



**Cleveland Heights
Partial Consent Decree
2017 Annual Report**

March 30, 2018



1.0 Introduction

In 2017, the City of Cleveland Heights entered into a Partial Consent Decree (CD) with the U.S. Environmental Protection Agency (USEPA) and the U.S. Department of Justice (DOJ) to define and develop a plan to control sewer system overflows. The CD requires Cleveland Heights submit to USEPA and Ohio EPA, by March 31 of each year after the effective year of the report, an Annual Report that contains all information necessary to determine Cleveland Heights' compliance with the requirements of the Consent Decree.

1.1 Requirements of Annual Report

The Consent Decree provides requirements to be included in the Annual Report. **Table 1** summarizes the Annual report requirements and reference Sections for each requirement.

Table 1. Cleveland Heights Annual Report Requirements

Consent Decree Section Reference	Reporting Requirement
VII.a	A description of project and activities conducted during the reporting period to comply with the requirements of this Decree, a projection of work to be performed pursuant to this consent decree during the next reporting period, and notice of any anticipated failures to meet future requirements of the Consent Decree or approved plans.
VII.b	A trends analysis of the number, volume, duration, and causes of the City's SSOs for a rolling 24-month period updated to reflect the SSOs that occurred during the reporting period, including identification of any newly identified and/or previously unknown SSOs and Cross Connections discovered during the reporting period.
VII.c	A compilation of the information about each SSO during the applicable reporting period, as required by the Monthly SSO Reports described in Paragraph 44.c. along with identification of any cause or condition that contributed to each SSO and all remedial actions taken to mitigate the effects of each SSO or prevent SSO recurrence.
VII.d	Information that Cleveland Heights obtained or received (e.g. customer complaints) regarding discharges from private laterals, including any information received specifying the location of the discharge, and a description of the circumstances of the discharge.
VII.e	Description of any non-compliance with the requirements of the Consent Decree.
Appendix B Paragraph 7	Include a summary list of all documented training activities completed by how many of each category of employee during the applicable reporting period.
Appendix B Paragraph 16	As part of the Annual Report, Cleveland Heights shall provide: a. the total miles of unique sanitary lines cleaned during the reporting period b. total miles of sanitary sewer lines cleaned during the reporting period c. an identification of whether particular sewer segments were added or removed from HFC list. d. legible map depicting the locations cleaned as part of the routine cleaning program and HFC program.
Appendix B Paragraph 20	As part of the Annual Report, Cleveland Heights shall provide: a. the location and total miles of the portions of the sanitary sewer system inspected under the sewer system internal inspection program. b. the locations of the manholes inspected under the sewer system manhole inspection program.
Appendix B Paragraph 43, g.	Cleveland Heights shall report the number of enforcement actions initiated and concluded during the prior calendar year.

2.0 Overview of Projects and Activities Conducted and Planned

2.1 Activities Conducted in 2017

The Consent Decree was lodged in June 2017. All required 2017 activities were completed by Cleveland Heights in a timely manner. **Table 2** outlines the specific Consent Decree requirements, sections, and the date completed or EPA approval date associated with each requirement.

Table 2. 2017 Consent Decree Requirements Completed by Cleveland Heights

Requirement	Consent Decree Citation	Date Submitted
Have an operable, discoverable website dedicated to posting Consent Decree Deliverables	CD Main Text Section VII Paragraph 44	June 2017
Final Sewer Overflow Response Plan (SORP)	Appendix B Section C Paragraph 9	May 30, 2017
Install information management system (IMS) on city computers	Appendix B Section A Paragraph 4.a	November 9, 2017
Hire IT professional to implement IMS	Appendix B Section A Paragraph 4.b	June 26, 2017
Provide EPA a report that analyzes FOG and root problems	Appendix B Section A Paragraph 4.c	August 14, 2017
Carry out complete review of sewer maintenance spare parts inventory	Appendix B Section A Paragraph 4.e	August 29, 2017
Real-time annual SSO Monitoring	Appendix A Section III Paragraph 15	December 26, 2017
Have at least 2 staff complete training provided by IMS software provider	Appendix B Section A Paragraph 4.d	November 9, 2017
Develop and implement public information program for Sewer System	Appendix B Section A Paragraph 4.f	December 1, 2017
Have at least 7 employees complete training for assessment and certification of pipelines and manholes	Appendix B Section A Paragraph 4.h	December 1, 2017
Submit CMOM that satisfies Appendix B	CD Main Text Section V.C Paragraph 21	December 1, 2017
Submit SSES work plan for two-phased approach	CD Main Text Section V.B Paragraph 17	February 3, 2018

The NEORS D Heights Hilltop Local Sanitary Sewer Evaluation Study (HHI-LSSSES) completed field investigations in 2016 and 2017 in Cleveland Heights including manhole inspection, CCTV inspection, sewer cleaning, dye testing and smoke testing. Section 6 of this Annual Report includes more information on this work.

2.2 Activities Planned in 2018

Cleveland Heights will continue advancing Consent Decree activities in 2018. **Table 3** summarizes Consent Decree requirements and deliverables to be completed in 2018.

Table 3. 2018 Consent Decree Requirements to be Completed by Cleveland Heights

Requirement	Consent Decree Citation	Schedule
Submit System Characterization Monitoring Plan that satisfies Appendix A	CD Main Text Section V.D Paragraph 25	March 2, 2018 (submitted 3/2/18)
Submit System Modeling Plan that satisfies Section E and IV in Appendix A	CD Main Text Section V.E Paragraph 26	March 30, 2018
Fully implement and develop IMS system	Appendix B Section I Paragraph 28	December 1, 2018
Annual real time SSO Monitoring	Appendix A Section III Paragraph 15	End of 2018

Other activities planned for 2018 include the following:

- Beginning Phase 1 SSES activities per the SSES work plan including manhole inspections, pipe CCTV inspection, dye testing and smoke testing – new vector and CCTV inspection trucks are scheduled to arrive in May/June timeframe. A Quickview pole-mounted camera has also been purchased to support manhole investigations.
- Conducting flow monitoring in accordance the System Characterization Monitoring Plan and Real Time Monitoring Plan – 2018 monitoring will include both monitoring requirements in one monitoring program.
- Updating and extension of the sewer system model to support capacity assessment and analysis of alternatives – proposed updates and refinements of the existing model will

provide an analysis tool to develop SSO control alternatives and costs for development of the Integrated Overflow Control Master Plan.

- Continuing activities under the approved CMOM plan including finalizing staffing, continuing IMS implementation, staff training and collection system operations and maintenance

3.0 Known Sanitary Sewer Overflows

Figure 1 shows the known SSO structure locations in Cleveland Heights as of the end of 2017. The primary purpose of the partial Consent Decree is to identify the causes and cost-effective solutions to be implemented to control the SSOs and provide adequate capacity for anticipated peak wet weather flows.

3.1 2017 SSO Monitoring

As required by the Consent Decree, Cleveland Heights provides monitoring of all known SSOs by tethered block check after precipitation events over 0.25 inches. The City provides monthly monitoring reports of results of the tethered block monitoring. In October – December of 2017, Cleveland Heights performed required real time flow monitoring at 10 of the most active SSO locations using electronic recording flow meters at these locations. A summary of SSO activations recorded during 2017 can be found in **Appendix A** of this report. Tethered block monitoring is temporarily suspended at known SSOs when electronic flow monitoring is ongoing.

3.2 SSO Trends Analysis

Table 4 summarizes an activation trends analysis for the previous 24 months as required by the Consent Decree. Details of the information and associated 2017 rainfalls are provided in Appendix A. Bold text indicates the 2017 real time monitoring locations. The current analysis focuses on activations. SSO volume and duration will also be analyzed once the Cleveland Heights model is updated based on the proposed model extension and 2018 flow/rainfall monitoring and calibration. Model update is scheduled to begin in 2018 and be completed by April 1, 2019. Notes for Table 4 follow the table.

Figure 1. Known SSO Structures Status – 2017

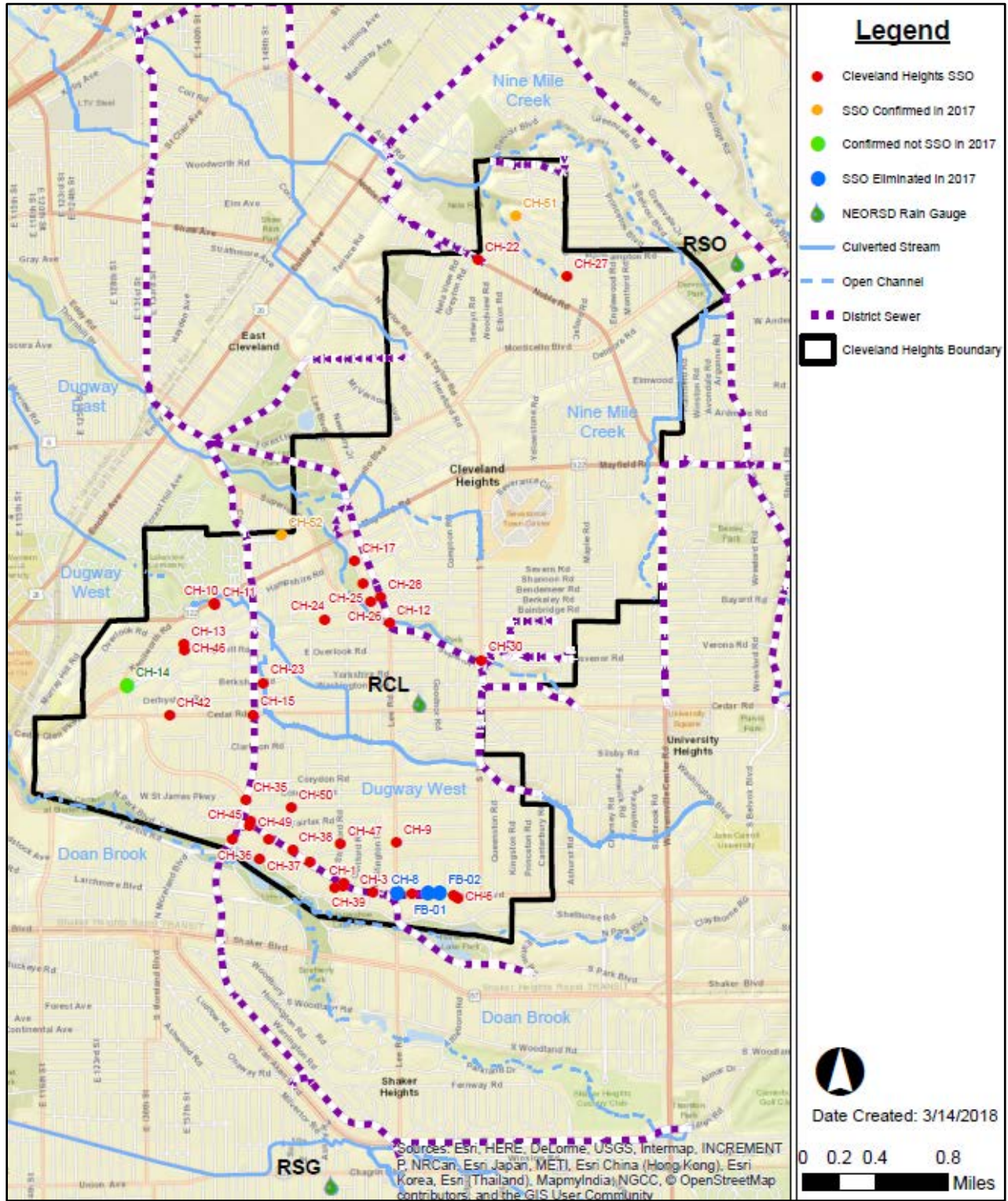


Table 4. SSO Activations for 2016 and 2017

SSO ID	Location (2017 real time monitoring locations in bold)	Receiving Stream	2016 Observed Activations	2017 Observed Activations
CH-1	Fairmount at North Woodland (3041)	Doan Brook	1	0
CH-2	Fairmount at North Woodland (3026)	Doan Brook	0	2
CH-3	Fairmount at Wellington	Doan Brook	1	1
CH-4	Fairmount at Dartmoor	Doan Brook	2	3
CH-5	Fairmount at South Fairmount	Doan Brook	3	0
CH-6	Fairmount at South Fairmount	Doan Brook	0	0
CH-7	Fairmount at South Fairmount	Doan Brook	4	0
CH-9	Bradford and Lee	Doan Brook	3	9
CH-10	Hampshire Lane at Mayfield (18")	Dugway Brook	1	0
CH-11	Hampshire Lane at Mayfield (36")	Dugway Brook	1	1
CH-12	Lee at Superior	Dugway Brook	5	8
CH-13	Hampshire Lane at Euclid Hts. Blvd	Doan Brook	2	3
CH-15	Coventry at Cedar	Doan Brook	1	2
CH-17	1685 Cumberland	Dugway Brook	1	2
CH-22	2225 Noble Road	9 Mile Creek	1	1
CH-23	Fairmount at North Woodland (3026)	Dugway Brook	0	6
CH-24	3003 Euclid Heights Blvd	Dugway Brook	0	1
CH-25	Cumberland/Somerton	Dugway Brook	3	2
CH-26	Euclid Heights Blvd/Cumberland	Dugway Brook	0	1
CH-27	Quilliams, N. of Randolph	9 Mile Creek	2	5
CH-28	Euclid Heights Blvd and Lee	Dugway Brook	4	3
CH-30	Taylor N of Superior	Dugway Brook	13	11
CH-32	Fairmount at Arlington	Doan Brook	2	0
CH-33	Fairmount at Fairfax	Doan Brook	12	11
CH-35	2393 Coventry, w. of Fairmount	Doan Brook	1	3
CH-36	North Park and Coventry	Doan Brook	1	2
CH-37	Fairfax at North Park	Doan Brook	0	1
CH-38	Fairmount at Marlboro	Doan Brook	0	2
CH-39	3012 North Woodland	Doan Brook	2	1
CH-42	12537 Cedar Road	Doan Brook	0	2
CH-45	2764 Fairmount, in Island	Doan Brook	3	1
CH-46	Edgehill at Euclid Heights Blvd	Doan Brook	3	0
CH-47	2528 Stratford, N. of Monmouth	Doan Brook	0	1
CH-49	2765 Fairmount, Just E. of Church	Doan Brook	1	0
CH-50	Scarborough at Lamberton	Doan Brook	2	4
CH-51	Langton at Atherstone	Nine Mile	-	2
CH-52	Eddington at Avondale	Dugway Brook	-	0

Notes for Table 4:

- 2016 activation information is based on HHI-LSSES flow monitoring, installed May-August 2016, and tethered block checks for storms greater than 0.25 inches total volume.
- 2017 activation information is based on real time flow monitoring October-December 2017 at 10 selected SSOs and tethered block checks.
- SSOs CH-30 and CH-50 were found during 2016. SSOs CH-51 and CH-52 were found during 2017.
- Previous SSO CH-14 located (Derbyshire at Euclid Hts. Blvd) was initially used as a real time monitoring location, but was subsequently determined via field investigation to be a sanitary flow divider instead of an SSO.
- Real time monitoring was suspended at SSO CH-51 on November 3, 2017 due to modem communication problems at the location. This flow meter was moved to the SSO CH-23 location on the same day.

3.3 Recently Identified SSOs and SSO Status Changes

In 2017, two additional SSO structures were identified during HHI-LSSES project field work. These two SSOs are CH-51 at Langton and Atherstone and CH-52 at Eddington and Avondale. These SSOs were reported to the NEORS Community Discharge Permit Program Manager and USEPA as directed by the Sewer Overflow Response Plan and have been added to the monitoring schedule for Cleveland Heights moving forward.

SSO CH-14 (Derbyshire at Euclid Hts. Blvd) was determined to be a sanitary sewer flow divider instead of an SSO based on field investigation completed during the HHI-LSSES project, and has been removed from the list of known SSOs.

4.0 Customer Complaints

Cleveland Heights tracks phone calls from residents and follow-up house calls and logs them in a database. In 2017, Cleveland Heights Utilities Department received approximately 400 calls reporting various water related issues on private property. Most calls were related to backups in basements and in most cases the backups were related to unmaintained sanitary and/or storm sewer laterals on the property as opposed to mainline sewer issues. **Appendix B** of this report shows the listing of customer calls and notes from the responding crew for the 2017 calls.

5.0 Non-Compliance

The City of Cleveland Heights has met all Consent Decree requirements for the 2017 reporting period.

6.0 Training Activities

In 2017, seven employees completed National Association of Sanitary Sewer Companies, Pipeline Assessment Certification Program (PACP), Manhole Assessment Certification Program (MACP), and Lateral Assessment Certification Program (LACP) training as required by the Consent Decree.

In January 2017, 15 employees most of whom work in the Sewer Department also participated in Safety Zone Training which included training on setting up safe work areas, signage and traffic control. This will support safe implementation of upcoming SSES and CMOM field activities.

7.0 Cleaning and Inspection Statistics

In 2016 and 2017, Cuyahoga County DPW and HHI-LSSSES crews performed field activities in Cleveland Heights as summarized in **Table 5**. **Figure 2** provides a map of the field activity locations.

Table 5. Field Work Activities and Quantities in Cleveland Heights

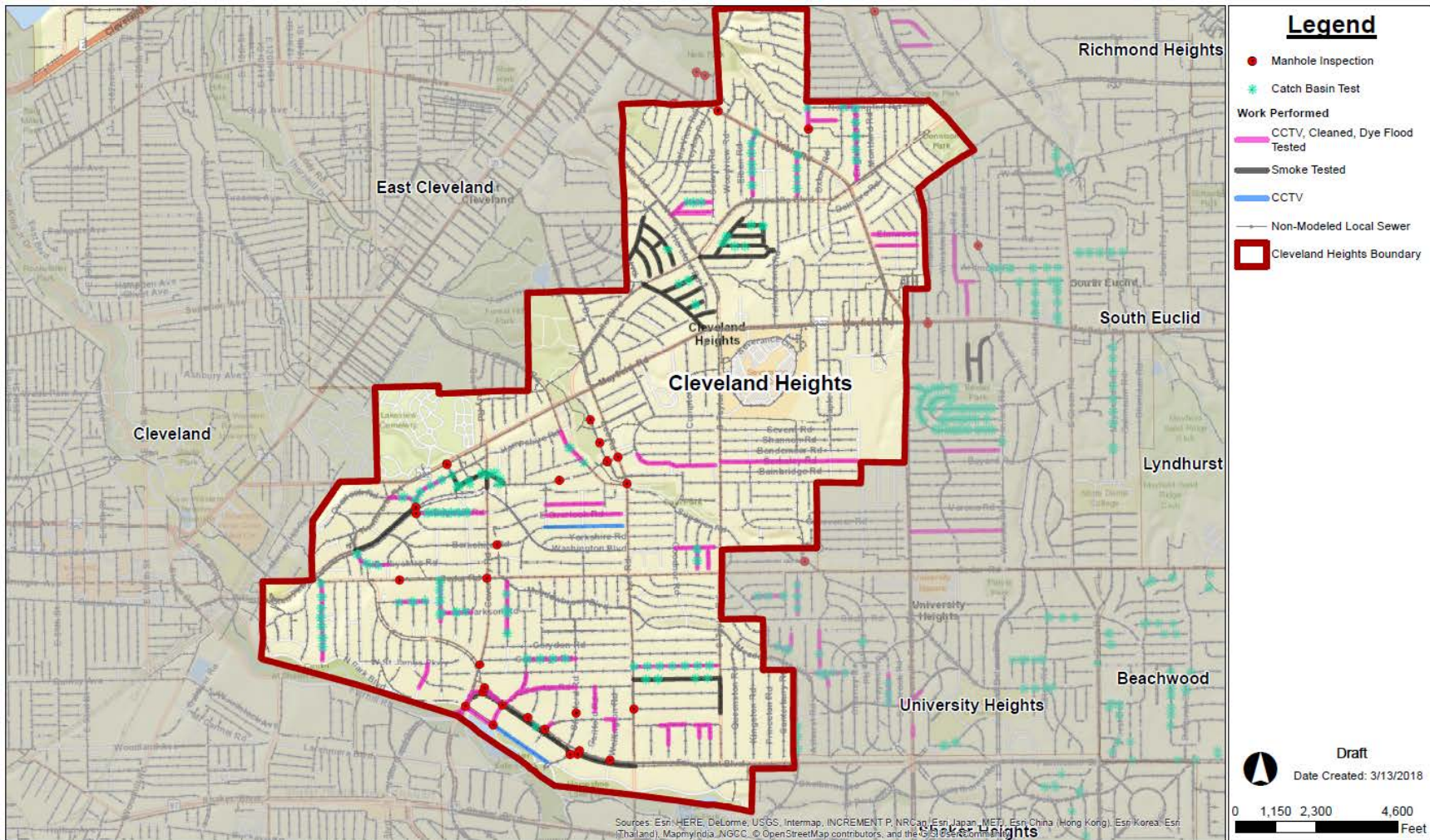
Activity	Quantity Completed
CCTV inspection, miles	10.2
Sanitary sewer cleaned, miles	11.4
Dyed water testing, miles	9.8
Smoke testing, miles	6.5
Catch basin testing, #	139
MACP manhole inspections, #	30

The cleaning and inspection High Frequency Cleaning (HFC) list was updated for Cleveland Heights during the CMOM development in 2017. Future Annual Reports will provide data on locations that have been added or removed from the HFC list based on SSES investigation or rehabilitation locations.

8.0 Enforcement Actions

No enforcement actions were required during the 2017 reporting period.

Figure 2. Field Work Performed in Cleveland Heights in 2016-2017



Appendix A – 2017 SSO Activation Summary

Appendix B – 2017 Cleveland Heights Customer Calls
