



Town of Swampscott
Department of Public Works

22 Monument Avenue
Swampscott, Massachusetts 01907

Tel: 781-596-8860

Fax: 781-596-8828

Gino A. Cresta Jr, Director
gcresta@swampscottma.gov

Aleena Alsaraby, Engineer
aalsaraby@swampscottma.gov

September 1, 2022

Ms. Elizabeth Kudarauskas
Water Compliance Unit
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Mail Code OES04-2
Boston, MA 02109-3912

SUBJECT: Consent Decree Compliance Report
Period 2/1/2022 to 7/31/2022

Dear Ms. Kudarauskas:

Pursuant to Paragraph 66 of the Consent Decree between the U.S. EPA and the Town of Swampscott, MA, I am providing the following certification statement with regard to the preparation and submittal of: **Compliance Reporting – Period 2/1/2022 to 7/31/2022**

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 the 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 the possibility of fine and imprisonment for knowing violations.

Gino A. Cresta, Jr.
Director of Public Works

MEMORANDUM

TO: Elizabeth Kudarauskas | US EPA

FROM: David Peterson | Kleinfelder

DATE: September 1, 2022

CC: Gino Cresta, Aleena Alsaraby | Town of Swampscott
Mark Thompson, Cecilia Carmona, Dan Scott, John Rahill | Kleinfelder

**SUBJECT: COMPLIANCE REPORTING - CASE 1:15-CV-13388-DJC
SWAMPSCOTT, MASSACHUSETTS**

Purpose:

This Compliance Report is provided pursuant to Paragraph 33 of the subject Consent Decree between the United States of America and the Town of Swampscott, MA. This report covers the reporting period noted below:

Reporting Period: February 1, 2022 through July 31, 2022

Through this reporting period, activities primarily included:

- Construction of Phase 1C sewer rehabilitation improvements in Stacy's Brook.
- Sprayed in Place Pipe (SIPP) Rehabilitation of the storm drain culvert tributary to Cassidy Park/Fisherman's Beach.
- Began a new study on engineering alternatives to improve water quality at King's Beach.

The following report summarizes the activities performed during the Reporting Period.

Phase 1C Construction Update

The Stacy's Brook Sewer System Rehabilitation Project Phase 1C includes comprehensive sewer rehabilitation in specific neighborhoods in the Stacy's Brook catchment, consisting of cured in place pipe (CIPP) lining of sewer mainlines and laterals, sewer manhole rehabilitation, and split-wall sewer manhole rehabilitation (Type 2 underdrain manholes).

The Phase 1C project scope includes the comprehensive rehabilitation of the sewer collection system in the remaining Phase 1 areas that were not completed in Phases 1A or 1B. These areas are primarily located in the southern part of the Stacy's Brook catchment that converge at the intersection of Paradise Road and Norfolk Avenue.

In addition to the Phase 1 area, the Phase 1C project scope includes CIPP lining of sewer mainlines on Puritan Road, adjacent to Fisherman's Beach. These mainlines were included as an additive bid item and were part of the original Areas Beyond Stacy's Brook (ABSB) design scope required by paragraph 19 of the Town's Consent Decree. The lining of these ABSB mainlines on Puritan Road is the first step in implementing a similar rehabilitation approach to the Stacy's Brook Phase 1 area, by sealing the sewer mainlines, laterals and manholes within the Fishman's Beach catchment that are in similar depth and proximity to the drainage system.

Kleinfelder awarded the Phase 1C contract to National Water Main Cleaning Co. (NWMCC) on December 28, 2020 for a total contract price of \$1,762,773. The Town issued the Notice to Proceed on February 9, 2021, and construction activities began shortly after in March 2021.

During the current reporting period, NWMCC completed CIPP rehabilitation of 3,100 linear feet (LF) of mainline and 140 laterals, as well as cementitious rehabilitation of 573 vertical feet (VF) of manholes within the Phase 1C project scope. In addition, their subcontractors N&M Excavating and McGrath Enterprises completed open-cut repairs of 11 lateral defects. Some open-cut repairs were completed at locations on sewer mainline and laterals where structural defects would prohibit the proper installation of a CIPP lateral liner, and increase the risk of a failure. Other open-cut repairs were completed at locations where the sewer lateral connected to the chimney at the mainline using a 90-degree bend. Since CIPP lateral lining is infeasible at this connection angle to the mainline, NWMCC replaced the 90-degree connection with two (2) 45-degree bends.

Through this current reporting period, NWMCC and their subcontractors have completed all mainline CIPP rehabilitation and all open-cut repairs on sewer laterals in the Phase 1C project limits. The substantial completion date for the Phase 1C contract was July 31, 2022. In the upcoming reporting period, NWMCC will complete the remaining punch list items, including rehabilitation of various sewer manholes and laterals within the project scope. The closeout documentation is anticipated to be finalized within the next several months.

Cassidy Park Storm Drain Rehabilitation

The Cassidy Park Storm Drain is a box culvert that collects flows from the Marshall Brook drainage catchment. The catchment includes a portion of Humphrey Street from Millett Road to Pleasant Street, and several neighborhoods behind Puritan Road. The most downstream extent is a large culvert that conveys flows east to west in an easement behind Sutton Place, extends through an easement on the property of 96 Puritan Road, crosses beneath Puritan Road and daylights at Cassidy Park/Fisherman's Beach before discharging into Nahant Bay.

Recent reports of flooding from homeowners at Sutton Place have raised concerns of potential issues with the storm drain culvert. Notably, reports of surface saltwater intrusion have been reported in the properties behind addresses 4-20 on Sutton Place. These reports led to initial field investigations by the Town and Kleinfelder in the spring of 2021.

During the field investigations, Kleinfelder observed very poor structural condition on an 80 linear foot section of the reinforced concrete box culvert. The reinforced concrete walls in this section of the culvert were significantly degraded and the culvert was no longer meeting its design intent. The aggregate in the culvert's concrete walls was visible throughout the majority of this section of the culvert. Additionally, there were several large sections of missing wall and

exposed rebar. Most notably, there was a large hole in the crown of the culvert exposed to the open air. The aforementioned defects are indicative of progressive corrosion of the interior concrete walls of the culvert, which likely resulted from the salinity of the water from Nahant Bay frequently back charging into the culvert during high tide due to a failed tide gate upstream of the outfall (see additional detail below).

In addition, Kleinfelder identified during the field investigations that the stainless steel tide gate by the outfall was not sealing properly due to a detached gasket and obstructions in the invert. Kleinfelder deduced that seawater was bypassing the tide gate and back charging into the upstream culvert.

Based on these findings, the Town prioritized a prompt rehabilitation of the section of box culvert (approximately 80 linear feet). The large sections of missing wall and holes exposed the pipe to significant risk of collapse and failure. In addition, the holes created a pathway for storm water or seawater to exfiltrate from the culvert during wet weather events or high tides, contributing to localized flooding. Most importantly, the culvert's structural issues were a significant hazard to anyone who is traversing the easement as additional forces on the pipeline may have lead to failure and a serious injury.

The Town hired NWMCC to complete the repair in June 2022. NWCMM patched the holes and missing sections manually from inside the culvert with grout, and then spray applied three coats of cementitious liner on the inside of the pipeline. No digging or trenching was necessary with this rehabilitation method and only minor site restoration was required.

The rehabilitation work provided additional evidence that seawater was bypassing the tide gate. NWMCC built a temporary weir wall on the downstream end of the work limits to obstruct back charging water during high tide. In the next reporting period, the Town plans to hire a specialist to inspect the tide gate and develop a cost for the repair.

King's Beach Water Quality Engineering Study

During this reporting period, the Town of Swampscott hired Kleinfelder to initiate a regional study to develop an approach to improve water quality at King's Beach and minimize beach closures during the summer months. The engineering study aims to analyze six (6) alternative approaches to alleviate the water quality issues at King's Beach, namely the bacteria load and other pollutants associated with wastewater cross-contamination that discharge from both Lynn and Swampscott stormwater outfalls at King's Beach near the vicinity of Eastern Avenue and Lynn Shore Drive.

The following alternatives are included in the evaluation:

1. Source elimination through infrastructure improvements (e.g. rehabilitation of sewers and/or drains tributary to King's Beach)
2. Pump dry weather base flows to the Lynn Water and Sewer Commission (LWSC) wastewater treatment plant
3. Disinfection with chemical addition (e.g. chlorination / dechlorination)
4. Disinfection with ultraviolet (UV) light

5. Extend the outfall further from the shoreline
6. Relocate the outfalls along the shore where there is no public beach

There are many stakeholders interested and involved in the health of King's Beach and the intent of this project is to be a regionally adopted solution. As such, to assist in the analysis of the alternatives throughout the project a steering committee was formed that includes representatives from the following entities:

1. City of Lynn
2. LWSC
3. Town of Swampscott
4. Massachusetts Department of Environmental Protection (MassDEP)
5. Save the Harbor / Save the Bay
6. Selected consultants

The US Environmental Protection Agency (US EPA) was invited to participate in the steering process, however, the invitation was declined. US EPA personnel have been available to answer specific questions about the alternatives considered with respect to their ability to be permitted.

During this reporting period, Kleinfelder proceeded in its initial evaluation of the initial six (6) alternatives. This included gathering background information, interpreting historical flow and water quality data, and conceptual level design. The first steering committee meeting was held on May 23, 2022. It is anticipated that two additional steering committee meetings will be held to review the detailed alternatives analysis and the final recommended alternative.

In the next reporting period, Kleinfelder will complete its screening of the initial alternatives and select up to three (3) alternatives for further evaluation and conceptual design. Then, Kleinfelder plans to begin preparation of a final recommendation and Basis of Design Report.

Tracking Data Tables:

In accordance with Paragraph 33 of the Consent Decree, a series of tracking tables are presented furnishing the information requested.

- a) Chronology of SSO Events Occurring during Reporting Period
- b) Catchment Area Inspections Completed during Reporting Period
- c) Percentage of Catchment Area Investigated and Addressed
- d) Listing of Illicit Discharges Verified during Reporting Period
 - i) Illicit Connections
 - ii) Sanitary Sewer Defects
- e) Map of Location of Each Illicit Discharge Verified during Reporting Period
- f) Chart of Inspections Completed and Enforcement Actions Taken during Reporting Period
- g) List of Plans, Reports and other Submissions Required by this Consent Decree made during the Reporting Period
- h) Copies of Sampling Results Received during Reporting Period
- i) Planned Activities during the 6 Months Following the Reporting Period
- j) Summary of Non-Compliance with this Consent Decree during the Reporting Period

a) Chronology of SSO Events Occurring during Reporting Period

A map displaying the location of the SSO events that occurred during the current reporting period is included in **Appendix A**.

i.	i.	i.	ii.	iii.	iii.	iii.	iv.	iv.	v.	vi.	vii.	vii.	viii.	ix.	ix.	xi.	xii.
Date/Time Reported	Date/Time Event Stopped	Date Reported to EPA and DEP	Location	Final Disposition	Property Backup (address)	Receiving Drainage Structure	Receiving Surface Water	Location Release Reached Surface Water	Source of Notification	Cause(s) of Release	Cause = Blockage	Cause = Capacity Issue	Measures Taken to Stop Discharge	Volume of Release (Gallons)	Basis of Estimate	Measures Taken to Prevent Future SSOs	Date of Last SSO at this Location
5/29/2022 18:00	5/29/2022 20:00	5/29/2022	22 Roy Street	Overflow from sanitary sewer manhole in street.	None	Catch Basin	Kings Beach	Yes	Resident	Sewer System Blockage	Yes	No	Public Works staff removed the sewer blockage	300	Visual Estimate	None required.	None Known

b) Catchment Area Inspections completed during Reporting Period

c) Percentage of Catchment Area Investigated and Addressed

Note that this reporting is in relation to meeting the Remedial Measures stipulated in Section VII of the consent decree. In order to meet the objectives of the consent decree, the Town’s scope of work is not specifically following an IDDE Plan, but rather, is directly following the Remedial Measures themselves, and the Scope of Work for the Stacy’s Brook drainage area that was submitted to the EPA on 10/26/2015.

33.b.i, ii	Sub-Catchment Area ID	Number of Drain Manholes in Sub-Catchment	Number of Drain Manholes Inspected						Number of Drain Manholes Addressed					
			Previous Reporting Periods		This Reporting Period		To-Date		Previous Reporting Periods		This Reporting Period		To-Date	
			QTY	%	QTY	%	QTY	%	QTY	%	QTY	%	QTY	%
1	Stacey's Brook	236	21	9%	0	0%	21	9%	6	3%	0	0%	6	3%
2	Other	372	78	21%	0	0%	78	21%	0	0%	0	0%	0	0%
		TOTAL	99	16%	0	0%	99	16%	6	1%	0	0%	6	1%

33.b.iii, 33.c	Sub-Catchment Area ID	Length of Drain in Sub-Catchment	Length of Drain Inspected						Length of Drain Addressed					
			Previous Reporting Periods		This Reporting Period		To-Date		Previous Reporting Periods		This Reporting Period		To-Date	
			FT	%	FT	%	FT	%	FT	%	FT	%	FT	%
1	Stacey's Brook	55,600	21,100	38%	0	0%	21,100	38%	650	1%	0	0%	650	1%
2	Other	95,000	3,263	3%	0	0%	3,263	3%	0	0%	85	0%	85	0%
		TOTAL	24,363	16%	0	0%	24,363	16%	650	0%	85	0%	735	0%

d) Listing of Illicit Discharges Verified during Reporting Period

										Total Volume Removed (Gallons)							
										Prior Reporting Periods	271,376						
										This Reporting Period	300						
										Cumulative To Date	271,676						
Discharge Type	Date Verified	Location / Address	SOURCE if: Building Type	SOURCE if: Sewer Exfiltration	Estimated Flow (GPM)	Actions Taken to Remove	Date Removed	Cost to Remove	Volume Removed (Gallons) (Reporting Period)	Actively Discharging > 60 Days	Explanation	Schedule for Removal	Private Discharges Persisting > 90 days	Town's Legal Enforcement Actions	Reasons for Delay		
Paragraph ->	i.	i.	i.	i.	ii.	iii.	iv.	v.	vi.	vii.	vii.	viii.	ix.	ix.	x.		
Sewer Blockage	5/29/2022	22 Roy St	Public - Sewer Manhole	Overflow from sewer manhole due to sewer blockage	not estimated	Town staff removed the sewer blockage	5/29/2022	unknown	300	No	n/a	completed	no	None	n/a		
Sewer Defect	4/8/2022	42 Thomas Rd	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	4/8/2022	unknown	unknown	No	n/a	completed	No	None	n/a		
Sewer Defect	4/4/2022	86 Paradise Rd	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	4/4/2022	unknown	unknown	No	n/a	completed	No	None	n/a		
Sewer Defect	3/28/2022	233 Burrill St	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	3/28/2022	unknown	unknown	No	n/a	completed	No	None	n/a		
Sewer Defect	2/11/2022	284 Forest Ave	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	2/11/2022	unknown	unknown	No	n/a	completed	No	None	n/a		
Sewer Defect	2/4/2022	44 Elmwood Rd	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	2/4/2022	unknown	unknown	No	n/a	completed	No	None	n/a		

e) Map of Location of Each Illicit Discharge Verified during Reporting Period

A map showing the locations of all illicit discharges and SSOs is included in **Appendix A**.

f) Chart of Inspections Completed and Enforcement Actions Taken during Reporting Period

Due to a change of Town staff members during this reporting period, these items were accidentally not tracked and therefore cannot be reported. The items are currently being tracked once again and will be included in the next bi-annual report.

g) List of Plans, Reports and other Submissions Required by this Consent Decree made during the Reporting Period

Submission Description	Date Completed	Consent Decree Paragraph Reference
Bi-Annual Progress Report	3/1/2022	18
Annual GIS Mapping Update	2/1/2022	26

h) Copies of Sampling Results Received during Reporting Period

There was no sampling completed during the reporting period.

i) Planned Activities during the 6 Months Following the Reporting Period

During the period August 1, 2022 through January 31, 2023 the following activities are anticipated:

- Complete the construction of Phase 1C sewer rehabilitation improvements in the Stacy's Brook area.
- Hire a specialist to complete a professional evaluation of Cassidy Park tide gate.
- Further the analysis of alternatives for the King's Beach water quality engineering study.

j) Summary of Non-Compliance with this Consent Decree during the Reporting Period

There has been no non-compliance during this report period.

Appendix A

SSO and Illicit Discharge Map



LEGEND

TYPE

- ★ ILLICIT DISCHARGE
- ★ SSO
- Chlorination Facility
- ▲ MS4 Outfall
- Catch Basin
- Drain Manhole
- Drain Culvert
- Drain Pipe
- Underdrain Manhole
- Sewer Manhole
- Sewer Pump Station
- Sewer - Gravity
- Sewer - Force Main
- Under Drains

303d Listed Waters

- ▨ Fish Consumption, Not Supporting
- ▨ Shellfish Harvesting, Not Supporting
- Water Bodies
- Parcels
- Town Borders



The information contained on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Therefore, the user is advised to verify the accuracy, completeness, timeliness, or any other information contained on this graphic representation in the field before relying on the information for any purpose.

PROJECT NO.	20192126
DRAWN:	9/1/2022
DRAWN BY:	JVR
CHECKED BY:	DFS
FILE NAME:	Compliance Reporting

APPENDIX A
ILLICIT DISCHARGE & SSO LOCATIONS
REPORTING PERIOD: 2/1/22 TO 7/31/22

EPA Consent Decree
 Swampscoot, Massachusetts