Request for Scope of Work and Fee Estimate – Impacts and Risks Evaluation from Raising White Bear Lake Outlet Elevation (Study No. 9A)

Project name: White Bear Lake Area Comprehensive Plan **Date:** January 24, 2025

Sublegislation: Projects designed to increase groundwater recharge

Study focus area: Evaluate impacts and risks from raising White Bear Lake outlet elevation

Project Overview and Objectives

The Minnesota legislature provided funding for the Metropolitan Council (Met Council) to form a work group to develop a comprehensive plan to ensure communities in the White Bear Lake area have access to sufficient drinking water to allow for municipal growth while ensuring the sustainability of surface and groundwater resources to supply the needs of future generations. The completed plan must be submitted to the Minnesota Legislature by June 30, 2027. Met Council has established a work group consisting of the following members:

- Commissioners or designees from the DNR, MDH, and MPCA
- Representatives from Metropolitan Area Water Supply Advisory Committee (MAWSAC) and Saint Paul Regional Water Services (SPRWS).
- The communities of Stillwater, Mahtomedi, Hugo, Lake Elmo, Lino Lakes, North St. Paul, Oakdale, Vadnais Heights, Shoreview, Woodbury, New Brighton, White Bear Lake, White Bear Township, and North Oaks.

The consulting firms of Barr Engineering, Kimley-Horn, and Short Elliot Henderson (SEH) received master contracts for Water Supply Studies and Technical Analyses for White Bear Lake Area Comprehensive Plan (Contract Number 24P056). The consulting firm Hazen and Sawyer received a master contract for the Financial Analyses for White Bear Lake Area Comprehensive Plan (Contract Number 24P055).

The Comprehensive Plan shall evaluate the following water conservation methods as stated in the legislation:

1. Converting water supplies that are groundwater dependent to total or partial supplies from surface water
2. Reuse water, including water discharged from contaminated wells
3. Projects designed to increase groundwater recharge
4. Other methods for reducing groundwater use

For Category No. 3, projects designed to increase groundwater recharge, the work group identified and ranked the following potential solutions to further evaluate for this area of the legislation:

1. Lake augmentation by pumping treated surface water from the chain of lakes into White Bear Lake
2. Treat wastewater from local Met Council interceptors and inject the treated wastewater into the aquifer to raise groundwater elevations
3. Stormwater collection and infiltration to raise groundwater elevations

After ranking the projects for further evaluation, the work group decided to add one additional study for this category which includes studying the potential flooding impacts and risks from raising the existing White Bear Lake outlet elevation to collect and store additional rainfall precipitation and stormwater runoff to provide additional lake storage after wet weather events. The lake's outlet elevation has been lowered twice throughout its history, once in 1943 and a second time in 1982, for a total elevation decrease of two feet.

This analysis will be conducted in a phased approach. If the results of this initial study conclude that existing properties around White Bear Lake would not be negatively impacted by raising the outlet elevation and that

the resulting increase in lake storage capacity could be a significant benefit to the region, the results of this study will be used to further evaluate the downstream capacities of the existing lake outlet structures, stormwater utilities, and downstream tributary areas, and estimate the infrastructure costs to raise the outlet elevation as part of a separate study (Study 9B).

Scope of Work

The consultant shall complete the following tasks. The final study report shall be submitted to ES by June 30th, 2025.

1. Project management

a) Provide project management throughout the duration of the project. Project manager shall serve as the primary contact person with ES staff and attend all meetings, manage team and work, set schedules, and present study results to the work group.

2. Project team

a) Project team, at a minimum, shall include the project manager, a senior water resources engineer with extensive flood analysis experience, and a GIS specialist.

3. Data collection and review

a) Collect background information and past studies
b) Collect and create high resolution GIS data to support report figures and maps of study area
c) Review existing shoreline characteristics, property elevations, and structure/basement elevations around White Bear Lake from existing drawings and databases
d) Review bathymetric surveys of water bodies from USGS and other sources
e) Review existing flood data from the Federal Emergency Management Agency (FEMA) and other sources
e) Review flood history documentation, historical flood complaints, and insurance claims, if any, around White Bear Lake

4. Report preparation and review

a) Full report including high resolution GIS flood-risk mapping for all properties around White Bear Lake for up to four increased lake elevations to be determined, descriptions of potential risks and hazards, recommendations, and conclusions.
b) Attend one draft report review meeting with ES staff and address edits and other changes needed.
c) Submit final study report including an electronic copy of report and associated files.

5. Public outreach

a) Prepare meeting materials
b) Provide one presentation to the White Bear Area Comprehensive Plan Work Group

6. Requested Information from Consultant

The consultant shall provide the following information. The consultant shall provide the following information. All work and recommendation shall follow and comply with DNR floodplain regulations, local jurisdiction floodplain regulations, and Minnesota rules governing waters of the state - Minnesota Rules, chapter 7050.

1. Detailed scope of work
2. Project manager and team
3. Estimated fee spreadsheet with scope of work/task breakdown, estimated hours for each task, staff names assigned to each task and their current hourly billing rates, and estimated fees.
4. Project schedule