

Executive Summary

A Bridge and Culvert Needs Study was carried out in 2020 by Dillon Consulting Limited (Dillon) for 18 bridge and culvert structures with spans greater than 3.0 metres, including two pedestrian bridges, located in the Town of Tecumseh (the Town). This report summarizes the findings of the study and identifies the required improvements to structures which are currently deficient or are likely to become deficient within a ten year period from the time of this report.

Two (2) of the 18 structures investigated were identified with significant deficiencies, and rehabilitation of the structures within five years is recommended. The structures are listed below and this information is also summarized in **Appendices B and C**.

- Structure No. 1028 – East Townline Drain at St. Thomas Street Bridge
- Structure No. 1029 – East Townline Drain at Little River Road Bridge.

Temporary repairs on Structure No. 1028 and 1029, consisting of large steel plates placed on the top slab above the soffit deterioration were carried out in July 2016. Improvements on Manning Road (Phase 2) scheduled for 2021 will remove Structures No. 1028 and 1029 with an enclosed storm water drain and therefore the cost estimates of replacement for these two structures are not included herein.

The total estimated capital needs allocation over the ten year study period (to 2030) is **\$300,000**. This cost estimate excludes H.S.T. and routine maintenance items, and includes an allowance for contingency and engineering. This figure also excludes the costs associated with the improvements on Manning Road (Phase 2), as mentioned above. The Town should consider the needs of the road network when determining priorities for the structures. By combining road and structure works, there may be opportunities for additional cost savings and a reduction in public traffic disruptions. These estimated costs are in 2021 Canadian dollars without allowance for inflation, and are based on visual observations during the study. The recommendations may not necessarily include every improvement possible for each structure. The final estimated costs for structure rehabilitation or replacement will vary on the results of detailed investigations, and/or changes to the proposed scope of work during detailed design.

In this study, the Bridge Condition Index (BCI) was calculated for each structure and compared to the BCI of previous studies (2003 to 2018). This comparison is provided in **Appendix D**. The average BCI value calculated for 2020 is **78.4**, which is slightly higher than the BCI value of **77.0** that was calculated for the 2018 study. The increase in BCI can be attributed to the completed rehabilitation of three structures, namely No. 1004, 1013 and 1014, since the timing of the previous report.

It should additionally be noted that the planned structure removal of No.'s 1028 and 1029 from the Town's asset list will further theoretically increase the average BCI to **80.9**. In recent years, these two structures have been maintained with an economical short-term holding strategy and therefore have negatively influenced the recent average BCI values. For the purposes of this report, the true BCI average (78.4) has been carried, however this is not entirely reflective of the Town's efforts in capital expenditures towards their structure assets.