project cost, based on the low tender, including design, construction, consultant fees, staff time, construction administration, site inspection and project contingencies is estimated at \$557,000.00 (refer to the following table).

	<u>Based on Tender</u>
Total Tender Price (Excluding HST)	\$382,433.53
HST non recoverable (1.76%)	\$6,730.83
Consultant Fees	\$33,000.00
Staff Design Time	\$15,000.00
Advertising Expenses	2,000.00
Traffic Signal Cabinet at Little Avenue	30,000.00
Construction Administration, Inspection & Material Testing	\$15,000.00
Project Contingencies	\$72,835.64
<b>TOTAL PROJECT WORK</b>	<b>\$557,000.00</b>

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**ANALYSIS**

16. Condor Signal & Communication Inc. (Condor) is a well known contractor in the rail industry specializing in signal engineering, assembly and wiring, and field installation and commissioning of railway signals and communications.
17. Based upon information gathered from the references provided within Condor's bid, Condor has successfully completed in the past projects of a similar size and scope.
18. Condor is familiar to City of Barrie staff having completed the design and installation of the railway crossing on Ferndale Drive South, south of Tiffin Street in 2005, as part of the Ferndale Drive South extension. Condor is believed to have the necessary resources to complete the proposed works.
19. The estimated total project costs exceed the original budget due to the following factors:
  - a) City Staff did not have access to reliable historical data at the time of budget preparation to assist with the budget estimations.
  - b) Upgrading of the traffic signal cabinet at the Little Avenue and Huronia Road intersection was not accounted for at the time the initial budget was prepared (\$30,000). This traffic signal cabinet needs to be upgraded in order to accommodate the interconnection between the traffic signals and railway warning signals such that the two systems will function properly together.
  - c) Project contingencies representing approximately 15% of the overall project cost, are required to ensure that sufficient funding is in place should there be unknowns arise during the design and construction process.

**ENVIRONMENTAL MATTERS**

20. There are no environmental matters related to the recommendation.

**ALTERNATIVES**

21. The following Alternatives are available for consideration by General Committee:

**Alternative #1**

General Committee could recommend that the Contract not be awarded and that the railway grade crossing warning systems not be installed. (i.e. maintain the Status Quo).

This Alternative is not recommended as the installation of the grade crossing warning systems is a public safety issue. Capital Funds have already been allocated in the 2012 Business Plan for the installation of the grade crossing warning systems. Not installing the grade crossing warning systems poses a significant liability risk to the City.

**Alternative #2**

General Committee could alter the proposed recommendation by not awarding the contract and re-tendering.

This Alternative is not recommended as this is already the second time the Contract has been tendered after receiving no bid submission with the first tender call.

**FINANCIAL**

22. The Capital Budget for this project is shown in Appendix "A" along with the proposed funding adjustments based on the estimated total project costs, including the low tender price, design costs, consultant fees, construction administration, site inspection and project contingencies.

**LINKAGE TO 2010 – 2014 COUNCIL STRATEGIC PLAN**

23. The recommendation included in this Staff Report is not specifically related to the goals identified in the 2010-2014 City Council Strategic Plan.

**APPENDIX "A"**

**CAPITAL BUDGET FUNDING**

Component	Huronia Road south of Herrell Ave. 14-16-2510-1383	Huronia Road south of Ellis Dr. 14-16-2510-1384	Little Avenue west of Huronia Rd. 14-16-2510-1386	TOTAL
Tax Capital Reserve	\$ 150,000	\$ 150,000	\$ 150,000	\$ 450,000
<b>TOTAL</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 450,000</b>

**PROPOSED FUNDING**

Component	Huronia Road south of Herrell Ave. 14-16-2510-1383	Huronia Road south of Ellis Dr. 14-16-2510-1384	Little Avenue west of Huronia Rd. 14-16-2510-1386	TOTAL
Tax Capital Reserve	\$ 165,000	\$ 196,000	\$ 196,000	\$ 557,000
<b>TOTAL</b>	<b>\$ 165,000</b>	<b>\$ 196,000</b>	<b>\$ 196,000</b>	<b>\$ 557,000</b>

**FUNDING ADJUSTMENT**

Component	Huronia Road south of Herrell Ave. 14-16-2510-1383	Huronia Road south of Ellis Dr. 14-16-2510-1384	Little Avenue west of Huronia Rd. 14-16-2510-1386	TOTAL
Tax Capital Reserve	\$ 15,000	\$ 46,000	\$ 46,000	\$ 107,000
<b>TOTAL</b>	<b>\$ 15,000</b>	<b>\$ 46,000</b>	<b>\$ 46,000</b>	<b>\$ 107,000</b>