



# Waukesha Water Utility

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November 7, 2024

Shaili Pfeiffer

Natural Resources Staff Specialist – Bureau of Drinking Water and Groundwater

Wisconsin Department of Natural Resources

101 S. Webster Street PO Box 7921

Madison, WI 53707-7921

Subject: Updates to the July 2023 Post-Return Flow Root River Monitoring and Quality Assurance Project Plan

Dear Shaili:

Over the past year the City of Waukesha (City) has adapted operations to provide Lake Michigan water to our customers consistent with the Diversion Approval. We have continued monitoring the Root River according to the above referenced post-diversion monitoring plan (Plan) and amendment provided to you through an October 31, 2023 letter. We have also communicated through phone conversation and email additional changes that are needed. This letter is to formally document additional changes to the Plan. The changes include:

- **Relocation of Root River flow monitoring from Site C to Site D:** In Sections 2.1 and 3.2 of the Plan, Root River flow monitoring was completed at Site C. The Plan will be updated to relocate the flow monitoring to downstream sampling location Site D. This relocation is needed because beaver activity and the additional volume through return flow are creating backwater and raising the water level at the Site C flow gage. Because the USGS measures flow by measuring water depths, the raised water level is impacting the USGS flow gaging. After consulting with USGS and the Department, it was determined the best option for providing more consistent and accurate flow measurements is to relocate the flow gaging from Site C to Site D.
- **Discontinue USGS redundant return flow flow monitoring:** In Section 3.2 of the Plan, the USGS collected flow measurement of the return flow prior to its outfall to the Root River for comparison to the return flow measurements collected by the City at the Clean Water Plant (CWP). In Section 6.1 of the Plan, the City was to reevaluate the need for continuing the USGS return flow monitoring after one year. Four quarterly reports were written by the USGS and provided to the Department (Appendix C of 2023 Annual Report; and emails to you on April 18, 2024; July 23, 2024; and October 21, 2024) that compared the return flow volumes measured by USGS and the CWP. The analysis found that return flow volumes measured through USGS and CWP data collection were within the error of the monitoring equipment. Consequently, the Plan will be updated to discontinue USGS return flow measurement at the outfall after

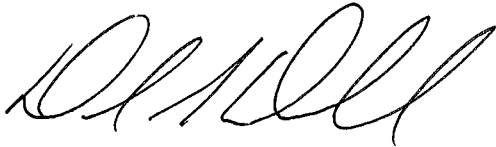
December 31, 2024. There are no changes to the return flow flow monitoring and reporting by the CWP.

Removal of the USGS flow measurement equipment along the return flow pipeline will require temporarily pausing return flow pumping so workers can safely enter the outfall structure. Pausing the return flow pumps may prevent the City from meeting the daily return volume (previous year average daily water demand), however this should have insignificant impact on annual return volumes because a slight surplus is returned each day (currently 50,000 gallons) to accommodate these operational conditions. The City is confident that an annual water balance will still be met between the diversion and return flow volumes.

The City is planning to formally update the Plan in Spring 2025 with the changes summarized above and in the October 31, 2023 letter. Thank you for continuing to support the City and allowing us to adaptively manage the Root River monitoring while meeting the Diversion Approval requirements. We will continue to inform you of potential changes as soon as we are able, and to work with you to formally document the changes.

If you have any further questions about these changes, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Duchniak', written in a cursive style.

Danel S. Duchniak, P.E.  
General Manager

CC: Zach Eisner, Clean Water Plant  
Brent Brown, Jacobs Engineering Group