

Project Category: Water Quality

Project Title: Enhanced Street Sweeper

Total Estimated Cost: \$396,230

BCWMC Project Number: [Staff will assign number]

Description: This project will help the City of Crystal upgrade an existing street sweeper from a mechanical sweeper to an enhanced regenerative sweeper. Street sweeping is one of the most cost-effective best management practices for improving water quality and reducing pollutant loading to impaired waters. Utilizing an enhanced street sweeper in Crystal will improve the City's street sweeping program and provide direct benefits to water resources.

Source of Project Funding	2026	2027
CIP Account – BCWMC ad valorem tax levy through Hennepin County		

Staff will assign funding year.

Justification:

The City is seeking to purchase a high-efficiency street sweeper to upgrade from a mechanical sweeping machine. Per the BCWMC CIP equipment purchase policy, only the incremental cost of the upgrade to better equipment is eligible for CIP funds. The cost difference between purchasing a regenerative air vs broom sweeper is \$56,000 and we are requesting \$18,816 in funds to help make up the difference in accordance to the new purchasing policy where 33.6% of the incremental increase can be applied for Crystal.

The new sweeper will be used to expand pollutant load-reducing activities by capturing and removing finer particles that cannot be captured by mechanical means. Enhanced sweepers are effective at collecting fine sediment and residual pollutants, chlorides, pollens and leaf litter debris, and small debris that isn't effectively collected by standard mechanical sweepers.

The new sweeper will be used to address nutrient impairments in Bassett Creek, biota impairments in Bassett Creek, and chloride impairments in Bassett Creek. The city will expand on its existing subwatershed prioritization process in targeting use of the new sweeper. The city will evaluate and prioritize early spring sweeping to focus on subwatersheds with nutrient (and chloride) impaired waters, late spring sweeping during leaf out period to focus on subwatersheds with nutrient impaired waters and high mature tree canopy, and fall sweeping in subwatersheds with nutrient impaired waters and high tree canopy area with phased sweeping based on prevalence of tree species and timing of leaf drop.

Effectiveness Documentation:

The city currently use technology (Precise AVL/GPS, GIS, and Cartegraph) to track and document sweeping routes and frequencies and bulk material collected, and storm sewer sumps inspected (with sediment measured) and maintained and bulk material collected. The city will meet the 5-yr documentation requirement by reporting the same information above, also used for MS4 Permit reporting. The city is in the process of evaluating and updating our MS4 Permit and will inform the BCWMC of any changes made to the City's sweeping program.

Scheduling and Project Status:

For purchase in 2026 but would accept reimbursement in 2027 if that fits better into Bassett Creeks budget better.

Relationship to BCWMC Plan and Other Projects:

This request meets the goals of the Bassett Creek Watershed Management Commission Street Sweeping Prioritization Study by reducing TSS, salt, and phosphorus to the Bassett Creek Park Pond and Bassett Creek Main Stem (midstream). Street sweeping is included in the City's Surface Water Management Plan as a BMP to address water quality impairments.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.