State of New Jersey

PHIL MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
Bureau of Surface Water & Pretreatment Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

SHAWN M. LATOURETTE
Commissioner

Via Email Only
March 10, 2025

Rich Haytas, Chief Engineer
Jersey City Municipal Utilities Authority
555 Route 440
Jersey City, New Jersey 07305

Re: Draft Surface Water Renewal Permit Action
Category: CSM - Combined Sewer Management (IP)
NJPDES Permit No. NJ0108723
Jersey City Municipal Utilities Authority
Jersey City, New Jersey 07305, Hudson County

Dear Rich Haytas:

Enclosed is a **draft** NJPDES permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. This existing facility owns/operates twenty-one (21) combined sewer overflow (CSO) outfalls which are equipped with solids/floatables controls. These CSO outfalls discharge into Penhorn Creek (classified as FW2-NT (C2) waters) and the Hackensack River (classified as SE2 (C2) waters).

This renewal permit serves to assess the permittee's compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. This renewal permit also serves to implement the requirements of the coordinated Long Term Control Plan prepared by the Passaic Valley Sewerage Commission (NJ0021016), the City of Bayonne (NJ0109240), the Borough of East Newark (NJ0117846), the Town of Harrison (NJ0108871), Jersey City Municipal Utilities Authority (NJ0108723), the Town of Kearny (NJ0111244), the City of Newark (NJ0108758), North Bergen Municipal Utilities Authority (NJ0108898), and the City of Paterson (NJ0108880) dated October 2020.

Notice of this draft permit action will appear on the Division of Water Quality's website at www.nj.gov/dep/dwq, in *The Herald News* and *Star Ledger,* and in the March 19, 2025 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at http://www.state.nj.us/dep/bulletin. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close on May 14, 2025. As detailed in the *DEP Bulletin* and aforementioned newspaper, written comments on the draft document must be submitted in writing to Brett Callanan, Chief, Mail Code 401-02B, Bureau of Surface Water and Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period. Comments via email are also acceptable and can be sent to Josie.Castaldo@dep.nj.gov and/or dwq_bswp@dep.nj.gov.

All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period. Specific information regarding the draft document may be obtained from Josie Castaldo of the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860. Take notice that the Department will be holding a non-adversarial virtual public hearing to afford the public an opportunity to be heard on this proposed action consistent with N.J.A.C. 7:14A-15.12. Details are provided within the public notice as attached. The Department will respond to all significant and

timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the Department's final decision to issue, revoke, or redraft the document respond to all significant and timely comments upon issuance of the final document.

If you have questions or comments regarding the draft action, please contact Josie Castaldo either by phone at (609) 292-4860 or email at Josie.Castaldo@dep.nj.gov.

Sincerely,

Dwayne Kobesky
Environmental Specialist 4
Bureau of Surface Water and Pretreatment Permitting

Enclosures

c: Permit Distribution List
Masterfile #: 38217; PI #: 47745

EXECUTIVE SUMMARY

Jersey City Municipal Utilities Authority
CSO Permit

In 2015, the NJDEP issued an individual NJPDES CSO permit to the Jersey City Municipal Utilities Authority (MUA). The permit required PVSC to create a single, coordinated Long Term Control Plan (LTCP) with Passaic Valley Sewerage Commission (PVSC), City of Bayonne, Borough of East Newark, Town of Harrison, Town of Kearny, City of Newark, North Bergen MUA, and City of Paterson. The LTCP has been reviewed by the NJDEP and is being incorporated into this permit.

As per the LTCP, PVSC, City of Bayonne, Borough of East Newark, Town of Harrison, Jersey City MUA, Town of Kearny, City of Newark, North Bergen MUA and City of Paterson have selected to comply with the Federal CSO Control Policy through the Presumption Approach of elimination or capture of a minimum of 85% of the annual average combined sewage collected in the entire system during wet weather. Subsequent CSO permits, issued every five years, will include requirements to implement the next five years of CSO projects as detailed in the LTCP.

This permit builds upon the Public Participation requirements in the 2015 permit through inclusion of Public Engagement. Specifically, this section includes robust requirements pertaining to Environmental Justice through solicitation of input by overburdened communities, notably in the siting of green infrastructure projects.

This permit also includes specific requirements pertaining to climate change such as the required preparation of a Vulnerability Analysis as part of an Emergency Plan to ensure the effective operation of the treatment works and facilities under emergency conditions, including those due to climate change. Floodproofing, climate change, and resiliency are incorporated in the design of CSO projects.

Table of Contents for the Draft Permit

This permit package contains the items below:

1. **Cover Letter**
2. **Executive Summary**
3. **Table of Contents**
4. **List of Acronyms**
5. **Public Notice**
6. **Fact Sheet**
7. **USGS Map**
8. **Map of Combined Versus Separate Sewer System**
9. **Map of Flood Areas**
10. **NJPDES Permit Authorization Page**
11. **Part I – General Requirements: NJPDES**
12. **Part II – General Requirements: Discharge Categories**
13. **Part III – Limits and Monitoring Requirements**
14. **Part IV – Specific Requirements: Narrative**
15. **Appendix A: Design Standards for Designed Storm Drain Inlets**

List of Acronyms

ACR	Acute to Chronic Ratio
AL	Action Level
AML	Average Monthly Limitation
BMP	Best Management Practices
BPJ	Best Professional Judgement
CAP	Capacity Assurance Program
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWEA/CWA	Clean Water Enforcement Act/Clean Water Act
Department	New Jersey Department of Environmental Protection
DGW	Discharge to Groundwater
DMR	Discharge Monitoring Report
DRBC	Delaware River Basin Commission
DSN	Discharge Serial Number
DSW	Discharge to Surface Water
EDP/M	Effective Date of the Permit/Permit Modification
EEQ	Existing Effluent Quality
ELG	Effluent Limitation Guideline
g/d or g/day	Grams per Day
IEC	Interstate Environmental Commission
IPP	Industrial Pretreatment Program
kg/d or kg/day	Kilograms per Day
LTA	Long Term Average
MA1CD10 or 1Q10	Minimum average one day flow with a statistical recurrence interval of ten years
MA7CD10 or 7Q10	Minimum average seven consecutive day flow with a statistical recurrence interval of ten years
MA30CD5 or 30Q5	Minimum average 30 consecutive day flow with a statistical recurrence interval of five years
mg/L	Milligrams per Liter
MDL	Maximum Daily Limitation
MGD	Million Gallons per Day
MRF	Monitoring Report Form
NAICS	North American Industry Classification System
NPDES/NJPDES	National/New Jersey Pollutant Discharge Elimination System
NJR	New Jersey Register
PCB	Polychlorinated Biphenyls
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
RPMF	Reasonable Potential Multiplying Factor
RTR	Residuals Transfer Report
RQL	Recommended Quantification Levels
RWBR	Reclaimed Water for Beneficial Reuse
SIC	Standard Industrial Classification
SIU	Significant Indirect User
SQAR	Sludge Quality Assurance Regulations
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load
TR	Total Recoverable
TRIR	Toxicity Reduction Implementation Requirements
USEPA TSD	USEPA Technical Support Document for Water Quality Based Toxics Control (EPA/505/2-90-001, March 1991)
µg/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
WCR	Wastewater Characterization Report
WER	Water Effects Ratio
WLA	Wasteload Allocation
WWTP	Wastewater Treatment Plant
WQBEL	Water Quality Based Effluent Limitation

List of CSO Acronyms

CMP	Compliance Monitoring Program
CSM	Combined Sewer Management
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DEAR	Development and Evaluation of Alternatives Report
DWO	Dry Weather Overflow
FCA	Financial Capability Analysis
I/I	Infiltration/Inflow
H&H	Hydrologic and Hydraulic
LTCP	Long Term Control Plan
MHI	Median Household Income
NJIB	New Jersey Infrastructure Bank
NJHDG	New Jersey Harbor Dischargers Group
NMC	Nine Minimum Controls
O&M	Operation and Maintenance
PCCMP	Post Construction Compliance Monitoring Program
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RI	Residential Indicator
S/F	Solids/Floatables
SOPs	Standard Operating Procedures
SRF	State Revolving Fund
STP	Sewage Treatment Plant
TWA	Treatment Works Approval

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water and Pretreatment Permitting

PUBLIC NOTICE

Notice is hereby given that the New Jersey Department of Environmental Protection (Department) proposes to renew the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) Combined Sewer Overflow (CSO) permits in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharges:

Permittees	**Facilities**
Passaic Valley Sewerage Commission (PVSC) 600 Wilson Avenue Newark, NJ 07105 NJPDES Permit No.: NJ0021016	Passaic Valley Sewerage Commission (PVSC) 600 Wilson Avenue Newark, NJ 07105 Essex County
City of Bayonne 630 Avenue C Bayonne, NJ 07002 NJPDES Permit No.: NJ0109240	City of Bayonne CSOs 630 Avenue C Bayonne, NJ 07002 Hudson County
Borough of East Newark 34 Sherman Avenue East Newark, NJ 07029 NJPDES Permit No.: NJ0117846	Borough of East Newark CSOs 34 Sherman Avenue East Newark, NJ 07029 Essex County
Town of Harrison 318 Harrison Avenue Harrison, NJ 07029 NJPDES Permit No.: NJ0108871	Town of Harrison CSOs 318 Harrison Avenue Harrison, NJ 07029 Essex County
Jersey City Municipal Utilities Authority 555 Route 440 Jersey City, NJ 07305 NJPDES Permit No.: NJ0108723	Jersey City Municipal Utilities Authority CSOs 555 Route 440 Jersey City, NJ 07305 Hudson County
Town of Kearny 402 Kearny Avenue Kearny, NJ 07032 NJPDES Permit No.: NJ0111244	Town of Kearny CSOs 402 Kearny Avenue Kearny, NJ 07032 Essex County
City of Newark 920 Broad Street, Room B31F Newark, NJ 07102 NJPDES Permit No.: NJ0108758	City of Newark CSOs 920 Broad Street, Room B31F Newark, NJ 07102 Essex County
North Bergen Municipal Utilities Authority 4223 Kennedy Boulevard North Bergen, NJ 07047 NJPDES Permit No.: NJ0108898	North Bergen Municipal Utilities Authority CSOs 4223 Kennedy Boulevard North Bergen, NJ 07047 Hudson County
City of Paterson 155 Market Street Paterson, NJ 07505 NJPDES Permit No.: NJ0108880	City of Paterson CSOs 155 Market Street Paterson, NJ 07505 Passaic County

Combined Sewer Overflows (CSOs) are discharges from Combined Sewer Systems (CSSs). CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. The above referenced permittees own portions of the hydraulically connected combined sewer system which flows to the PVSC. These subject NJPDES permit renewals are issued to the above referenced permittees and serve to assess compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

PVSC provides wastewater treatment and transportation services for wastewater collected in an approximately 150 square mile service area which serves about 1.5 million people in 48 municipalities within Bergen, Hudson, Essex, Passaic, and Union Counties. The wastewater treatment plant (WWTP) owned and operated by PVSC is designed to treat an annual average of 330 million gallons per day (MGD). PVSC owns, operates, and maintains parts of the system that conveys wastewater, such as a 22-mile main interceptor sewer line. The PVSC Treatment District stretches from Newark Bay to regions of the Passaic River Basin upstream of the Great Falls in Paterson. Of the 48 municipalities served by PVSC, eight have CSSs which are hydraulically connected to PVSC. There are many regulators within the conveyance system that lead to the WWTP which serve to regulate the conveyance of wet weather flow. During periods of wet weather, these regulators are controlled to protect the plant where excess flows of untreated sewage and stormwater are discharged through CSO outfalls. Combined sewage is also pumped directly to PVSC through the Hudson County Force Main.

Separate NJPDES permits are being issued to PVSC and the eight municipalities. The CSO Long Term Control Plan (LTCP) as submitted cooperatively by PVSC and the eight municipalities, includes projects and timelines that will reduce discharges from CSO outfalls in these municipalities based upon the Presumption Approach consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

The City of Bayonne discharges combined sewage from 28 CSO outfalls equipped with solids/floatables removal equipment to the Kill Van Kull and Newark Bay (classified as SE3(C2)) as well as to the Upper New York Bay (classified as SE2(C2)). Jersey City MUA discharges combined sewage from 21 CSO outfalls equipped with solids/floatables removal equipment to Penhorn Creek (classified as FW2-NT(C2)) and the Hackensack River (SE2-(C2)). North Bergen MUA discharges combined sewage from 9 CSO outfalls equipped with solids/floatables removal equipment into Bellmans Creek, Cromakill Creek, and Penhom Creek (classified as SE2(C2)). Combined sewage from City of Bayonne, Jersey City, and the Town of North Bergen is pumped through the Hudson County Force Main to PVSC.

The Borough of East Newark discharges combined sewage from 1 CSO outfall equipped with solids/floatables removal equipment to the Passaic River (classified as SE3(C2)). The Town of Harrison discharges combined sewage from 6 CSO outfalls equipped with solids/floatables removal equipment to the Passaic River (classified as SE3(C2)). The Town of Kearny discharges combined sewage from 5 CSO outfalls equipped with solids/floatables removal equipment to the Passaic River and the Lower Passaic River Unnamed Tributary (Frank's Creek) (classified as SE3(C2)). Combined sewage from these municipalities flows through the PVSC main interceptor line to the PVSC.

The City of Newark discharges combined sewage from 18 CSO outfalls equipped with solids/floatables removal equipment. The CSO outfalls discharge into the Passaic River (classified as SE3(C2)) and the Elizabeth Channel (classified as SE3(C2)). The City of Paterson discharges combined sewage from 23 CSO outfalls, where 19 of these outfalls are equipped with solids/removal equipment, to the Passaic River (classified as FW2-NT(C2)). Combined sewage from these municipalities flows through the PVSC main interceptor line to PVSC.

PVSC discharges treated and disinfected domestic wastewater with industrial contribution into the Upper New York Harbor (classified as SE2(C2)) and Upper Newark Bay (classified SE3(C2)). These water bodies are located within the NY/NJ Harbor Complex Basin and are both tributaries to the Lower New York Bay. The existing facility has a NJPDES flow value of 330 million gallons per day (MGD) on an annual average and currently discharges a monthly average flow of approximately 237 MGD.

Modification provisions as cited in the permit may be initiated in accordance with the provisions set forth in Part IV and upon written notification from the Department.

Draft NJPDES permit renewals have been prepared for these facilities based on the administrative record which is on file at the offices of the Department, located at 401 East State Street, Trenton, New Jersey. It is available for inspection, by appointment, Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection may be requested through the Office of Records Access. Details are available online at www.nj.gov/dep/opra, or by calling (609) 341-3121. Copies of the draft permits are available on the Department's Division of Water Quality website at www.nj.gov/dep/dwq.

Comments may be submitted in writing to Brett Callanan, Chief, or Attention: Comments on Public Notice, specifically noted as comments on NJ0109240, NJ0108871, NJ0111244, NJ0108898, NJ0117846, NJ0108723, NJ0108758, NJ0108880, or NJ0021016, at Mail Code 401-02B, Division of Water Quality, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period. Comments via email are also acceptable and can be sent to dwq_bswp@dep.nj.gov. Comments shall be postmarked by the date the public comment period closes. All persons, including the applicant, who believe that any condition of these draft documents is inappropriate or that the Department's decision to issue these draft documents is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period. Specific information regarding the draft documents may be obtained from the Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860 or by email as follows:

Passaic Valley Sewerage Commission	Robert Hall	Robert.Hall@dep.nj.gov
Jersey City Municipal Utilities Authority, North Bergen Municipal Utilities Authority, City of Paterson	Josie Castaldo	Josie.Castaldo@dep.nj.gov
City of Bayonne, Town of Harrison, Town of Kearny	Molly Jacoby	Molly.Jacoby@dep.nj.gov
Borough of East Newark, City of Newark	Adam Sarafan	Adam.Sarafan@dep.nj.gov

Take notice that the Department will be holding four non-adversarial public hearings to solicit public comment on the nine (9) draft permits. Two virtual public hearings will be held on April 14, 2025 from 10:00 AM to 12:00 PM, then again from 6:00 PM to 8:00 PM (or end of testimony, whichever comes first). These hearings will be conducted virtually via the Department's video conferencing software (i.e., Microsoft Teams). A link and a telephone number to the virtual public hearings will be provided on the Department's Combined Sewer Overflow Public Engagement website at https://dep.nj.gov/dwq/combined-sewer-overflow/community-involvement/ under CSO Virtual Public Hearings. Two in-person public hearings will be held at LeRoy Smith Public Safety Building, Sheila Oliver Conference Room, 14th Floor, 60 Nelson Place, Newark, NJ on April 16, 2025 from 10:00 AM to 12:00 PM, then again from 5:00 PM to 7:00 PM (or end of testimony, whichever comes first). All hearings will be held before a Hearing Officer designated by the Department. The permittees and other interested persons will have the opportunity to present and submit information on the proposed actions. The purpose of these hearings is to provide the public with an opportunity to be heard on these proposed draft permit actions where both verbal and written statements will be given equal weight.

The comment period will close on May 14, 2025 at 11:59 PM.

The Department will respond to all significant and timely comments upon issuance of the final documents. The permittee and each person who has submitted written comments will receive notice of the Department's permit decision.

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water & Pretreatment Permitting

FACT SHEET

Masterfile #: 38217 **PI #:** 47745

This fact sheet sets forth the principal facts and the significant factual, legal, and policy considerations examined during preparation of the draft permit. This action has been prepared in accordance with the New Jersey Water Pollution Control Act and its implementing regulations at N.J.A.C. 7:14A-1 et seq. - The New Jersey Pollutant Discharge Elimination System.

PERMIT ACTION: Surface Water Renewal Permit Action

The permittee has applied for a NJPDES Surface Water Renewal Permit Action through an application received January 29, 2020.

1 Name and Address of the Applicant

Jersey City Municipal Utilities Authority
555 Route 440
Jersey City, New Jersey 07305

2 Name and Address of the Facility/Site

Jersey City Municipal Utilities Authority
Combined Sewer Collection System
Jersey City, New Jersey 07305
Hudson County

3 NJPDES CSO Permit and Policy Background

Jersey City is served by a combined sewer collection system (CSS) which is hydraulically connected to the Passaic Valley Sewerage Commission (PVSC) Wastewater Treatment Plant (WWTP). This subject renewal permit action is issued to the Jersey City Municipal Utilities Authority (JCMUA) who owns/operates 21 CSO outfalls. A separate NJPDES permit is issued to the other permittees that share the hydraulically connected system which includes the City of Bayonne, Borough of East Newark, the Town of Harrison, Jersey City Municipal Utilities Authority, the City of Newark, North Bergen Municipal Utilities Authority, the City of Paterson, and PVSC.

CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. New CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a waterbody. However, during periods of rainfall or rainfall with snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSO outfalls to nearby streams, rivers, or other water bodies.

Historically, the control of CSOs has proven to be extremely complex. To address these challenges, EPA's Office of Water issued a National Combined Sewer Overflow Control Strategy (CSO Strategy) on August 10, 1989 (54 Federal Register 37370). Five years later, EPA issued the National CSO Control Policy (Federal CSO Control Policy) on April 9, 1994, which remains the current national framework for control of CSOs. The Department incorporated the Federal CSO Control Policy verbatim into its regulations at N.J.A.C. 7:14A-11 – Appendix C. As such, CSO controls are also required by the NJPDES Regulations. The Federal CSO Control Policy and NJPDES Regulations establish procedures for permittees and state authorities on coordinating the planning, selection and implementation of CSO controls. It promotes a phased approach to the control of CSOs through a series of permits that include progressively more stringent requirements. In the Wet Weather Quality Act of 2000, Congress amended the Clean Water Act to incorporate the Federal CSO Control Policy. As amended, the Clean Water Act requires that all permits, orders and decrees issued to regulate combined system overflows must comply with the Federal CSO Control Policy. 33 U.S.C.

1342(q)(1). The Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C include Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) conditions.

CSOs can contain suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS) which may pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of the State's waterways.

Combined sewage that drains to the collection system can cause large spikes in influent flow levels to PVSC when certain precipitation conditions (e.g. heavy rain) occur. While the majority of the collection system for the City of Bayonne, Borough of East Newark, the Town of Harrison, the Town of Kearny, JCMUA, the City of Newark, NBMUA and the City of Paterson is a combined sewer system, a portion of the collection systems consists of separate sewers (i.e., a separate pipe for stormwater and a separate pipe for sewage).

The NJPDES permit issued to JCMUA on March 12, 2015 and effective on July 1, 2015 (2015 NJPDES CSO permit) required submission of a LTCP consistent with the Federal CSO Control Policy and NJPDES Regulations. This permit was subsequently modified for certain conditions as detailed in the Contents of the Administrative Record and as identified within this fact sheet.

The City of Bayonne, Borough of East Newark, Town of Harrison, JCMUA, Town of Kearny, City of Newark, NBMUA, City of Paterson, and PVSC submitted a single, coordinated LTCP dated October 2020 and entitled "Section and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems – Regional Report." This subject permit action serves to incorporate CSO control strategies to achieve a minimum wet weather percent capture value as outlined in the CSO LTCP. The jointly coordinated October 2020 LTCP presented two alternatives, a regional (referred to as the "Regional Alternative") and a municipal (referred to as the "Municipal Alternative") as contained within the individual appendices. This renewal permit incorporates the Regional Alternative. The LTCP was certified by each permittee through a certification statement as required in the 2015 NJPDES CSO permit as per Part IV.D.1.b.

Under the Regional Alternative, the 85% capture criterion is achieved across the entire PVSC District as a combined effort from all permittees. Under the Municipal Alternative, each permittee independently implements CSO control technologies to achieve at least 85% capture by volume of wet weather flow from the combined sewer system within the permittee's geographic boundaries. Note that the Town of Kearny did not elect to join in the submission of the Regional Alternative and will be implementing CSO controls on a municipal basis.

PVSC operates and maintains a wastewater treatment plant located in the City of Newark which provides wastewater treatment and transportation services in an approximately 150 square mile area and serves about 1.5 million people in 48 municipalities within Bergen, Essex, Hudson, Passaic, and Union Counties. The wastewater treatment plant owned and operated by PVSC is designed to treat an annual average of 330 million gallons per day (MGD). The PVSC Treatment District stretches from Newark Bay to regions of the Passaic River Basin upstream of the Great Falls in Paterson Of the 48 municipalities served by PVSC, the City of Bayonne, Borough of East Newark, Town of Harrison, City of Jersey City (Jersey City Municipal Utilities Authority (JCMUA)), Town of Kearny, City of Newark, Town of North Bergen (North Bergen Municipal Utilities Authority (NBMUA)), and the City of Paterson are served by CSSs which are hydraulically connected to the PVSC Water Resource Recovery Facility (WRRF) (i.e., wastewater treatment plant). Separate NJPDES permits are issued to these municipalities that are the owners/operations of Combined Sewer Overflow (CSO) outfalls that share the hydraulically connected system and to PVSC.

4 Climate Change and Environmental Justice

A. Climate Change:

The State of New Jersey and the Department are working to address and mitigate the impacts of climate change. Climate change, a result of rising atmospheric levels of carbon dioxide and other greenhouse gases, is causing

significant direct and secondary changes in New Jersey's environment. Many of these changes are projected to worsen in coming years. These climate changes include increases in temperature, increases and variability in precipitation, frequency and intensity of storms, sea-level rise, ocean acidification, and associated impacts to both natural and built environments, ecological systems, human health, and the economy. Additional information is available here: https://www.nj.gov/dep/climatechange/.

The State of New Jersey is working to reduce and respond to climate change, including through enhanced water infrastructure resilience measures. This NJPDES permit requires measures to prepare for and respond to the effects of climate change, including: Adaptive Management provisions, the preparation of an Emergency Plan (including Vulnerability Analysis and Asset Management requirements), and annual precipitation analyses over the life of the permit. The requirements of this permit may be modified or updated at the discretion of the Department as technology, information, and legal or regulatory requirements relating to climate change continue to develop.

B. Environmental Justice:

Pursuant to New Jersey's Environmental Justice Law, N.J.S.A. 13:1D-157, et seq., it is the policy of the State that all residents, regardless of income, race, ethnicity, color, or national origin, have a right to live, work, learn, and recreate in a clean and healthy environment, and that no community should bear a disproportionate share of the adverse environmental and public health consequences that accompany the State's economic growth. To further the promise of environmental justice, it is the policy of the State that all New Jersey communities, and especially those disproportionately affected by environmental and public health stressors, must have a meaningful opportunity to participate in decision-making that affects their environment, communities, homes, and health.

Consistent with the objectives of the Environmental Justice Law and, as required by the Federal CSO Control Policy and NJPDES Regulations, the NJPDES permit has been subjected to an extensive public participation process throughout the three steps of the LTCP process which has continued as part of the preparation of this renewal permit. This is summarized and described in Part IV.G.2 where the goal is to continue meaningful engagement and opportunities in permitting decisions. Prior to issuance of this draft NJPDES permit, the Department held stakeholder sessions on the topics of Public Engagement, Environmental Justice, Climate Change and CSO Metrics on December 7, 2021, January 13, 2022, February 10, 2022 and February 17, 2022, respectively. A stakeholder meeting was also held on October 6, 2022 regarding permitting concepts. In addition, the Department is holding a public hearing for this NJPDES permit as detailed within the public notice with a 60-day public comment period consistent with N.J.A.C. 7:14A-15.10.

5 Facility Description

A. Overview of Hydraulically Connected System:

PVSC provides wastewater treatment service to 48 municipalities within Bergen, Hudson, Essex, Union and Passaic counties in the Passaic Valley Treatment District located in Northeast New Jersey. In total, PVSC currently services approximately 1.5 million people, 198 significant industrial users and 5,000 commercial customers.

PVSC owns and operates a wastewater treatment plant in the City of Newark. The PVSC Treatment District is comprised of combined and separate sewer areas that contribute flow to the PVSC WRRF. The combined sewer areas include several different municipalities who own and operate the CSSs and the combined sewer outfalls located within their jurisdiction. Refer to Figure C-2 from the LTCP which shows the municipalities and the type of sewer network they operate:

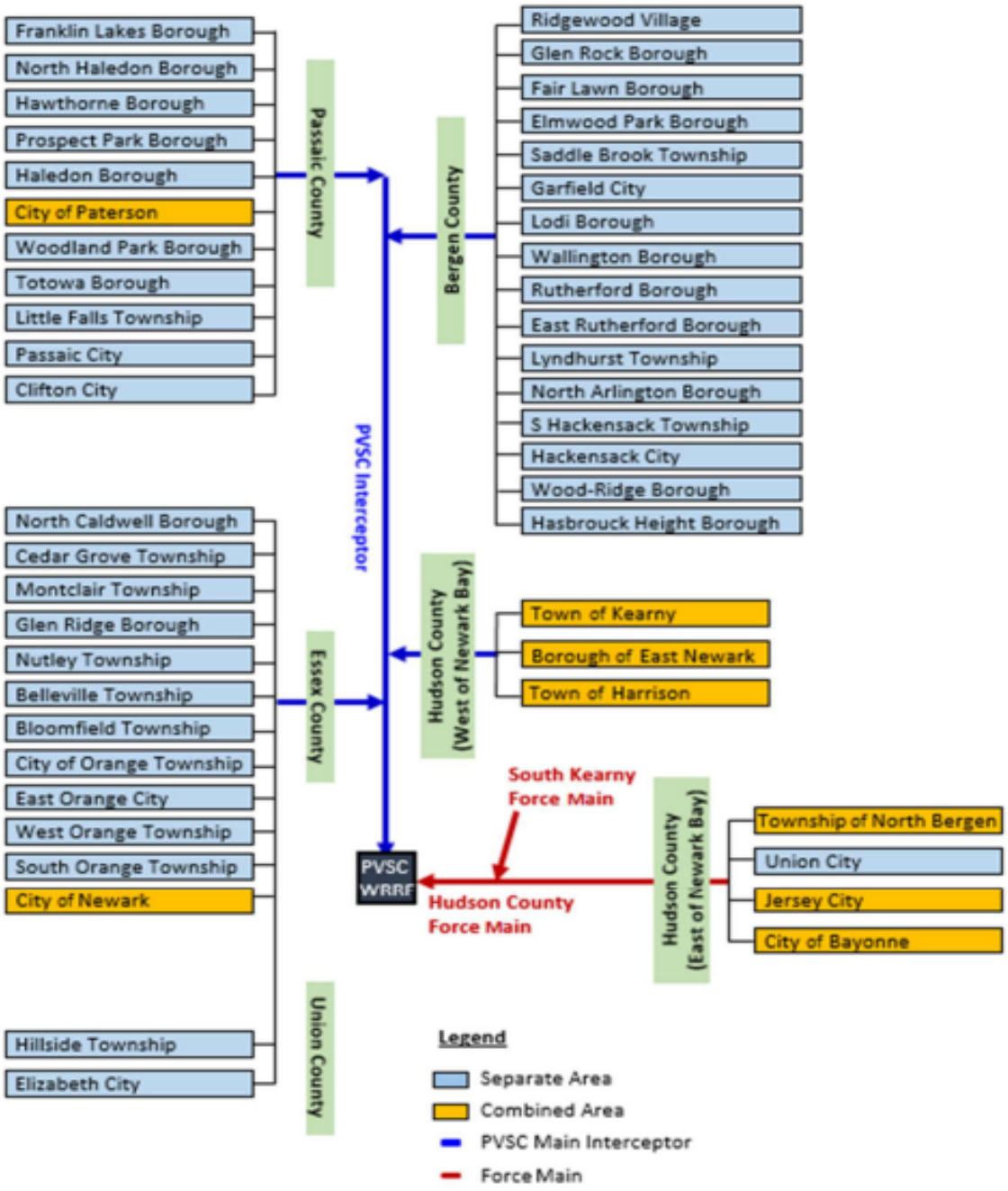


Figure C-2: PVSC Member Municipalities

PVSC owns, operates and maintains parts of the system that convey wastewater, such as the Main Interceptor, various branch interceptor sewers, and several pumping stations. The Main Interceptor begins at Prospect Street in Paterson and generally follows the alignment of the Passaic River to the wastewater treatment plant designated as the PVSC WRRF. The Main Interceptor is approximately 22 miles long and ranges from 3.75 to 12.5 feet in diameter.

The WRRF receives flow from three sources: the Main Interceptor Sewer, the South Side Interceptor, and the Hudson County Force Main (HCFM). There are many regulators within the conveyance system that lead to the WRRF which serve to regulate the conveyance of wet weather flow. During periods of wet weather, these

regulators are controlled to protect the plant where excess flows of untreated sewage and stormwater are discharged through CSO outfalls.

Eight (8) of the 48 municipalities within the PVSC Treatment District have CSSs and have received authorization to discharge under their respective NJPDES CSO Permits. The eight PVSC CSO Permittees include:

- City of Newark (NJ0108758)
- Borough of East Newark (NJ0117846)
- Town of Kearny (NJ0111244)
- Town of Harrison (NJ0108871)
- City of Paterson (NJ0108880)
- City of Bayonne (NJ0109240) (Bayonne Municipal Utilities Authority was dissolved in 2016 and the City of Bayonne now owns its CSS)
- Jersey City Municipal Utilities Authority (JCMUA) (NJ0108723)
- North Bergen Municipal Utilities Authority (NBMUA) (NJ0108898)

Combined sewers from these eight municipalities within the PVSC Treatment District collect surface runoff from the combined sewer service area. The eight municipalities, their service area acreage, and the number of CSO outfalls are listed in Table C-1 below, from the October 2020 LTCP. All eight municipalities are authorized to discharge under their respective NJPDES Permits for Combined Sewer Management. PVSC owns and operates CSO Facilities such as regulators, and netting facilities.

Table C-1: Combined and Separate Sewer Service Area Municipalities

Municipality/Sewer Authority	Contributing area (acres)		Total Contributing Area (acres) [1]	Number of CSOs Located within Service Area
	Combined Sewer	Separate Storm Sewer		
City of Bayonne	1,706	36	1,742	28
Borough of East Newark	62	0	62	1
Town of Harrison[2]	423	354	771	6
Jersey City MUA[3]	5,365	66	5,365	21
Town of Kearny	1,243	2,763	4,006	5
City of Newark	7,153	2,883	10,036	18
North Bergen MUA[4]	1,552	39	1,591	9
City of Paterson	4,595	600	5,195	23
Subtotal	**22,099**	**6,675**	**28,774**	**111**
40 Separate Sanitary Municipalities	--	55,214	55,214	--
Total	**22,099**	**61,889**	**83,988**	**111**

Note:

1. The total acreage in the table above includes only the subcatchment areas in the model that contribute flow to the PVSC WRRF. The acreage does not include rivers, creeks or unsewered areas within a municipality.
2. Harrison's NJPDES permit initially included 7 outfalls. NJDEP issued Harrison a minor modification NJPDES permit action on June 25, 2018 to remove Dey Street outfall 004A.
3. Jersey City provided details of this information separately as part of its System Characterization Report.
4. NBMUA (Woodcliff) and Guttenberg provided this information separately as part of its System Characterization Report.

The City of Bayonne discharges combined sewage from 28 CSO outfalls to the Kill Van Kull and Newark Bay (classified as SE3(C2)) as well as to the Upper New York Bay (classified as SE2(C2)). JCMUA discharges combined sewage from 21 CSO outfalls to Penhorn Creek (classified as FW2-NT(C2)) and the Hackensack River (SE2-(C2)). NBMUA discharges combined sewage from 9 CSO outfalls into Bellmans Creek, Cromakill Creek, and Penhorn Creek (classified as SE2(C2)). Combined sewage from the City of Bayonne, Jersey City and North Bergen is pumped through the Hudson County Force Main to PVSC.

The Borough of East Newark discharges combined sewage from 1 CSO outfall to the Passaic River (classified as SE3(C2)). The Town of Harrison discharges combined sewage from 6 CSO outfalls to the Passaic River (classified as SE3(C2)). The Town of Kearny discharges combined sewage from 5 CSO outfalls to the Passaic River and the Lower Passaic River Unnamed Tributary (Frank's Creek) (classified as SE3(C2)). Combined sewage from these municipalities flows through the PVSC main interceptor line to the PVSC.

City of Newark discharges combined sewage from 18 CSO outfalls. The CSO outfalls discharge into the Passaic River (classified as SE3(C2)) and the Elizabeth Channel (classified as SE3(C2)). The City of Paterson discharges combined sewage from 23 CSO outfalls to the Passaic River (classified as FW2-NT(C2)). Combined sewage from these municipalities flows through the PVSC main interceptor line to PVSC. PVSC is the

owner of CSO Outfall 032A located at Hudson Street in Paterson, New Jersey. In an agreement between the City of Paterson and PVSC dated October 2003, the City of Paterson agreed to accept responsibility for the operation and maintenance of the solids/floatables control facility constructed at Hudson Street and agreed to accept permit responsibility for Outfall 032A.

B. <u>The Regional Alternative</u>:

As referenced above, the October 2020 LTCP presented the Regional Alternative whereby compliance with the requirements of the Federal CSO Control Policy would be measured collectively across the entire PVSC district. Though the October 2020 LTCP, PVSC, the Cities of Bayonne, Newark, and Paterson, the Borough of East Newark, the Town of Harrison, and the Jersey City and North Bergen Municipal Utilities Authorities selected the Regional Alternative as set forth in Tables ES-1 and H-4 of the LTCP. This renewal permit incorporates the Regional Alternative. In its appendices, the LTCP presented a separate approach, the Municipal Alternative, whereby municipal permittees could satisfy the Federal CSO Control Policy requirements within their individual geographic boundaries. The Town of Kearny selected the Municipal Alternative as set forth in Tables ES-1 and H-4 of the LTCP. In terms of CSO controls, the primary difference between the Regional and Municipal Alternatives is the construction of a new interceptor parallel to the existing main interceptor within the Regional Alternative. Construction of the parallel interceptor, together with local CSO control technologies implemented in individual municipalities by individual municipal permittees, constitutes the Regional Alternative. As proposed in the October 2020 LTCP, the parallel interceptor will run for four to five miles within the City of Newark and will convey additional wet weather flows to the treatment plant and act as CSO storage.

As the permitting authority, the Department has determined that approval and implementation of the Regional Alternative aligns with the objectives and requirements of applicable state and federal laws, including the Federal CSO Control Policy. The Regional Alternative will enable the permittees to realize considerable economic and environmental benefits for the public and will provide greater environmental improvement and public health protections. The Regional Alternative is anticipated to capture more combined sewage and significantly minimize CSOs in underserved and overburdened communities. In addition, the Regional Alternative will require the construction and operation of fewer storage tank facilities, resulting in appreciable operations, maintenance, and other benefits. Further, through the use of both a parallel interceptor and reduction of storage tanks, the Regional Alternative will maximize wet weather flows to the treatment plant, a key CSO control strategy.

A regional approach is consistent with the requirements of the Federal CSO Policy which states, "permittees should be required to coordinate system-wide implementation of the nine minimum controls and the development and implementation of the long-term CSO control plan." The Department has conferred with EPA regarding the Regional Alternative and EPA has confirmed its consistency with the CSO Control Policy, noting:

> EPA supports and encourages the NJDEP to continue working with its CSO permittees to develop a single regional, system-wide integrated LTCP for the hydraulically connected sewer system. EPA believes this is the most effective and cost-efficient way to execute CSO control plan development and it is consistent with and supported by the CSO Control Policy. The CSO Control Policy states that when different parts of a single combined sewer system are operated by more than one authority, "[p]ermittees should be required to coordinate system-wide implementation of the nine minimum controls and the development and implementation of the long-term CSO control plan."
>
> [Letter to Patricia Gardner, Assistant Commissioner, NJDEP from Javier Laureno, Director, Water Division, EPA Region 2, June 9, 2021.]

In sum, this permit incorporates implementation of the Regional Alternative.

C. CSO Description:

The CSS for Jersey City includes twenty-one (21) CSO outfalls designated as discharge serial numbers (DSNs) 001A – 016A, 018A, 020A, 025A, 026A, 028A, and 029A. When the conveyance capacity of the collection system and/or PVSC is exceeded depending on the rainfall event, excess combined sewage flows pass through the following structures prior to discharge through any of the CSO outfalls. All 21 CSO outfalls are within the municipality of Jersey City and are equipped with the following:

Outfall Number	Outfall Name	Regulator(s)	Latitude N	Longitude W	Solids/Floatables Status
001A	Secaucus Road	RW-1	40º 45' 39.20"	74º 03' 11.53"	**Completed** In-Line Chamber with ½-inch Bar Screen and 8 nets (½-inch)
002A	Manhattan Avenue	RW-2	40º 44' 50.66"	74º 04' 10.27"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
003A	St. Paul's Avenue	RW-3	40º 44' 31.02"	74º 04' 36.86"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
004A	Van Winkle Avenue	RW-4	40º 44' 24.32"	74º 04' 44.14"	**Completed** End-of-Pipe Chamber with ½-inch Bar Screen and 4 nets (½-inch)
005A	Broadway	RW-5	40º 44' 22.17"	74º 04' 56.16"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
006A	Sip Avenue	RW-6	40º 44' 04.26"	74º 04' 52.88"	**Completed** End-of-Pipe Chamber with ½-inch Bar Screen and 4 nets (½-inch)
007A	Duncan Avenue	RW-7	40º 44' 03.40"	74º 05' 37.11"	**Completed** In-Line Chamber with ½-inch Bar Screen and 6 nets (½-inch)
008A	Clendenny Avenue	RW-8	40º 43' 24.28"	74º 05' 33.75"	**Completed** In-Line Chamber with ½-inch Bar Screen and 6 nets (½-inch)
009A	Claremont Avenue	RW-9	40º 43' 10.58"	74º 05' 51.81"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
010A	Fisk Street	RW-10	40º 43' 03.59"	74º 06' 4.48"	**Completed** End-of-Pipe Chamber with ½-inch Bar Screen and 4 nets (½-inch)
011A	Danforth Avenue	RW-11, RW-12	40º 42' 13.77"	74º 06' 23.17"	**Completed** In-Line Chamber with ½-inch Bar Screen and 8 nets (½-inch)
013A	Mina Drive	RW-13	40º 41' 58.49"	74º 06' 16.24"	**Completed** End-of-Pipe Chamber with ½-inch Bar Screen and 4 nets (½-inch)
014A	Brown Place	RE-1	40º 40' 47"	74º 04' 25"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
015A	Richard Street	RE-2	40º 41' 19"	74º 04' 33"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
016A	Claremont/Carteret	RE-3/4	40º 41' 47"	74º 03' 04"	**Completed** In-Line Chamber with ½-inch Bar Screen and 8 nets (½-inch)
018A	Mill Creek	RE-5/6	40º 42' 46.00"	74º 03' 13.00"	**Completed** Floating Assembly with ½-inch Bar Screen and 8 nets (½-inch)
020A	Colgate	RE-10, RE-11	40º 42' 45.00"	74º 01' 60.00"	**Completed** End-of-Pipe Chamber with ½-inch Bar Screen and 6 nets (½-inch)
025A	2nd Street	RE-15	40º 43' 16.00"	74º 01' 53.00"	**Completed** In-Line Chamber with ½-inch Bar Screen and 6 nets (½-inch)
026A	6th Street	RE-16, RE-17	40º 43' 26.90"	74º 02' 02.49"	**Completed** In-Line Chamber with ½-inch Bar Screen and 4 nets (½-inch)
028A	14th Street	RE-18	40º 43' 52.94"	74º 01' 51.51"	**Completed** In-Line Chamber with ½-inch Bar Screen and 8 nets (½-inch)
029A	18th Street	RE-19	40º 44' 03.57"	74º 02' 14.59"	**Completed** ½-inch Bar Screens (4-channel facility)

D. Flooding:

JCMUA conducted an analysis on flooding in the system and presented the conclusions in the System Characterization Report, dated June 2018. The "Downtown" flood area location has the highest priority flood score

for flooding and surcharging. As described in the LTCP, sewer separation along Bates Street, Bright Street, and Jersey Avenue will address flooding issues in the downtown area of Jersey City. A copy of the map with the flood area locations displayed in JCMUA's System Characterization Report is included after this Fact Sheet.

6 Receiving Water Discharge Location Information

A copy of the appropriate section of a USGS quadrangle map indicating the location of the facility and discharge points is included towards the end of this Fact Sheet.

Outfall Designator: 001A, 002A

General Information		Watershed Information	
Receiving Water:	Penhorn Creek	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Newark Bay
Classification (a):	FW2/SE2(C2)	WMA (b):	Hackensack, Hudson, and Pascack
County:	Hudson	Watershed:	Hackensack R (below/incl Hirshfeld Bk)
Municipality:	Jersey City	Subwatershed:	Hackensack R (below Amtrak bridge)
		HUC 14 (c):	02030103180100
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), heptachlor epoxide, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs
Outfall Description			
Outfall Configuration: Tidally submerged pipe			

Outfall Designator: 003A, 004A, 005A, 006A

General Information		Watershed Information	
Receiving Water:	Hackensack River	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Newark Bay
Classification (a):	SE2(C2)	WMA (b):	Hackensack, Hudson, and Pascack
County:	Hudson	Watershed:	Hackensack R (below/incl Hirshfeld Bk)
Municipality:	Jersey City	Subwatershed:	Hackensack R (below Amtrak bridge)
		HUC 14 (c):	02030103180100
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), heptachlor epoxide, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs
Outfall Description			
Outfall Configuration: Tidally submerged pipe			

Outfall Designator: 007A, 008A, 009A, 010A

General Information		Watershed Information	
Receiving Water:	Hackensack River	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Newark Bay
Classification (a):	SE3(C2)	WMA (b):	Hackensack, Hudson, and Pascack
County:	Hudson	Watershed:	Hackensack R (below/incl Hirshfeld Bk)
Municipality:	Jersey City	Subwatershed:	Hackensack R (below Amtrak bridge)
		HUC 14 (c):	02030103180100
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), heptachlor epoxide, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs
Outfall Description			
Outfall Configuration: Tidally submerged pipe			

Outfall Designator: 011A, 013A

General Information		Watershed Information	
Receiving Water:	Newark Bay	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Newark Bay
Classification (a):	SE3(C2)	WMA (b):	Arthur Kill
County:	Hudson	Watershed:	Newark Bay / Kill Van Kull / Upr NY Bay
Municipality:	Jersey City	Subwatershed:	Kill Van Kull West
		HUC 14 (c):	02030104010020
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), heptachlor epoxide, hexachlorobenzene, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs

Outfall Description
Outfall Configuration: Tidally submerged pipe

Outfall Designator: 014A, 015A, 016A

General Information		Watershed Information	
Receiving Water:	Hudson River	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Passaic, Hackensack and New York Harbor Complex
Classification (a):	SE2(C2)	WMA (b):	Arthur Kill
County:	Hudson	Watershed:	Newark Bay / Kill Van Kull / Upr NY Bay
Municipality:	Jersey City	Subwatershed:	Upr NY Bay / Kill Van Kull (74d 07m 30s)
		HUC 14 (c):	2030104010030
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), heptachlor epoxide, hexachlorobenzene, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs

Outfall Description
Outfall Configuration: Tidally submerged pipe

Outfall Designator: 018A, 020A, 025A, 026A, 028A, 029A

General Information		Watershed Information	
Receiving Water:	Hudson River	Downstream Confluences:	NY/NJ Harbor
Via :	Outfall pipe	Receiving River Basin:	Passaic, Hackensack and New York Harbor Complex
Classification (a):	SE2(C2)	WMA (b):	Hackensack, Hudson, and Pascack
County:	Hudson	Watershed:	Hudson River
Municipality:	Jersey City	Subwatershed:	Hudson River (lower)
		HUC 14 (c):	02030101170030
		Water Quality Impairments (d):	Benzo(a)pyrene (PAHs), hexachlorobenzene, TP, and in fish tissue: chlordane, DDT, Dieldrin, Dioxin, PCBs

Outfall Description
Outfall Configuration: Tidally submerged pipe

Footnotes:

(a) The designated uses for these waterbody classifications can be found at N.J.A.C. 7:9B-1.12.
(b) WMA = Watershed Management Area
(c) HUC 14 = 14 digit Hydrologic Unit Code
(d) These parameters are listed on Sublist 5 as impaired for this waterbody as per New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for Saline Estuary 2 (SE2) receiving waters are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

As noted in the table above, this segment of the identified waterbody is impaired for several parameters as shown in the chart above. This permit action requires the permittee to reduce the combined sewer overflow volume, frequency and duration at CSO outfalls which should have a corresponding decrease on the discharge of toxic pollutants.

A copy of the appropriate section of a USGS quadrangle map indicating the location of the facility and discharge points is included towards the end of this fact sheet.

7 Type and Quantity of the Wastes or Pollutants

The Permit Summary Table within this fact sheet contains a summary of certain parameters discharged from the permittees' CSO outfalls.

8 Summary of Permit Conditions for Combined Sewer Management

A. NJPDES CSO Permit Overview:

The existing NJPDES CSO Permit as issued to JCMUA on March 12, 2015 (2015 NJPDES CSO Permit) includes NMC and LTCP conditions, consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C, and also includes a requirement to submit an LTCP. This renewal permit serves to include enhanced NMC conditions and LTCP requirements as well as to incorporate CSO controls to meet a minimum wet weather percent capture with an implementation schedule.

B. Components of Nine Minimum Controls:

1. Proper Operation and Maintenance Programs for the Sewer System and CSOs

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittee to implement and update annually, an Operations & Maintenance (O&M) Manual including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12. The O&M Manual is required in order to ensure that the treatment works, including but not limited to the collection system, CSO outfall, solids/floatables facility, regulators, and related appurtenances, that are owned/operated by the permittee, are operated and maintained in a manner to achieve compliance with all terms and conditions of this permit. Additionally, Part IV.F.1 required the permittee to characterize the entire collection system, delineate characterization information in GIS, create Standard Operating Procedures (SOPs) for operations, inspections and schedule preventative maintenance, including the development of an Emergency Plan, and an Asset Management Plan. The Asset Management Plan serves to demonstrate that the entire collection system owned/operated by the permittee that conveys flows to the treatment works is perpetually and proactively managed with the appropriate resources (capital, staffing, training, supplies, equipment) allocated in the permittee's budget.

Changes were incorporated to Part IV.F.1.h. of this section in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that a schedule regarding identification of infiltration and inflow (I/I) were most relevant as a LTCP measure and Part IV.G.4 was modified as well.

Renewal Permit Requirements for Operation and Maintenance

The existing 2015 NJPDES CSO permit included enhancements of the NMCs to clarify requirements consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11 Appendix C. Specifically, Part IV.F.1 contains three (3) significant components as follows: (i) O&M Manual; (ii) Emergency Plan; and (iii) Asset Management Plan, which are being continued and further clarified in this permit renewal.

i. The O&M Manual provides system operators of POTWs with the comprehensive guidance, procedures, and the necessary technical references to efficiently operate their treatment works. Proper operation and maintenance includes the implementation of detailed SOPs and corrective/preventive maintenance SOPs within a structured maintenance program, adequate funding, effective management, adequate operator staffing, training and process controls.

ii. The Emergency Plan provides operators of POTWs with the comprehensive guidance and procedures to ensure the safe and effective operation of the treatment works during emergencies or disasters of man-made or natural origin.

iii. The Asset Management Plan is a process to ensure that there is sufficient investment in the CSO control strategy as well as the planned maintenance, needed repair, replacement, and upgrade of the infrastructure for the treatment works.

Additional detail on these three requirements is as follows:

i. O&M Manual

Given that the permittee is incorporating CSO control measures as part of the LTCP, revisions and updates of these components are appropriate. The permittee was and is still required to update the Operations & Maintenance (O&M) Manual and establish an Asset Management Plan which are required to be kept on-site. The Emergency Plan is also required to be kept on-site. Note that Part IV.F.1 details the requirements related to the entire treatment works, including but not limited to the collection system, CSO outfall, solids/floatables facility, regulators, and related appurtenances including any green infrastructure which are owned/operated by the permittee, whereas Part IV.G.6 outlines new CSO control measures that will require changes to the O&M Manual, Emergency Plan and Asset Management Plan.

In continuation of the enhancements of the NMCs, this renewal permit requires the permittee to maintain and perform regular updates to the Operations & Maintenance (O&M) Manual, on an annual basis. Also, this renewal permit builds upon the 2015 NJPDES CSO permit language to further clarify the requirement pertaining to the O&M Manual for the treatment works. To supplement and improve this permit condition, the Department is enhancing the requirements for the O&M Manual to address certain requirements for the permittee's treatment works. Specifically, to ensure that the treatment works and facilities are being operated and maintained to achieve compliance with the terms and conditions of the discharge permit, the O&M Manual must include, but is not limited to, the following details for the treatment works and facilities owned/operated by permittees:

- Normal operating positions, alternate operating positions;
- Start-up, shut-down, and draining procedures;
- Process control;
- Fail-safe features;
- Emergency operation procedures;
- Common operating and control problems;
- Out-of-service procedures;
- Instrumentation and controls descriptions; and
- Engineering design information.

The O&M Manual must provide the schedules and procedures pertaining to the preventative maintenance program and corrective maintenance procedures, or references to these procedures in the manufacturer's maintenance manuals for the treatment works' infrastructure. The permittee shall include in the O&M Program and corresponding Manual, a System Cleaning Program which is designed to ensure the entire collection system, including, but not limited to, outfalls and regulators, is sufficiently clean in order to function properly and minimize CSO-related street flooding which can include overflows to basements, streets and other public and private areas. Ensuring the entire collection system is sufficiently clean can be done through regular inspection and, if necessary, cleaning. Such inspection and cleaning should be done, such that within five years, the entire system has been covered where the length of the system shall be defined in linear feet/miles. Specifically, Jersey City, the East Side interceptor sewers total approximately 36,620 feet in length and the West Side interceptor sewers total approximately 35,480 feet in length. The System Cleaning Program shall also include an annual certification to be sent to NJDEP that a minimum of 20% of the system (by linear feet/miles) shall have been inspected and, if necessary, cleaned, within the last year. Alternatively, if less than 20% of the system has been completed within the last year, a statement of how much of the system was inspected and, if necessary, cleaned, within the last year and a plan to ensure that 100% of the system is inspected and if necessary cleaned, by the expiration date of the permit.

ii. Emergency Plan

Additionally, this renewal permit enhances the requirements to maintain and perform regular updates to the Emergency Plan, as necessary. To ensure effective operation of the treatment works and facilities under emergency conditions, including those due to climate change, the Emergency Plan must include a Vulnerability Analysis. The Vulnerability Analysis is intended to estimate the degree to which the treatment works and facilities would be adversely affected by each type of emergency situation which could reasonably be expected to occur including, but not limited to, those emergencies caused by natural disaster; extreme weather events, including those as a result of climate change; civil disorder; strike; sabotage; faulty maintenance; negligent operation or accident. A Vulnerability Analysis shall include, but is not limited to, an estimate of the effects of such an emergency upon the following:

- Power supply;
- Communication;
- Equipment;
- Supplies;
- Personnel;
- Security; and
- Emergency procedures to be followed.

The Emergency Plan shall include SOPs which will ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events, which could be due to climate change, and extended periods of no power. The Department's Emergency Response Preparedness/Planning Guidance and Best Practices can be found at: https://www.nj.gov/dep/dwq/erp_home.htm.

iii. Asset Management Plan

Furthermore, this renewal permit enhances the requirements to maintain and perform regular updates to the Asset Management Plan, as necessary. An Asset Management Plan must incorporate detailed asset inventories, operation and maintenance tasks and a long-range financial planning strategy and to ensure that annual revenue reserves and reinvestment are sufficient to facilitate long-term viability of the treatment works and facilities. The Asset Management Plan must include, but not limited to, the following details:

- Asset inventory/mapping and condition assessment;
- Level of service;
- Criticality/prioritization assessment;

- Life-cycle costing; and
- Long-term funding strategy of the treatment works and facilities.

The Department's Asset Management Technical Guidance can be found at: https://www.nj.gov/dep/assetmanagement/pdf/asset-management-plan-guidance.pdf.

These enhanced permit conditions for all three components are included in Part IV.F.1.

2. Maximum Use of the Collection System for Storage

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included permit conditions requiring use of the entire collection system owned/operated by the permittee to be used for in-line storage of sewage for future conveyance to the STP when sewer system flows subside. In summary, the 2015 NJPDES CSO permit required that the collection system be used to store as much flow as possible without causing CSO-related flooding and basement back-ups. This includes maintaining the ability of wastewater to flow freely into and through the system and continuing to evaluate the system for additional storage so that the collection system and STP convey and treat flows to meet the requirements of the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

Renewal Permit Requirements for Maximum Use of the Collection System for Storage

This renewal permit action continues the requirement for the maximum use of the collection system for storage so that the collection system can store as much flow as possible and minimize CSO discharges without causing CSO-related flooding. The renewal permit requires maintaining the ability of wastewater to flow freely into and through the system while also requiring the permittee to evaluate the system for additional storage so that the collection system and STP work together to convey and treat flows to meet the requirements of the Federal CSO Control Policy and NJPDES Regulations. These requirements can be categorized as follows:

a. The permittee shall use the entire collection system owned/operated by the permittee for in-line storage of sewage for future conveyance to the STP when sewer system flows subside by ensuring that the sewage is retained in the sewer system to the extent possible to minimize CSO discharges (i.e. volume, frequency and duration), while not creating or increasing sewage overflows, including to basements, streets and other public and private areas.

b. The permittee shall minimize the introduction of sediment and obstructions in the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Sections F.1., Proper Operation and Regular Maintenance Program Requirements and F.7., Pollution Prevention.

c. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Section F.1.

d. The permittee shall identify and implement minor modifications, based on the ongoing evaluations, to enable appropriate segments of the collection system owned/operated by the permittee to store additional wet weather flows to reduce any CSOs until downstream sewers and treatment facilities can adequately convey and treat the flows.

This condition is included in Part IV.F.2.

3. Review and Modification of Pretreatment Requirements to Assure CSO impacts are Minimized

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding the review and modification of pretreatment requirements. Changes were incorporated to Part IV.F.7.c. of this section in a major permit modification dated May 1, 2020 to improve this language and to clarify the Department's expectations.

Renewal Permit Requirements for Pretreatment Requirements

To ensure consistency with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C, the Department has retained Part IV.F.3 in the renewal permit with language modifications to emphasize the prioritization of O&M measures. This language is as follows:

a. For the SIU dischargers upstream of any CSO outfall which is owned/operated by the permittee, the permittee shall: (1) determine the locations of the SIUs; (2) identify the CSO outfalls associated with each of the SIUs; and (3) determine the discharge volume and loading of SIU-permitted parameters for each SIU. In the case of a municipal permittee or non-delegated STP permittee, information to satisfy (1) and (3) shall be obtained from the delegated local agency that regulates the SIU or, if there is no delegated local agency, from the Department. This information shall be used to prioritize O&M activities in portions of the CSS affected by SIU discharges.

All SIU discharges are directed to the PVSC treatment plant.

This condition is included in Part IV.F.3.

4. Maximization of Flow to the POTW for Treatment

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the operation and maintenance of the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize the conveyance of wastewater to the STP for treatment subject to existing capacity. The permittee was required to evaluate and implement alternatives for increasing flow to the STP. These alternatives included capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works to determine the maximum amount of flow that can be stored and transported as well as the identification of other activities conducted and/or planned to further maximize flow to the POTW.

Renewal Permit Requirements for Maximization of Flow to the POTW for Treatment

The Department has determined that the existing permit condition related to Maximization of Flow to the POTW for Treatment is still applicable to ensure the ongoing operation of the system in an effective manner and to ensure that the CSO controls are properly implemented to address the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. However, this permit condition requires updates to reflect the work completed as part of the LTCP. As a result, this renewal permit action continues the requirement to maximize the conveyance of wastewater to the STP for treatment with wording modifications. This includes the operation and maintenance of the collection system to increase flow to the STP in order to convey and treat flows to meet the requirements of the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in Part IV.F.4.

5. Prohibition of CSOs During Dry Weather

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding the prohibition of dry weather overflows at Part IV.F.5 where the term "dry weather overflow" is defined within the permit as follows:

> "Dry weather overflow (DWO)" means a combined sewer overflow that cannot be attributed to a precipitation event, including snow melt, within the hydraulically connected system. DWOs include the following flows: domestic sewage, dewatering activities, commercial and industrial wastewater, ground water and tidal infiltration upstream of the regulator, and any other non-precipitation event related flows downstream of the regulator to the outfall pipe.
>
> Groundwater infiltration and tidal infiltration originating downstream of the regulator are allowable sources of discharges from a CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Such use must be specifically approved by the Department."

Renewal Permit Requirements for Prohibition of CSOs During Dry Weather

The Department has determined that the existing permit condition related to DWOs is still applicable. As a result, this renewal permit action retains the DWO definition and continues the requirement to prohibit CSOs during dry weather. This condition also serves to ensure the ongoing operation of the system in an effective manner. Part IV.F.5 is included in the renewal permit as follows:

a. Dry weather overflows (DWOs) are prohibited from any CSO outfall in the entire collection system owned/operated by the permittee.
b. All DWOs must be reported to the Department as incidents of non-compliance in accordance with the requirements at N.J.A.C. 7:14A-6.10(c) and (e), along with a description of the corrective actions taken.
c. The permittee shall inspect the combined sewer system as required under Section F.1. to minimize the potential of DWOs and to abate DWOs that occur.
d. The permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar activities, downstream of a CSO regulator, that will convey flow to the CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Any use under this provision must be specifically approved by the Department.

This condition is included in Part IV.F.5.

6. Control of Solid and Floatable Materials in CSOs

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition that requires the permittee to capture and remove solids/floatables which cannot pass through a bar screen having a bar or netting spacing of 0.5 inches or less. The permit further stipulates that this cannot be achieved by reducing the particle size of the solids/floatables. Captured debris shall be removed as necessary to ensure that there will be no flow restrictions during the next CSO discharge event and captured debris must be disposed of properly.

Renewal Permit Requirements for Control of Solid and Floatable Materials in CSOs

Prior to the issuance of the 2015 NJPDES CSO permit, the permittee had installed a working solids/floatables netting facility with a spacing of 0.5 inches or less. Thus, the Department has determined that the permittee is in compliance with Part IV.F.6. of the existing permit.

The Department has determined that the existing permit condition related to the Control of Solid and Floatable Materials in CSOs is still applicable to the ongoing operation of the system in an effective manner. As a result, this renewal permit action continues the requirement to control solid and floatable material from being discharged from CSO outfalls. Additionally, the Department acknowledges that the permittee had implemented a solids/floatables control facility prior to issuance of the 2015 NJPDES CSO permit.

This condition is included in Part IV.F.6.

7. Pollution Prevention

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding implementation and upgrade of pollution prevention measures to prevent and limit contaminants from entering the collection system owned/operated by the permittee that conveys flows to the treatment works. Further, the permittee is required to enforce rules and regulations on illegal connections and unauthorized discharges into the POTW. Finally, the permittee was required to submit a schedule to revise applicable rules, ordinances and sewer use agreements to address the reduction of I/I into the collection system in accordance with Part IV.F.1.h.

Changes were incorporated to Part IV.F.7 in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that a schedule regarding identification of infiltration and inflow (I/I) were most relevant as a LTCP measure and Part IV.G.4 was modified as well.

Renewal Permit Requirements for Pollution Prevention

The Department has determined that the existing permit conditions related to pollution prevention are still applicable as these conditions are reflective of good operating practices. In addition, some of these conditions are already required by other regulatory mechanisms (i.e., solid waste collection and recycling ordinances). NJPDES CSO permit language regarding Pollutant Prevention is consistent with the NJPDES MS4 permit, pursuant to N.J.A.C. 7:14A-24, as is applicable to those portions of the town that are separately sewered.

This condition is included in Part IV.F.7 as follows:

a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable, measures shall include, but not be limited to, the following:
    i. Implementation of a regular street cleaning program.
    ii. Retrofitting of existing storm drains to meet the standards in Appendix A, where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating of chip sealing with asphalt emulsion or a thin base of hot bitumen) or alterations of facilities owned/operated by the permittee. Any exemptions to this standard are listed in Appendix A.
    iii. Implementation of stormwater pollution prevention rules and ordinances.
    iv. Implementation of solid waste collection and recycling ordinances.
    v. Implementation of public education programs.

b. The permittee shall enforce street litter ordinances and rules and regulations on illegal connections and unauthorized discharge(s) into the POTW.

This condition is included in Part IV.F.7.

8. Public Notification to Ensure that the Public Receives Adequate Notification of CSO Occurrences and CSO Impacts

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included two permit conditions regarding public notification. The first of these involves posting CSO Identification Signs at every CSO outfall. The permit specifies how the signs should be installed, the size of the signs and what the signs must display. The second set of permit conditions regarding public notification are related to informing the affected public of where CSOs may be occurring based on rainfall data. The permit lists measures that can be taken by the permittee in order to inform the public of CSOs, including by website.

Renewal Permit Requirements for Public Notification

The permittee installed the required sign as specified in the permit at the CSO outfall. In addition, the permittee incorporated measures to comply with other components of this permit condition such as creation of a notification system. As a result, the Department has determined that the permittee is in compliance with Part IV.F.8. of the existing permit.

The Department has determined that the existing permit condition related to Public Notification is still applicable and is necessary to keep the public informed of the locations of CSOs. As a result, this renewal permit action continues the requirement to maintain a CSO Identification Sign at the CSO outfall including information as to how the signs should be installed, the size of the signs and what the signs must display. The renewal permit also continues the requirement for the permittees to provide up-to-date information regarding where CSO discharges may be occurring on its website. This condition is included in Part IV.F.8 as follows:

a. The permittee shall ensure that CSO Identification Signs are posted and maintained at every CSO outfall location identified in Part III of this permit. The signs shall conform to the following specifications unless alternatives have been approved by the Department.

   i. Signs shall be installed in such a manner as to have the same information visible from both the land and from the water, within 100' from the outfall pipe along the shoreline.

   ii. Signs shall be at least 18" x 24" and printed with reflective material.

   iii. Signs shall be in compliance with applicable local ordinances.

   iv. The signs shall depict the following information below:

   - Warning, possible sewage overflows during and following wet weather. Contact with water may also cause illness.
   - Report dry weather discharge to NJDEP Hotline at 1 (877) 927-6337 (WARN-DEP).
   - Report foul odors or unusual discoloration to NJDEP Hotline or JCMUA at (201) 432-1150.
   - NJPDES Permit Number NJ0108723
   - Discharge Serial No. (e.g. 001A).
   - https://dep.nj.gov/dwq/combined-sewer-overflow/
   - Signs that depict symbols prohibiting swimming, fishing and kayaking.

b. The permittee shall continue to employ measures to provide reasonable assurance that the affected public is informed of CSO discharges in a timely manner. These measures shall include, but are not limited to, the items listed below:

i. Posting leaflets/flyers/signs with general information at affected use areas such as beaches, marinas, docks, fishing piers, boat ramps, parks and other public places (within 100 feet of outfall) to inform the public what CSOs are, the location(s) of the CSO outfall(s) and the frequency and nature of the discharges and precautions that should be undertaken for public health/safety and web sites where additional CSO/CSS information can be found.

ii. Notification to all residents by either US Postal Service or email, (with copies sent to the NJDEP) in the permittee's sewer service area. This notification shall provide additional information as to what efforts the permittee has made and plans to continue to undertake to reduce/eliminate the CSOs and related threat to public health. Updated notifications shall be mailed on an annual basis.

iii. The permittee shall maintain on a daily basis a CSO Notification System website to inform interested citizens of CSO discharges that are occurring or have occurred.

Please note that these requirements differ from, and are less extensive than, the Public Participation requirements of the LTCP. See the LTCP Section G.2 below for details of the Public Participation requirements.

This condition is included in Part IV.F.8.

9. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittee to monitor the CSO discharge events and record the date, "duration of discharge", rainfall, location of rain gauge, and quantity of solids/floatables removed for each CSO and discharge event. See also: https://dep.nj.gov/wp-content/uploads/dwq/pdf/cso-quick-guide-dmr.pdf. Flow information can be assessed through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, where the required information shall be reported on the monitoring report form (MRF).

Renewal Permit Requirements for Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

As per Part III of the existing NJPDES permit, the permittee submitted MRFs to the Department through monthly Discharge Monitoring Reports (DMRs) for the parameters specified above. Reported data on the DMRs include the parameters: Solids/Floatables, Precipitation and Duration of Discharge. Throughout the existing NJPDES permit cycle, the permittee submitted monthly DMRs with data for these parameters and is therefore in compliance with Part IV.F.9. This data can be found in the DEP DataMiner at: https://njems.nj.gov/DataMiner/and is also tracked by outfall at NJ CSO Outfalls (arcgis.com).

This renewal permit action continues the requirement of monitoring the CSO discharge events. This includes reporting the Total Flow, Duration of Discharge, Precipitation, and quantity of Solids/Floatables removed from the CSO on a MRF. This permit condition requires a measure of CSO discharge events by measuring CSO "Duration of Discharge" to provide a measure of the effect of CSO controls on discharge events. In addition, these reporting requirements will continue to track precipitation trends by assessing precipitation amounts at a local rain gage. A summary of each parameter is as follows:

- Duration of Discharge represents the number of days (in whole numbers) that at least one discharge occurred from that outfall (i.e., not the number of discharge events). Sample type is "Estimated".

- Precipitation represents the total amount of precipitation (i.e. rainfall and snowmelt) measured during the monitoring period from a single rain gauge representative of the area.
- Solids/Floatables (S/F) represents the total volume (reported in cubic yards) of all S/F removed and disposed of from all outfalls during the month. Reporting a S/F value is only necessary when the S/F material is measured for disposal (e.g. filled dumpsters).

This condition is included in Part IV.F.9 as follows:

a. The permittee shall monitor the CSO discharge events and record the date, "Duration of Discharge", Precipitation, and quantity of Solids/Floatables removed for each CSO and discharge event through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the MRF as required by Part III of this permit.

See also Part IV G.4. for a discussion of STP improvements that will result in a reduction of CSO discharges.

C. Components of Long Term Control Plan (LTCP):

1. Characterization, Monitoring, and Modeling of the Combined Sewer System

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittees to characterize their sewer system and CSO discharges as part of the LTCP. The purpose of this characterization was to review the entire collection system as well as to identify all CSO outfalls and water quality impacts from CSO outfalls. Major elements of the characterization included: 1) rainfall records, 2) any activity necessary to understand the CSO discharges including sensitive areas and pollution sources, such as Significant Industrial Users (SIUs), 3) monitoring data from CSO discharges and ambient in-stream monitoring data for pathogens, 4) modeling and 5) identification of sensitive areas. The 2015 permit also encouraged the use of previously submitted studies, when appropriate.

A work plan was required by January 1, 2016 to be followed by a System Characterization Report by July 1, 2018.

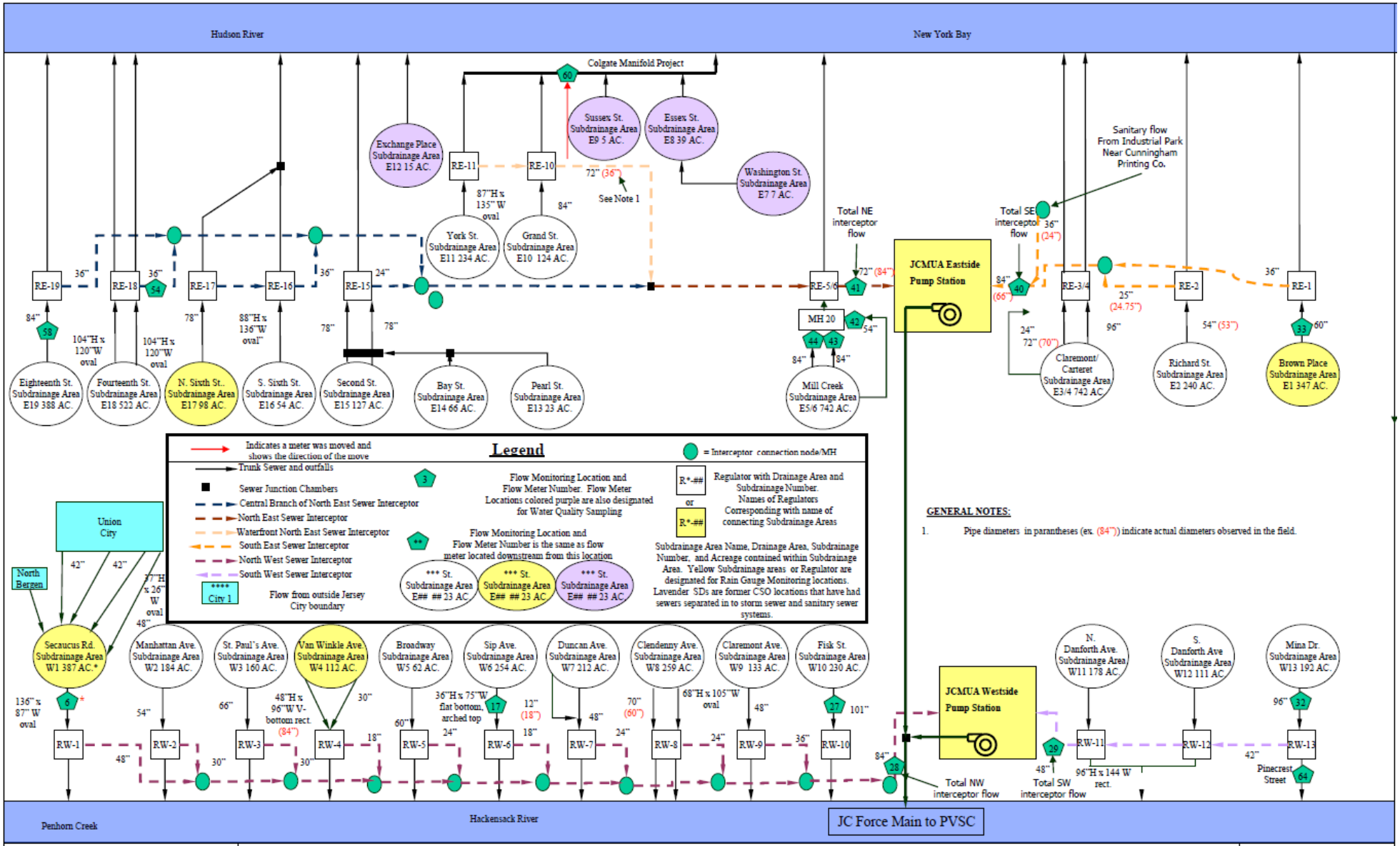
Summary of Compliance with 2015 Permit Requirement

The System Characterization Report entitled “System Characterization Report” dated June 2018 was submitted to the Department by JCMUA. The objective of the System Characterization Report is to provide a comprehensive and empirical understanding of the physical nature and hydraulic performance of the sewerage systems for use in optimizing the performance of the current systems and in the development of CSO control alternatives. The System Characterization Report incorporated the results of the JCMUA Sewer System Rain Gauge & Flow Meter QAPP (December 2015) and the System Characterization mapping of the combined and separate sewer areas for Jersey City. The System Characterization Report includes the following objectives:

- Evaluate the rainfall record for the area and evaluate flow variations due to precipitation events (which required the selection of a typical year, and is currently being addressed with DMR reporting using the rain gage at Liberty Science Center)
- Review the entire collection system to address the response of the system to various precipitation events (which required a review of the existing model to determine where improvements had been made since the calibration completed under the previous permit)
- Monitor CSOs – develop a monitoring program that measures the frequency, duration, flow rate, and pollutant volume of CSO discharges (which required the development of the 2016 Supplemental Modeling and Monitoring Plan)

- Modeling – calibrate and verify a model to aid with characterization (this required converting the existing JCMUA model from XP-SWMM to PCSWMM; modifying, upgrading and expanding the PCSWMM model to include system improvements and modeling data obtained during the 2016 Supplemental Modeling and Monitoring Program).
- Apply the model to simulate the JCMUA CSS response to rainfall during a typical year of precipitation events (i.e. – 2004) and extreme storm events to predict the flows, volumes, depths, and pollutant loads from the CSS during both typical and extreme precipitation events.
- Identify sensitive areas where CSOs occur, where sensitive areas are defined as areas designated as Outstanding National resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters used for primary contact recreation, public drinking water intakes or their designated protection areas, and shellfish beds.

A schematic of the existing system from the June 2018 System Characterization Report is as follows:



ARCADIS Design & Consultancy for natural and built assets

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY
JERSEY CITY, NJ
COMBINED SEWER SYSTEM CONFIGURATION PROCESS FLOW DIAGRAM for 2016

FIGURE 2-1

Renewal Permit Requirements for Characterization, Monitoring and Modeling of the Combined Sewer System

The above information was submitted to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. This information was utilized to develop the hydrologic and hydraulic model which was then used to assess minimum wet weather percent capture. The Department determined that the permittees have submitted sufficient information to comply with the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement. The Department approved the System Characterization Report for JCMUA March 14, 2019.

This renewal permit includes information in Part IV.G.1 to inform the status of the Characterization, Monitoring, and Modeling of the Combined Sewer System requirement; to acknowledge submittals received; and to highlight major report elements. To further inform the combined sewer system characterization as well as the effects from any implemented CSO control alternatives, the monitoring of flows into the PVSC WWTP, effluent flow from the PVSC WWTP as well as effluent flows related to the CSO related bypass is required under NJPDES permit NJ0021016 as issued to PVSC. These elements will help inform the overall CSO contributions and to assess compliance with the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in Part IV.G.1.

2. Public Participation

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittee to engage in public participation and to submit a Public Participation Process report within 36 months of the effective date of that permit. The purpose of this requirement was to actively involve the affected public throughout each of the 3 steps of the LTCP process. The affected public includes rate payers (including rate payers in the separate sewer sections), industrial users of the sewer system, persons who reside downstream from the CSOs, persons who use and enjoy the downstream waters, and any other interested persons. The Public Participation Process Plan was required to include the following elements:

- Conduct outreach to inform the affected/interested public (during the development of the permittee's LTCP) through various methods which may include: public meetings, direct mailers, billing inserts, newsletters, press releases to the media, postings of information on the permittee's website, hotline, development of advisory committees, etc.; and
- Invite members of the affected/interested public to join a Supplemental CSO Team to work with the permittee's assigned staff, consultants and/or contractors.

Regarding the establishment of the Supplemental CSO Team, this team was required to work as an informal work group as a liaison between the general public and the decision makers for the permittee regarding the planning and development of CSO control alternatives. As outlined in the 2015 NJPDES CSO permit, the goals of the Supplemental CSO Team could consist of the following elements:

- Meet periodically to assist in the sharing of information, and to provide input to the planning process;
- Review the proposed nature and extent of data and information to be collected during LTCP development;
- Provide input for consideration in the evaluation of CSO control alternatives; and
- Provide input for consideration in the selection of those CSO controls that will cost effectively meet the Clean Water Act (CWA) requirements.

Summary of Compliance with 2015 Permit Requirement

The permittees conducted and participated in a range of activities to comply with Part IV.G.2 to implement a process to include PVSC and the 8 hydraulically connected communities. The CSO permittees jointly conducted various public outreach activities in order to implement a process that actively involves the public. The permittees submitted a report dated June 2018 as entitled "Public Participation Process Report" which outlines public participation activities that were conducted to inform the LTCP. This report was approved by the Department on March 29, 2019.

The following is a summary of the major elements of the public participation process:

- The PVSC webpage (www.nj.gov/pvsc/what/njcso/) provides a number of postings of information for the public related to the PVSC and eight hydraulically connected communities LTCP. The website includes information on the CSO construction-related activities and a link to the NJ CSO Group's CSO Notification System. In addition to the PVSC website, a CSO specific website was created (www.njcleanwaterways.com) that provides information for the general public on combined sewers and the LTCP.
- Fact Sheets were developed as part of the public outreach and education efforts. These Fact Sheets were distributed to the public at various meetings and public outreach events and are available in various languages, including English, Spanish, and Portuguese. Three separate Fact Sheets were prepared on the following topics:
    - What is Green Infrastructure?
    - Controlling CSO's with Sewer Separation; and
    - Downspout Disconnection.
- A LTCP brochure was developed in order to provide additional information to the public relative to the CSO LTCP. Copies of the LTCP Brochure are distributed to the public at various meetings and other public outreach events. The brochure provides the following information:
    - Overview and general information on combined sewer systems (CSS) and CSOs;
    - Clean Waterways, Healthy Neighborhoods branding;
    - Overview of NJPDES Permit and requirements to develop LTCP;
    - Listing and location of each CSO Permittee participating in Public Outreach efforts;
    - LTCP information;
    - Supplemental CSO Team information; and
    - Information regarding public notification signs at CSO outfalls.
- A LTCP Facebook and Twitter social media plan was developed to enhance electronic outreach about the LTCP. The page is open for comments and questions to ensure transparency and to signal a commitment to public input. The PVSC Facebook page, which includes which includes NBMUA Woodcliff and Guttenberg, is accessible via the PVSC website (www.nj.gov/pvsc). Note that a portion of North Bergen utilizes PVSC as the receiving STP. The Twitter page is branded with the ***Clean Waterways, Healthy Neighborhoods*** logo and is updated on a regular basis. The Twitter feed serves to promote relevant LTCP information, including upcoming events and meetings, project visuals, Supplemental CSO Team and relevant municipal information, and other related news and articles. The LTCP Twitter page is also open to public feedback and comment.
- Supplemental CSO Team meetings were held over the course of the LTCP development effort. Each member of the Supplemental CSO Team was given a unique username and password to allow them to access a SharePoint site that was set up to share and transfer documents for review and comment. Meeting agendas were posted to the SharePoint site prior to each Supplemental CSO Team Meeting, and presentations given at each meeting were posted to the site following the meeting, along with other relevant documents, such as the various NJPDES permits and LTCP interim deliverables/reports.

CSO Supplemental Team meetings were an important component of public participation where meetings were held on October 5, 2016, January 10, 2017, April 11, 2017, July 11, 2017, October 16, 2017, January 9, 2018 and April 17, 2018. Subsequent to the submission of the June 2018 "Public Participation Process Report" CSO Supplemental Team meetings were held on July 31, 2018; October 16, 2018; January 22, 2019; March 7, 2019; May 28, 2019; July 31, 2019; January 9, 2020; June 17, 2020; and September 2, 2020. A summary of public participation activities was also provided within the LTCP.

Renewal Permit Requirements for Public Engagement

The Department is committed to active public outreach and engagement during the planning, design and construction of CSO control projects. The Public Participation outreach requirements of the 2015 permit were established to introduce, inform, and gather feedback from the interested public on the steps of the development of the LTCP. This permit, which now implements the LTCP, requires that Public Participation changes. Future public participation should be designed to inform, educate and engage specific to implementation of the CSO control projects included in the Implementation Schedule. Future public participation should include education of the public about the status of the program; document progress in implementing the program; and inform neighborhood residents before, during, and after construction. Given that the outreach requirements under Public Participation must change, this section of the permit is being renamed Public Engagement.

Renewal permit conditions regarding Public Outreach and Engagement specific to the CSO control projects specified in Part IV.G.4 are as follows:

- The permittee shall conduct a public engagement process to inform, educate and engage members of the hydraulically connected communities in accordance with Part IV.G.10. The goal of this process is to generate participation and collect input from the affected community and the interested public.
- The permittee shall develop a CSO Supplemental Team to serve as a liaison between the affected community, interested public and the decision makers for the permittee regarding the implementation of the CSO control alternatives. The CSO Supplemental Team shall be reconstituted with the goal of including members of the following groups, at a minimum, where possible: mayor's office, local planning board, local community groups and residents from the affected areas and from any affected areas that are also overburdened communities. The permittee shall solicit members of its community to join the CSO Supplemental Team through various outreach and public notice activities. The permittees efforts to recruit CSO Supplemental Team members shall be documented on the permittee's website.
- The permittee is required to hold regular public meetings (virtual, in person, or a combination of both) in order to:
    - Inform the affected community and interested public of the ongoing progress of implementing the LTCP including reports of project status and its present impact on the local community.
    - Continue to identify areas of combined sewer related flooding.
    - Allow the affected community and interested public an opportunity to provide input on the siting of GI as required by the permit.
    - Engage the affected community and interested public in solutions they can implement to further reduce CSOs. Examples may include an adopt-a-catch-basin program, rain barrels, water conservation, the removal of impervious surfaces, and the installation of green infrastructure projects.
    - Neighborhood specific information on construction of CSO control projects throughout the process including before and during construction in order to receive feedback from the community. This should include the posting of information on scheduling of street closures as well as any other potential impacts to the residents in the vicinity of any CSO mitigation projects.
- The frequency of meetings shall be determined by the milestones in the Implementation Schedule (See G.8.) and by input from the affected community and interested public. Meeting frequency may subsequently be adjusted based on documented attendance. Meetings should be held with accessibility for

the interested public in mind. This may include varying start times and attendance options (availability of public transit or parking and virtual meetings), as fits the needs of the affected community and interested public.

- The permittee shall engage with overburdened communities (OBC) within combined sewer service areas in order to solicit representation and engagement, ensure the OBCs' awareness of the meeting schedule, and encourage participation. The Department published a list of overburdened communities in the State and associated electronic mapping available at https://www.nj.gov/dep/ej/communities.html.
- For each LTCP, permittees must designate one LTCP outreach coordinator. This coordinator (or any another person designated by the permittee) shall be available to maintain regular communication with the affected community and interested public including, but not limited to:
  - Maintain a website that acts as a clearinghouse for information regarding implementation of the LTCP.
    - The website shall contain public engagement information and include a platform for the affected community and interested public to sign up and attend any meetings.
    - The website shall contain any progress reports required to be submitted by this permit.
    - The website shall also list the construction status of any project identified in the Implementation Schedule in Section G.8. below.
  - Engage the affected community and interested public in order to solicit individuals who are willing to become involved.
  - Post meeting invitations (including dates and times) on the website at least one month in advance.
  - Post handouts or other meeting materials on the website within one week after the meeting.
  - Make data available on the amount of public feedback received including the number of meeting attendees.
  - Any project identified in the Implementation Schedule in Section G.8. below must display signage indicating that the project is required by the LTCP.
- The Department's Office of Environmental Justice (see https://dep.nj.gov/ej/) shall be given 30 days advance notice of the meeting schedule so that it can be shared with Environmental Justice community leaders.
- Public meetings shall be live streamed and made available to the affected community interested public for viewing afterwards including materials in the language(s) appropriate to the majority of community demographics.
- Outreach materials, including physical handouts and websites, should be produced in the language(s) appropriate to the majority of community demographics.

This condition is included in Part IV.G.2.

3. Consideration of Sensitive Areas

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding Consideration of Sensitive Areas as part of the LTCP. Specifically, the permittee is required to give the highest priority to controlling CSOs to sensitive areas consistent with the Federal CSO Control Policy as well as N.J.A.C. 7:14A-11, Appendix C. Sensitive areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters used for primary contact recreation (including but not limited to bathing beaches), public drinking water intakes or their designated protection areas, and shellfish beds. As a result, the permittee's LTCP was required to prohibit new or significantly increased CSOs and to eliminate or relocate CSOs that discharge to sensitive areas wherever physically possible and economically achievable. Additionally, where elimination or relocation is not physically possible and economically achievable, or would provide less environmental protection than

additional treatment, the permittee is required to provide the level of treatment for the remaining CSOs deemed necessary to meet water quality standards for full protection of existing and designated uses.

Summary of Compliance with the 2015 Permit Requirement

In accordance with Part IV.D.3.b.iv of the existing NJPDES permit, the permittee was required to submit a Consideration of Sensitive Areas report within 36 months from the effective date of the permit. The permittee, cooperatively with the NJ CSO Group submitted the "Identification of Sensitive Areas Report" dated June 2018. The report included a comprehensive review of online databases, correspondence with regulatory agencies, direct observations, and local environmental organizations to identify potential Sensitive Areas within the Study Area. For the purposes of this report, the Sensitive Areas Study Area (Study Area) includes the combined sewer service areas, including all receiving and adjacent downstream waters that may be potentially affected by CSOs, from the various combined sewer service areas of the NJ CSO Group. Affected waters include the Passaic River, Hackensack River, Newark Bay, Hudson River, Kill Van Kull, Arthur Kill, Raritan River or Raritan Bay as well as their tributaries within the Study Area of this report.

The Department issued findings on this report in technical comment letters on September 20, 2019 and March 1, 2019 which subsequently resulted in revisions to the report on October 19, 2018, January 31, 2019, and March 29, 2019. The Department's findings included concurrence that there are no Outstanding National Resource Waters or National Marine Sanctuaries within the Study Area; there are no active surface water intakes used for drinking water in New Jersey in the vicinity of the CSO outfalls; and there are no operational shellfish beds in the vicinity of the CSO outfalls at this time.

Regarding waters with threatened or endangered species and their habitat, the Department incorporated the following CSO outfalls as discharging to Sensitive Areas based on potential habitat for *Atlantic Sturgeon* and *Shortnose Sturgeon*:

Permittee	NJPDES No.	Outfall No.
Jersey City MUA	NJ0108723	DSNs 014A, 015A, 016A, 018A, 020A, 025A, 026A, 028A

The Department determined in its April 8, 2019 approval letter that the Identification of Sensitive Areas Report sufficiently addressed all review elements for the Consideration of Sensitive Areas as included in the existing NJPDES permit.

Renewal Permit Requirements for Consideration of Sensitive Areas

This renewal permit action requires CSO control measures to be implemented consistent with the Presumption Approach within the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. This renewal permit action requires that the CSO outfalls identified in the Identification of Sensitive Areas Report as discharging to a Sensitive Area be given priority with respect to controlling overflows to meet the minimum 85% wet weather capture requirement consistent with the Presumption Approach.

This condition is included in Part IV.G.3.

4. Evaluation of Alternatives

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal required the permittees to evaluate a range of CSO control alternatives to meet the requirements of the CWA as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C using either the Presumption Approach or the Demonstration Approach as part of the LTCP. The CSO control alternatives included: green infrastructure; increased storage capacity in the collection system; STP expansion and/or storage at the plant; I/I reduction; sewer separation; treatment of the

CSO discharge; and CSO related bypass of the secondary treatment of the STP. In evaluation of each CSO control alternative, the permittee was required to use hydrologic, hydraulic and water quality models to simulate the existing conditions and the conditions after construction and operation of the chosen alternative(s). Subsequent to evaluating the CSO control alternatives, the permittees were required to choose an approach to ensure that the requirements of the CWA are met for each group of hydraulically connected CSOs.

The "Presumption Approach" is a program that presumes to provide an adequate level of control to meet the water quality-based requirements of the CWA. To utilize this approach, the permittee was required to demonstrate any of the following criteria:

- No more than an average of four overflow events per year from a hydraulically connected system;
- The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected during precipitation events on a hydraulically connected system-wide annual average basis; or
- The elimination or removal of no less than the mass of the pollutants identified as causing water quality impairment.

The "Demonstration Approach" is a program that does not meet the criteria of the Presumption Approach but demonstrates that a selected control program is adequate to meet the water quality-based requirements of the CWA. To utilize this approach, the permittee would be required to demonstrate each of the following:

- The planned control program is adequate to meet Water Quality Standards and protect designated uses unless water quality standards or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs;
- The CSO discharges remaining after implementation of the control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment;
- The planned control program will provide the maximum pollution reduction benefits attainable; and
- The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

Changes were incorporated to Part IV.G.4 in a major permit modification dated May 1, 2020. Specifically, this condition was modified to clarify that requirements pertaining to the identification of infiltration and inflow (I/I) as originally included in Part IV.F.1.h were more relevant as a LTCP measure in Part IV.G.4.

Summary of Compliance with the 2015 Permit Requirement

Development and Evaluation of Alternatives Report (DEAR):

Prior to the submission of the LTCP, the permittees were required to submit a Development and Evaluation of Alternatives Report (DEAR). The objective of the DEAR submission was to provide a comprehensive evaluation of CSO control alternatives that would enable the selection of alternatives to ensure the CSO controls would meet the Clean Water Act; would be protective of the existing and designated uses; give the highest priority to controlling CSOs to sensitive areas; and address minimizing impacts from SIU discharges. The DEAR was supported by several foundational studies as submitted by the permittee that culminated with the preparation of the LTCP.

The percent capture equation specified in Section C.1.1 of the revised DEAR is as follows:

"…In reference to percent capture.…, the equation used to calculate CSO capture for PVSC over a representative time frame is as follows:

$$\text{Percent capture} = 100 \times \frac{\text{Sum of volume delivered to acceptable treatment}}{\text{Sum of inflow volumes to the CSS [sanitary + runoff]}}$$

For the percent capture calculation, the wet weather period starts when the accumulated rainfall depth is greater than 0.1 inch and ends 12 hours after precipitation stops. The flow volume within this period is counted as wet weather flow."

Baseline percent capture as broken down by interceptor communities versus Hudson County force main communities is represented in Table C-8 of the revised DEAR (dated November 22, 2019) is as follows:

	PVSC Interceptor Communities	Hudson County Force Main Communities
Total Wet Weather Volume (MG)	12,495	6,411
Total CSO Volume (MG)	2,042	2,222
% Capture	83.7%	65.3%
Additional Capture Volume (MG) for 85% Capture	168	1,260

The DEAR provided sufficient analysis of the required CSO technologies and was approved by the Department on January 17, 2020.

Selected Alternatives in the LTCP:

The Evaluation of Alternatives is supported by several foundational studies as submitted by the permittees that culminated with the preparation of the LTCP. As described within the LTCP, the permittees state that LTCP recommendations are based upon information and evaluations performed during the earlier phases of the planning process, including the characterization of the receiving waters, hydraulic and water quality modeling, screening of CSO control technologies, development and evaluation of alternatives, public participation, and the nine minimum controls.

This permit renewal incorporates the Regional Alternative where the 85% capture criterion is achieved across the PVSC District as a combined effort of all the permittees. Not all permittees will reach 85% capture individually in the Regional Alternative, but the combination of CSO control technologies used across the entire region will meet this criterion. This alternative primarily consists of two major improvements: 1) construction of a parallel interceptor to the main interceptor, and 2) construction of a secondary bypass at the PVSC WRRF which increases wet weather flow treatment capacity to 720 MGD. These improvements will then be coupled with local CSO control technologies in order to constitute the entire Regional Alternative.

A listing of projects is as follows:

Permittee	CSO Control Technology
Bayonne	Storage Tank at BA001/002
Bayonne	Storage Tank at BA007
Bayonne	Storage Tank at BA021
Bayonne	Force Main Upgrade (pipe sizes increased to 36" Pipe)
Bayonne	Increased wastewater conveyance of wet-weather flows to PVSC for treatment to 27.8 MGD
East Newark	Sewer Separation
Harrison	Green Infrastructure Program (Fixed Investment)
Harrison	Sewer Separation at 004 (11 ac completed) and 005 (87.1 ac; 37.6 completed, 49.5 remaining)
JCMUA	I/I Source Control Piping Rehabilitation, 12"-96"
JCMUA	Sewer Separation at Bates
JCMUA	Green Infrastructure for 7% impervious area
JCMUA	Storage Tank at JC001, JC002
JCMUA	Storage Tank at JC003, JC004, JC005
Kearny	Sewer Separation at Outfall KE010
Kearny	Sewer Separation at KE006
Newark	Regulator Modifications on Main Interceptor
Newark	Increasing Flow from South Interceptor through Peddie St. Regulator Modifications
Newark	Green Infrastructure
Newark	Water Conservation Program
NBMUA	Storage Tank at School (NB003)
NBMUA	Closure of outfall NB014
NBMUA	Green infrastructure
Paterson	Sewer Separation Projects Completed Since 2006
Paterson	Planned Sewer Separation for PT023
Paterson	19th Ave. Relief Sewer for PT030
Paterson	Green Infrastructure for 2.5% Impervious Area
Paterson	15' Dia. 1600 LF Storage Tunnel at PT025, 85% Capture
PVSC	PVSC WRRF Secondary Bypass to 720 MGD WWF
All	Parallel Interceptor to Main Interceptor

Compliance with Wet Weather Percent Capture:

The LTCP states that the Presumption Approach has been selected as per in Section ES-3, Section B.3 and Section H.3.7. The minimum 85% wet weather capture requirement is specified in the Federal CSO Control Policy and the NJPDES permit at Part IV.G.4.f.ii. The baseline percent calculation utilized for the revised LTCP (submitted August 2021) is specified in Section F.2.3 and Table F-2 is as follows:

$$\% \text{ Capture} = 1 - \frac{\text{Total Annual CSO Volume}}{\text{Total Annual Wet Weather Flow Volume}}$$

Each term in the equations for baseline condition percent capture for the complete hydraulically connected system is listed below from the revised LTCP:

Flow Component and Capture	Baseline Volume (MG)
WW Inflow	15,104
Wet Weather Captured Flow	14,423
CSO	4,569
Wet Weather Flow from Separate Sanitary Communities	3,888
Total combined system WW inflow	15,104
Percent capture	69%

For comparison, percent capture after implementation of the CSO control alternatives calculates to be 85% as included in the revised LTCP.

Flow Component and Capture	Regional Alternative
Annual CSO, MG	2255
WW inflow, MG	15104
Percent capture	85%

Summary:

A summary of the selected alternatives from the revised LTCP submitted by PVSC and the PVSC municipalities and the associated percent capture values are as follows where an Implementation Schedule is included in Part IV.G.8:

Municipality	Baseline		Regional	
	Annual CSO (MG)	% Capture	Annual CSO (MG)	% Capture
Bayonne	747	49%	319	78%
East Newark	17	77%	11	85%
Harrison	47	82%	38	85%
Jersey City	1557	72%	1145	78%
Kearny	255	75%	99	85%
Newark	1319	77%	174	96%
North Bergen	274	77%	186	85%
Paterson	353	82%	283	85%
Totals-System Wide CSO Percent Capture	**4,569**	**69%**	**2,255**	**85%**

System wide percent capture over time is depicted in Figure J-1 of the Regional LTCP:

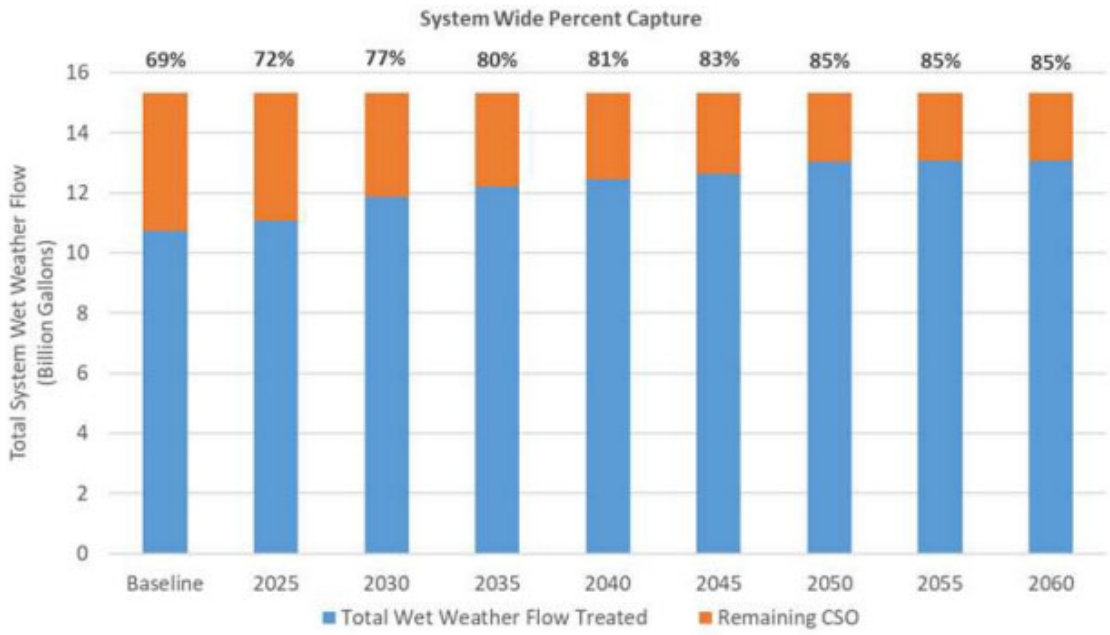


Figure J-1: Approximate System Wide CSO Reduction Improvements Completed Over Each 5-year Permit Cycle

The permittees have submitted the required studies that form the basis of the Evaluation of Alternatives where these studies have been previously approved by the Department as noted in the Contents of the Administrative Record. In addition, the permittees have selected the minimum 85% wet weather capture criteria of the Presumption Approach as a means of compliance with the Federal CSO Control Policy and the NJPDES permit at Part IV.G.4.f.ii. As described within the LTCP, this value will be met through the implementation of CSO control alternatives identified above.

Renewal Permit Requirements for Evaluation of Alternatives

This permit renewal includes an implementation schedule as well as specific requirements to track and assess compliance with the attainment of wet weather percent capture upon completion of the CSO control alternatives. In order to evaluate the performance of the CSO control measures, the permittees are required to demonstrate a value of 85% wet weather capture through the use of the hydrologic and hydraulic model. Please refer to Part IV.G.9 for compliance with this performance criteria.

This condition is included in Part IV.G.4.

5. Cost/Performance

Background of 2015 Permit Requirement

The 2015 NJPDES CSO permit renewal included a permit condition regarding Cost/Performance as part of the LTCP. The Cost/Performance requirement is intended to demonstrate the relationships among proposed control alternatives that correspond to those required in Section G.4. This shall include an analysis to determine where the increment of pollutant reduction achieved in the receiving water diminishes compared to the increased costs. This analysis, often known as the "knee of the curve" analysis, is used in order to help guide the selection of controls. The permittee can use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the required information.

Summary of Compliance with 2015 Permit Requirement

As described in Section A.8, LTCP Planning Approach, of the LTCP, based on the hydrologic and hydraulic and water quality monitoring results of the DEAR CSO Control Alternatives, the permittees refined the alternatives and developed costs for each while evaluating performance considerations such as impacts to water quality and CSO volume capture (reduction) to evaluate the appropriate level of control.

Renewal Permit Requirements for Cost/Performance

In accordance with Part IV.D.3.b. of the existing NJPDES permit, the permittee was required to develop an approvable LTCP. Only capital costs were evaluated for the purposes of the LTCP. The Department is requiring that the permittee complete all projects set forth in the Implementation Schedule included in Part IV.G.8.

This condition is included in Part IV.G.5.

6. Operational Plan

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit renewal included a permit condition regarding the Operational Plan as part of the LTCP in Part IV.G.6.

Summary of Compliance with the 2015 Permit Requirements

Section L.3 of the LTCP as entitled "Operation and Maintenance Program Updates for CSO Control Measures" specifies that JCMUA would prepare updates to their O&M manual to include any new or modified facilities which are a part of the LTCP. These manuals would include a description of the equipment and features of the facility, operating instructions, maintenance guides, and safety considerations.

Renewal Permit Requirements for the Operational Plan

In accordance with N.J.A.C. 7:14A-6.12 of the NJPDES Rules, the permittee must maintain and operate the treatment works and facilities installed by the permittee to achieve compliance with the terms and conditions of the discharge permit. The rules provide that proper operation and maintenance includes, but is not limited to, effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls.

As the CSO Control Measures are implemented in accordance with the implementation schedule, updates will need to be incorporated to the Operational Plan which includes the O&M Manual, Emergency Plan and Asset Management Plan. These updates shall address effective performance; adequate funding; effective management; adequate staffing and training; regularly scheduled inspections and maintenance; and adequate laboratory/process controls. In addition, this shall include the operation and maintenance of green infrastructure.

In response to the Department's findings in the technical comment letter dated May 10, 2021, a revision to the LTCP dated July 2021 provided supplemental information to Section L.3 of the LTCP. The supplemental information specified that revisions to the O&M manual will be made at least annually to reflect updated information and changes in the LTCP characterization, design, construction, operations, maintenance. These revisions will also include updates to the organization tables, staffing lists, and telephone lists. Finally, budget information will also be updated annually by replacing the proposed budget data with the current year's budget data.

As noted above, the permittee must maintain and operate the treatment works installed by the permittee to achieve compliance with the terms and conditions of the discharge permit pursuant to N.J.A.C. 7:14A-6.12. Part IV.F.1 (Proper Operation and Regular Maintenance Program Requirements) of the existing NJPDES permit, required the permittee to characterize the entire collection system, delineate characterization information in GIS, and create Standard Operating Procedures (SOPs) for operations, inspections, & scheduled preventative maintenance, including an Emergency Plan and incorporate an Asset Management Plan. In addition, Asset Management is the process to ensure that there is sufficient investment in the CSO control strategy as well as the planned maintenance, needed repair, replacement, and upgrade of the physical components of the infrastructure for the treatment works.

This condition has been updated as follows:

a. Throughout implementation of the LTCP as appropriate, the permittee shall modify the Operational Plan, including Operation & Maintenance (O&M) Manual, Emergency Plan, and Asset Management Plan in accordance with F.1., to address the LTCP CSO control facilities and operating strategies, including but not limited to: the implementation, operation, and maintenance of Gray and Green Infrastructure; staffing and budgeting; and I/I. Climate change resilience requirements shall also be considered in the update of these plans.

This condition is included in Part IV.G.6.

7. Maximizing Treatment at the Existing STP

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit renewal included a permit condition regarding Maximizing Treatment at the Existing STP as part of the LTCP. Specifically, this permit condition required a demonstration of the maximization of the removal of pollutants during and after each precipitation event at the STP to ensure that such flows receive treatment to the greatest extent practicable, utilizing existing tankage for storage, while still meeting all permit limits.

Summary of Compliance with 2015 Permit Requirements

The LTCP includes CSO control measures to demonstrate the maximization of the removal of pollutants during and after each precipitation event at the STP. These measures are designed to ensure that such flows receive treatment to the greatest extent practicable utilizing existing tankage for storage, while still meeting all permit limits.

Renewal Permit Requirements for Maximizing Treatment at the Existing STP

This renewal permit action identifies that adequate and effective CSO control measures are being implemented consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. However, this permit condition has been continued to ensure that construction of the new facility continues and current practices are maintained to ensure compliance with the Presumption Approach as set forth in the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. Part IV.G.7 is stated as follows:

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize treatment at the hydraulically connected STP.

This condition is included in Part IV.G.7.

8. Implementation Schedule

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit renewal included a permit condition regarding the Implementation Schedule as part of the LTCP which requires the permittee to submit a construction and financing schedule for the implementation of Department approved LTCP CSO controls. This schedule may be phased on the relative importance of the adverse impacts upon water quality standards and designated uses, the permittee's financial capability, and other water quality related infrastructure improvements, including those related to stormwater improvements that would be connected to CSO control measures. The permittee is required to begin implementation of the LTCP in accordance with the set schedule. The implementation schedule is required to address yearly milestones for:

- Adequately addressing areas of sewage overflows, including to basements, streets and other public and private areas;
- CSO overflows that discharge to sensitive areas as the highest priority;
- Use impairment of the receiving water;
- The permittee's financial capability (factors shall include: median household income, total annual wastewater and CSO control costs per household as a percent of median household income, overall net debt as a percent of full market property value, property tax revenues as a percent of full market property value, property tax collection rate, unemployment, and bond rating)
- Grant and loan availability
- Previous and current residential, commercial and industrial sewer user fees and rate structures.
- Other viable funding mechanisms and sources of financing.
- Resources necessary to design, construct and/or implement other water related infrastructure improvements as part of an Asset Management Plan.

Summary of Compliance with the 2015 Permit Requirement

The 2015 NJPDES permit required submission of a LTCP with an Implementation Schedule.

Renewal Permit Requirements for Implementation Schedule

Since the submission of the LTCP (revised August 2021), the permittees provided the PVSC Parallel Interceptor Route Analysis Report dated June 2022, where an updated implementation schedule of the regional interceptor was provided by PVSC on October 9, 2024. In addition, updates to the implementation schedule were provided by PVSC on March 13, 2024, Harrison on March 13, 2024, East Newark on August 9, 2024, and Jersey City MUA on December 6, 2024. The implementation schedule as included in this permit is as follows:

Year	Permittee	CSO Control Technology
2025	All[1]	Regional Interceptor (Engage the Services of a Program Manager for Construction of Parallel Interceptor; Engage the Services of a Program Manager to assist with the Implementation of the Regional Alternative Long-Term Control Plan)
	Bayonne	Increase Wet Weather Pump Station Capacity to 27.8 MGD; Implement Green Infrastructure
	East Newark	Complete Waterfront Sewer Separation
	Harrison	Begin to Implement Green Infrastructure Program
	Newark	Implement Green Infrastructure
	North Bergen MUA	Complete Storage Tank at NB003
	Paterson	Implement Green Infrastructure
2026	All[1]	Regional Interceptor (Redefine Route Analysis; Identify Necessary Property Acquisitions and Easements)
	Paterson	Complete Planned Sewer Separation for PT023
2027	All[1]	Regional Interceptor (Begin Property Acquisitions and Easements)
	Jersey City MUA	Complete Summit Ave. & Carlton Ave. Sewer Lining; Complete West Side Ave. (Sip Ave. – Danforth Ave.) Sewer Lining
	PVSC	Complete WRRF Secondary Bypass to 720 MGD
2028	All[1]	Regional Interceptor (Continue Property Acquisitions and Easements)
	Bayonne	Force Main Upgrade
	East Newark	Complete Thread Mill Sewer Separation
	North Bergen MUA	Closure of Outfall NB014
2029	All[1]	Regional Interceptor (Continue Property Acquisition and Easements; Revalidate Route Analysis; Begin Site Surveys and Geotechnical Investigation)
	Bayonne	Begin Storage Tank at BA007
	Harrison	Begin Sewer Separation at 005
	Jersey City MUA	Complete General Sewer Lining
	North Bergen MUA	Implement Green Infrastructure
	Paterson	Begin 19th Avenue Relief Sewer
2030 - 2034	All[1]	Regional Interceptor (Complete Tunnel Design; Complete Tunnel DBB RFP Procurement; Begin Tunnel Construction; Complete CSO Diversion Sewer Design; Complete Pump Station Design; Complete CSO Diversion Sewer RFP Procurement; Complete Pump Station RFP Procurement; Begin CSO Diversion Sewer Design; Begin Pump Station Design)
	Bayonne	Complete Storage Tank at BA007
	Harrison	Complete Green Infrastructure Program
	Jersey City MUA	Complete Country Village Sewer Separation; Complete Princeton Avenue Sewer Separation; Complete Van Horne Sewer Separation - Phase 1; Complete Nelson Avenue Sewer Separation; Complete Pine Street Sewer Separation - Phase 1 & Phase 2; Complete Green Infrastructure – Martin Luther King Dr. Tree Trenches; Complete Van Winkle Outfall; Complete New York Avenue Storm Sewer
2035 - 2039	All[1]	Regional Interceptor (Complete Tunnel Construction; Complete CSO Diversion Sewer Construction; Complete Pump Station Construction; Start-up & Commissioning)
	Jersey City MUA	Complete Linden Avenue Sewer Separation; Complete Mallory Avenue Sewer Separation; Complete Jersey Avenue, Marin Blvd., and Grove Street Sewer Separation; Complete

		Johnston Avenue Sewer Separation - Phase 2; Complete Wayne Street Sewer Separation
2040 - 2044	Bayonne	Complete Storage Tank for BA021
	Harrison	Complete Sewer Separation at 005
	Jersey City MUA	Complete Pine Street Stormwater Pump Station - Phase 3; Complete Westside Treatment Shaft 1 (JC001-JC013); Complete Westside Treatment Shaft 2 (JC001-JC013)
	Newark	Regulator Modifications on Main Interceptor
	Paterson	Complete 19th Avenue Relief Sewer
2050 - 2054	Bayonne	Complete Storage Tank for BA001/BA002; Complete Green Infrastructure
	Newark	Complete Green Infrastructure
2055 - 2059	Paterson	Complete Storage Tunnel
2060 - 2064	Paterson	Complete Green Infrastructure

[1]All includes all permittees in the PVSC District except Kearny.

This renewal permit requires that the permittees complete the above referenced projects based on the Implementation Schedule. Consistent with the LTCP and Part IV.G.8, the permittee is hereby required to attain a minimum wet weather percent capture value of 85%. The Department reserves the right to require the permittee to re-evaluate the Implementation Schedule at the end of this 5-year renewal permit action to determine if additional measures are needed in order to comply with 85%.

This condition is included in Part IV.G.8.

9. Compliance Monitoring Program

Background of 2015 Permit Requirements

The 2015 NJPDES CSO permit renewal included a permit condition regarding the Compliance Monitoring Program (CMP) which is a component of Part IV.G.1 as well as a separate component of the LTCP. The CMP consists primarily of ambient baseline monitoring to provide a present day evaluation or snapshot of ambient water quality conditions. The 2015 snapshot is to be used as a baseline to compare future evaluations in order to assure the effectiveness of the CSO control measures. The CMP was required to include the following specific components: 1) ambient in-stream monitoring data, 2) discharge frequency, duration and quality data and 3) rainfall data.

Summary of Compliance with the 2015 Permit Requirement

In accordance with Part IV.D.3.d and Part IV.G.1.d.3 and G.9 of the existing NJPDES permit, the permittee was required to submit a work plan within 6 months of the effective date of the permit to be followed by a baseline Compliance Monitoring Program (CMP) report within 36 months from the effective date of the permit. The work plan was dated December 31, 2015, revised February 19, 2016 and May 10, 2016, and was approved by the Department on February 24, 2016. This report utilized the existing data set from the New Jersey Harbor Dischargers Group (NJHDG) which is a consortium of nine sewerage agencies representing eleven wastewater treatment plants which all discharge their treated effluent to the waters of New York/New Jersey Harbor Estuary. Regarding the report, the permittee, cooperatively with the NJ CSO Group submitted the "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018. The report included three parallel data collection efforts:

1) Baseline Sampling - modeled after and intended to supplement the approved routine sampling program of the NJHDG which is a long-standing sampling effort;
2) Source Sampling - targets the major influent streams within the study area to establish non-CSO loadings, and coincides with the NJHDG and Baseline Sampling); and

3) Event Sampling - timed to coincide with rainfall to capture three discrete wet weather events over the course of the year on each segment of the NY-NJ Harbor complex impacted by CSOs.

A total of 23 baseline and source sampling events were completed. The goal of the event sampling was to capture three significant wet weather events (precipitation >0.5 inches in 24 hours) at each targeted location, which was completed across four sampling events (one set of samples was collected across two precipitation events because of sampling logistics). All samples collected were analyzed for fecal coliform and enterococcus; freshwater samples were also analyzed for E. coli.

The Department issued findings in the technical comment letter dated September 7, 2018 which subsequently resulted in a revision to the report on October 5, 2018. The primary goal of the baseline monitoring was to provide a snapshot to characterize the water quality conditions in the NY/NJ Harbor Area to represent baseline and existing conditions. The Department approved the CMP report on March 1, 2019. Specifically, in that letter, the Department determined that the data collection effort, in concert with the ongoing NJHDG monitoring, provided sufficient information for the purposes of data characterization for baseline and existing conditions. In addition, the Department's March 1, 2019 approval letter indicated that the report is not intended to assess attainment of the waterbody against water quality standards at N.J.A.C. 7:9B. Please refer to Part IV.G.1 regarding the Department's comments on hydraulic and hydrological modeling which is also a component of Part IV.G.9.

Renewal Permit Requirements for the Compliance Monitoring Program

The permittee shall implement a Compliance Monitoring Program **(**CMP) adequate to: verify baseline and existing conditions, the effectiveness of CSO control measure, compliance with water quality standards, and protection of designated uses. The portion of the CMP conducted during and after implementation of the LTCP is referred to as the Post Construction Compliance Monitoring Plan (PCCMP). The main elements of the PCCMP shall include:

- A process to determine whether the CSO control measures are meeting the interim required percent capture milestone set forth in the LTCP or the final required percent capture of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events is eliminated or captured for treatment on a system-wide annual average basis as defined in the Federal CSO Policy and N.J.A.C.7:14A-11, Appendix C. The PCCMP shall provide data to evaluate the effectiveness of the CSO control measures constructed during and after the implementation of the LTCP.
- A monitoring schedule, regulator monitoring locations, receiving water sampling locations, and rain gauge locations.
- The approach for analysis of the PCCMP data for assessing the performance of CSO control measures and for reporting progress to regulatory agencies and the general public. The PCCMP shall evaluate the incremental reduction in overflow rates and volumes as the CSO control measures are placed into operation.
- A Public Notification System to notify the public of the occurrence of combined sewer overflows for each receiving water body.

The PCCMP shall include the implementation of a rainfall and hydraulic monitoring program, as well as a detailed analysis and evaluation of the CSO control measures' efficacy. Through a calibrated/validated hydrologic and hydraulic model, a continuous simulation for the system-wide annual average shall be run by the permittee to compare the remaining CSO discharge volume to baseline conditions and determine whether the CSO control measures have achieved the interim required percent capture or the final required percent capture. Note that any effort to recalibrate the hydrologic and hydraulic model shall be performed after consultation with the Department.

The PCCMP shall use the following steps to determine if the CSO control measures are meeting the interim required percent capture or the final required percent capture:

1) Collect flow monitoring for a 1-year period and rainfall data for a 1-year period during the effective NJPDES permit. Perform QA/QC on the data;
2) At the end of the effective NJPDES permit, update the hydrologic and hydraulic model to include all completed CSO control measures and any other modifications to the CSS since the hydrologic and hydraulic model was calibrated for the LTCP;
3) Calibrate and/or validate the updated hydrologic and hydraulic model, if needed, using the flow and rainfall data collected during the effective NJPDES permit. Any recalibration of the hydrologic and hydraulic model shall be approved by the Department; and
4) Perform continuous simulation using the updated hydrologic and hydraulic model for the system-wide annual average and calculate the percent capture to determine if the interim required percent capture or the final required percent capture is being achieved.

The permittee shall conduct interim post-construction compliance monitoring every five years as established in the LTCP. Such monitoring shall assess the projects and implementation schedule including attainment of percent capture milestones set forth in the LTCP. These projects shall be monitored and analyzed to determine if they are operating as intended and whether the implementation of projects under the LTCP are achieving the interim required percent capture milestones set forth in the LTCP. If the PCCMP determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent criteria, an evaluation must be included in the Adaptive Management Plan in accordance with H. below.

The permittee shall submit an Interim PCCMP Report on or before 54 months from the effective date of the permit (EDP). The report shall include:

- A statement setting forth the deadlines and other terms that the permittees were required to meet in the effective NJPDES permit;
- A summary of principal contacts with the Department during the effective NJPDES permit relating to CSOs or implementation of the LTCP;
- NJPDES permit violations, including but not limited to dry weather overflows;
- A summary of flow and hydraulic monitoring data collected by the permittees during the effective NJPDES permit;
- A description of the CSO control measures completed within the effective NJPDES permit and a projection of CSO control measure work to be performed during the subsequent renewal NJPDES permit;
- An evaluation of the effectiveness of the CSO control measures constructed in the effective NJPDES permit to determine if the interim required percent capture is achieved; and
- A summary of any proposed adjustments to the components of the LTCP.

A Final PCCMP Report shall be submitted to the Department within 30 months after the last LTCP project has been implemented. The single Interim or Final PCCMP Report shall evaluate and document the system-wide performance of the LTCP CSO control measures. The Report shall include an assessment of whether the control measures are meeting the final required percent capture and complying with water quality standards. The report shall include:

- A complete post-construction compliance monitoring period data summary and analysis;
- A reporting of all of the CSO control measures that have been constructed, implemented, and that are in operation;
- An evaluation of the CSO control measures' performance, and whether the controls meet the final required percent capture;

- A description of any actions that were needed to be implemented to meet the interim required percent capture or the final required percent capture; and
- An assessment of whether the control measures are complying with water quality standards.

These conditions are included in Part IV.G.9.

10. Permittee's LTCP Responsibilities

Background of 2015 Permit Requirement

The NJPDES Permits for PVSC and the 8 CSO municipalities encouraged collaboration among Permittees within a hydraulically connected sewer system for the development of a LTCP. Part IV.G.10 of the permit stated the following:

a. The permittee is responsible for submitting an LTCP that addresses all nine elements in Part IV.G.

Where multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively with all other permittees to ensure the LTCPs are consistent. The LTCP documents must be based on the same data, characterization, models, engineering and cost studies, and other information, where appropriate. Each permittee is required to prepare the necessary information for the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees within the hydraulically connected system in a timely manner for LTCP submission.

Summary of Compliance with 2015 Permit Requirement

As noted in the LTCP in Section B.4, Local Agreements, 40 separate sanitary sewer communities and the eight CSO Permittees have contracts with PVSC for the treatment and disposal of wastewater for each of their communities. These CSO Permittees convey wastewater through their own local sewerage systems to the PVSC interceptors or the HCFM. The interceptor and HCFM then convey the wastewater to the PVSC WRRF for treatment and disposal. PVSC charges each community as a wholesale customer based on their current rate structure. As further noted in Section B.5, Need for Regional Approach, PVSC, City of Bayonne, Borough of East Newark, Town of Harrison, JCMUA, Town of Kearny, City of Newark, North Bergen MUA and City of Paterson acknowledged the need for a regional approach and collaborated and worked together to prepare a regional plan. The October 2020 LTCP compiles and summarizes the results of the nine individual LTCP's in order to provide a singular, comprehensive LTCP for PVSC, City of Bayonne, Borough of East Newark, Town of Harrison, JCMUA, Town of Kearny, City of Newark, North Bergen MUA and City of Paterson and satisfy the requirements of the NJPDES Permits. This ensures consistency in the development, selection, and implementation of the LTCP alternatives. However, ultimately the Town of Kearny selected the Municipal Alternative as stated within the October 2020 LTCP.

The LTCP as submitted by PVSC, City of Bayonne, Borough of East Newark, Town of Harrison, JCMUA, Town of Kearny, City of Newark, North Bergen MUA and City of Paterson outlines the owner/operators of the CSSs and control facilities from the CSO Permittees as follows:

Bayonne City
Owner/Operator of CSS: Bayonne City
Owner of Outfalls: Bayonne City
Operator of Regulators: Bayonne City

Borough of East Newark
Owner/Operator of CSS: Borough of East Newark
Owner of Outfalls: Borough of East Newark
Operator of Regulators to PVSC Interceptor: PVSC

Town of Harrison
Owner/Operator of CSS: Town of Harrison
Owner of Outfalls: Town of Harrison
Operator of Regulators to PVSC Interceptor: PVSC

Jersey City MUA
Owner/Operator of CSS: Jersey City MUA
Owner of Outfalls: Jersey City MUA
Operator of Regulators: Jersey City MUA

Town of Kearny
Owner/Operator of CSS: Town of Kearny
Owner of Outfalls: Town of Kearny
Operator of Regulators to PVSC Interceptor: PVSC

City of Newark
Owner/Operator of CSS: City of Newark
Owner of Outfalls: City of Newark
Operator of Regulators: City of Newark and PVSC

North Bergen MUA
Owner of CSS: North Bergen Township
Operator of CSS: North Bergen MUA
Owner of Outfalls: North Bergen MUA
Operator of Regulators: North Bergen MUA

City of Paterson
Owner/Operator of CSS: City of Paterson
Owner of Outfalls: City of Paterson
Operator of Regulators: City of Paterson and PVSC

Renewal Permit Requirements for Permittee's LTCP Responsibilities

As described in previous sections, the permittees have worked collaboratively throughout the LTCP process resulting in a single, coordinated LTCP. As a result, the objective of "Permittee's LTCP Responsibilities" has been satisfied and this requirement has been fulfilled with respect to preparation of the LTCP. However, the overall objective of this permit condition has been continued to ensure that CSO control measures are continued in a collaborative manner. This permit condition has been updated as follows:

a. The permittee is responsible for implementing CSO control measures to ensure compliance with the Federal CSO Control Policy and N.J.A.C. 7:14-11, Appendix C as outlined in the LTCP. Since multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively and provide the necessary information with all other permittees to ensure overall compliance. In addition, each permittee is required to institute necessary measures for the LTCP for the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees for compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

This condition is included in Part IV.G.10.

D. Renewal Permit Requirements:

1. Precipitation Trends

Since the issuance of the 2015 NJPDES CSO permit, the State has further studied the presently existing and likely future impacts of climate change specific to New Jersey and the Department issued the New Jersey Climate Science Report in 2020, an addendum in 2022, and will routinely update these materials as the science evolves, which are available at https://nj.gov/dep/climatechange/data.html. The State also assembled the Interagency Council on Climate Resilience to identify the measures necessary to promote the long-term mitigation, adaptation and resilience of New Jersey's economy, communities, infrastructure and natural resources, which issued the to build resilience to the impacts of climate change across public and private sectors, and issued the statewide Climate Change Resilience Strategy in 2021, which will be routinely updated as statewide resilience planning efforts advance. These materials are available at https://nj.gov/dep/climatechange/resilience.html.
As climate change will impact all of New Jersey's natural resources and their supporting infrastructure, management plans must be adaptive as conditions. continue to evolve and new data becomes available. Adaptive management takes an iterative approach designed to expect and respond to uncertainty and variability of resources over time. By incorporating adaptive management and future conditions into planning and asset management, water resource managers, including those permitted by the Department, can best ensure that their systems and service to the public are best prepared for a changing climate.

The following information shall be submitted to the Department as part of the NJPDES permit renewal application:

- The permittee shall analyze and submit the annual precipitation depth obtained by the National Oceanic Atmospheric Administration (NOAA) at the Newark Liberty International Airport in order to determine the annual precipitation depth during the effective period of the permit.
- The permittee shall determine and submit the annual precipitation depth for each calendar year, such that by the end of the permit, the most recent five calendar years of data has been collected. The permittee shall compare this data to assumptions utilized in the development of the LTCP.
- This information shall be submitted to the Department with the NJPDES renewal application with an assessment of any change in precipitation trends. The Department will review this information and make a determination that Adaptive Management measures may need to be pursued in a subsequent permit action.

2. Adaptive Management Plan

An Adaptive Management Plan shall be submitted with the NJPDES permit renewal application if any of the following occurs:

i. An Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture as per Part IV.G.9.e; and/or
ii. A permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule; and/or
iii. The precipitation trends required in Part IV.H.1 above demonstrates a change in the assumptions used in the development of the LTCP.

If an Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture, the Adaptive Management Plan shall include:

i. Modified or additional CSO control measures that will be to achieve the interim required percent capture or the final required percent capture;
ii. A detailed analysis and a modified implementation plan and schedule of the CSO control measures; and
iii. Inclusion of any adaptive management modifications based on an Interim or the Final PCCMP Report.

If a permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule by incorporating new technologies, group similar control measures to reduce cost, increase wet weather, change the order of the control measures and/or accelerate the schedule. If such a request, the Adaptive Management Plan shall include:

i. A detailed analysis of the modified and/or new CSO control measures including verification that the interim required percent capture or the final required percent capture will be achieved; and
ii. A modified implementation plan and schedule of the CSO control measures.

Any additional CSO control measures that are determined to be necessary as a result of Adaptive Management will be required through a NJPDES permit action and will require a revision to the LTCP.

These conditions are included in Part IV.H.

E. Basis and Derivation for Monitoring Requirements:

The Permit Summary Table within this fact sheet contains a summary of data for all CSO outfalls. The proposed requirements and other pertinent information regarding the draft permit are described below, where monitoring requirements for Duration of Discharge is included for all outfalls, and Precipitation and Solids/Floatables is only for DSN 001A:

1. Duration of Discharge: Duration of Discharge represents the number of days (in whole numbers) that at least one discharge occurred from that outfall (i.e., not the number of discharge events). Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with an **estimated** sample type.

2. Precipitation: Precipitation represents the total amount of precipitation (i.e. rainfall and snowmelt) measured during the monitoring period from a single rain gauge representative of the area. Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with a **measured** sample type.

3. Solids/Floatables: Solids/Floatables (S/F) represents the total volume (reported in cubic yards) of all S/F removed and disposed of from all outfalls during the month. Reporting a S/F value is only necessary when the S/F material is measured for disposal (e.g. filled dumpsters). Monitoring and reporting for this parameter has been retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19.

   The monitoring frequency is **once per month** with a **measured** sample type.

F. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the MRFs as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

Electronic Reporting Requirements

On October 22, 2015, the USEPA promulgated the final NPDES Electronic Reporting Rule (see Federal Register 80:204 p. 64064). This rule requires entities regulated under the CWA NPDES program to report certain information electronically instead of filing paper reports.

In accordance with this rule, all required monitoring results reported on MRFs shall be electronically submitted to the Department via the Department's Electronic MRF Submission Service. In addition, starting December 21,

2020, the following document(s) or report(s) shall be electronically submitted to the Department via the Department's designated Electronic Submission Service:

- Sewer overflow event non-compliance reports required by N.J.A.C. 7:14A-6.10

Consistent with this rule, the existing reporting requirements contained in the existing permit at Part IV have been removed and are now contained at Part II of the permit. Please refer to Part II of this permit action for further details regarding the new reporting requirements as a result of the Electronic Reporting Rule.

G. General Conditions:

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

H. Operator Classification Number:

To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Environmental, Engineering and Permitting at (609) 984-4429.

I. Progress Reports:

This renewal permit includes a compliance schedule for the submission of progress reports beginning on the effective date of the permit (EDP). The permittee must submit a progress report to the Department on February 1st and August 1st of each year to document the permittee's progress towards compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11 – Appendix C. The progress reports must include but are not limited to the following information:

- A summary of all CSO measures implemented and the effectiveness of those measures;
- Verification that the Operation & Maintenance Manual, Asset Management Plan and Emergency Plan have been updated annually including detail on the System Cleaning Program;
- A discussion of the continued implementation of the NMCs including maintaining the telephone hotline/website pursuant to Section F.8, and
- A list of any complaints received by the permittee regarding CSO related flooding including location and duration.

9 Permit Summary Tables

Unless otherwise noted, all effluent limitations are expressed as maximums. Dashes (--) indicate there is no effluent data, no limitations, or no monitoring for this parameter depending on the column in which it appears.

DSN 001A

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (1)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
						Freq.	Sample Type
Duration of Discharge	Days	Monthly Total	6.19	MR	MR	1/Month	Estimated
Solids/Floatables (2)	Cu. Yd.	Monthly Total	42.9	MR	MR	1/Month	Measured
Precipitation	Inches	Monthly Total	4.03	MR	MR	1/Month	Measured

Footnotes and Abbreviations:

MR Monitor and report only

(1) This column represents averages of the monthly totals for each parameter for the time period of January 2016 through December 2024.

(2) Solids/floatables are reported system wide on the first outfall only

DSNs 002A – 011A, 013A-016A, 018A, 020A, 025A 026A, 028A, and 029A

OUTFALL	PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (1)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
							Freq.	Sample Type
DSN 002A	Duration of Discharge	Days	Monthly Total	5.06	MR	MR	1/Month	Estimated
DSN 003A	Duration of Discharge	Days	Monthly Total	4.97	MR	MR	1/Month	Estimated
DSN 004A	Duration of Discharge	Days	Monthly Total	4.69	MR	MR	1/Month	Estimated
DSN 005A	Duration of Discharge	Days	Monthly Total	4.46	MR	MR	1/Month	Estimated
DSN 006A	Duration of Discharge	Days	Monthly Total	5.97	MR	MR	1/Month	Estimated
DSN 007A	Duration of Discharge	Days	Monthly Total	4.50	MR	MR	1/Month	Estimated
DSN 008A	Duration of Discharge	Days	Monthly Total	6.07	MR	MR	1/Month	Estimated
DSN 009A	Duration of Discharge	Days	Monthly Total	5.36	MR	MR	1/Month	Estimated
DSN 010A	Duration of Discharge	Days	Monthly Total	4.88	MR	MR	1/Month	Estimated
DSN 011A	Duration of Discharge	Days	Monthly Total	7.25	MR	MR	1/Month	Estimated
DSN 013A	Duration of Discharge	Days	Monthly Total	6.68	MR	MR	1/Month	Estimated
DSN 014A	Duration of Discharge	Days	Monthly Total	2.93	MR	MR	1/Month	Estimated
DSN 015A	Duration of Discharge	Days	Monthly Total	3.45	MR	MR	1/Month	Estimated
DSN 016A	Duration of Discharge	Days	Monthly Total	7.25	MR	MR	1/Month	Estimated
DSN 018A	Duration of Discharge	Days	Monthly Total	3.58	MR	MR	1/Month	Estimated
DSN 020A	Duration of Discharge	Days	Monthly Total	4.23	MR	MR	1/Month	Estimated
DSN 025A	Duration of Discharge	Days	Monthly Total	5.76	MR	MR	1/Month	Estimated
DSN 026A	Duration of Discharge	Days	Monthly Total	2.37	MR	MR	1/Month	Estimated
DSN 028A	Duration of Discharge	Days	Monthly Total	5.20	MR	MR	1/Month	Estimated
DSN 029A	Duration of Discharge	Days	Monthly Total	7.95	MR	MR	1/Month	Estimated

Footnotes and Abbreviations:

MR Monitor and report only

(1) This column represents averages of the monthly totals for each parameter for the time period of January 2016 through December 2024.

10 Description of Procedures for Reaching a Final Decision on the Draft Action

Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in *The Herald News* and *Star Ledger* and in the *DEP Bulletin* available at https://dep.nj.gov/bulletin/.

11 Contact Information

If you have any questions regarding this permit action, please contact Josie Castaldo, Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860 or via email at Josie.Castaldo@dep.nj.gov.

12 Contents of the Administrative Record

The following items are used to establish the basis of the Draft Permit:

Rules and Regulations:

1. 33 U.S.C. 1251 et seq., Federal Water Pollution Control Act.
2. 40 CFR Part 131, Federal Water Quality Standards. [A]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System.
4. Federal CSO Control Policy (Published April 19, 1994, at 59 Federal Register 18688)
5. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A] [B]
6. N.J.A.C. 7:14A-1 et seq., New Jersey Pollutant Discharge Elimination System Regulations. [A] [B]
7. N.J.A.C. 7:9B-1 et seq., New Jersey Surface Water Quality Standards. [A] [B]
8. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.
9. N.J.S.A. 58:25-23 et/ seq., Sewage Infrastructure Improvement Act

To help permittees and NPDES permitting and WQS authorities implement the provisions of the CSO Control Policy, EPA has developed the following guidance documents:

1. Combined Sewer Overflows – Guidance for Long-Term Control Plan (EPA 832-B-95-002)
2. Combined Sewer Overflows – Guidance for Nine Minimum Controls (EPA 832-B-95-003)
3. Combined Sewer Overflows – Guidance for Screening and Ranking Combined Sewer System Discharges (EPA 832-B-95-004)
4. Combined Sewer Overflows – Guidance for Monitoring and Modeling (EPA 832-B-95-05)
5. Combined Sewer Overflows – Guidance for Financial Capability Assessment (EPA 832-B-95-006)
6. Combined Sewer Overflows – Guidance for Funding Options (EPA 832-B-95-007)
7. Combined Sewer Overflows – Guidance for Permit Writers (EPA 832-B-95-008)
8. Combined Sewer Overflows – Questions and Answers on Water Quality Standards and the CSO Program (EPA 832-B-95-009)
9. CSO Post Construction Compliance Monitoring Guidance (EPA 833-K-11-001)

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the Department. [A]
2. "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at https://dep.nj.gov/wp-content/uploads/dwq/mrf_manual.pdf. [A]
3. "USEPA TSD for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
4. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report *(includes 305 (b) Report 303(d) List)*. [A]
5. Standard Compliance and Inspection Reports (SCI) for site inspections conducted by enforcement on June 11, 2015, May 18, 2016, June 14, 2017, June 8, 2018, May 23, 2019, June 18, 2020, May 25, 2021, and May 26, 2022
6. Monitoring Report Forms (MRFs) dated January 2016 to December 2024.

Permits / Applications:

1. NJPDES/DSW Permit Application received January 29, 2020.
2. Final Renewal NJPDES/DSW Permit NJ0108723, issued March 12, 2015 and effective July 1, 2015.
3. Draft Renewal NJPDES/DSW Permit NJ0108723, issued January 17, 2014.
4. Minor Modification to NJPDES/DSW Permit NJ0108723, issued October 9, 2015 and effective July 1, 2015.
5. Final Major Modification to NJPDES/DSW Permit NJ0108723, issued May 1, 2020 and effective June 1, 2020 to incorporate changes to Part IV.F.1.h., F.3., and F.7.c.
6. Draft Major Modification to NJPDES/DSW Permit NJ0108723, issued March 13, 2020.
7. Stay to NJPDES/DSW Permit NJ0108723, issued February 2, 2018 which serves to stay Part IV.F.1.h of the existing permit.
8. Stay to NJPDES/DSW Permit NJ0108723, issued April 15, 2020 which serves to extend the LTCP submission date.

LTCP Report Submissions:

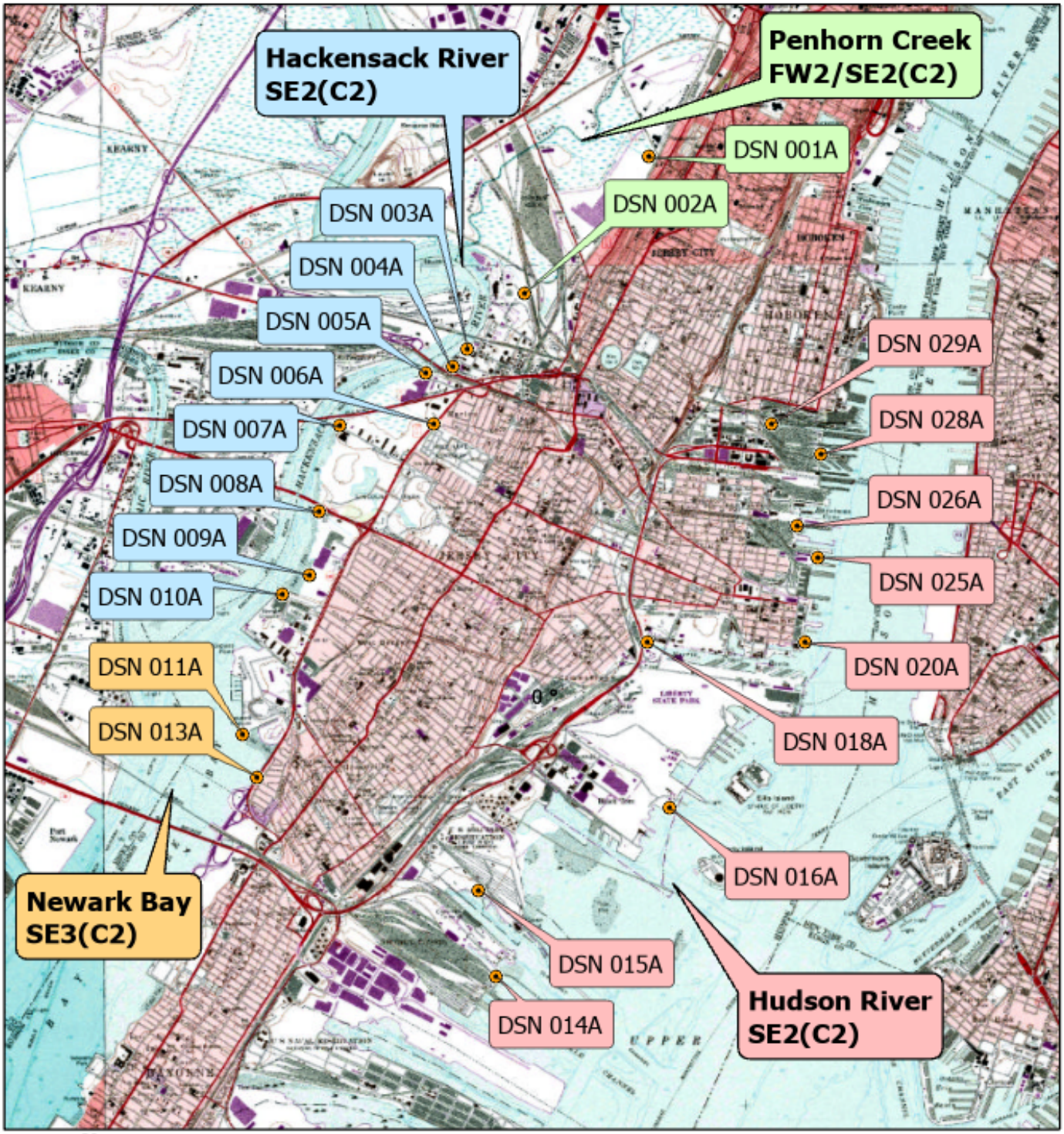
1. "JCMUA Sewer System Characterization Work Plan for the Long Term Control Plan" dated December 2015, revised April 29, 2016 and June 24, 2016.
2. "JCMUA Service Area System Characterization Report" dated June 2018, submitted June 27, 2018 and revised February 28, 2019.
3. "NJCSO Group Compliance Monitoring Program Quality Assurance Project Plan (QAPP)" dated December 31, 2015, revised February 19, 2016 and May 10, 2016.
4. "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018, revised October 5, 2018.
5. "Public Participation Process Report" dated June 2018, revised January 25, 2019.
6. "Identification of Sensitive Areas Report" dated June 2018, revised October 19, 2018, January 31, 2019 and March 29, 2019.
7. "Development and Evaluation of Alternatives for Long Term Control Planning for Combined Sewer Systems - Regional Report" dated June 2019, revised November 22, 2019.
8. "Selection and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems – Regional Report" dated October 2020, revised August 2021.
9. "PVSC Parallel Interceptor Route Analysis Report" dated June 2022.

Correspondences:

1. Technical Comments on the "JCMUA Sewer System Characterization Work Plan for the Long Term Control Plan" dated March 2, 2016 and May 24, 2016 with the approval letter dated August 1, 2016.
2. Technical Comments on the "JCMUA System Characterization Report" dated November 15, 2018 with the approval letter dated March 14, 2019.
3. Technical Comments on the "NJCSO Group Compliance Monitoring Program QAPP" dated January 22, 2016, with the approval letter dated February 24, 2016.
4. Technical Comments on the "NJCSO Group Compliance Monitoring Program Report" dated September 7, 2019, with the approval letter dated March 1, 2019.
5. Technical Comments on the "Public Participation Process Report" dated December 14, 2018, with the approval letter dated March 29, 2019.
6. Technical Comments on the "Identification of Sensitive Areas Report" dated September 20, 2018 and March 1, 2019, with the approval letter dated April 8, 2019.
7. Technical Comments on the "Development and Evaluation of Alternatives for Long Term Control Planning for Combined Sewer Systems - Regional Report" dated September 25, 2019, with the approval letter dated January 17, 2020.
8. Technical Comments on the "Selection and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems – Regional Report" dated June 11, 2021.
9. Requests for Information dated September 19, 2023.
10. Responses to Requests for Information dated October 19, 2023.
11. Permittee's submissions dated March 13, 2024.
12. East Newark's Implementation Schedule Update dated August 29, 2024.
13. Regional Interceptor Implementation Schedule Update dated October 9, 2024.
14. Jersey City MUA's Implementation Schedule Update dated December 6, 2024.
15. Letter from NJDEP to Permittees regarding Long Term Control Plan dated February 13, 2024.
16. Response Letter from North Bergen MUA dated February March 4, 2024.
17. Response Letter from East Newark dated March 12, 2024.
18. Response Letter from Paterson dated March 13, 2024.
19. Letter from NJDEP to Permittees regarding Long Term Control Plan dated July 25, 2024.
20. Review of LTCP Financial Capability Assessment by Industrial Economics Incorporated dated October 23, 2024.

Footnotes:

[A] Denotes items that may be found on the Department's website located at "http://www.state.nj.us/dep/".
[B] Denotes items that may be found on the USEPA website at "http://www.epa.gov/".



USGS Topographical Map
Jersey City Municipal Utilities Authority
Combined Sewer Overflow Outfalls
Jersey City, Hudson County
Watersheds: DSN 001A-010A: Hackensack R (below/incl Hirshfeld Bk)
DSN 011A-016A: Newark Bay / Kill Van Kull / Upper NY Bay
DSN 018A-029A: Hudson River

Document Path: G:\GIS\JCMUA\Figures\GIS_Map_July_2016_Submittal.mxd

JCMUA Regulators *			
CSO Regulator Number	Regulator Name	Latitiude	Longitude
RE-1	Brown Place	40d 41m 16.58s	74d 05m 26.67s
RE-2	Richard Street	40d 41m 57.06s	74d 04m 44.33s
RE-3/4	Claremont and Carteret	40d 42m 15.52s	74d 03m 56.99s
RE-5/6	Mill Creek and Pine	40d 42m 45.80s	74d 03m 13.21s
RE-10	Grand Street	40d 42m 53.28s	74d 02m 00.65s
RE-11	York Street	40d 42m 55.93s	74d 01m 59.63s
RE-15	Second Street	40d 43m 19.41s	74d 02m 17.02s
RE-16	South Sixth Street	40d 43m 30.48s	74d 02m 24.18s
RE-17	North Sixth Street	40d 43m 30.97s	74d 02m 24.97s
RE-18	Fourteenth Street	40d 43m 53.20s	74d 02m 12.55s
RE-19	Eighteenth Street	40d 44m 10.90s	74d 02m 49.74s
RW-1	Secaucus Road	40d 45m 37.15s	74d 03m 07.50s
RW-2	Manhattan Avenue	40d 44m 52.98s	74d 03m 55.49s
RW-3	St. Paul's Avenue	40d 44m 26.11s	74d 04m 23.01s
RW-4	Van Winkle Avenue	40d 44m 19.06s	74d 04m 26.59s
RW-5-1	Broadway	40d 44m 16.44s	74d 04m 41.50s
RW-5-2	Broadway	40d 44m 20.00s	74d 04m 53.58s
RW-6	Sip Avenue	40d 44m 03.67s	74d 04m 50.79s
RW-7	Duncan Avenue	40d 43m 49.28s	74d 05m 05.54s
RW-8	Clendenny Avenue	40d 43m 22.47s	74d 05m 29.44s
RW-9	Claremont Avenue	40d 43m 05.91s	74d 05m 40.73s
RW-10	Fisk Street	40d 42m 57.19s	74d 05m 46.46s
RW-11	North Danforth Avenue	40d 42m 22.11s	74d 05m 57.26s
RW-12	South Danforth Avenue	40d 42m 21.56s	74d 05m 57.53s
RW-13	Mina Drive	40d 41m 58.41s	74d 06m 13.64s

* All JCMUA netting facilities are equipped with tide gate(s)which were added as the secondary means of tidal intrusion prevention

JCMUA CSO Outfalls			
CSO Outfall	Associated CSO Regulator(s)	Latitiude	Longitude
001A CSO	RW-1	40d 45m 39.20s	74d 03m 11.53s
002A CSO	RW-2	40d 44m 50.66s	74d 04m 10.26s
003A CSO	RW-3	40d 44m 31.02s	74d 04m 36.86s
004A CSO	RW-4	40d 44m 24.33s	74d 04m 44.27s
005A CSO	RW-5	40d 44m 22.17s	74d 04m 56.16s
006A CSO	RW-6	40d 44m 04.25s	74d 04m 53.07s
007A CSO	RW-7	40d 44m 03.44s	74d 05m 37.30s
008A CSO	RW-8	40d 43m 32.97s	74d 05m 46.72s
009A CSO	RW-9	40d 43m 10.58s	74d 05m 51.81s
010A CSO	RW-10	40d 43m 03.59s	74d 06m 04.47s
011A CSO	RW-11, RW-12	40d 42m 13.77s	74d 06m 23.16s
013A CSO	RW-13	40d 41m 58.49s	74d 06m 16.24s
014A CSO	RE-1	40d 40m 46.86s	74d 04m 25.09s
015A CSO	RE-2	40d 41m 17.78s	74d 04m 32.70s
016A CSO	RE-3/4	40d 41m 46.99s	74d 03m 03.59s
018A CSO	RE-5/6	40d 42m 45.72s	74d 03m 12.92s
020A CSO	RE-10, RE-11	40d 42m 45.39s	74d 01m 59.67s
025A CSO	RE-15	40d 43m 15.99s	74d 01m 53.00s
026A CSO	RE-16, RE-17	40d 43m 26.90s	74d 02m 02.49s
028A CSO	RE-18	40d 43m 52.83s	74d 01m 51.48s
029A CSO	RE-19	40d 44m 03.57s	74d 02m 14.59s

JCMUA Pump Stations		
Pump Station	Latitude	Longitude
West Side Pump Station	40d 42m 55.47s	74d 5m 52.54s
East Side Pump Station	40d 42m 23.75s	74d 3m 32.95s
Pump Station 1	40d 40m 36.94s	74d 5m 14.6s
Pump Station 2	40d 40m 50.49s	74d 5m 51.91s
Pump Station 3	40d 41m 32.00s	74d 4m 51.41s
Pump Station 3B	40d 41m 15.01s	74d 4m 27.16s
Pump Station 3C	40d 41m 26.60s	74d 4m 15.37s
Pump Station 3D	40d 41m 24.87s	74d 4m 37.58s
Pump Station 4	40d 43m 20.51s	74d 3m 18.28s
Pump Station 5	40d 44m 54.01s	74d 2m 22.29s
Pump Station 5A	40d 44m 53.48s	74d 2m 22.80s
Pump Station 6	40d 43m 42.35s	74d 3m 49.53s
Pump Station 6A	40d 43m 43.45s	74d 3m 47.96s
Pump Station 7	40d 44m 29.47s	74d 3m 15.78s
Pump Station Bayside Park	40d 41m 53.21s	74d 4m 49.24s
Pine Street Pump Station*	40d 42m 22.59s	74d 4m 1.56s

* Facility contains a temporary pump station used to convey wet weather flow during storm events

Legend

- Netting/Screening Facility
- Pump Station
- CSO Outfall
- CSO Regulator
- Manhole
- Combined Sewer Subdrainage Area Boundary
- Gravity Sewer
- Force Main
- Muncipal Boundary
- Separated Area
- Non Point Source Runoff Area

JCMUA Netting and Screening Facilities **		
Name	Latitiude	Longitude
NF-001	40d 31m 25.01s	74d 3m 16.25s
NF-002	40d 30m 50.77s	74d 4m 01.56s
NF-003	40d 30m 24.70s	74d 4m 36.05s
NF-004	40d 30m 14.59s	74d 4m 49.42s
NF-005	40d 30m 05.68s	74d 5m 01.21s
NF-006	40d 30m 08.16s	74d 4m 57.92s
NF-007	40d 29m 35.03s	74d 5m 41.73s
NF-008	40d 29m 39.44s	74d 5m 35.89s
NF-009	40d 29m 24.04s	74d 5m 56.26s
NF-010	40d 29m 14.16s	74d 6m 09.31s
NF-011/012	40d 29m 15.85s	74d 6m 07.07s
NF-013***	40d 29m 05.74s	74d 6m 20.44s
NF-014	40d 30m 12.35s	74d 4m 52.37s
NF-015	40d 30m 17.50s	74d 4m 45.57s
NF-016/017	40d 30m 50.98s	74d 4m 01.27s
NF-018	40d 31m 24.36s	74d 3m 17.10s
NF-021/022***	40d 32m 19.39s	74d 2m 04.23s
NF-025	40d 32m 23.25s	74d 1m 59.12s
NF-026/027	40d 32m 14.90s	74d 2m 10.18s
NF-028	40d 32m 25.30s	74d 1m 56.40s
NF-029	40d 31m 41.27s	74d 2m 54.72s

** All JCMUA Netting Facilities are equipped with tide gate(s) which act as the primary means of tidal intrusion prevention

*** Facility contains a temporary pump station used to convey wet weather flow during storm events

0 1,000 2,000 3,000 4,000

SCALE IN FEET

Sources:

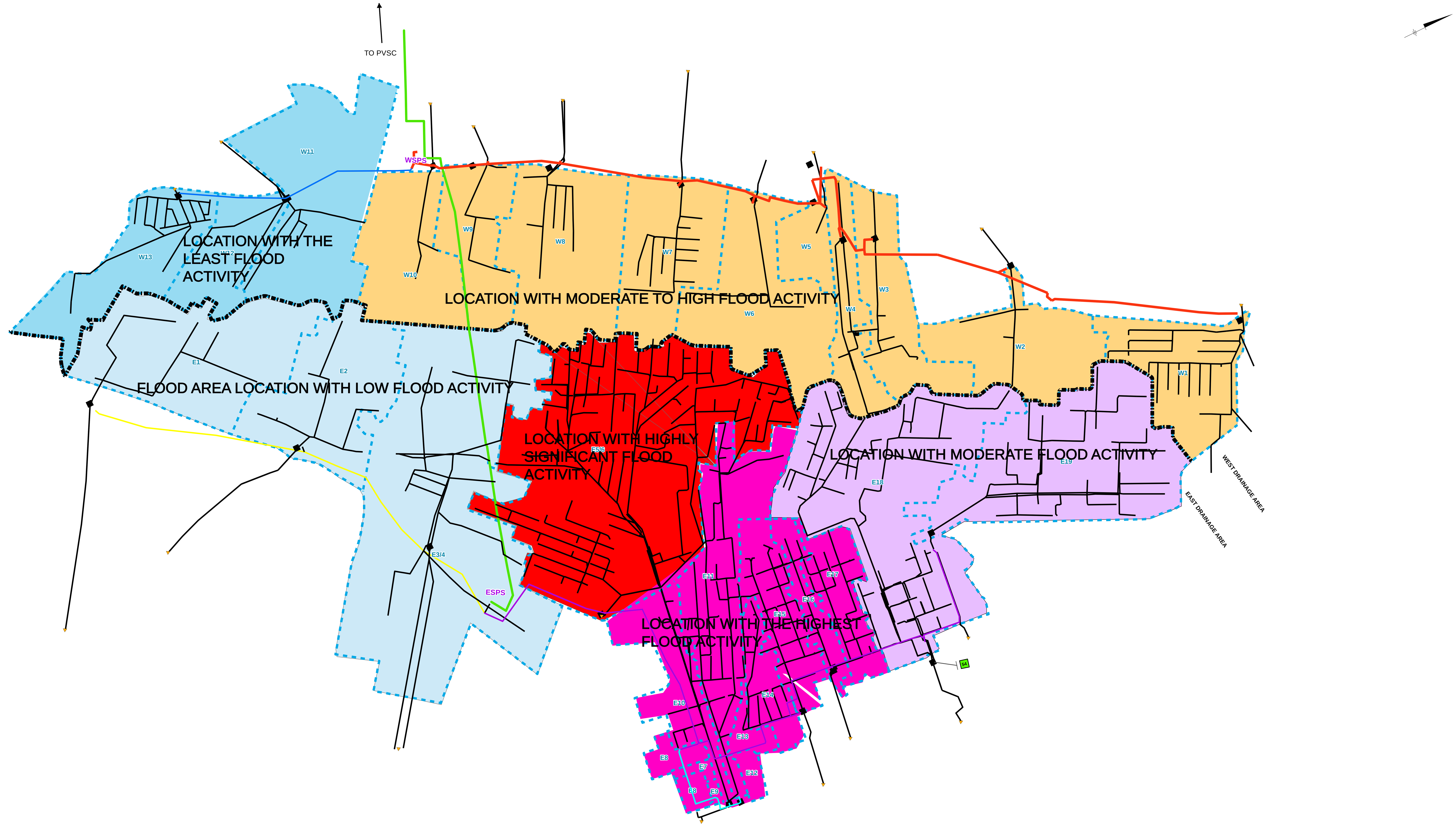
Municipal Boundaries: New Jersey Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS) - last Updated January 2, 2013

Road Centerlines: New Jersey Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS) - Last Updated March 9, 2015

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY
JERSEY CITY, NEW JERSEY

JCMUA GIS MAP - SYSTEM CHARACTERIZATION

ARCADIS Design & Consultancy for natural and built assets


TO PVSC
WSPS
ESPS
LOCATION WITH THE LEAST FLOOD ACTIVITY
LOCATION WITH MODERATE TO HIGH FLOOD ACTIVITY
FLOOD AREA LOCATION WITH LOW FLOOD ACTIVITY
LOCATION WITH HIGHLY SIGNIFICANT FLOOD ACTIVITY
LOCATION WITH MODERATE FLOOD ACTIVITY
LOCATION WITH THE HIGHEST FLOOD ACTIVITY
W1
W2
W3
W4
W5
W6
W7
W8
W9
W10
W11
W13
E1
E2
E3/4
E5/6
E7
E8
E9
E10
E11
E12
E13
E14
E15
E16
E17
E18
E19
WEST DRAINAGE AREA
EAST DRAINAGE AREA
0 500 1,000 1,500 2,000
SCALE IN FEET
Legend
Northeast Interceptor Southern Branch
Northeast Interceptors
Southwest Interceptor
Northwest Interceptor
REGULATOR
PIPES TO BE MODELED
FORCE MAIN (JCMUA)
INTERCEPTOR
COMBINED SEWER PIPE
DRAINAGE AREA BOUNDARY
SUBDRAINAGE AREA AND NUMBER
Northeast Uptown Flood Area Location
Northeast Downtown Flood Area Location
Northeast Flood Area Location
Southeast Flood Area Location
Southwest Flood Area Location
Northwest Flood Area Location

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY
JERSEY CITY, NEW JERSEY

COMBINED SEWER SYSTEM MODELING REPORT

The 6 Flood Areas in Jersey City

ARCADIS Design & Consultancy for natural and built assets

FIGURE

7-1

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0108723

Draft: Surface Water Renewal Permit Action

Permittee:
Jersey City Municipal Utilities Authority
555 Route 440
Jersey City, New Jersey 07305

Co-Permittee:

Property Owner:
Jersey City Municipal Utilities Authority
555 Route 440
Jersey City, New Jersey 07305

Location Of Activity:
Jersey City Municipal Utilities Authority
Combined Sewer Collection System
Jersey City, New Jersey 07305
Hudson County

Authorization Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
CSM - Combined Sewer Management (IP) – Renewal	(pending)	(pending)	(pending)

DEP AUTHORIZATION
Brett Callanan, Chief
Bureau of Surface Water and Pretreatment Permitting

(Terms, conditions and provisions attached hereto)

PART I
GENERAL REQUIREMENTS:
NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.

i. Surface Water Quality Standards N.J.A.C. 7:9B-1

ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

B. General Conditions

1. Scope

a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.

b. Submit a complete permit renewal application at least 180 calendar days prior to the expiration date of the permit.

3. Notification of Non-Compliance

a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).

b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Facility Changes

a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.

5. Notification of Change in Ownership and/or Permittee/Operating Entity

a. As set forth at N.J.A.C. 7:14A-16.2, prior to any change in ownership and/or the permittee/operating entity, the current permittee shall provide written notice to the Department at least thirty (30) days prior to the proposed transfer date.

i. Written notice to the Department shall be in the form of a completed Application for Transfer of a NJPDES Permit form, which is available on the Department's website or by contacting the appropriate permitting program.

6. Notification of Changes to the Facility/Permit Contacts

a. The permittee shall notify the Department within thirty (30) days of a change in contact information for any of the following persons associated with the facility/permit:

i. Permittee/Operating Entity Contact;

ii. Property Owner Contact;

iii. Facility Contact; or

iv. Fees/Billing Contact.

b. Notification to the Department shall be in the form of a completed Contact Information Update form (i.e. NJPDES-2 form), which is available on the Department's website or by contacting the appropriate permitting program.

7. Access to Information

a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

8. Standard Reporting Requirements – Monitoring Report Forms (MRFs)

a. All MRFs shall be electronically submitted to the Department's MRF Submission Service.

b. MRF data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee.

c. MRFs shall be submitted at the frequencies identified in Part III of this permit.

d. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.

e. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to certify shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

f. Monitoring results shall be submitted in accordance with the current NJPDES MRF Reference Manual and any updates thereof.

g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.

h. If, for a monitored location, there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results by checking the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

9. Standard Reporting Requirements - Electronic Submission of NJPDES Information

a. The below identified documents and reports shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

i. Non-compliance reports required by N.J.A.C. 7:14A-6.10 and 40 CFR 122.41(1)(6) and (7) related to combined sewer overflows(see Part II.B.3.c).

10. Operator Certification

a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.

i. Notifications shall be submitted to:
NJDEP
Bureau of Water System Engineering
Mail Code 401-04Q
PO Box 420
Trenton, New Jersey 08625 - 0420
(609) 292-2957
or via email to www@dep.nj.gov

b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

11. Operation Restrictions

a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

C. Custom Requirement

1. CSO Reopener Clause

a. This reopener clause authorizes the NJDEP to reopen and modify the permit upon determination that the CSO controls as contained in a LTCP fail to meet WQS or protect designated uses.

2. Water-Quality Based Requirements for CSOs as a Numeric Performance Standard

a. CSOs are point sources subject to NJPDES permit requirements including both technology-based and water-quality based requirements of the Clean Water Act.

b. Water quality-based effluent limits under 40 CFR Sections 122.44(d)(1) and 122.44(k) require, at a minimum, compliance with, no later than the date allowed under the State's WQS, the numeric performance standards for the selected CSO controls, based on average design conditions. Because the permittee selected the Presumption Approach, as specified in Part IV.G.4.a.ii, the numeric performance standard for the selected CSO controls is a minimum percentage capture of combined sewage by volume for treatment under specified design conditions consistent with II.C.4.a.ii of the CSO Control Policy.

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
001A CSO	Penhorn Creek	FW2-NT/SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 001A into the Penhorn Creek approximately 650-feet west of Tonnele Avenue along the west side of Secaucus Road at latitude 40° 45' 39.2" N and longitude 74° 03' 11.5" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

For this outfall, the total quantity of Solids/Floatables removed from all outfalls shall be reported here when the solid waste is measured for disposal. Precipitation shall be reported from a rain gauge representative of the area, and Duration of Discharge shall be reported as a whole day for any day when a discharge occurs.

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids/Floatables	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	CU YARDS	1/Month	Measured
January thru December	QL	***	***		***	***	***			
Precipitation	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# INCHES	1/Month	Measured
January thru December	QL	***	***		***	***	***			
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
002A CSO	Penhorn Creek	FW2-NT/SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 002A into the Penhorn Creek approximately 1500-feet west of the west end of Manhattan Avenue at latitude 40° 44' 50.7" N and longitude 74° 04' 10.3" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
003A CSO	Hackensack River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 003A into the Hackensack River approximately 500-feet west of the intersection of St Pauls Avenue and Duffield Avenue at:
Latitude N: 40d 44m 31.0s
Longitude W: 74d 04m 36.9s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - C - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
004A CSO	Hackensack River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 004A into the Hackensack River approximately 250-feet south of the west end of Howell Street at latitude 40° 44' 24.3" N and longitude 74° 04' 44.1" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - D - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
005A CSO	Hackensack River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 005A into the Hackensack River at the west end of Broadway at latitude 40° 44' 22.2" N and longitude 74° 04' 56.2 W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - E - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
006A CSO	Hackensack River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 006A into the Hackensack River at the west end of Sip Avenue at latitude 40° 44' 04.3" N and longitude 74° 04' 52.9" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - F - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
007A CSO	Hackensack River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 007A into the Hackensack River at the west end of Duncan Avenue at latitude 40° 44' 03.4" N and longitude 74° 05' 37.11" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - G - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
008A CSO	Hackensack River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 008A into the Hackensack River at the west end of Clendenny Avenue at latitude 40° 43' 24.28" N and longitude 74° 05' 33.75" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - H - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
009A CSO	Hackensack River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 009A into the Hackensack River at the west end of Claremont Avenue at latitude 40° 43' 10.58" N and longitude 74° 05' 51.81" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - I - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
010A CSO	Hackensack River	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 010A into the Hackensack River at the west end of Fisk Street at latitude 40° 43' 03.59" N and longitude 74° 06' 4.48" W.

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - J - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
011A CSO	Newark Bay	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 011A into Newark Bay approximately 500-feet southwest of the intersection of Cherry Street and Cottonwood Street at:
Latitude N: 40d 42m 13.77s
Longitude W: 74d 06m 23.17s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - K - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
013A CSO	Newark Bay	SE3(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 013A into Newark Bay at the west end of Mina Drive at:
Latitude N: 40d 41m 58.49s
Longitude W: 74d 06m 16.24s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - L - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
014A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 014A into the Hudson River approximately 3000-feet northeast of the intersection of Port Jersey Blvd and Colony Road at:
Latitude N: 40d 40m 47s
Longitude W: 74d 04m 25s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - M - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
015A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 015A into the Hudson River approximately 500-feet southeast of the intersection of Freedom Way and Chapel Avenue at:
Latitude N: 40d 41m 19s
Longitude W: 74d 04m 33s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - N - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
016A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 016A into the Hudson River approximately 1300-feet east of the intersection of Thomas McGovern Drive and Freedom Way at:
Latitude N: 40d 41m 47s
Longitude W: 74ds 03m 04s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - O - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
018A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 018A into the Hudson River approximately 200-feet south of the west end of Aetna Street at:
Latitude N: 40d 42m 46s
Longitude W: 74d 03m 13s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - P - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
020A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 020A into the Hudson River at the east end of Essex Street at:
Latitude N: 40d 42m 45s
Longitude W: 74d 01m 60s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - Q - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
025A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 025A into the Hudson River at the east end of 2nd Street at:
Latitude N: 40d 43m 16s
Longitude W: 74d 01m 53s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - R - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
026A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 026A into the Hudson River at the east end of Thomas Gangemi Drive at:
Latitude N: 40d 43m 26.90s
Longitude W: 74d 02m 02.49s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - S - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
028A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 028A into the Hudson River at the east end of 14th Street at:
Latitude N: 40d 43m 52.94s
Longitude W: 74d 01m 51.51s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - T - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
029A CSO	Hudson River	SE2(C2)	CSM - Combined Sewer Management (IP)

Location Description

The permittee is authorized to discharge combined sewage from Outfall 029A into the Hudson River approximately 450-feet east of the intersection of 18th Street and Marin Blvd at:
Latitude N: 40d 44m 03.57s
Longitude W: 74d 02m 14.59s

Contributing Waste Types

Sanitary, Storm Water Runoff

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

Duration of Discharge shall be reported as whole day for any day when a discharge occurs.

Table III - U - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	*****	# OF DAYS	1/Month	Estimated
January thru December	QL	***	***		***	***	***			

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

1. These notes are specific to this permit

a. EDP means the Effective Date of the Permit which can be found on the final permit authorization page.

2. CSO related resources are listed below with a link to the current webpage

a. NJDEP's CSO main website and related links can be found at http://www.nj.gov/dep/dwq/cso.htm

b. EPA's Combined Sewer Overflows Principal Guidance Documents can be found at http://water.epa.gov/polwaste/npdes/cso/Guidance-Documents.cfm

c. The Nine Minimum Control requirements from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and http://www.epa.gov/npdes/pubs/owm0030.pdf

d. The Nine elements of a Long Term Control Plan from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and http://water.epa.gov/polwaste/npdes/cso/upload/owm0272.pdf

e. EPA's Post Construction Compliance Monitoring Guidance document can be found at http://www.epa.gov/npdes/pubs/final_cso_pccm_guidance.pdf

f. EPA's Guidance: Coordinating Combined Sewer Overflow (CSO) Long-Term Planning with Water Quality Standards Reviews (PDF)

g. EPA's Capacity, management, operation and maintenance (CMOM) guidance document can be found at http://www.epa.gov/npdes/pubs/cmom_5.pdf

h. Dry-Weather Deposition and Flushing for Combined Sewer Overflow Pollution Control: http://nepis.epa.gov/Adobe/PDF/30000821.PDF

i. Combined sewer overflow control (manual): http://nepis.epa.gov/Adobe/PDF/30004MAO.pdf

j. EPA's Storm Water and Combined Sewer Overflows Publications can be found at http://water.epa.gov/polwaste/wastewater/StormwaterPubs.cfm

B. Definitions

1. These definitions are specific only to this permit

a. “Dry weather overflow (DWO)” means a combined sewer overflow that cannot be attributed to a precipitation event, including snow melt, within the hydraulically connected system. DWOs include the following flows: domestic sewage, dewatering activities, commercial and industrial wastewaters, ground water and tidal infiltration upstream of the regulator, and any other non-precipitation event related flows downstream of the regulator to the outfall pipe.

   Groundwater infiltration and tidal infiltration originating downstream of the regulator are allowable sources of discharges from a CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Such use must be specifically approved by the Department.

b. "Green Infrastructure" means methods of stormwater management that reduce wet weather/stormwater volume, flow, or changes the characteristics of the flow into combined or separate sanitary or storm sewers, or surface waters, by allowing the stormwater to infiltrate, to be treated by vegetation or by soils; or to be stored for reuse. Green infrastructure includes, but is not limited to, pervious paving, bioretention basins, vegetated swales, and cisterns.

c. "Hydraulically connected system" means the entire collection system that conveys flows to one Sewage Treatment Plant (STP). On a case-by-case basis, the permittee, in consultation with the Department, may segment a larger hydraulically connected system into a series of smaller inter-connected systems, based upon the specific nature of the sewer system layout, pump stations, gradients, locations of CSOs and other physical features which support such a sub area. A hydraulically connected system could include multiple municipalities, comprised of both combined and separate sewers.

C. NINE MINIMUM CONTROL REQUIREMENTS

1. **Proper operation and regular maintenance programs for the sewer system and the CSOs**
2. **Maximum use of the collection system for storage**
3. **Review and modification of pretreatment requirements to assure CSO impacts are minimized**
4. **Maximization of flow to the POTW for treatment**
5. **Prohibition of CSOs during dry weather**
6. **Control of solid and floatable materials in CSOs**
7. **Pollution prevention**
8. **Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts**
9. **Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls**

D. NINE ELEMENTS OF THE LONG TERM CONTROL PLAN

1. **Characterization, Monitoring, and Modeling of the Combined Sewer Systems**
2. **Public Participation**
3. **Consideration of Sensitive Areas**

4. **Evaluation of Alternatives**
5. **Cost/Performance Considerations**
6. **Operational Plan**
7. **Maximizing Treatment at the Existing POTW Treatment Plant**
8. **Implementation Schedule**
9. **Compliance Monitoring Program**

Combined Sewer Management (IP)

A. MONITORING REQUIREMENTS

1. CSO Monitoring Requirements

a. All monitoring shall be conducted as specified in Part III.

b. All monitoring frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.

c. Discharges shall be directly monitored or predicted using a DEP approved up-to-date model.

B. RECORDKEEPING

1. Recordkeeping Requirements

a. The permittee shall identify the Combined Sewer System (CSS) complaint, maintenance, inspection, and repair documentation forms and related tracking forms and/or systems and the Permittee shall also specify how, where and when this documentation will be maintained.

b. The permittee shall retain records of all monitoring information for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record, including:

i. all calibration and any other methods of monitoring which may be employed, maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable),

ii. copies of all reports required by this NJPDES permit,

iii. all data used to complete the application for a NJPDES permit, and

iv. monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

c. Records of monitoring information shall include the following:

i. the date, locations, and time of sampling or measurements,

ii. the individual(s) who performed the sampling or measurements,

iii. the date(s) the analyses were performed,

iv. the individual(s) who performed the analyses,

v. the analytical techniques or methods used, and

vi. the results of such analyses.

d. The permittee shall retain records to document implementation of the Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) requirements in Sections F and G. The permittee shall utilize this information when preparing and submitting progress reports required in Section D, including residential complaints, inspection records, and maintenance records. This information shall be made available to the Department upon request.

C. REPORTING

1. Reporting Requirements

a. The permittee shall submit all required monitoring results to the Department on the forms provided by the Department. The Monitoring Report Forms (MRFs) are provided to the permittee in an electronic file format.

b. The permittee shall summarize the information for the total quantity of solids/floatables removed from ALL outfalls on the MRF for the first CSO outfall only. This information needs to be reported on the MRF only when the solids/floatables solid waste is measured for disposal. For the months when no solids/floatables are disposed of, the permittee shall report 'CODE = N'.

c. The permittee shall report Precipitation from a rain gauge representative of the area on the MRF for the first CSO outfall only.

d. The permittee shall report Duration of Discharge on the MRF for each CSO outfall as a whole day for any calendar day when a discharge occurs.

e. Electronic data submissions shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee.

f. All MRFs shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the combined sewer system.

g. The highest ranking official may delegate responsibility to certify the MRFs in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

h. Monitoring results shall be submitted in accordance with the current Monitoring Report Form Manual and any updates thereof.

i. If there are no CSO discharges during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the electronic version of the monitoring report submittal form.

D. SUBMITTALS

1. CSO Submittal Requirements

a. The permittee shall respond to all deficiencies cited by the Department within 30 days of notification. With adequate justification provided by the permittee, the Department may extend this deadline an additional 30 days.

b. All reports submitted to the Department pursuant to the requirements of this permit shall comply with the signatory requirements of N.J.A.C. 7:14A-4.9., and contain the following certification (or such revised form as previously approved in writing by the Department):

i. I certify under penalty of law that those portions of this document relating to the treatment and collection system owned and operated by the permittee and all attachments related thereto 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 owned and operated by the permittee, 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 purposely, knowingly, recklessly, or negligently submitting false information.

c. Since multiple municipalities own separate portions of the hydraulically connected sewer system, the permittee shall work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected sewer system to ensure that the Nine Minimum Controls (NMC) & Long Term Control Plans (LTCP) activities are being developed and implemented consistently. The permittee shall identify their joint and separate responsibilities with all other appropriate municipalities in the hydraulically connected sewer system regarding implementation of the NMCs and LTCPs. This information shall be provided/updated in the Progress Reports.

d. The permittee shall also notify the Passaic Valley Sewerage Commission (PVSC) of all CSO construction related activities in their collection system on a semi-annual basis. Notification through the TWA process is sufficient for this purpose.

e. The permittee shall submit all information required by this permit via email or other electronic format acceptable to the Department to NJCSOProgram@dep.nj.gov.

2. CSO Progress Report Submittal Requirements

a. The permittee shall submit a progress report on Februrary 1st and August 1st of every year beginning from the effective date of the permit. The Progress Reports shall be prepared in accordance with the following requirements:

i. The Progress Report shall include a summary of all CSO control measures implemented to date and the effectiveness of those control measures.

ii. Each Progress Report must include a verification that the Operation and Maintenance Manual, including the SOPs, Asset Management Plan and Emergency Plan, have been updated in accordance with this permit and amended annually, as necessary. Detail shall also be provided regarding the System Cleaning Program.

iii. A discussion of the continued implementation of the NMCs including maintenance of the telephone hotline/website pursuant to Section F.8.

iv. Each Progress Report shall include a list of any complaints received by the permittee regarding CSO related flooding including location and duration.

E. FACILITY MANAGEMENT

1. CSO Discharge Requirements

a. The permittee shall discharge at the location(s) specified in PART III of this permit.

b. The permittee shall not discharge foam or cause foaming of the receiving water that 1) forms objectionable deposits on the receiving water, 2) forms floating masses producing a nuisance, or 3) interferes with a designated use of the waterbody.

c. The permittee's discharges shall not produce objectionable color or odor in the receiving stream.

d. The permittee's discharges shall not exhibit a visible sheen.

2. Interstate Environmental Commission (IEC)

a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations", where applicable.

F. NINE MINIMUM CONTROL REQUIREMENTS

1. Proper Operation and Maintenance Programs for the Sewer System and CSOs

a. The permittee shall operate the treatment works using a licensed operator in accordance with N.J.S.A. 58:11-66(a), N.J.A.C. 7:14A-6.12(b) and N.J.A.C. 7:10A.

b. The permittee shall provide adequate operator staffing for the treatment works.

c. The permittee shall continue to implement and review annually, and update as needed, an Operations & Maintenance (O&M) Program and corresponding Manual, including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12, to ensure that the treatment works, including but not limited to collection system, the CSO outfalls, solids/floatables facilities, regulators, and related appurtenances including any green infrastructure which are owned/operated by the permittee are operated and maintained in a manner to achieve compliance with all terms and conditions of this permit.

d. The permittee shall provide documentation that demonstrates that employees were provided with appropriate training to perform the operation and maintenance duties required and to follow the Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual. This shall include a current training program for the purpose of informing new employees and maintaining training levels for current employees in regards to the CSO O&M Program and corresponding Manual, including safety related concerns.

e. The permittee shall implement an O&M Program & Manual that includes, at a minimum the following:

i. A directory of appropriate O&M staff, including a description of their individual responsibilities and emergency contact information.

ii. A description of the permittee's Fats, Oils and Greases (FOG) Program (if applicable).

iii. Details regarding operations for the treatment works owned/operated by the permittee as set forth in SOPs as described in Part IV.F.1.f, Part IV.F.1.g and Part IV.F.1.h.

iv. An Emergency Plan as described in Part IV.F.1.i.

f. The permittee shall include in the O&M Program and corresponding Manual, a System Cleaning Program to address the following:

i. The System Cleaning Program shall be designed to ensure the entire collection system, including, but not limited to, tide gates, outfalls and regulators, is sufficiently clean in order to function properly and minimize CSO-related street flooding.

ii. The System Cleaning Program shall be designed to ensure that the entire collection system is sufficiently clean which can be accomplished through regular inspection and, if necessary, cleaning. Such inspection and cleaning should be done, such that within five years, the entire system has been covered. Specifically, for Jersey City, the East Side interceptor sewers total approximately 36,620 feet in length and the West Side interceptor sewers total approximately 35,480 feet in length.

iii. The System Cleaning Program shall include an annual certification that a minimum of 20% of the system (by linear feet/miles) shall have been inspected and, if necessary, cleaned, within the last year. Alternatively, if less than 20% of the system has been completed within the last year, the certification shall include a statement of how much of the system was inspected and, if necessary, cleaned, within the last year and a plan to ensure that 100% of the system is inspected and if necessary cleaned, by the expiration date of the permit. This is an annual requirement based on the calendar year, due February 1 of the following year and is part of the Operation and Maintenance Manual. The total length of the system in linear/feet shall also be defined. Updates on the System Cleaning Program shall also be provided in Progress Reports.

g. The permittee shall also include SOPs in the O&M Program and corresponding Manual for the operation, inspections, and scheduled preventative maintenance in accordance with the appropriate manufacturer's recommendations and equipment manuals at a minimum, to ensure that the entire collection system that is owned/operated by the permittee that conveys flows to the treatment works will function properly.

h. At a minimum, the SOPs shall contain detailed instructions for system operations, such as frequency of inspections, regular maintenance, and the timely repair, and documentation of such information, of the entire collection system that conveys flows to the treatment works. These SOPs shall include procedures to address the following items:

i. SOPs shall be designed to ensure that the entire collection system owned/operated by the permittee that conveys flows to the treatment works functions in such a way as to not result in sewage overflows (except from designated CSO outfalls) including to basements, streets and other public and private areas, or bottlenecks/constrictions that limit flow in specific areas and prevent the downstream STP treatment capacity from being fully utilized, in accordance with Section F.4.

ii. SOPs shall be designed to ensure that the storage and conveyance of combined sewage to the STP is maximized in accordance with Sections F.2 and F.4.

iii. SOPs shall be designed to ensure that the impacts from SIUs contributing to the CSOs that are owned/operated by the permittee are minimized in accordance with Section F.3.

iv. SOPs shall be designed to ensure there will be no dry weather overflows from any CSO that is owned/operated by the permittee in accordance with Section F.5.

v. SOPs to conduct a visual inspection program of sufficient scope and frequency of the CSS that is owned/operated by the permittee to provide reasonable assurance that unpermitted discharges, obstructions, damage, and DWOs will be discovered.

vi. SOPs shall be designed to ensure the solids/floatables appurtenances that are owned/operated by the permittee will be maintained and the solids/floatables will be removed from the CSO discharge and disposed of properly at such frequency so as not to cause obstructions of flow for any future CSO discharges, in accordance with Part II of this permit and Section F.6.

vii. SOPs designed to prevent the Intrusion upstream due to high tides and/or receiving water flooding into the entire collection system owned/operated by the permittee that conveys flows to the treatment works through proper operation and maintenance.

viii. SOPs designed to provide a gravity sewer and catch basin inspection schedule and clean as necessary for the collection system that is owned/operated by the permittee.

ix. SOPs shall be designed to provide a system for documenting, assessing, tracking, and addressing residential complaints regarding blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, or related incidents for the collection system that is owned/operated by the permittee.

x. Unless written extension is granted by the Department for extraordinary circumstances, the SOP shall be designed to ensure removal within seven (7) calendar days of the permittee becoming aware of any obstructions within the collection system that is owned/operated by the permittee that are directly causing any CSO overflows due to debris, Fats, Oils and Greases and sediment buildup, or other foreign materials.

The SOP shall be designed to ensure removal of any other obstructions that are contributing to overflows due to debris, Fats, Oils and Greases and sediment buildup, or other foreign materials in the collection system owned/operated by the permittee on a scheduled basis as necessary for the proper operation of the system.

xi. Require immediate steps to take corrective action(s) to repair damage and/or structural deterioration, address unpermitted discharges, and eliminate DWOs of the entire collection system owned/operated by the permittee that conveys flows to the treatment works.

xii. Provide reduction strategies to resolve excessive I/I through the identification of I/I sources and the prioritization and implementation of I/I reduction projects within the collection system that is owned/operated by the permittee.

xiii. Provide procedures whereby wet weather flows are maximized for conveyance to the STP.

i. The O&M Manual shall specifically address, at a minimum, the following details for the treatment works' infrastructure owned/operated by Jersey City:
- Normal and Alternate operating positions;
- Start-up, shut-down, and draining procedures;
- Process control;
- Fail-safe features;
- Emergency operating procedures;
- Common operating and control problems;
- Out-of-service procedures;
- Alternate operating procedures;
- Instrumentation and controls;
- Engineering design information;
and
- Schedules and procedures of the preventative maintenance program and corrective maintenance procedures, or references to these procedures in the manufacturer’s maintenance manuals for the treatment works' infrastructure.

j. The permittee shall also include an Emergency Plan (https://www.nj.gov/dep/dwwq/erp_home.htm) in the O&M Program and corresponding Manual in accordance with N.J.A.C. 7:14A-6.12(d). The Emergency Plan shall provide for, to the maximum extent possible, uninterrupted treatment works operation during emergency conditions using in-house and/or contract based including those emergencies caused by natural disaster; extreme weather events, including those due to climate change; civil disorder; strike; sabotage; faulty maintenance; negligent operation or accident. At a minimum, the Emergency Plan shall include:
- SOPs which ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events and extended periods of no power.
- A Vulnerability Analysis" that estimates the degree to which the treatment works would be adversely affected by each type of emergency situation which could reasonably be expected to occur. A Vulnerability Analysis shall include, but is not limited to, an estimate of the effects of such an emergency upon the following: power supply; communication equipment; supplies; personnel; security and emergency procedures to be followed."

k. The permittee shall review annually the O&M Program & Manual and update it as needed to reflect updated information and changes in the characterization, design, construction, operations, maintenance, Emergency Plan, and SOPs as listed in Section F.1, and include verification that the O&M Program and corresponding Manual has been prepared and updated in accordance with Section D.

l. The permittee shall continue to update an Asset Management Plan (https://www.nj.gov/de/assetmanagement/pdf/asset-management-plan-guidance.pdf), as part of the overall O&M strategy, which shall be updated on an annual basis. The Asset Management Plan shall include the following, at a minimum:
- Five basic components: asset inventory/mapping and condition assessment; level of service; criticality/prioritization assessment; life-cycle costing; and long-term funding strategy of the treatment works.
- Infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, that demonstrates the entire collection system owned/operated by the permittee that conveys flows to the treatment works is perpetually and proactively managed with the appropriate resources (capital, staffing, training, supplies, equipment).

2. Maximum use of the collection system for storage

a. The permittee shall continue to use the entire collection system owned/operated by the permittee for in-line storage of sewage for future conveyance to the STP when sewer system flows subside by ensuring that the sewage is retained in the sewer system to the extent practicable to minimize CSO discharges (i.e. volume, frequency and duration), while not creating or increasing sewage overflows, including to basements, streets and other public and private areas.

b. The permittee shall minimize the introduction of sediment and obstructions in the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Sections F.1. and F.7.

c. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Section F.1.

d. The permittee shall identify and implement minor modifications, based on the ongoing evaluations, to enable appropriate segments of the collection system owned/operated by the permittee to store additional wet weather flows to reduce any CSOs until downstream sewers and treatment facilities can adequately convey and treat the flows.

3. Review and modification of pretreatment requirements to assure CSO impacts are minimized

a. For the SIU dischargers upstream of any CSO outfall which is owned/operated by the permittee, the permittee shall: (1) determine the locations of the SIUs; (2) identify the CSO outfalls associated with each of the SIUs; and (3) determine the discharge volume and loading of SIU-permitted parameters for each SIU. In the case of a municipal permittee or non-delegated STP permittee, information to satisfy (1) and (3) shall be obtained from the delegated local agency that regulates the SIU or, if there is no delegated local agency, from the Department. This information shall be used to prioritize O&M activities in portions of the CSS affected by SIU discharges.

4. Maximization of flow to the POTW for treatment

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize the conveyance of wastewater to the STP for treatment subject to existing capacity.

b. The permittee shall continue to implement alternatives for increasing flow to the STP.

i. Capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works in accordance with Section F.1.f to determine the maximum amount of flow that can be stored and transported.

ii. Identification of other activities conducted and/or planned to further maximize flow to the POTW.

5. Prohibition of CSOs during dry weather

a. Dry weather overflows (DWOs) are prohibited from any CSO outfall in the entire collection system owned/operated by the permittee.

b. All DWOs must be reported to the Department as incidents of non-compliance in accordance with the requirements at N.J.A.C. 7:14A-6.10(c) and (e), along with a description of the corrective actions taken.

c. The permittee shall inspect the combined sewer system as required under Section F.1 to minimize the potential of DWOs and to abate DWOs that occur.

d. The permittee shall prohibit any connections, including but not limited to construction dewatering, remediation activities or similar activities, downstream of a CSO regulator, that will convey flow to the CSO during dry weather. On a case-by-case basis, the Department reserves the right to allow temporary use of the CSO outfall structures for other types of discharges to address extraordinary circumstances. Any use under this provision must be specifically approved by the Department.

6. Control of Solids/Floatables in CSOs

a. The permittee shall continue to implement measures to capture and remove solids/floatables which cannot pass through a bar screen having a bar or netting spacing of 0.5 inches from all CSOs.

b. The permittee shall not utilize treatment, including mechanical measures used to reduce the particle size of the solids/floatables in the wastewater collection system prior to discharge to the waters of the state to achieve compliance with paragraph F.6.a.

c. The captured debris shall be removed from each solids/floatables control system as necessary to ensure that there will be no flow restrictions during the next CSO discharge event.

d. All captured debris removed from the solids/floatables control system must be disposed of properly at a permitted solid waste facility authorized to accept grit and screening materials from wastewater treatment facilities in accordance with N.J.A.C. 7:14A and Part II of this permit.

7. Implementation of Pollution Prevention Measures

a. The permittee shall continue to implement and upgrade pollution prevention measures necessary to prevent and limit contaminants from entering the entire collection system owned/operated by the permittee that conveys flows to the treatment works. Unless demonstrated to the Department to be impracticable measures, shall include, but not be limited to, the following:.

i. Implementation of a regular street cleaning program.

ii. Retrofitting of existing storm drains to meet the standards in Appendix A, where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen) or alterations of facilities owned/operated by the permittee. For exemptions to this standard see "Exemptions" listed in Appendix A.

iii. Implementation of stormwater pollution prevention rules and ordinances.

iv. Implementation of solid waste collection and recycling ordinances.

v. Implementation of public education programs.

b. The permittee shall enforce rules and regulations on illegal connections and unauthorized discharge(s) into the POTW.

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts

a. The permittee shall ensure that CSO Identification Signs are posted and maintained at every CSO outfall location identified in Part III of this permit. The signs shall conform to the following specifications unless alternatives have been approved by the Department.

i. Signs shall be installed in such a manner as to have the same information visible from both the land and from the water, within 100' from the outfall pipe along the shoreline.

ii. Signs shall be at least 18" x 24" and printed with reflective material.

iii. Signs shall be in compliance with applicable local ordinances.

iv. The signs shall depict the following information below:
- Warning, possible sewage overflows during and following wet weather. Contact with water may also cause illness.
- Report dry weather discharge to NJDEP Hotline at 1 (877) 927-6337 (WARN-DEP).
- Report foul odors or unusual discoloration to NJDEP Hotline or Jersey City MUA at 201-432-1150
- NJPDES Permit Number NJ0108723.
- Discharge Serial No. (eg. 001A)- www.state.nj.us/dep/dwq/cso.htm
- Signs that depict symbols prohibiting swimming, fishing and kayaking.

b. The permittee shall continue to employ measures to provide reasonable assurance that the affected public is informed of CSO discharges in a timely manner. These measures shall include, but are not limited to, the items listed below:

i. Posting leaflets/flyers/signs with general information at affected use areas such as beaches, marinas, docks, fishing piers, boat ramps, parks and other public places (within 100 feet of outfall) to inform the public what CSOs are, the location(s) of the CSO outfall(s) and the frequency and nature of the discharges and precautions that should be undertaken for public health/safety and web sites where additional CSO/CSS information can be found.

ii. Notification to all residents by either US Postal Service or email, (with copies sent to the NJDEP) in the permittee's sewer service area. This notification shall provide additional information as to what efforts the permittee has made and plans to continue to undertake to reduce/eliminate the CSOs and related threat to public health. Updated notifications shall be mailed on an annual basis.

iii. The permittee shall maintain on a daily basis a CSO Notification System website to inform interested citizens of CSO discharges that are occurring or have occurred.

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

a. The permittee shall monitor the CSO discharge events and record the date, "duration of discharge", rainfall, location of rain gauge and quantity of solids/floatables removed for each CSO and discharge event through appropriate modeling or by an appropriately placed flow meter/totaling device, level sensor, or other appropriate measuring device, and report the required information on the MRF as required by Part III of this permit.

G. LONG TERM CONTROL PLAN REQUIREMENTS

1. Characterization Monitoring and Modeling of the Combined Sewer System

a. As required by the 2015 NJPDES CSO permit, Jersey City MUA submitted the "JCMUA Sewer System Characterization Work Plan for the Long Term Control Plan" dated December 2015, (revised April 29, 2016 and June 24, 2016) and the "JCMUA Service Area System Characterization Report" dated June 2018 (revised February 28, 2019). The work plan and the JCMUA System Characterization Report were approved by the Department on August 1, 2016 and March 14, 2019, respectively.

b. The major elements of the sewer system characterization are noted below where additional detail is included on these topics within the report:

i. Rainfall Records;

ii. Combined Sewer System Characterization;

iii. CSO Monitoring; and

iv. Modeling

2. Public Engagement

a. The permittee shall conduct a public engagement process to inform, educate and engage members of the hydraulically connected communities. The goal of this process is to generate participation and collect input from the affected community and interested public.

b. The permittee shall develop a CSO Supplemental Team to serve as a liaison between the affected community, interested public and the decision makers for the permittee regarding the implementation of the CSO control alternatives. The CSO Supplemental Team shall be reconstituted with the goal of including members of the following groups, at a minimum, where possible: mayor's office, local planning board, local community groups and residents from the affected areas and from any affected areas that are also overburdened communities. The permittee shall solicit members of its community to join the CSO Supplemental Team through various outreach and public notice activities. The permittees efforts to recruit CSO Supplemental Team members shall be documented on the permittee's website.

c. The permittee is required to hold regular public meetings (virtual, in person or a combination of both) in order to:

   i. Inform the affected community and interested public of the ongoing process of implementing the LTCP including reports of project status and its present impact on the local community including consideration of locating specific meetings in the affected neighborhood.

   ii. Continue to identify areas of combined sewer-related flooding.

   iii. Allow the affected community and interested public an opportunity to provide input on the siting of GI as required by the permit.

   iv. Engage the affected community and interested public in solutions they can implement to reduce CSOs. Examples may include an adopt-a-catch-basin program, rain barrels, water conservation, the removal of impervious surfaces, and the installation of green infrastructure projects.

   v. Neighborhood specific information on construction of CSO control projects throughout the process including before and during construction in order to receive feedback from the community. This should include the posting of information on scheduling of street closures as well as any potential impacts to the residents in the vicinity of any CSO mitigation projects.

d. The frequency of meetings shall be determined by the milestones in the Implementation Schedule (See G.8.) and by input from the affected community and interested public. Meeting frequency may subsequently be adjusted based on documented attendance. Meetings should be held with accessibility for the interested public in mind. This may include varying start times and attendance options (availability of public transit or parking and virtual meetings), as fits the needs of interested public and affected community.

e. The permittee shall engage with overburdened communities (OBC) within combined sewer service areas in order to solicit representation and engagement, ensure the OBCs' awareness of the meeting schedule, and encourage participation. The Department published a list of overburdened communities in the State and associated electronic mapping available at https://www.nj.gov/dep/ej/communities.html.

f. The permittee must designate one LTCP outreach coordinator. This coordinator (or any another person designated by the permittee) should be available to maintain regular communication with the affected community and interested public including, but not limited to.

i. Maintain a website that acts as a clearinghouse for information regarding implementation of the LTCP.
- The website shall contain public engagement information and include a platform for the interested public to sign up and attend any meetings.
- The website shall contain any progress reports required to be submitted by this permit.
- The website shall also list the construction status of any project identified in the Implementation Schedule in Section G.8. below.

ii. Engage the affected community and interested public in order to solicit individuals who are willing to become involved.

iii. Post meeting invitations (including dates and times) on the website at least one month in advance.

iv. Post handouts or other meeting materials on the website within one week after the meeting.

v. Make data available on the amount of public feedback received including the number of meeting attendees.

vi. Any project identified in the Implementation Schedule in Section G.8. below must display signage indicating that the project is required by the LTCP.

g. The Department's Office of Environmental Justice (see https://dep.nj.gov/ej/) shall be given 30 days advance notice of the meeting schedule so that it can be shared with Environmental Justice community leaders.

h. Public meetings shall be live streamed and made available to the affected community and interested public for viewing afterwards including materials in the language(s) appropriate to the majority of community demographics.

i. Outreach materials, including physical handouts and websites, should be produced in the language(s) appropriate to the majority of community demographics.

3. Consideration of Sensitive Areas

a. This renewal permit action requires that the CSO outfalls identified in the "Identification of Sensitive Areas Report" dated June 2018 (revised October 19, 2018, January 31, 2019 and March 29, 2019) as discharging to a Sensitive Area be given priority with respect to controlling overflows through the implementation of CSO control projects to meet the minimum 85% wet weather capture requirement consistent with the Presumption Approach.

4. Evaluation of Alternatives

a. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides:
A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.
Combined sewer flows remaining after implementation of the NMCs and within the criteria specified in this Section at G.4.f.i. and ii. shall receive minimum treatment in accordance with the items below:
- Primary clarification (removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification),
- Solids and floatables disposal, and
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals/by-products (e.g. chlorine produced oxidants), where necessary.
The permittee must demonstrate any of the following three criteria below:

   i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. The Department may allow up to two additional overflow events per year. For the purpose of this criterion, an ‘event' is:
   - In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.
   - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.

   ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a hydraulically connected system-wide annual average basis.

   iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

b. This renewal permit action identifies that adequate and effective CSO control measures are required to be implemented that are consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. These permit conditions are included in Part IV.G.8.

c. This permit renewal includes an implementation schedule as well as specific requirements to track and assess compliance with the attainment of wet weather percent capture. In order to evaluate the performance of the CSO control measures, the permittees are required to demonstrate percent reduction through the use of the H&H model to attain greater than 85% wet weather capture.

5. Cost Performance Considerations

a. This renewal permit action identifies that adequate and effective CSO control measures are being implemented consistent with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. This renewal permit sets forth an implementation schedule in Part IV.G.8.

6. Operational Plan

a. Throughout implementation of the LTCP as appropriate, the permittee shall update the Operational Plan, including Operation & Maintenance (O&M) Manual, Emergency Plan, and Asset Management Plan in accordance with F.1, to address the LTCP CSO control facilities and operating strategies, including but not limited to: the implementation, operation, maintenance of green infrastructure; staffing and budgeting; and I/I. Cliamate change resilience requirements shall also be considered in the update of these plans.

7. Maximizing Treatment at the Existing STP

a. The permittee shall continue to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works to maximize treatment at the hydraulically connected STP.

8. Implementation Schedule

a. The permittee shall implement CSO control projects in accordance with the LTCP construction schedule

b. Implementation Schedule is as follows:.

i. Year One (EDP to EDP + 1 year): Regional Interceptor (Engage the Services of a Program Manager for Construction of Parallel Interceptor; Engage the Services of a Program Manager to assist with the Implementation of the Regional Alternative Long-Term Control Plan).

ii. Year Two (EDP + 1 year to EDP + 2 years): Regional Interceptor (Redefine Route Analysis; Identify Necessary Property Acquisitions and Easements).

iii. Year Three (EDP + 2 years to EDP + 3 years): Regional Interceptor (Begin Property Acquisitions and Easements); Complete Summit Ave. & Carlton Ave. Sewer Lining; Complete West Side Ave. (Sip Ave. – Danforth Ave.) Sewer Lining.

iv. Year Four (EDP + 3 years to EDP + 4 years): Regional Interceptor (Continue Property Acquisitions and Easements).

v. Year Five (EDP + 4 years to EDP + 5 years): Regional Interceptor (Continue Property Acquisition and Easements; Revalidate Route Analysis; Begin Site Surveys and Geotechnical Investigation); Complete General Sewer Lining.

9. Compliance Monitoring Program (CMP) – Post Construction Compliance Monitoring Plan (PCCMP)

a. The permittee shall implement a Compliance Monitoring Program (CMP) adequate to: verify baseline and existing conditions, the effectiveness of CSO control measure, compliance with water quality standards, and protection of designated uses. The CMP shall be conducted before, during and after implementation of the LTCP. The "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018 (revised October 5, 2018) was submitted and subsequently approved by the Department on March 1, 2019.

b. The portion of the CMP conducted during and after implementation of the LTCP is referred to as the Post Construction Compliance Monitoring Plan (PCCMP). The main elements of the PCCMP shall include:

i. A process to determine whether the CSO control measures are meeting the interim required percent capture milestone set forth in the LTCP or the final required percent capture of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events is eliminated or captured for treatment on a system-wide annual average basis as defined in the Federal CSO Policy. The PCCMP shall provide data to evaluate the effectiveness of the CSO control measures constructed during and after the implementation of the LTCP.

ii. A monitoring schedule, regulator monitoring locations, receiving water sampling locations, and rain gauge locations.

iii. The approach for analysis of the PCCMP data for assessing the performance of CSO control measures and for reporting progress to regulatory agencies and the general public. The PCCMP shall evaluate the incremental reduction in overflow rates and volumes as the CSO control measures are placed into operation.

iv. A Public Notification System to notify the public of the occurrence of combined sewer overflows for each receiving water body.

c. The PCCMP shall include the implementation of a rainfall and hydraulic monitoring program, as well as a detailed analysis and evaluation of the CSO control measures' efficacy. Through a calibrated/validated H&H model, a continuous simulation on the system-wide annual average shall be run to compare the remaining CSO discharge volume to baseline conditions and determine whether the CSO control measures have achieved the interim required percent capture or the final required percent capture.

d. During and after the implementation of the LTCP, the PCCMP shall use the following steps to determine if the CSO control measures are meeting the interim required percent capture or the final required percent capture:.

i. Collect flow monitoring for a 1-year period and rainfall data for a 1-year period during the effective NJPDES permit. Perform QA/QC on the data. Note that this is separate from the monthly monitoring form data;

ii. At the end of the effective NJPDES permit, update the H&H model to include all completed CSO control measures and any other modifications to the CSS since the H&H model was calibrated for the LTCP;

iii. Calibrate and/or validate the updated H&H model, if needed, using the flow and rainfall data collected during the effective NJPDES permit. Any recalibration of the H&H model shall be approved by the Department; and

iv. Perform continuous simulation using the updated H&H model on the system-wide annual average and calculate the percent capture to determine if the interim required percent capture or the final required percent capture is being achieved.

e. The permittee shall conduct interim post-construction compliance monitoring every five years as established in the LTCP. Such monitoring shall assess the projects and implementation schedule including attainment of percent capture milestones set forth in the LTCP. These projects shall be monitored and analyzed to determine if they are operating as intended and whether the implementation of projects under the LTCP are achieving the interim required percent capture milestones set forth in the LTCP. If the PCCMP determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent criteria, an evaluation must be included in the Adaptive Management Plan in accordance with H. below.

f. The permittee shall submit an Interim PCCMP Report on or before 54 months from the effective date of the permit (EDP). The report shall include:

   i. A statement setting forth the deadlines and other terms that the permittees were required to meet in the effective NJPDES permit;

   ii. A summary of principal contacts with the Department during the effective NJPDES permit relating to CSOs or implementation of the LTCP;

   iii. NJPDES permit violations, including but not limited to dry weather overflows;

   iv. A summary of flow and hydraulic monitoring data collected by the permittees during the effective NJPDES permit;

   v. A description of the CSO control measures completed within the effective NJPDES permit and a projection of CSO control measure work to be performed during the subsequent renewal NJPDES permit;

   vi. An evaluation of the effectiveness of the CSO control measures constructed in the effective NJPDES permit to determine if the interim required percent capture is achieved; and

   vii. A summary of any proposed adjustments to the components of the LTCP.

g. Upon implementation of all the LTCP CSO control measures, the monitoring information collected from the ambient baseline monitoring phase of the BCMP shall be compared to the post-construction compliance monitoring to evaluate the effectiveness of CSO control measures implemented to verify that the remaining CSOs are not precluding the attainment of water quality standards for pathogens.

h. The PCCMP must contain data from the on-going New Jersey Harbor Discharger Group Monitoring Network. This data is required to supplement the existing data to represent future conditions. This will ensure consistency for sampling stations, parameters etc.

i. A Final PCCMP Report shall be submitted to the Department within 30 months after the last LTCP project has been constructed and is in operation. The single Final PCCMP Report shall evaluate and document the system-wide performance of the LTCP CSO control measures. The Report shall include an assessment of whether the control measures are meeting the final required percent capture and complying with water quality standards. The report shall include:
   i. A complete post-construction compliance monitoring period data summary and analysis;

   ii. A reporting of all of the CSO control measures that have been constructed, implemented, and that are in operation;

   iii. An evaluation of the CSO control measures' performance, and whether the controls meet the final required percent capture;

   iv. A description of any actions that were needed to be implemented to meet the interim required percent capture or the final required percent capture; and.

   v. An assessment of whether the control measures are complying with water quality standards.

10. Permittee's LTCP Responsibilities

a. The permittee is responsible for implementing CSO control measures to ensure compliance with the Federal CSO Control Policy and N.J.A.C. 7:14-11, Appendix C as outlined in the Implementation Schedule located in Section G.8. Since multiple permittees own/operate different portions of a hydraulically connected CSS, the permittee is required to work cooperatively and provide the necessary information with all other CSO permittees to ensure overall compliance. In addition, each permittee is required to institute necessary measures in accordance with the Implementation Schedule for only the portion of the hydraulically connected system that the permittee owns/operates and provide this information to the other permittees for compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C.

H. Custom Requirement

1. Precipitation Trends

a. The following information shall be submitted to the Department as part of the NJPDES permit renewal application:

i. The permittee shall analyze and submit the annual precipitation depth obtained by the National Oceanic Atmospheric Administration (NOAA) at the Newark Liberty International Airport in order to determine the annual precipitation depth during the effective period of the permit.

ii. The permittee shall determine and submit the annual precipitation depth for each calendar year, such that by the end of the permit, the most recent five calendar years of data has been collected. The permittee shall compare this data to assumptions utilized in the development of the LTCP.

iii. This information shall be submitted to the Department with the NJPDES renewal application with an assessment of any change in precipitation trends.

2. Adaptive Management Plan

a. An Adaptive Management Plan shall be submitted on or before 54 months from the effective date of the permit (EDP) if any of the following occurs:

i. An Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture as per Part IV.G.9.e. above;.

ii. A permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule; and/or

iii. The precipitation trends required in Part IV.H.1 above demonstrates a change in the assumptions used in the development of the LTCP.

b. If an Interim or the Final PCCMP Report determines that the implemented CSO control measures do not meet the interim required percent capture or the final required percent capture, the Adaptive Management Plan shall include:.

i. Modified or additional CSO control measures that will be to achieve the interim required percent capture or the final required percent capture;.

ii. A detailed analysis and a modified implementation plan and schedule of the CSO control measures; and

iii. Inclusion of any adaptive management modifications based on an Interim or the Final PCCMP Report.

c. If a permittee requests to modify the implementation schedule and/or CSO control measures in the implementation schedule by incorporating new technologies, group similar control measures to reduce cost, increase wet weather, change the order of the control measures and/or accelerate the schedule. If such a request, the Adaptive Management Plan shall include:

   i. A detailed analysis of the modified and/or new CSO control measures including verification that the interim required percent capture or the final required percent capture will be achieved; and.

   ii. A modified implementation plan and schedule of the CSO control measures.

Appendix A

Design Standards for Storm Drain Inlets

Grates in pavement or other ground surfaces, such as roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels and stormwater basin floors used to collect stormwater from the surface into a storm drain or surface water body, shall meet the following standards:

1. The New Jersey Department of Transportation (NJDOT) bicycle safe grate standards described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996).

2. A grate where each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is not greater than 0.5 inches across the smallest dimension.

3. For curb-openings inlets, including curb-opening inlets in combination inlets, the clear space in the curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches or be no greater than two (2.0) inches across the smallest dimension.

The following exemptions apply:

1. Where each individual clear space in the curb opening in existing curb-opening inlets do not have an area of more than nine (9.0) square inches.

2. Where the review agency determines that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets.

3. Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

    a. A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or

    b. A bar screen having a bar spacing of 0.5 inches.

4. Where flows are conveyed through a trash rack that has parallel bars with one inch (1”) spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8.

5. Where the Department determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet the standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.