Bassett Creek Watershed Management

MEMO

To: BCWMC Commissioners and Alternate Commissioners
From: BCWMC Technical Advisory Committee
Date: July 12, 2022

RE: **Recommendations on the XPSWMM Model**

The BCWMC Technical Advisory Committee met on May 4th, June 1st, and July 6th to discuss the Commission's hydraulic and hydrologic model (XP-SWMM model). Recommendations are shown below. Attendees included:

City/Partner	Technical Advisory Committee Members and Others
Crystal	Mark Ray, Chair (May, June, July)
Golden Valley	Eric Eckman (May, June, July), RJ Kakach (June, July), Drew Chirpich (June, July)
Medicine Lake	Susan Wiese (May, June, July)
Minneapolis	Liz Stout (May, July), Katie Kowalczyk (May, June, July), Heidi Ranschau (May, June, July)
Minnetonka	Sarah Schweiger (May, June, July)
New Hope	Nick Macklem (May, June, July)
Plymouth	Ben Scharenbroich (June, July), Chris LaBounty (July)
Robbinsdale	Richard McCoy (May, June, July); Mike Sorensen (May, June, July)
St. Louis Park	Erick Francis (May, June)
Others	Laura Jester (May, June, July); Karen Chandler (May, June, July) Jim Herbert (May, June), Jen Koehler (May, June, July); Commissioner Cesnik (June); Alt. Commissioner Kennedy (May)

1. **XP-SWWM Model Update**

    The Commission's XP-SWMM model is a hydraulic and hydrologic model that provides important information about floodplain boundaries and the extent of flooding potential with varying storm events (or amounts of precipitation). The model is used for the management of the [BCWMC Trunk System](#) and is used by the BCWMC, member cities, and developers (through a user agreement) to determine where potential development, redevelopment, or other projects might be subject to flooding and where floodplain regulations apply. The model was last updated in 2017.

    At their meeting in August 2021, the Commission approved a TAC recommendation and directed the Commission Engineers to update the XP-SWMM model with the latest data.

In late 2021 and early 2022, Commission Engineers gathered information on developments, redevelopments, and other projects from member cities. Those projects were reviewed and projects that resulted in significant changes to drainage or water storage were incorporated into the model. Of the 53 projects submitted by cities for consideration, data from 23 of the projects were incorporated into the model. The updated model reflects current conditions through 2021, including areas where water is likely stored on the landscape.

When compared with the 2017 ("Phase 2") model, the updated model shows some differences in the 100-year peak flood elevations including seven areas where the peak elevation was reduced by at least 0.1 feet and five areas where the peak elevation increased by at least 0.1 feet. Overall, there were:

- No differences in elevations on BCWMC lakes
- Increases upstream but decreases downstream of Wisconsin Ave Control Structure
- Both increases and decreases along North Branch and Plymouth Creek
- Decreases along Sweeney Lake Branch of Bassett Creek

The TAC recommendations that the Commission:

A. Adopt the updated model as the official BCWMC model along with associated flood elevations; update Table 2-9 in the 2015 Bassett Creek Watershed Management Plan with new flood elevations (no plan amendment required).

B. Direct the Commission Engineer to finalize the model, subdivide the whole model into the 3 areas for easier transmission to users, and prepare new flood inundation maps for use by cities and others (BCWMC 2022 Surveys and Studies Budget could be used for this activity)

The TAC and Commission Engineers also discussed ways in which to streamline the process for requesting and gathering information from cities for future model updates. The group agreed that the current process (including signatures on a user agreement) for lending the model to others is appropriate and should remain in place. The TAC will work with the Commission Engineer and Administrator to monitor this process and see if potential opportunities are identified in the future to streamline the process.