



TRUNK SEWER INVESTIGATION, REHABILITATION & FUNDING

Case Study: GLOVERSVILLE-JOHNSTOWN
JOINT WASTEWATER TREATMENT FACILITY

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Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.



Investigation Summary

- Comprehensive Review of 3.75 miles of trunk sewer
- 24-inch to 42-inch diameter pipe
- Pipe materials vary



Investigation Summary

- Four Creek Crossings
- VCT pipe installed in 1960's
- RCP and CIP installed in 1970's
- 75 Manholes



Investigation Summary

- Condition Assessment
 - Manholes
 - Pipe
 - Access
- Structures not located



Investigation Goals

- Complete Condition Assessment
- Long Term Plan for Maintenance
- Budget Cost Estimates for Capital Planning
- Prioritization of Maintenance and Replacement Projects to support a funding strategy



Investigation Conclusions

Project	Description	Estimated Cost	Priority *
No. 1	Cleaning 12,405 LF	\$130,000	1
No. 2	Clean and Line 4,182 LF	\$1,800,000	2
No. 3	Clean and Camera 1,725 LF	\$27,420	1
No. 4	Clean & Line MH 17 to MH 16; Replace MH 17	\$253,270	2
No. 5	Replace MH 23 & 24; Clean & Line 145' of 42" RCP	\$155,360	2
No. 6	Replace MH 38 & 39; Clean & Line 165' of 36" RCP; Clean and Line 210' DIP	\$220,230	1
No. 7	Replace MH 42 & 43; Replace 216' of 36" RCP	\$202,690	2
No. 8	Replace MH 94,95,96,97,98; Replace 1,263' of 27" VCP	\$972,540	1
No. 9	Replace MH 107, 108, 109; Replace 797' of 27" VCP	\$615,600	1
No. 10	Replace MH 113	\$59,800	2
	TOTAL Estimated Cost	\$4,436,910.00	

Table 4.1

- * Priority 1 = A project that should be considered to be completed in 0 to 5 years.
 Priority 2 = A project that should be considered to be completed in 5 to 15 years.



Rehabilitation



- Lining of Cast Iron Pipe (CIP) at creek crossing (heavy cleaning required)
- 36-inch diameter lining
- Access improvement to manholes



Rehabilitation



- Replacement of 27" VCP with 27" PVC
- Bypass of 4 MGD flow with peaks of 10 MGD



Rehabilitation



- Severe cracking around entire circumference noted from CCTV inspection under bypass
- Manhole replacement



Rehabilitation Videos



Rehabilitation Videos



Rehabilitation Videos



Conclusions

- Comprehensive study and careful planning of improvements are important
- CCTV inspection of pipeline without bypassing flow has limited value
- Pipe Replacement vs. Lining – ***Pros & Cons***



Replacement vs. Lining

Replacement



Lining



Replacement vs. Lining

Considerations

- Pipe Material / Age / Condition/Depth
- Obstacles and other Utilities
- Traffic control
- Environmental conditions
 - Service interruptions
 - Inconveniences
 - Other projects
- Surface Treatment / Restoration



So...How can we afford to rehabilitate our trunk sewer infrastructure?



How to Fund *Your* Project?

Understanding the Problem

- Neighborhood or Community-wide?
- Demographics
- Can you afford it on your own?
- Consent Orders, Other Mandates
- Public Health Threats
- Economic Development / Revitalization Goals



Funding Trends

- More Money
- More Grant Opportunities
- As interest rates rise, public Loans may become more favorable, even with some added cost
- Green Infrastructure / Energy Savings
- Regional Agencies and Commissions



Get Ready for Funding

- Capital Plans
- Prioritize *needs, wants* and *capacity*
- Work with engineers / funding experts
- Talk to regional State agency representatives
- Application eligibility and thresholds, public participation requirements, Hearings
- **Local Match Requirements**



Project Planning

- What do we *WANT* to do?
- What do we *HAVE* to do?
- What does our *Community* want?
- Who are our *Partners*?



Where is the Money?

Community Development Block Grant (CDBG) Program

- **Infrastructure** – Water, Sewer, Stormwater
- **Public Facilities** – Senior / Youth Centers
- **Economic Development** – Construction of Facilities and Infrastructure that creates Jobs
- **Community Planning** – Engineering Plans / Needs Assessments for Public Facilities and Infrastructure



CDBG Program

- \$20-\$25 Million Annually
- 100% Grant
- Municipalities – (only)
- Counties – (Non-HUD Entitlement)
- Joint Applications
- **Co-funding** encouraged

The Skinny

- Income Targeted
- Federal Laws & Regs
- Highly Competitive
- Prep Time (months)
- Evidence of Need



CDBG Program

- Up to \$750k for Public Infrastructure
- Up to \$1 Million if the project is “co-funded” with other Federal or State grant and/or loan programs – **awarded**
- Good resource for phasing larger Capital Plans
- Benefit to Low and Moderate Income Persons – *Income Survey of Project Area or Community required*
- Preliminary Engineering Report needed at Application
- Seek other funds first; Awards based on **NEED**



CDBG Infrastructure

Village of Fort Edward



Where is the Money?

Project Planning Funds

- **Environmental Planning Grant Program – (EFC)**
 - Engineering studies of WWTP and Collection (I&I) problems
 - Muni with certain MHI / **\$25k to \$100k** with 20% match
- **Emerging Contaminants Project Planning Grant Program – (EFC and DOH)**
NEW for 2018-2019
 - Engineering studies for Water Systems with Emerging Contaminants – (PFOA, PFOS, 1, 4-dioxane)



Where is the Money?

Design and Construction – (through the CFA)

- **Green Innovation Grant Program – (EFC)**
 - Implement “green” features to existing projects to reduce CSOs, prevent run-off, improve water quality
 - Transformative projects with regional or economic impact
- **Water Quality Improvement Program – (DEC)**
 - Municipalities, MS4s, Soil and Water Conservation Districts
 - Sewer Treatment Works, Wastewater Conveyance
 - Project ideas often based on prior Planning Grants (EPG)



Where is the Money?

- **NYS Water Grants Program – (WIIA)**
 - Environmental Facilities Corporation - (Annual Cycle)
 - Grant up to 25% of Project Costs for **Sewer** / 60% for Water
 - Design, engineering and construction are eligible
 - Stand alone Grant funding if you have the other 75%
 - **OR:** Subsidized or 0% Loans for remainder of Project Costs
 - Local borrowing or capital funds are other options
 - **Engineering Report / SEQR / SHPO / Bond Res *Needed***



Where is the Money?

Other “Creative” Options

- **Empire State Development Corporation (ESD)**
 - Water and sewer mains, treatment facilities, or related infrastructure (roads) to increase or extend capacity
 - Project must attract /retain companies and **JOBS**
 - Generally 20 to 25% of Project Costs
 - Municipality and/or private company to fund remainder



Where is the Money?

Other “Creative” Options

- **U.S. Economic Development Administration (EDA)**
 - Federal funds for Projects with Significant Impacts
 - Recommended through a regional ED entity
- **Regional Commissions** – (typically Federal funds)
 - Limited funding, multiple counties, random cycles
 - Ideal for capital planning and engineering studies





Trunk Sewer Relocation / Main Replacement / Storm Separation to Support Industry and Neighborhood Revitalization – **Fort Edward**





Planning and Patience



*...And a little
creativity...*

*Will lead to
funding success!*



Questions

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