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## MEMORANDUM

PWC-C 1-2020

**Subject: Transportation Infrastructure Means Protection Update 2**

**Date: January 14, 2020**

**To: Public Works Committee**

**From: Frank Tassone, C.E.T., Associate Director Transportation Engineering**

The purpose of this memo is to provide an update to Public Works Committee, regarding the Infrastructure Means Protection project, as a follow-up to report PW 24-2019, April 16, 2019 and Memorandum PWC-C 25-2019, October 8, 2019.

Tender documents 2019-T-290, (installation of infrastructure means protection system), were made available to the public on October 31, 2019 and the tender period closed on November 26, 2019. Staff received four (4) bids with the lowest compliant bid being submitted by Rankin Construction Inc. in the amount of \$2,647,600.00. Subsequently, Rankin Construction Inc. has been officially awarded the project.

During the tender period several contractors expressed a concern with Niagara Region's aggressive completion date being early March 2020. The basis for this concern was the time requirements for ordering the specialized materials for the fabrication of the woven mesh protection to be placed in the center of the structure (below the arch). Upon review with the material suppliers, it was determined that these concerns did have merit and a review of the construction schedule was performed to establish a completion date that would be reasonable and fair to all bidders. The completion date was subsequently amended to April 24, 2020. The design team has engaged the Ministry of Transportation (MTO) for the purposes of construction encroachment permitting and have received a favourable response. There is an understanding that the MTO contract on Hwy 406 will take precedence, however, given the timing of construction the design team does not currently see this as a risk.

Niagara Region Staff have previously reported that the means protection system will be constructed of Aluminum (PWC-C 25-2019). The use of this material has been extensively reviewed by our engineering consultant (Parsons). During the design phase of the project, wind tunnel testing was performed on a scaled down model of the means protection system to determine the amount of vibration dampening required. These tests proved that dampening of the means protection system was feasible. Upon the advisement of Parsons, Staff have required the fabrication of a full scale model of the outer barrier for further wind tunnel testing as a contract item in the tender. The addition of this step will serve to further solidify the extent of vibration dampening that has been designed into the means protection system and allow for minor modifications, if required.

An important part of the success of this project is a working knowledge of the design and specialized materials that have been selected for this project. The selection of Aluminum was an innovative approach to the means protection system. Parsons' knowledge and understanding of the structure is unmatched given their experience as the designers of the bridge. This knowledge has gained further depth as Parsons moved through the design of the means protection system. The design process has allowed Parson the opportunity to further understand the effects of the means protection system and the materials that are being used on the project along with their expected reactions once erected.

In order to maintain the highest level of continuity as we move through the fabrication and erecting process staff have retained the services of Parsons to undertake the construction administration of the project. The procurement of these services has been retained via single source (in accordance with the procurement by-law) as it is unreasonable and would lend Parsons an unfair advantage in a competitive process given their prior involvement and depth of experience on the structure and the design of the means protection system. The contract administration costs are over and above the contract costs noted above.

Staff will continue to bring further updates to Public Works Committee as major milestones are achieved on this project and at a minimum on March 10, 2020 and April 7, 2020.

Respectfully submitted and signed by,

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Frank Tassone, C.E.T.  
Associate Director, Transportation Engineering