Yarmouth Greenway Streambank Stabilization
City of Fitchburg
Project Narrative

Project Background

In the first quarter of 2023, City of Fitchburg and WDNR staff met to discuss cooperative stormwater improvement projects that would reduce nutrient and sediment loading within the Nine Springs watershed. Several types of projects were initially considered, including construction of new stormwater treatment facilities, pond alum treatments, and implementation of phosphorus adsorption devices. These project types merit further investigation, however, it was a determined that a streambank restoration project would best match the desires of both groups. While both parties are interested and enthusiastic about completing restoration work in and around Nine Springs Creek itself, it's understood that a project of this scale would require long-term planning and coordination with multiple stakeholders. It was decided that improvements to the Yarmouth branch of Nine Springs Creek would be a more feasible project to complete. Further, starting upstream of Nine Springs helps to minimize excessive sediment loading so that downstream projects may be undertaken in the future.

Project Description

The Yarmouth branch is an ephemeral stream that conveys runoff from approximately 1,500 acres within the City of Fitchburg Urban Service Area. Severe bank erosion across several location of this segment was identified in the 2013 Nine Springs Watershed Master Plan. In the fall of 2023, City and WDNR staff completed additional field measurements and estimated lateral recession rates based on current field observations and differences from observations made in 2013. Roughly 1,000 linear feet of streambank across eight locations exhibits moderate to severe erosion. Annual soil loss from these locations was estimated to be as much as 130 tons. An integrated streambank restoration approach is proposed to stabilize these portions of the stream. Work would consist of removing invasive woody vegetation, regrading existing vertical slopes, installation of riprap armoring, and restoration above the ordinary high water mark with native vegetation.

Estimated Cost

Construction the work as described above is estimated to cost approximately $300,000. This estimate was based on bid tabs involving similar work. It is anticipated that this project will included in the city's 2025-2034 CIP, with construction slated for 2026.

Future Opportunities

Over the last 25 year, the City of Fitchburg has completed several streambank stabilization projects encompassing all tributaries to Nine Springs Creek exhibiting erosion west of Fish Hatchery Road, besides the Yarmouth Branch. Following completion of the proposed project, the City of Fitchburg desires to explore improvements to Nine Springs Creek east of Fish Hatchery Road. The Nine Springs E-way offers enormous potential for restoration work to improve fish habitat, recreation opportunities, and mitigate nutrient loading to the Yahara River, Upper Mud Lake, and Lakes Waubesa and Kegonsa. The City of Fitchburg recognizes this potential and is very willing to support future projects through the stormwater utility.