

Update to Bridge Load Restriction Bylaw 2017-45

Purpose

This report seeks Council approval to update the Bridge Load Restriction Bylaw to reflect the current state of the City's bridges. In 2016, there were several individual bylaws setting loading restrictions that were consolidated into one bylaw, 2017-45. Since then, two load posted bridges have been replaced and another bridge has been evaluated and determined to require a load posting, thus necessitating an update to bylaw 2017-45.

Overview/Executive Summary

As a result of capital investment into bridge replacements, load restrictions on Finland Creek Bridge on Balsam Street in Copper Cliff and Romford Creek Bridge on William Avenue in Coniston are no longer required. Additionally, as the result of a recommended structural analysis by an Engineer retained by the City to perform bridge inspections, High Falls Road Bridge on High Falls Road in Worthington requires a load restriction, as outlined above. In the interest of the City's bylaw accurately reflecting the existing condition of our bridge inventory and ensuring the new load posting is enforceable, this report will recommend appropriate revisions to the Bridge Load Restriction Bylaw 2017-45.

Background

The City retains a Structural Engineer to perform biennial inspections of all City bridges and large culverts as required by Ontario Regulation 104/97 Standards for Bridges. The Engineer recommended a structural analysis of the Finland Creek Bridge on Balsam Street in Copper Cliff, the Romford Creek Bridge on William Avenue in Coniston and the High Falls Road Bridge on High Falls Road in Worthington.

The load restrictions for Romford Creek Bridge and Finland Creek Bridge had been incorporated into bylaw 2017-45, which consolidated several bridge load restriction bylaws into one bylaw. Since this consolidation, a structural analysis was recommended for High Falls Road Bridge, which resulted in the load restriction noted in the resolution above. The load restriction signs have been posted at this location. Additionally, the Romford Creek Bridge and Finland Creek Bridge have been replaced since the creation of bylaw 2017-45, making the load restriction no longer necessary for these bridges. The load restriction signs have been removed at these locations.

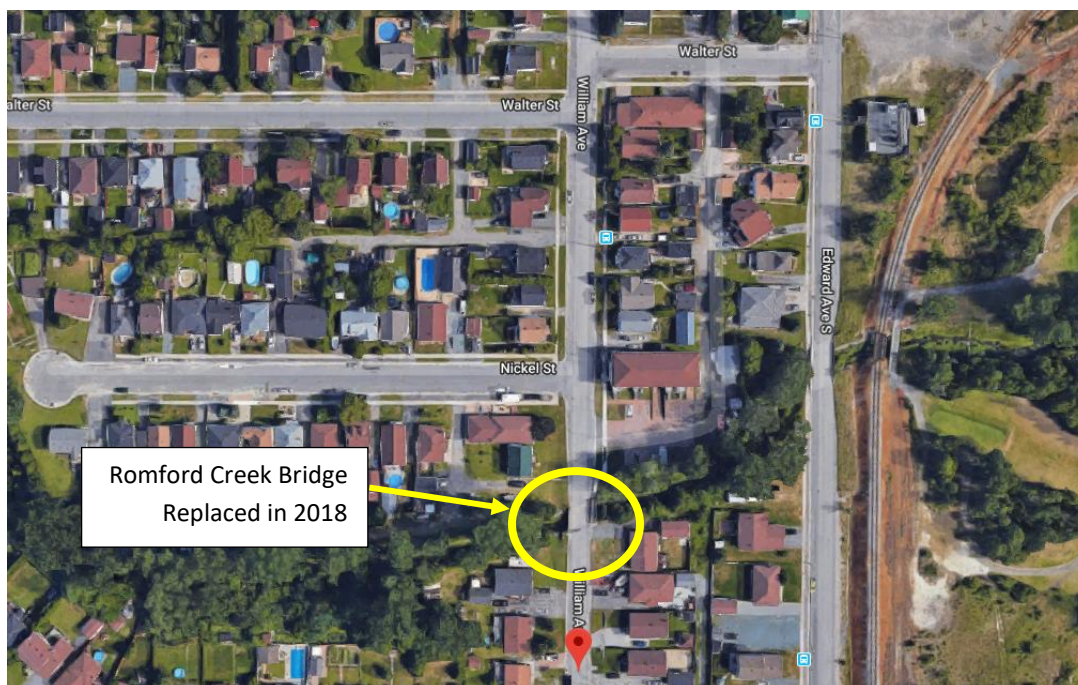


Image 1 – Romford Creek Bridge Location

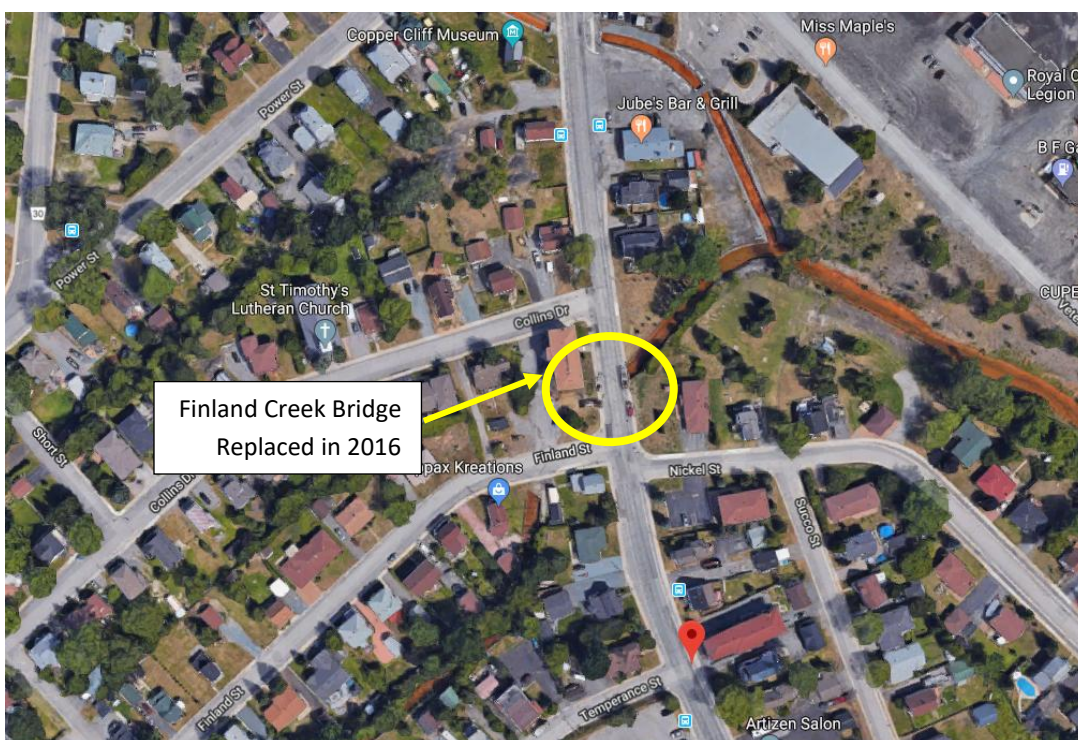


Image 2 – Finland Creek Bridge Location



Image 3 – High Falls Road Bridge Location

Analysis

The City is mandated to have all bridges and large culverts inspected by a Structural Engineer at least once every two years under Ontario Regulation 104/97. The inspection results highlight bridges structural condition and make recommendations on upgrades and rehabilitation work that need to be carried out by the City. These recommendations are the basis for the City's capital investment in bridges. In addition, part of these recommendations include having a structural analysis/evaluation performed to determine if a particular bridge has the capacity outlined in the latest version of the Canadian Highway Bridge Design Code (CHBDC). If the result of the evaluation is that full capacity is not present in the bridge, then a load restriction is determined, based on the CHBDC.

Next Steps

To ensure that the bridge load restrictions are enforceable and accurately reflect the existing condition of the bridge inventory, it is staff's recommendation to update Bylaw 2017-45 as follows:

- High Falls Road Bridge (1004) on High Falls Road in Worthington be load restricted with a triple load posting (18 tonnes for Single Vehicle Unit, 33 tonnes for Two Vehicle Unit, 46 tonnes for Three Vehicle Unit);

- The existing load posting for the Finland Creek Bridge (1019) on Balsam Street in Copper Cliff be removed;
- The existing load posting for the Romford Creek Bridge (5014) on William Avenue in Coniston be removed;

Schedule 'B' of the By-law 2017-45 be amended accordingly to reflect the above changes.

Resources Cited

City of Greater Sudbury, *Operations Committee – Item R-3*, January 18, 2016

Accessed online:

<https://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&id=997&itemid=min>