



Sewer System Rehabilitation, City of Hammond FY 2018 LCDBG Project Description

Summary

Activity	Sewer System Rehabilitation
Funding Sources	\$675,000 in Louisiana Community Development Block Grant Funds + \$ 90,000 in City of Hammond Matching Funds (approved in 2018)
Total Funding/Cost	\$765,000

Short Description

The City of Hammond will use up to \$675,000 in Louisiana Community Development Block Grant (LCDBG) funds, matched by \$90,000 in local funds, to rehabilitate the portion of Hammond's gravity-collection-based sanitary sewer system roughly bound by West Thomas Street (US 190) to the north, Mooney Avenue to the east, Palmetto Road to the south, and South Morrison Boulevard (US 51) to the west (the "Project Area").

Need

Most of Hammond's gravity-collection-based sanitary sewer system was constructed of vitrified clay pipe mains (8–24" in diameter) and service lines (4–6" in diameter) and brick manholes between 1920 and 1940. These were replaced by PVC mains and service lines and precast concrete manholes in some areas in 1975. During the 1990s, the City successfully rehabilitated approximately 20% of the system using cured-in-place pipe (CIPP), also called "inversion lining." Since the 1990s, regular cleaning, point repair, and CIPP have been used to maintain the system, but, several times in recent years, heavy rainfalls have led to infiltration and inflow (I/I), or stormwater entering the system through holes, cracks, and other breakages. When I/I occurs, it increases peak flow through the system—in the worst recorded instances, to more than 11 million gallons per day—causing backflow into streets, businesses, and homes. The City's South Wastewater Treatment Plant (SWTP) was designed for daily flows up to 4.1 million gallons; peak flows above this limit (e.g. caused by I/I) have led to hydraulic overloading and occasional permit limitation exceedances. In 2013, the City secured a \$5,000,000 low-interest loan through the Clean Water State Revolving Fund (CWSRF) to correct I/I in central Hammond using the same rehabilitation methods outlined below under Work to Be Performed. In 2014, the City secured a \$1,000,000 LCDBG to add pretreatment facilities to the SWTP. And, in 2015, the City was granted permission by the Louisiana Department of Environmental Quality (LDEQ) and Environmental Protection Agency (EPA) to expand CWSRF work into areas outside central Hammond—up to the corporate limits of the city—to correct I/I where locally-funded sewer system evaluation surveys (SSES) had revealed the problem was significant. All of these efforts have had the cumulative effect of reducing I/I and improving Hammond's sewer system's capabilities to cope with I/I when it occurs (e.g. during severe rainfalls) and to process sewage.

During the 2-year period beginning June 1, 2015 and ending May 31, 2017, the Project Area, which had not seen major rehabilitation work since at least the 1990s, saw no less than 45 sewer-related complaints/work orders—including complaints of/work orders to address broken sewerage and/or sewage backing up into homes, yards, ditches, streets, and/or canals.

Beneficiaries

The project will primarily benefit the approximate 384 households and 1,120 residents of the Project Area. About 250 of these households are female-headed. Residents are predominantly of low to moderate income (96.43%) and of minority status (i.e. Black or African American).

Work to Be Performed

The project will initially employ a SSES to identify locations and extent of I/I, as well as structural deficiencies within the system.

Actual work to be performed (using estimated quantities) during this phase of the project includes:

1. smoke-testing and videoing 20,500 linear feet of sewer lines, including 15,800 linear feet of 8"-diameter lines, 3,300 linear feet of 10"-diameter lines, and 1,400 linear feet of 12"-diameter lines;
2. inspecting 80 manholes; and
3. dye-testing 4 manhole-to-manhole segments.

Upon completion of the SSES, rehabilitation work will begin to repair the most serious (if not all) I/I using, wherever possible, trenchless technologies including hydrocleaning, jet-vacuuming, and/or CIPP to clean and remove obstructions from the system and to restore the watertight integrity of deficient mains and service lines. This work will be supplemented by point repair and point repair extension; restoration of remote service connections; removing/trimming protruding service connections; installing cleanouts; patching, sealing, lining, resetting, rebuilding, and/or replacing manholes and manhole frames and covers; in a very small number of cases (an estimated 5), as required by the Louisiana Department of Health, installing new manholes; installing manhole rain inserts; root removal; and pavement replacement, backfilling, compacting, and/or restoring to grade any areas where digging was required.

Actual work to be performed (using estimated quantities) during this phase includes:

4. cleaning 20,500 linear feet of sewer lines, including 15,800 linear feet of 8"-diameter lines, 3,300 linear feet of 10"-diameter lines, and 1,400 linear feet of 12"-diameter lines;
5. CIPing 8,900 linear feet of sewer lines, including 7,000 linear feet of 8"-diameter lines, 1,400 linear feet of 10"-diameter lines, and 500 linear feet of 12"-diameter lines;
6. extending point repairs to 200 4"-diameter lines, 100 8"-diameter lines, 20 10"-diameter lines, and 10 12"-diameter lines;
7. performing point repairs to 40 4"-diameter lines, 12 8"-diameter lines, 3 10"-diameter lines, and 2 12"-diameter lines;
8. restoring 200 remote service connections;
9. removing/trimming 150 protruding service connections;
10. installing 40 4"-diameter cleanouts over existing service lines;
11. patching, sealing, and/or lining 120 vertical feet of manholes;
12. installing 40 vertical feet of new manholes;
13. installing 30 manhole rain inserts.
14. rebuilding 20 manhole inverts;
15. resetting and sealing 10 manhole covers;
16. replacing 10 manhole frames and covers;
17. root removal from 4 manhole-to-manhole segments;
18. hauling in/compacting 400 cubic yards of backfill;

19. hauling in/grading 250 tons of limestone;
20. installing 100 cubic yards of flowable fill; and
21. replacing 100 square yards of 4"-thick pavement and 150 square yards of 8"-thick pavement.

No installation of sewer or water service for areas not currently serviced are planned as part of this project. There are also no direct hookups involved in the project.

The project involves no acquisitions of easements, rights of way, or parcels, and the City will retain ownership of the system and the improvements.

All maintenance will be performed by the City, with any necessary funding for such maintenance originating from the Water & Sewer Department. No sewer fee increases will result from the proposed improvements funded by the LCDBG.

Improvements will fit into the current infrastructure and involve no increase in intake at the SWTP; rather, they will reduce I/I and *decrease* intake—causing the entire system to function more efficiently.

As previously noted, identical methods were recently and successfully used to rehabilitate central Hammond's sewer system. Here, again, they are anticipated to correct the multitude of issues described above under Project Need—preventing overload and backflow into the Project Area.

Maps

For additional clarity, the City has provided Vicinity, Aerial, and Rehabilitation Maps locating the Project Area and the types of rehabilitation work to be performed.