

INFLOW AND INFILTRATION POLICY

September 14, 2022

Background: The Division of Water and Waste Services was established in 1959 as a Public Act 342 agency. The County Board of Supervisors designated the Drain Commissioner as agent. The Division provides sanitary sewage disposal and water supply to 34 at-large local municipalities located in Genesee, Lapeer, Shiawassee, Livingston, and Oakland County. The sewer system evolved from 7 distinct districts to: Interceptor & Treatment (I&T) which includes Districts 1, 2, 5, 6 and is served by the Anthony Ragnone Treatment Plant (ARTP) in Montrose; District 3 which is served by the Linden Treatment Plant; District 4 served by the Otisville Plant; and District 7 served by the Argentine Plant.

In each of the Districts (except District 4), the Division owns, (on behalf of all communities) operates, and maintains a portion of the collection system and treatment facilities. During wet weather periods, ARTP peak hour flows have exceeded 125 MGD. This is over four (4) times the current average day flow of 29.3 flow.

The sewer system was designed and built to carry sanitary sewage, not storm water inflow and infiltration. While the global peak hour of the system is between 4 and 6 times annual average day, local sewers can see peaks of 12 to 15 times normal flows.

The County Agency contracts with the local communities for transporting and treating of sanitary sewage at the treatment facilities. The Division has no approved sanitary sewer overflows, and the State of Michigan Department of EGLE will not issue approvals for such discharges.

The County Agency also operates and maintains several local municipalities' collection systems via a CMOM Contract. The reporting requirements included below shall be covered under the current contract.

Continued use of the sanitary sewer for storm water inflow and infiltration will significantly reduce the capacity available for new connections thereby reducing the life of the system. In an effort to control the capacity of the sanitary sewers in Genesee County and those areas outside the corporate limits being served by the system, the following policy is adopted.

In the event that EGLE issues General Permits to the individual communities, this policy will be reevaluated and adjusted as necessary.

GOAL: The goal of this policy is to eliminate excessive Inflow and Infiltration (I&I) into the system. Elimination of excess I&I will eliminate frequency and duration of sanitary sewer overflows and protect the capacity of the collection system and the treatment facilities.

1. The Division will continuously monitor each municipality's sewer flow. Effective January 1, 2024, the cost of monitoring will be evaluated and reflected in the new CMOM contracts. See Appendix 1 for the most recent municipality flow data.

2. The Division will maintain a network of rain gauges throughout the County and will continue to monitor rain volumes and intensity throughout the county. This data is available to the communities on request.
3. The penalty for peak hour flows in excess of 3 times average day flow is based on the annual average daily flow of the municipality. See Table below. The cost of transporting and treating excessive I&I flow up to 3 times average day will be included in the GCDC-WWS rate structure. Flows above 3 times average day will be charged a surcharge. This surcharge rate is to be based on the cost to transport, store, and/or treat this additional stormwater. Surcharge rates do not apply to Master Meter Sewer customers. The surcharge rate will be implemented in January 2025. Penalties and surcharge costs will be calculated in the second quarter of each year for the preceding year. Fifty percent of the penalties and surcharges will be returned to the communities upon verification in their annual report that equivalent funds were expended on the area that incurred the penalties and surcharges.

Average Annual Flow	Penalty per Occurrence
<0.5 MGD	\$500
< 1.0 MGD	\$1,000
1.0 MGD to 2.0 MGD	\$2,000
2.0 MGD to 3.0 MGD	\$3,000
4.0 MGD to 5 MGD	\$4,000
5.0 MGD to 6.0 MGD	\$5,000
6.0 MGD to 7 MGD	\$6,000

4. Each Municipality shall have, and maintain, a GIS based map of their collection system. GCDC-WWS compiled a complete GIS sewer collection system map in 2021 and submitted it to EGLE as required in the N.P.D.E.S Permit. Each municipality should forward to GCDC-WWS the as-constructed plans for any new sewer improvements. At a minimum, these plans should be forwarded on an annual basis.
5. Each Municipality shall analyze the capacity of their collection system in accordance with GCDC-WWS Capacity Analysis Policy. See Appendix 2. Each Municipality shall certify the capacity of each project or improvement to the sanitary sewer system.
6. Each Municipality shall build and maintain an Asset Management Plan (AMP) for their collection system. AMPs will be built in accordance with EPA guidelines. The following link provides additional information and guidance from EPA. [About Asset Management | US EPA](#). See Appendix 3. Communities shall have until September 30, 2025 to complete their AMPs.
7. Each Municipality shall have a Capacity, Management, Operation and Maintenance Program (CMOM) that at a minimum provides for the continual televising of the collection system over a rolling period not to exceed 10 years. The routine inspection of all manholes over a rolling period not to exceed 10 years. The routine inspection of lift stations and pump stations shall be at a minimum of on a weekly basis. It is recommended that each

municipality have a SCADA system in place for the monitoring of the collections system. The repair of gravity sewers, force mains, manholes and pump/lift stations shall be completed on an as-needed basis. The collection system and its appurtenances shall be maintained in a professional manner at all times. CMOM programs shall be in place by September 30, 2025. See Appendix 4 for GCDC-WWS example CMOM plan. Additional information regarding CMOM Programs is available at Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (epa.gov)

8. Each Municipality shall provide to GCDC-WWS an annual report that outlines the collection system activities and tasks that have been completed during the year. Annual Reports are due by April 1 of the following year. A template for the Annual Report will be prepared and distributed by December 1, 2022.
9. Each municipality shall be responsible for monitoring private sewer systems within their jurisdiction. It is recommended that private systems are required to have an AMP, CMOM, and an annual report. Metering at the outlet of the private system is recommended to determine the dry weather and wet weather flow associated with each private system. This may require Ordinance changes and GCDC-WWS is evaluating the existing language.
10. Commencing in 2025, if a municipality's peak hour flow exceeds the penalty limit of 3 times average day flow more than 3 times in one year, the Division shall notify the municipality that it has 90 days to submit a Corrective Action Plan to eliminate excess inflow and infiltration. The plan shall include identification, location, and elimination of excess inflow and infiltration.
11. The Division may not approve any additional connections to the system for communities that have exceeded the penalty limit of 3 times average day flow and that do not have an approved Corrective Action Plan.
12. In the event a rain event exceeds the EGLE design storm of 25 year/24 hour intensity (3.5 inches), the Division will not institute a penalty or require a Corrective Action Plan for communities with flows that exceed 3 times average flow.
13. This policy is based on the Division's current N.P.D.E.S. permit issued by EGLE. These permits are issued every five years with the next cycle commencing in 2023. This policy will be updated to reflect any changes in a new permit. The Division will provide the communities with 180-day notice of any changes.

Definitions

- Average Annual Day (AAD) - the average daily flow based on a minimum of 12 months of data.
- Max Day (MD) – the maximum flow in a 24-hour period based on a minimum of 12 months of data.
- Peak Hour (PH) – the peak one-hour flow based on a minimum of 12 months of data.