



COUNTY OF SAGINAW

Office of Emergency Management



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PROPOSED PROJECT FOR INUNDATION MAPPING OF THE TITTABAWASSEE, SAGINAW, CASS RIVERS

Project Summary

This is a two-part project funding under separate applications from the same overall CDBG-DR grant.

Part 1 (already applied for under the CDBG-Dr Infrastructure Grant) will install a USGS river depth gauge on the Tittabawassee River.

Part 2 (which is being applied for under the CDBG-DR Planning Grant) will use data from the new and existing river gauges to create interactive flood inundation maps. The maps are to be used by planners, responders, and citizens to determine current and forecast flood risks for areas surrounding the Tittabawassee, Saginaw, and Cass Rivers.

Risk Assessment

Areas of Saginaw County that surround waterways are generally susceptible to riverine flooding. Flood risk is consistently scored high on Saginaw County Hazard Vulnerability Analysis. This risk is especially true for communities near the Saginaw, Tittabawassee, and Cass Rivers.

On average, areas of communities that border these bodies of water experience some impact from flooding every 2-3 years, with some communities experiencing flooding, to some extent, annually. In the past decade, flooding impacts have been most severe in 2013, 2017, and 2020.

Response Complications

FEMA is in the process of updating its Flood Insurance Rate Maps (FIRMs) for Saginaw County. These maps include static flood inundation zones showing the 100- and 500-year flood plains. While FIRMs help determine risk for zoning, building code, and insurance decisions, they are less valuable when creating response plans, determining evacuation areas, or assigning resources.

Proposed Solution

While the FEMA Insurance Maps are static and thus of limited usefulness to responders, other inundation mapping products allow planners and responders to determine flood-impacted areas using variables such as expected rain amounts or the impacts of water levels of up and downstream rivers. To produce these interactive Flood Inundation Maps (FIMs), the rivers and surrounding areas must be surveyed to determine elevations and other factors that may impact water flow. In addition to the surveys, installing a water level gauge on the Tittabawassee River is necessary. This gauge will provide current river levels and allow for predictive river levels based on weather forecasts.



Saginaw County Emergency Management is proposing a project in conjunction with the USGS and Army Corps of Engineers (USACE) to install a river gauge on the Tittabawassee River and complete surveys as needed to produce FIMs for the Tittabawassee, Cass, and Saginaw Rivers.

Completing this project will allow emergency management, first responders, and citizens to create interactive scenarios that can be used to proactively determine response, evacuation, and resource needs instead of only reacting to current water levels.

Project Steps

Part 1 (CDBG Infrastructure Grant)

- USGS installs a river level gauge on the Tittabawassee River near or on the State Rd bridge.

Part 2 (CDBG-Dr Planning Grant)

- In conjunction with USGS, USACE will complete the needed surveying of the rivers and surrounding areas.
- USACE will create interactive inundation maps that will provide predictive areas of water inundation considering current and forecasted river levels.

Project Funding

While the exact scope and cost of the project are still being determined, Saginaw County Emergency Management is attempting to leverage two funding sources to complete this project.

- USACE Planning Assistance to States Program (PAS) will fund approximately 50% of the study and mapping costs.
- MEDC CDBG Disaster Recovery Grant to fund the local share from the USACE PAS program, installation, and three years of maintenance costs for the Tittabawassee River Gauge.
- The funding source for the annual maintenance costs of the Tittabawassee River gauge, beyond the three years covered by the CDBG funds, is undetermined. Emergency Management would seek funds from county funds and local jurisdictions that benefit directly from the gauge and inundation mapping.

Public Comment

Members of the public or other communities may provide comment on this project by appearing at the Saginaw County Courts and Public Safety Committee Meeting at 4:00 PM, November 7, 2023, in Room 200 of the Saginaw County Governmental Center. Those wishing to speak should submit a request to the Board Coordinator no later than noon on November 7, 2023.

Comments may also be made in writing to the Office of Emergency Management at the address above or emailed to emgmgr@saginawcounty.com. The Public comment period will be open through November 17, 2023.

NOTE: Completing this project beyond the initial scoping and planning currently being completed is contingent on the approval of the CDBG Disaster Recovery funds and USACE PAS program approval.