



The Corporation of the Town of Tecumseh

Tecumseh

Bridge & Culvert Needs
Study 2008



Dillon Project No. 07-2633

July 2008

EXECUTIVE SUMMARY (BRIDGE NEEDS FROM 2007 TO 2012)

A Bridge and Culvert Needs Study was carried out for the Corporation of the Town of Tecumseh during 2007. This report summarizes the findings of the inventory of the Town's structures and identifies required improvements to the structures which are deficient or will become deficient within the ten year study period.

Fifteen (15) bridges and two (2) culverts having a span of 3.0 m or greater are maintained by the Town.

The study revealed that **approximately 70 percent (12 structures) of the total structure system is deficient** or will become deficient within the study period. Ten (10) structures are rated as being deficient in the Urgent and Less than 1 Year categories, indicating repairs should be undertaken very soon.

Costing carried out for improvement to the structures identified as being deficient, indicates **culvert and bridge construction needs of \$3,439,300.**

Guidelines for updating of the study components, so that the study contents will continue to be valid are also provided.

PROGRESS REPORT (BRIDGE NEEDS FROM 2003 TO 2007)

The 2003 Bridge and Culvert Needs Study was based on an inventory of 20 structures; 19 bridges and one culvert having a span of 3.0 metres or greater. Total cost of the bridge needs, based on 2003 dollars, was \$2,562,000.00 (excl. GST). Based on an assumed rate of inflation (i.e. 3%), those needs would be valued at approximately \$2.95 million in 2008 dollars.

The Town reconstructed three bridges in 2007 and removed two bridges from their overall inventory during the last five years.

Two bridges over the East Townline Drain at Tecumseh Road (Structure I.D. 1026) and St. Gregory's (Structure I.D. 1027) were removed from the overall inventory when the drain was enclosed and converted to a storm sewer. A third bridge on Malden Road at South Talbot (Structure I.D. 1012) was demolished and replaced with a 2200 mm diameter corrugated steel pipe. These modifications effectively reduced the Town's inventory from 20 to 17 structures.

Two bridges and one culvert were completely replaced in 2007.

Structure I.D. 1011, South Talbot Road at Malden Road and Structure I.D. 1009 on Malden Road at the Pike Creek Drain in the Maidstone Hamlet were completed under a COMRIF grant (\$1,008,200.00 excl. GST) which reduced the cost to the Town to \$336,000.00 (excl. GST).

One culvert, (Structure I.D. 1015), Merrick Creek Drain on Holden Road, was also replaced. This project was not included in the COMRIF program. The Town was required to pay the entire cost of the project, \$305,100.00 (excl. GST).

In total, the Town invested approximately \$1,313,300.00 (excl. GST) into the bridge and culvert needs in the last four years which has served to reduce the Town's overall financial obligation for bridges and culverts.

However, the cost of maintaining and/or replacing these bridges and culverts has gone up significantly in recent years. Significant increases in the price of materials (steel, cement and

fuel) increased bridge work in the Essex County area (i.e. Hwy 401, E.C. Row Expressway, etc.) and the small number of local contractors able to do this specialized work have all contributed to sharp increases up five to 10 percent (over and above inflation). As a result, the estimated cost to address this Town's bridge and culvert needs have increased from \$2,950,000.00 (adjusted for inflation) in 2003 to \$3,399,300 in 2008.

On a more positive note, the Town's bridge/culvert inventory has decreased by three structures over the past five years and the Town has a more detailed database to assist with the financial management of these assets in the future. Techniques such as rehabilitation versus replacement, early tender calls and bundling of projects will serve to flatten out/minimize these predicted escalations.