

# VILLAGE OF TILTON, ILLINOIS

## WWTP & SANITARY SEWER FLOW STUDY



### Location

Tilton, Illinois

### Year

2015



The Village of Tilton experiences very high peak flows through its treatment plant during rain events. C2 Engineers was contracted to perform a flow study throughout their collection system and at their WWTP to identify areas of concern and develop recommendations to resolve inflow and infiltration of storm water into their system. During the flow study, C2 also evaluated the existing condition of the system to identify components that may be reaching the end of their useful life.

### Scope of Work:

- Flow monitoring at the WWTP and other critical points in the collection system during dry and wet weather
- WWTP & Collection System capacity analysis and treatment effectiveness evaluation
- Develop alternatives for system improvements along with cost estimates and professional recommendations for a 5-year plan.

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WWTP Lagoon  
Overflow

Surcharged Manhole  
With Flow Monitor



### The Challenges:

1. Identifying collection system drainage basins
2. Identifying areas with significant inflow & infiltration throughout the system
3. Difficulty collecting reliable data at lift stations due to lift station mechanical/operational issues
4. Limited funds to perform recommended improvements

### Solutions provided by C2:

1. Reviewed existing system maps and performed field analysis to develop a collection system flow map
2. Isolated collection system drainage basins and developed a plan to monitor flows at key locations within the system
3. Developed theoretical estimated flows throughout the system based on IEPA standards and cross-checked the theoretical estimated flows with water usage data
4. Analyzed actual monitored wet/dry weather flows versus theoretical estimated average and peak flows to identify areas with more significant stormwater inflow & infiltration
5. Developed a 5-year collection system improvement plan to reduce unnecessary flow to the treatment plant with costs
6. Evaluated multiple wastewater treatment alternatives to replace the existing WWTP that is nearing the end of its useful life including options to abandon the plant and consolidate with a nearby wastewater treatment facility
7. Provided professional recommendations to resolve collection system issues and aging WWTP with options for financial assistance

C2 Engineers provided the analysis and full report within the original contract obligations.

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