

AGENDA ITEM

TO: Tim Vandall, City Administrator
FROM: Anthony J. Zell, Jr., Wastewater Utility Director 
DATE: March 11, 2022
SUBJECT: Request to Approve 2022 Flow Monitoring Study and Master Plan Update

As part of the 2022 base budget, the Wastewater Utility allocated funds for a follow up sanitary sewer flow study. This additional study will help to determine the effects of the major collection system improvements that have been completed, and to update the city's hydraulic model in the sewer master plan. Further, this information will assist staff with quantifying the amount of excess inflow and infiltration that has been removed.

George Butler Associates (GBA) completed the utility's first flow monitoring study in 2014, and developed the utility's first ever Sanitary Sewer Master Plan. A second flow study was started by GBA in 2018, however efforts were abandoned as no measurable rainfall occurred while the flow meters were deployed. This study, along with the outputs and results contained, serve as the "playbook" for the utility as decisions are made regarding existing and future sanitary sewer rehabilitation projects, planned maintenance/repair activities, and planning our response to future developments. In 2014 and 2018 ten meters were installed, but this year staff and the consultant felt it would be beneficial to add two additional meters within sub-basins where improvements were made. Twelve flow meters will be deployed for 90 days (April – June) at the same locations as the previous study, to allow a direct comparison of locations from the last results. A map of the proposed manhole locations is included for reference.

Since the completion of the original study, staff has called on GBA on several occasions to make additional model runs showing the effects of not only future development within the service area, but also how inflow and infiltration can reduce loads within the collection system and treatment plant. As such, GBA has developed a comprehensive working knowledge of the city's collection system, so it seems natural to allow them to perform the follow up study. A major component of this year's study is the use of a new flow modeling software, as the previous software company has gone out of business, and their product is no longer supported.

Policy Consideration: N/A.

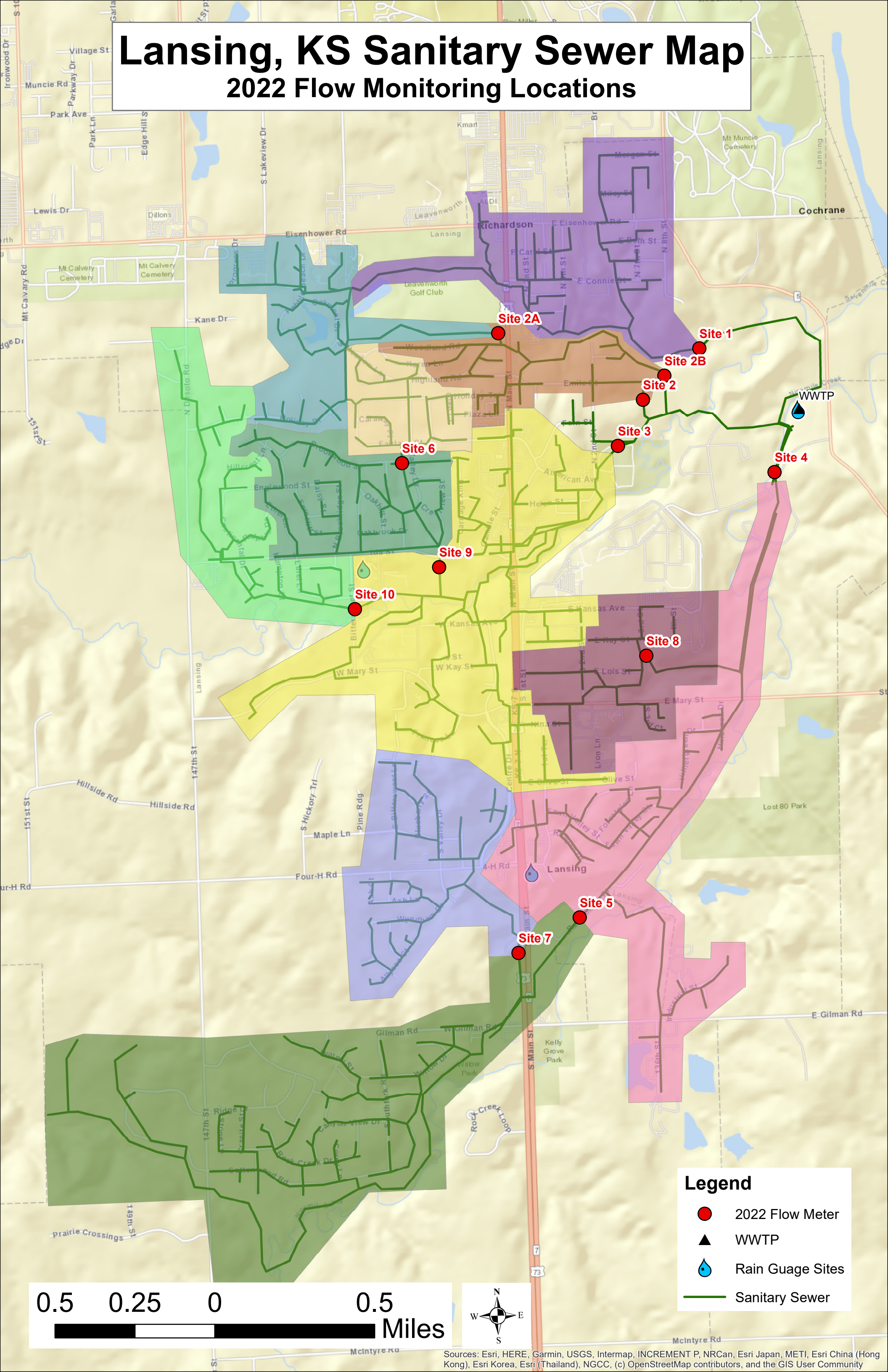
Financial Consideration: Funds are available from the Wastewater Utility's base budget, Engineering Studies, Account # 50-050-41120.

Action: A motion to approve the 2022 Sanitary Sewer Flow Monitoring and Model Update from George Butler Associates, in an amount not to exceed \$136,862.00.

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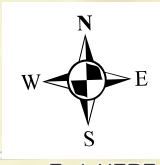
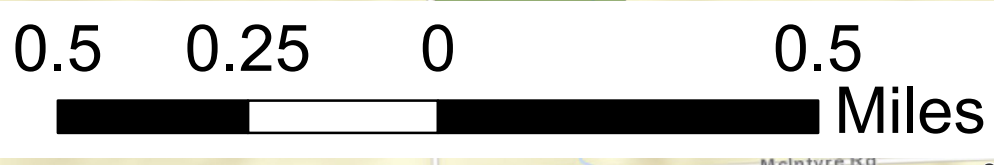
Lansing, KS Sanitary Sewer Map

2022 Flow Monitoring Locations



Legend

- 2022 Flow Meter
- ▲ WWTP
- 💧 Rain Guage Sites
- Sanitary Sewer



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community