

DANVILLE SANITARY DISTRICT

WILKIN RD. FORCE MAIN



Location

Danville, Illinois

Year Constructed

2016

Contractors

Drennan Septic Services



The Danville Sanitary District operates and maintains the waste water treatment for the City of Danville and owns and operates parts of the collection system. The Wilkin Rd. Pump Station, originally constructed in the late 1950's, was in need of some minor upgrades. Also, the existing force main, located in heavily wooded and hilly terrain, had reached its useful life and was frequently breaking. C2 Engineers was contracted to evaluate the pump station and force main and design improvements to eliminate the frequent force main breaks.

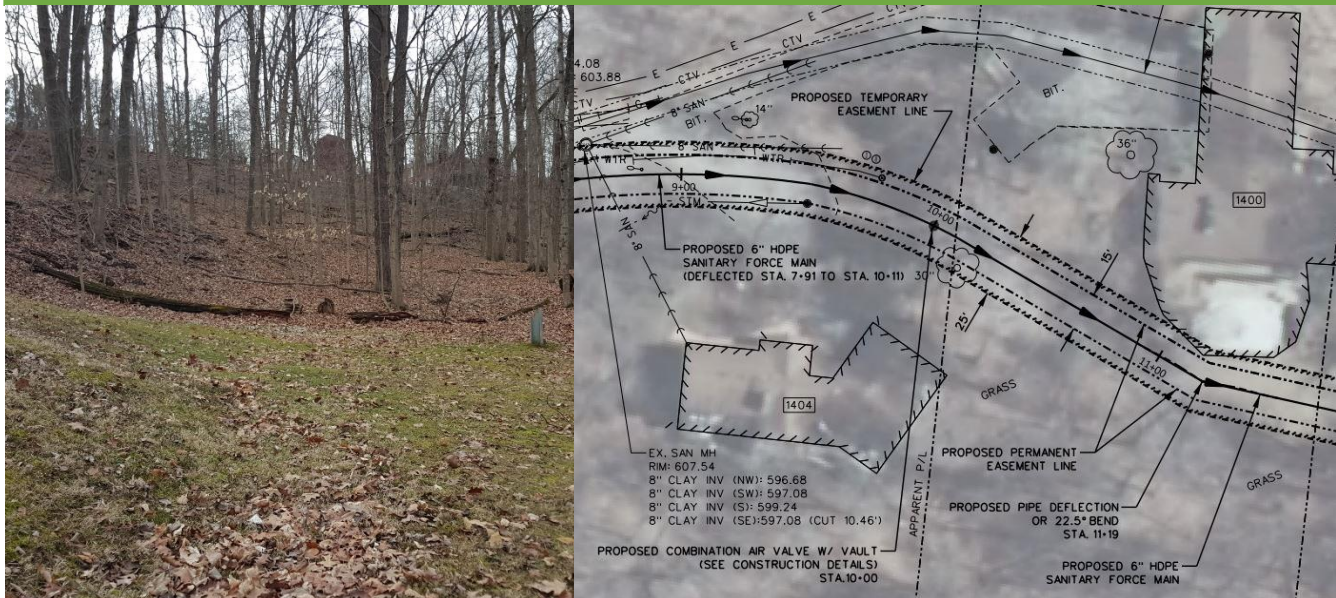
Scope of Work:

- Pump Impeller and control modifications to maximize efficiency
- Realignment and replacement of force main through difficult terrain
- Installation of new combination air release valves

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FORCE MAIN ALIGNMENT THROUGH HEAVILY WOODED, HILLY, RESIDENTIAL TERRAIN



The Challenges:

1. Existing pump station operating inefficiently
2. Extremely difficult terrain for survey and construction
3. Realignment required new easements on private properties and abandonment of the old force main which was located under an existing garage
4. Difficulty locating the existing force main and easements

Solutions provided by C2:

1. Evaluated pump station operation and recommended modifications to pump impellers and installation of a new alternator to cycle pumps which improved pumping efficiency through the new force main and should extend the life of the lift station and the pumps
2. Evaluated multiple alignments and designed an alignment that provided the most benefit for future operation and maintenance while minimizing the future risk of damage to private property
3. Developed proposed easement documents for the sanitary district

C2 Engineers provided topographic survey, design, permitting, and construction layout within contractual obligations.

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