

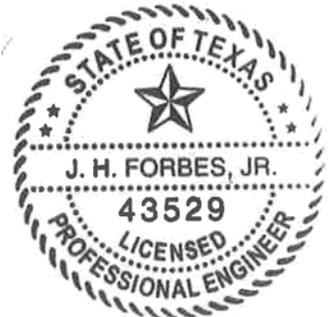
CITY OF TYLER

CONSENT DECREE
DOJ No. 90-5-1-1-09767

Group 2 Annual Condition Remedial Measures Plan



I certify that this report was prepared under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Texas.



July 1, 2019

A handwritten signature in black ink, appearing to read "J. H. Forbes, Jr.", written over a horizontal line.

James H. Forbes, Jr., P.E.
License No. 43529

Pipeline Analysis LLC
TBPE Reg. No: F-6538

Presented to:

The United States Environmental Protection Agency
and
Texas Commission on Environmental Quality

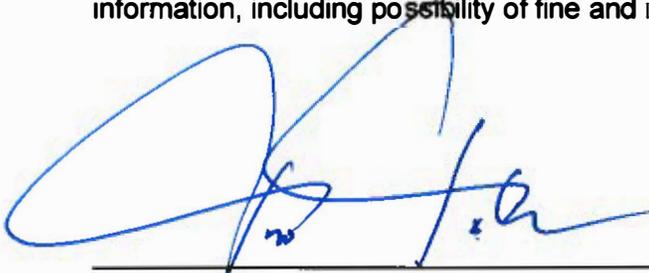
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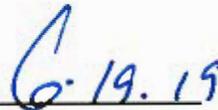
Enclosed is the City of Tyler Annual Remedial Measures Plan for the reporting period thru December 2017. The report structure follows the requirements listed in Section V. COMPLIANCE REQUIREMENTS, Sub-part D. Condition Assessment and Remedial Measures Program Listing of *United States et. al v. City of Tyler* Consent Decree.

CERTIFICATION:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possibility of fine and imprisonment for knowing violations.



Jimmie L. Johnson, Ph.D., ICMA-CPM
Director of Utilities



Date

Manhole Remediation Plan

Inspection of 663 manholes was completed in basins 8 and 15. The condition rankings were prepared using the process detailed in Appendix E – Manhole Condition Assessment and Remedial Measures Program of the Consent Decree. Each manhole was ranked according to the condition ratings A thru E and results presented in the 2018 Annual Report to TCEQ and EPA.

Remedial measures alternatives analysis was performed to resolve structural defects and remediate all manholes ranked D or E. Tab A of this report presents the results and map of the alternative analysis and recommended remediation of each manhole ranked D or E. The recommended remediation for Group 2 manholes will be completed by March 1, 2022 as required by Consent Decree Paragraph 62 - Completion of Work in Remedial Measures Plans. Manholes ranked A, B or C will be monitored under the CMOM Plan and undergo re-inspection within seven (7) years.

The following summarizes the Group 2 Manhole Remedial Measures:

Manhole Condition Rating	Basin 8 Total Occurrences	Basin 15 Total Occurrences	Recommended Remedial Measures Occurrences	Estimated Remedial Measures Construction Cost
A	0	0	0	\$ -
B	165	12	177	\$ -
C	163	41	204	\$ -
D	191	58	249	\$ 578,500
E	1	0	1	\$ 7,312
Total	520	111	631	\$ 585,812

Asset Condition Rating

- A – Very Good Condition
- B – Good Condition
- C – Fair Condition
- D – Poor Condition
- E – Very Poor Condition

Mainline Remediation Plan

Closed Circuit Television (CCTV) was performed in Sub-basin 13 to establish the pipeline condition. Each pipeline inspected was assigned a PACP quick rating based on the field recorded observations. Using this pipe priority ranking each pipe segment video was reviewed to establish the final condition ranking A thru E as presented in Appendix D – Gravity Sewer Line Condition Assessment and Remedial Measures Program of the Consent Decree. Sub-basin 13 was selected for Group 2 evaluation based on their contribution to wet weather SSOs, likely structural defects contributing to wet weather inflow, high infiltration/inflow rates, environmental and public safety impacts.

Alternatives analysis was performed to establish the most practical solution for resolving structural and O&M issues identified by the CCTV condition assessments. Tab B of this report presents the results and mapping of the alternatives analysis and recommended remediation.

The City of Tyler will coordinate the Hydraulic Model results (currently under development) for mainlines on 10 inch diameter and larger. As provided in Appendix G – Capacity Assessment and Remediation Program of the Consent Decree, the timing of the hydraulic model improvements may impact Group 1 mainline condition remedial measures. Any updates will be presented in the Annual Report. The recommended remediation for Group 2 mainlines will be completed by March 1, 2022 unless coordination with the capacity remedial measures is required for specific line segments.

The following summarizes the mainline sewer recommended remedial measures:

Mainline Condition Rating	Basin 13 Total Occurrences	Recommended Remedial Measures Occurrences	Estimated Remedial Measures Construction Cost
A	2	0	\$ -
B	808	0	\$ -
C	527	0	\$ -
D	509	509	\$ 5,676,976
E	32	32	\$ 402,610
Total	1878	541	\$ 6,079,586

Asset Condition Rating

- A – Very Good Condition
- B – Good Condition
- C – Fair Condition
- D – Poor Condition
- E – Very Poor Condition