



File: 18623/Vaughan/West Don Valley Bridge-BL8-BR003
Date: June 20, 2018

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L8A 1T1

Attention: Mr. Michael McNamara

Dear Sir:

RE: WEST DON VALLEY NORTH BRIDGE BL8-BR003, ANNUAL FIELD REVIEW

Following your authorization dated June 10, 2018, we have prepared this report in accordance with our proposal dated June 13, 2018.

Field Work:

The field work was conducted under the supervision of Mr. Roman Netopilik, P.Eng. on June 18, 2018. Structural members were visually examined and selected members were closely observed for material thickness and compared with results from November 15, 2013 field review. The thickness of the steel was observed visually and at each test hole. Bridge abutments were reviewed visually.

Bridge Condition:

See the attached photographs illustrating the bridge condition. The following observations were made:

1. Serious deterioration of the wooden deck was observed at west abutment location of the bridge in first three bays. The steel angles supporting wooden deck longitudinally along the main trusses (on both sides) for the entire bridge length rusted away in first four bays, causing support loss for the decking.
2. The two main trusses are in good condition. Two pilot holes previously drilled through the bottom of the lower chord were reviewed and no serious deterioration was observed.
3. The diagonal horizontal bracing had visible surface rusting. Four pilot holes previously drilled through the bottom and side in two selected HSS members

- were re-examined. The loss of material thickness was estimated at 20% to 40%.
4. There are 4 longitudinal channels (76mmx34mm) supporting mid-portion of the wooden deck, spanning approximately 1.1m maximum. Channels in first four bays on the west side of the bridge completely rusted, causing support loss for the decking. See attached pictures. Surface rusting appeared to be relatively shallow and no significant loss of the section was observed for the rest of the bridge.
 5. There are 13 transverse beams spanning approximately 2.0m between the two main trusses. All beams are 75mm x 75mm HSS sections. Deteriorated delaminated material previously removed, was observed again on some of the exposed surfaces.(approximately 1mm to 3mm thick). Four pilot holes previously drilled through the bottom and side in two selected HSS members were re-examined. The loss of material thickness was estimated at 20%.
 6. The concrete abutments have limited surfaces exposed for observation. The concrete in its present condition is not showing any signs of serious deterioration.

Based on this field work and our visual observation it is our opinion that the bridge structure is in such a condition that immediate closure of the bridge is required due to a safety hazard for public. Remedial work could be considered to extend the bridge use.

Trusting this is sufficient for your purpose. Please contact the undersigned if you require any additional information.

Yours truly,
Keewatin Group Ltd.

Roman Netopilik, P. Eng.



WEST DON VALLEY SOUTH BRIDGE M529, ANNUAL FIELD REVIEW - PICTURES



Deteriorated deck support – west abutment – north side



Deteriorated deck support – close up



Rusted away and collapsed channels – bay 3



Rusted away and collapsed channels – bay 2



Deteriorated deck support – west abutment – south side