
NBMCA RFP 19-01

**PARKS AND JESSUPS CREEKS
FLOODPLAIN MAPPING PROJECT**

ADDENDUM 1

July 22, 2019

Please see the following questions and answers related to NBMCA RFP 19-01 for the Parks and Jessups Creeks Floodplain Mapping Project. Please note that existing reports and floodplain mapping for the Parks and Jessups Creek subwatersheds are now available on MERX.

Q1: Is there any bathymetric data available for the lakes within the Parks Creek watershed?

A1: There is no bathymetric survey data available for either the Parks Creek or Jessups Creek subwatersheds. However, stage-storage curves from the previous hydrologic model are available in the *Parks Creek Watershed – Exhibit E – Hydrology Report*, completed in 1992.

Q2: Are water levels of any of the lakes managed via control structures?

A2: None of the lakes are managed using control structures (i.e. dams). There is a Backflood Control Structure at the mouth of Parks Creek, operated by NBMCA at times of high Lake Nipissing water levels, details of this structure are available. The level of Lake Nipissing is controlled via the French River Dams by Public Services and Procurement Canada (PSPC), and can potentially cause a significant backwater effect on Parks Creek.

Q3: Are there any flood levels or high water marks available for Parks Creek and/or Jessups Creek that will be available for model calibration?

A3: NBMCA does not have any specific information regarding high water marks or flood levels within the subject subwatersheds. Some information may be available from the existing reports.

Q4: Is it possible to get a copy of the existing floodplain maps?

A4: Yes, existing floodplain mapping has now been uploaded to MERX.

Q5: Is it possible to get the OTTHYMO model files? Alternatively, is there a hydrology modeling report available that summarizes the previous model?

A5: It should be assumed that the original OTTHYMO model files from the hydrologic modelling are not available. However, there are existing hydrologic modelling reports which describe and summarize the previous modelling. The existing reports have now been uploaded to MERX.

Q6: Regarding the rail corridor culverts, are you aware of additional access requirements from the rail owner that should be considered in the scope, for example flagging and training?

A6: NBMCA does not have details on requirements for rail corridor work. The Consultant is encouraged to check with the relevant rail authorities.

Q7: Can NBMCA define its expectations with respect to the “hydro-flattening” described in objective 3i?

A7: The LiDAR data has already been processed to provide a bare earth surface, however the area of focus was the Chippewa Creek subwatershed. Objective i has been included to flag that the LiDAR data should be verified as sufficient by the Consultant within the Parks and Jessups Creek subwatersheds before proceeding with the work. This may include a bathymetric survey of the creek channels to supplement the LiDAR data.

Q8: NBMCA indicates that 2D modelling is optional pending the results of the 1D modelling and then requests a fee for 2D modelling in the Proposal form section 12 – without knowing the extent and location it is considered difficult to establish a firm fee – can NBMCA provide some basic parameters to assist in developing the budget for this optional task? How does the Authority wish to see the possible need for 2D modelling addressed in the proposal?

A8: NBMCA is looking to see suggestions from the Consultant on where 2D modelling might be value-adding in these subwatersheds. We have uploaded the available background reports and floodplain mapping to MERX to assist in identifying this potential. NBMCA recognizes that 2D modelling is highly variable and somewhat difficult to cost, and as such the cost for 2D modelling will not be included in the financial scoring of Proposals. In other words, item 5a should not be included in the total costs on the section 12 Proposal Form.

Q9: Can NBMCA secure the data for the Hwy 11 structures? Survey of these may be costly due to MTO safety requirements hence it would be preferable to use as-built data.

A9: NBMCA has requested as-built drawings from the MTO, but has not yet received confirmation of what information is available. The Consultant should allow for the survey of MTO structures in the proposal, in case suitable information is not available.

Q10: Does NBMCA have any information on the involved lakes and wetlands which can be used in establishing their influence on system hydrology (such as inlet and outlet information)?

A10: Some information exists in the available reports, however it may be out of date, and the Consultant should allow for the determination of lake outlet conditions.

Q11: When is Chippewa Creek subwatershed study to be concluded? Will the results of that subwatershed study be available during the course of this new study? We understand there is some interaction between subwatersheds.

A11: The Chippewa Creek floodplain mapping update (not a complete subwatershed study) is scheduled to conclude in March 2020, the same time as the Parks and Jessups Creek update. It is anticipated that any spill flows identified through the Chippewa Creek modelling will be available for inclusion in the Parks Creek modelling.

Q12: The RFP indicates that the consultant will assess the need for 2D modelling as part of the scope, and will also complete that model if it is deemed necessary. Given the potential cost uncertainty, would the Authority consider two alternate cost proposals? One which would strictly include 1D modelling and another which would contemplate 2D modelling, based on certain assumptions?

A12: With reference to A8 above, NBMCA recognizes that 2D modelling is highly variable and somewhat difficult to cost, and as such the cost for 2D modelling will not be included in the financial scoring of Proposals. In other words, item 5a should not be included in the total costs on the section 12 Proposal Form.

Q13: We would request additional information regarding the desired dam break analyses of high embankments. Is the authority able to comment on the quantity of locations at which this analysis would be required, or alternately, the characteristics that the Authority would consider the represent a 'high embankment'. Furthermore, will the Authority require unsteady flow models to represent the potential dynamic wave from any breach, or will it be acceptable to complete a desktop (spreadsheet) breach assessment and add the approximated increase in peak flow to a steady model.

NBMCA anticipates that those embankments which require dam break analyses will be identified by the Consultant using a combination of embankment height, head differential across the embankment, and potentially other factors as deemed by the Consultant. NBMCA is most interested in any embankment where its failure would result in a significant increase in downstream water surface elevations. NBMCA does not require an unsteady flow model, more simplified methods are acceptable.

Q14: Does the Authority require Regulatory mapping to the upstream limit of every tributary? Is there a certain upstream limit (for example, a minimum catchment area) at which mapping will terminate?

The NBMCA does require floodplain mapping for all tributaries. However, depending on the drainage area and flow pattern, it may not be necessary to hydrologically divide all individual tributaries to provide an accurate water surface calculation for mapping. Both Parks and Jessups Creek subwatersheds are very flat and relatively small overall, and the LiDAR data should be reviewed by the Consultant to identify the most significant channels for the hydrologic modelling, based on size and drainage area. As a general rule, floodplain mapping should extend to include the upstream-most waterbody on each tributary.