

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

and

THE STATE OF ILLINOIS,

Plaintiffs,

v.

CITY OF CAHOKIA HEIGHTS, ILLINOIS,

Defendant.

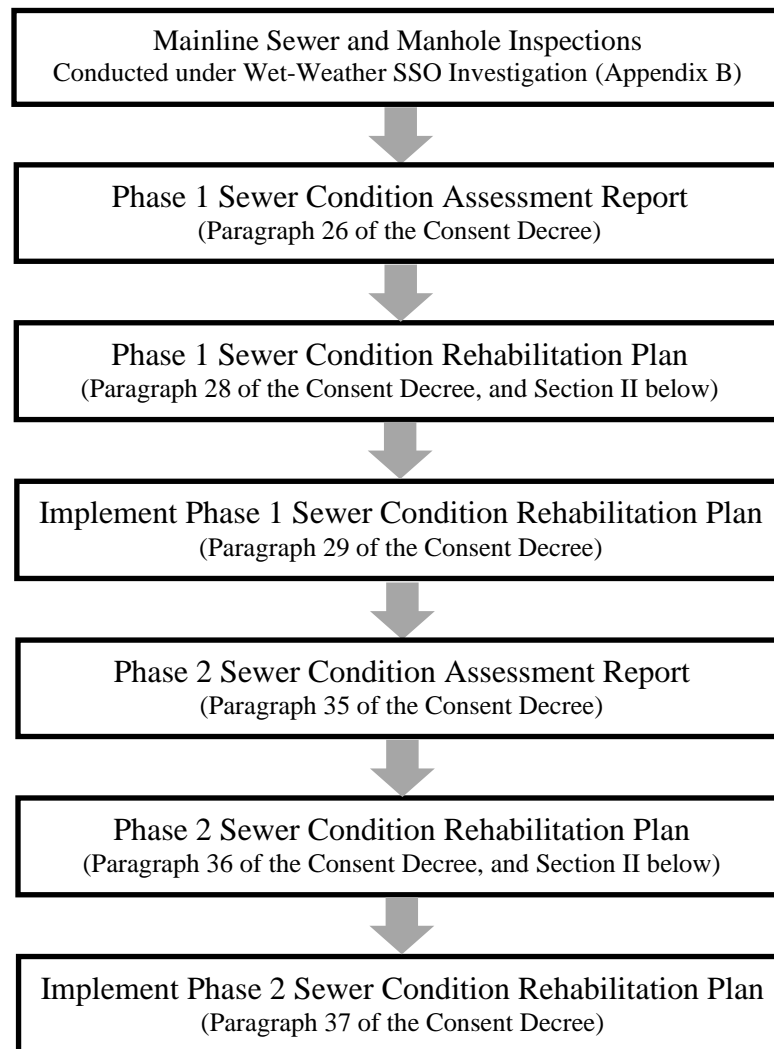
CONSENT DECREE

APPENDIX D

Appendix D

Sewer Condition Assessment and Rehabilitation Program

- I. This appendix details the process the City will follow to implement the Sewer Condition Assessment and Rehabilitation Program required under the Consent Decree. Terms appearing in this appendix retain the definitions assigned under the Consent Decree. The following is a narrative process tree that summarizes the steps the City shall follow to assess sewer conditions and rehabilitate sewers.



II. Phase 1 and 2 Sewer Condition Rehabilitation Plans

A. The City shall develop Phase 1 and 2 Sewer Condition Rehabilitation Plans specifically identifying how the City will rehabilitate all remaining sewer lines and/or manholes condition-rated as Category E or D by the NASSCO PACP rating systems set forth in Section III of this Appendix, below. The City shall establish the most practical alternatives and timeframe for resolving structural defects and operations and maintenance issues that may include:

1. Mainline Sewers:

- i. Point repair or pipe lining (high-density polyethylene (HDPE), cured-in-place pipe (CIPP), etc.);
- ii. Pipe replacement by open cut methods or pipe bursting;
- iii. Other techniques or new technologies that are later approved by written agreement of the Parties pursuant to Section XX (Modification) of the Consent Decree;
- iv. Interim monitoring and/or maintenance in CMOM prior to rehabilitation.

2. Manholes:

- i. Repair or rehabilitate: liners, cement coating, polymer coating, inflow protector inserts, grade adjustments, cover/casting adjustment;
- ii. Manhole Replacement;
- iii. Interim monitoring and/or maintenance in CMOM prior to rehabilitation;
- iv. Include in mainline sewer rehabilitation;
- v. Other techniques or new technologies that are later approved by written agreement of the Parties pursuant to Section XX (Modification) of the Consent Decree.

B. The City shall prioritize rehabilitation measures generally based on severity of defects, history of SSOs, maintenance history, age, material of construction, etc. All mainline sewers and manholes ranked D or E shall be rehabilitated.

III. Sewer Pipeline and Manhole Inspection Condition Rating Categories

A. Sewer Pipeline Inspection Condition Rating Category

A = Very Good

Minor defects are mostly cosmetic in nature and do not impact system hydraulics nor contribute to significant infiltration/inflow. Non-displaced cracks or minor material degradation. No active infiltration. Likely outcome in Sewer Condition Rehabilitation Plan: Maintain as part of CMOM Activities.

B = Good

No significant structural defects. Minor defects do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration. Minor defects may include less than 10% deformation, minor corrosion, slightly open non-displaced cracks. Likely outcome in Sewer Condition Rehabilitation Plan: Maintain as part of CMOM Activities.

C = Fair

No significant structural defects although minor defects were noted during inspection. System hydraulics are good and no significant infiltration/inflow sources noted. Nominal defects may include less than 25% deformation from structural deterioration combined with displaced fractures, moderate corrosion with no reinforcement visible. Likely outcome in Sewer Condition Rehabilitation Plan: Monitor and Maintain as Part of CMOM Activities.

D = Poor

Moderate structural defects that may include missing pipe material, broken pipe, severe corrosion with exposed wall reinforcement, pipe deformation exceeding 25% from structural deterioration, voids, hinge cracks/fractures, etc. Likely outcome in Sewer Condition Rehabilitation Plan: Analyze alternatives and rehabilitate.

E = Very Poor

Severe structural defects that may include potential for structural failure, severe root intrusion, broken/missing pipe material, and other defects that may impact system hydraulics or contribute to significant infiltration/inflow. Structural collapse or defects likely to imminently cause SSO. Likely outcome in Sewer Condition Rehabilitation Plan: Analyze alternatives and rehabilitate.

B. Manhole Inspection Condition Rating Category

A = Very Good

Minor defects are mostly cosmetic in nature and do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration.

B = Good

Manhole has no significant structural defects. Minor defects do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration. Minor defects may include slightly loose casting, minor corrosion of metal surfaces, minor deterioration of concrete mortar between bricks, minor cracks, etc.

C = Fair

Manhole has no significant structural defects although minor defects were noted during inspection. System hydraulics are good and no significant infiltration/inflow sources noted. Light infiltration/inflow may be present. Nominal defects may include loose casting, nominal corrosion of metal surfaces, deterioration of concrete mortar between bricks or concrete walls, minor evidence of infiltration/inflow at precast joint sections, etc.

D = Poor

Manhole has moderate structural defects that may include cracks, loose bricks, separated casting, moderate root intrusion, broken cover and defects that may impact system hydraulics due to structural issues or contribute to significant infiltration/inflow. Some visible staining due to infiltration/inflow may be present. Active infiltration may have been observed. Moderate to severe defects may include loose casting, moderate to severe corrosion of metal surfaces, deterioration of concrete mortar between bricks, moderate to severe deterioration of precast wall sections and precast joint defects, etc. Manhole inspection was completed and the manhole will be addressed in the Sewer Condition Rehabilitation Plan.

E = Very Poor

Manhole may have severe structural defects that may include potential for structural failure, missing bricks, separated/broken casting, severe root intrusion, broken/missing cover and defects that may impact system hydraulics or contribute to significant infiltration/inflow. Visible staining due to infiltration/inflow may be present. Active infiltration may have been observed. Severe defects may include separated/broken casting/cover, severe corrosion of metal surfaces, missing mortar between bricks, etc. Manhole inspection was completed and the manhole will be addressed in the Sewer Condition Rehabilitation Plan or immediate repair may be warranted based on condition.

X = Additional Investigation Needed

Manhole inspection was not performed and additional follow-up is required. Manholes in this category will require additional efforts to facilitate inspection. This category of manholes includes those where access was denied by homeowner, no access due to locked gate, no access due to dog, homeowner would not return calls to gain access, obstacles over manhole preventing inspection, where property owner refused digging in yard, surcharged manholes that will require mainline cleaning, etc.