

# State of New Jersey

PHILLIP D. MURPHY Governor

TAHESHA L. WAY Lt. Governor DEPARTMENT OF ENVIRONMENTAL PROTECTION Mail Code – 401-02B Water Pollution Management Element Bureau of Surface Water and Pretreatment Permitting P.O. Box 420 – 401 E State St Trenton, NJ 08625-0420 Phone: (609) 292-4860 / Fax: (609) 777-0432 SHAWN M. LATOURETTE Commissioner

> Via Email Only March 10, 2025

Thomas Laustsen, P.E., Chief Operating Officer Passaic Valley Sewerage Commission 600 Wilson Avenue Newark City, NJ 07105

Re: Draft Surface Water Renewal Permit Action Categories: A - Sanitary Wastewater CSM - Combined Sewer Management NJPDES Permit No. NJ0021016 Passaic Valley Sewerage Commission Newark City, Essex County

Dear Mr. Laustsen:

Enclosed is a **draft** New Jersey Pollutant Discharge Elimination System (NJPDES) renewal permit action identified above which has been issued in accordance with N.J.A.C. 7:14A. Passaic Valley Sewerage Commission (PVSC) operates and maintains a wastewater treatment plant (WWTP) in the City of Newark as well as a 22-mile main interceptor sewer line. PVSC's WWTP has a NJPDES flow value of 330 million gallons per day and discharges treated and disinfected domestic wastewater with industrial contribution into the Upper New York Harbor (classified as SE2(C2)) and Upper Newark Bay (classified as 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 PVSC Treatment District is comprised of combined and separate sewer areas that contribute flow to PVSC's WWTP. The combined sewer areas include several different municipalities who own and operate combined sewer collection systems (CSS) and the combined sewer outfalls located within their jurisdiction.

This permit action serves to assess PVSC's compliance with the Federal CSO Control Policy and N.J.A.C. 7:14A-11, Appendix C. It also serves to implement the requirements of the coordinated Long Term Control Plan prepared by PVSC (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). These municipalities are served by a CSS which is hydraulically connected to PVSC's WWTP. This permit action is issued to PVSC.

Notice of this draft permit action will appear on the Division of Water Quality's website at <u>www.nj.gov/dep/dwq</u>, in *The Herald News* and *Star Ledger*, and in the March 19, 2025 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at <u>http://www.state.nj.us/dep/bulletin</u>. 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 newspapers, 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 <u>dwg\_bswp@dep.nj.gov</u>.

All persons, including PVSC, who believe that any condition of this draft permit action is inappropriate or that the Department's decision to issue this draft permit action is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period. In addition, take notice that the Department will be holding non-adversarial virtual and in-person public hearings to afford the public an opportunity to be heard on this draft permit 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. PVSC and each person who has submitted written comments will receive notice of the Department's final decision to issue, revoke, or redraft the document.

If you have questions or require specific information regarding the draft permit action, please contact Robert Hall either by phone at (609) 292-4860 or email at <u>Robert.Hall@dep.nj.gov</u>.

Sincerely,

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Brett Callanan, Chief Bureau of Surface Water & Pretreatment Permitting

Enclosures c: Permit Distribution List

Masterfile #: 8439; PI #: 46756

# **EXECUTIVE SUMMARY**

# Passaic Valley Sewerage Commission CSO Permit

In 2015, the NJDEP issued an individual NJPDES CSO permit to the Passaic Valley Sewerage Commission (PVSC). The permit required PVSC to create a single, coordinated Long Term Control Plan (LTCP) with City of Bayonne, Borough of East Newark, Town of Harrison, Jersey City Municipal Utilities Authority (MUA), 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.

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# 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
Donortmont	New Jarsay Department of Environmental Protection
Department	Disaharga ta Graundwatar
DUW	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 1010	Minimum average one day flow with a statistical recurrence interval of ten years
MA7CD10 or 7010	Minimum average seven consecutive day flow with a statistical recurrence interval of ten years
MA30CD5 or 3005	Minimum average 30 consecutive day flow with a statistical recurrence interval of five years
mg/L	Milligrams ner Liter
MDI	Maximum Daily Limitation
MGD	Million Collons per Day
MBE	Monitoring Report Form
NAICS	North American Industry Classification System
NAICS	Notional/New Janary Dollytant Discharge Elimination System
NID	National/New Jersey Politiant Discharge Elimination System
NJK DCD	Debedder de Dielene
PCB	Polychiorinated 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)
ug/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
IW	Ultraviolat
WCP	Wastawatar Characterization Deport
WED	Wastewater Unaracterization Report
WLA	wasteroad Allocation
WRRF	Wastewater Resource Recovery Facility
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 <u>et seq.</u>, and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 <u>et seq.</u>, for the following discharges:

Permittees	Facilities
Passaic Valley Sewerage Commission (PVSC)	Passaic Valley Sewerage Commission (PVSC)
600 Wilson Avenue	600 Wilson Avenue
Newark, NJ 07105	Newark, NJ 07105
NJPDES Permit No.: NJ0021016	Essex County
City of Bayonne	City of Bayonne CSOs
630 Avenue C	630 Avenue C
Bayonne, NJ 07002	Bayonne, NJ 07002
NJPDES Permit No.: NJ0109240	Hudson County
Borough of Fact Newark	Borough of Fast Newark CSOs
34 Sherman Avenue	34 Sherman Avenue
Fast Newark NL 07020	Fast Newark NL 07020
NIPDES Permit No · NI0117846	East Newark, NJ 07029
NJI DES Fernit No.: NJ0117840	Lister County
Town of Harrison	Town of Harrison CSOs
318 Harrison Avenue	318 Harrison Avenue
Harrison, NJ 07029	Harrison, NJ 07029
NJPDES Permit No.: NJ0108871	Essex County
Jersey City Municipal Utilities Authority	Jersey City Municipal Utilities Authority CSOs
555 Route 440	555 Route 440
Jersey City, NJ 07305	Jersey City, NJ 07305
NJPDES Permit No.: NJ0108723	Hudson County
T	T
10Wh 01 Kearny 402 Kearny Avenue	10wh of Kearny CSOs
402 Kealily Avenue Koarmy NL 07022	402 Kearny Avenue Kaarny NL 07022
NIDDES Dermit No · NI0111244	Essay County
NJI DES Fermit No NJOTTI 244	Essex County
City of Newark	City of Newark CSOs
920 Broad Street, Room B31F	920 Broad Street, Room B31F
Newark, NJ 07102	Newark, NJ 07102
NJPDES Permit No.: NJ0108758	Essex County
North Bergen Municipal Utilities Authority	North Bergen Municipal Utilities Authority CSOs
4223 Kennedy Boulevard	4223 Kennedy Boulevard
North Bergen, NJ 07047	North Bergen, NJ 07047
NJPDES Permit No.: NJ0108898	Hudson County
City of Paterson	City of Paterson CSOs
155 Market Street	155 Market Street
Paterson, NJ 07505	Paterson, NJ 07505
NJPDES Permit No.: NJ0108880	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 Township 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 Township of Harrison discharges combined sewage from 6 CSO outfalls equipped with solids/floatables removal equipment to the Passaic River (classified as SE3(C2)). The Township of Kearny discharges combined sewage from 5 CSO outfalls equipped with solids/floatables removal equipment to the Passaic River (classified as SE3(C2)). The Township 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 <u>www.nj.gov/dep/opra</u>, or by calling (609) 341-3121. Copies of the draft permits are available on the Department's Division of Water Quality website at <u>www.nj.gov/dep/dwq</u>.

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 <u>dwq bswp@dep.nj.gov</u>. 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 & 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	Josie Castaldo	Josie.Castaldo@dep.nj.gov
Municipal Utilities Authority, City of Paterson		
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 <a href="https://dep.nj.gov/dwq/combined-sewer-overflow/community-involvement/">https://dep.nj.gov/dwq/combined-sewer-overflow/community-involvement/</a> under CSO Virtual Public Hearings. Two in-person public hearings will be held at LeRoy Smith Public Safety Building, Sheila Oliver Conference Room, 14<sup>th</sup> 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 and Pretreatment Permitting

# **FACT SHEET**

Masterfile #: 8439

This fact sheet sets forth the principle 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 December 14, 2019.

# **1** Name and Address of the Applicant:

Passaic Valley Sewerage Commission 600 Wilson Ave Newark, NJ 07105

# Passaic Valley Sewerage Commission

2 Name and Address of the Facility/Site:

600 Wilson Avenue Newark City, NJ 07105 Essex County

# **3** NJPDES CSO Permit and Policy Background:

Passaic Valley Sewerage Commission (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, Township of North Bergen (North Bergen Municipal Utilities Authority (NBMUA)), and the City of Paterson are served by combined sewer collection systems (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. This subject renewal permit action is issued to 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

#### **PI #:** 46756

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, oxygendemanding 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 PVSC 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 discharges treated and disinfected, domestic wastewater with industrial contribution into the Upper New York Harbor and Upper Newark Bay, classified as SE- 2 and SE-3 waters respectively. 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 240.5 MGD.

# 4 **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.

Municipality/Sewer	Contribu	ting area (acres)	Total Contributing	Number of CSOs Located within Service Area	
Authority	Combined Sewer	Separate Storm Sewer	Area (acres) <sup>1</sup>		
City of Bayonne	1,706	36	1,742	28	
Borough of East Newark	62	0	62	1	
Town of Harrison <sup>2</sup>	423	354	771	6	
Jersey City MUA <sup>3</sup>	5,365	66	5,365	21	
Town of Kearny	Kearny 1,243 2,763 4,006		5		
City of Newark	7,153 2,883 10,036		18		
North Bergen MUA <sup>4</sup>	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	

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

Note:

 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.

- 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.
- 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 Alternative. 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. <u>PVSC Water Resource Recovery Facility (WRRF) Overview:</u>

The facility is classified as a major discharger by the Department of Environmental Protection (NJDEP) in accordance with the United States Environmental Protection Agency (EPA) rating criteria. PVSC discharges treated and disinfected, domestic wastewater with industrial contribution into the Upper New York Harbor and Upper Newark Bay, classified as SE- 2 and SE-3 waters respectively. 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 240.5 MGD through the primary outfall discharge serial number (DSN) 001A. This POTW has a delegated pretreatment program. Sanitary wastewater conditions are covered under Category A of this permit.

Sanitary wastewater with industrial contribution is processed through the following units:

- 1. Bar screens
- 2. Grit channels
- 3. Primary clarifiers
- 4. Oxygen activated sludge
- 5. Secondary clarifiers
- 6. Sodium hypochlorite disinfection
- 7. Effluent control chamber

Upon entering the PVSC WRRF, wastewater is screened, de-gritted, and conveyed through a channel to the Influent Pumping Station and the Wet Weather Pumping Station. Flow is then lifted by a combination of six (6) Archimedes screw pumps and three centrifugal pumps to the Primary Clarifiers. The Hudson County flow, which includes flow from the cities of Jersey City, Bayonne, North Bergen, and South Kearny, enters the WRRF at the afterbay of the Influent Pumping Station just before the Primary Clarifiers. Following primary clarification, the combined flows then enter secondary treatment consisting of Aeration Tanks which utilize a pure oxygen activated sludge process and Final Clarifiers. Treated wastewater is disinfected with sodium hypochlorite upon entering the Effluent Pumping Station and is pumped to one of two outfalls. The main outfall (001A) discharges to the Upper New York Bay. Flow in excess of the capacity of the main outfall is conveyed to a chlorine contact tank. This excess flow will then be dechlorinated using sodium bisulfite prior to discharging to Newark Bay via secondary outfall (002A). The permittee is authorized to use DSN 002A to discharge treated effluent only if the hydraulic capacity of DSN 001A is exceeded during periods of heavy precipitation. DSN 002A is only used in the event that the capacity of DSN 001A is reached during a heavy precipitation event.

Solids from the Primary Clarifiers and Waste Sludge from the Aeration Tanks are collected and thickened at the gravity Sludge Thickeners. Thickened sludge is then processed through the Thickening Centrifuges to reduce the liquid volume. A wet-air oxidation process known as Zimpro is applied to stabilize and condition the sludge for dewatering before it is further reduced in volume in Decant Tanks. Sludge is then dewatered in filter presses and is then stored in cake silos prior to beneficially being used as landfill daily cover. All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residual management. All applicable conditions for residual management can be found in NJPDES Residual General Permit Authorization No. NJG0198064. If there are questions regarding the general permit authorization, please contact the Bureau of Ground Water, Residuals, and Permit Administration at (609) 984-4428.

A schematic of the facility's treatment is included near the end of the fact sheet.

Storm water discharges are covered by the individual authorization NJ00118427 under the Storm Water Basic General Permit NJ0088315. If there are any questions regarding the storm water permit, contact the Bureau of Nonpoint Pollution Control at (609) 633-7021.

The permittee has installed a concrete wall around the facility in order to protect the plant from flooding from Newark Bay and a tributary of the bay. Stormwater that may collect on the facility side of the wall can be pumped over the wall to the tributary.

# D. <u>PVSC Wet Weather Improvements:</u>

During normal influent levels and operating procedures, all flows received by a wastewater treatment plan undergo primary treatment, secondary treatment, and disinfection before being monitored and discharged. However, during times of high influent flows during significant wet weather events, the treatment capacity of secondary treatment units may be exceeded. During these times of high flows, where stormwater comprises a significant portion of the wastestream, the excess flow may be diverted around secondary treatment. This diversion is referred to as "bypass." The diverted flow is then mixed with flows that received secondary treatment and the combined flow then receives disinfection and monitoring. Under bypass conditions, permit effluent limitations are required to be met and there is no relaxation of existing effluent limitations. Note that the higher flows that are diverted around secondary treatment, but still receive primary treatment and disinfection, are flows that would otherwise be discharged untreated from CSO outfalls or possibly contribute to CSO-related street flooding. CSO-related bypass is a control alternative specifically allowed by the Federal CSO Control Policy. These conditions were incorporated in a permit action consistent with the recommendations of EPA as per the Administrative Order of Consent (CWA-02-2018-3009) dated April 16, 2018.

# 5 <u>Receiving Water Discharge Location Information:</u>

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

General I	nformation	Water	shed Information
Receiving Water:	Upper New York Bay	Downstream	Lower New York Bay
		Confluences:	
Via:	Outfall pipe	Receiving River Basin	New York Harbor Complex
		(b):	
Classification (a):	SE2	WMA (c):	07
Latitude:	40° 39' 16" N	Watershed:	Newark Bay/Kill Van Kull/Upper
			NY Bay
Longitude:	74° 03' 42" W	Subwatershed:	Upper NY Bay/Kill Van Kull
			(74d7m30s)
County:	Essex County	HUC 14 (d):	2030104010030
Municipality:	Newark	Water Quality	Fish Tissue (Chlordane, Dieldrin,
		Impairments (e):	Dioxin, PCBs), heptachlor epoxide,
			hexachlorobenzene, Benzo (A)
			Pyrene
	(	Dutfall Description	
Outfall	submerged pipe	Submerged Pipe	The outfall is located 40 to 60 feet
Configuration:		Characteristics:	below the low tide level and is 4,000
			feet from the nearest shore point.
	Applicable Receiving	Water Dilution Factors D	<u>SN 001A (f)</u>
	Acute:	16	
	Chronic:	22.9	
Human	Health Non-Carcinogen	22.9	
Hun	nan Health Carcinogenic	22.9	

#### Outfall Designator: 001A (Primary Outfall)

General I	nformation	Watershed Information			
Receiving Water:	Upper Newark Bay	Downstream Confluences:	Lower New York Bay		
Via:	Outfall pipe	Receiving River Basin (b):	New York Harbor Complex		
Classification (a):	SE3	WMA (c):	07		
Latitude:	40° 42' 45.5" N	Watershed:	Newark Bay/Kill Van Kull/Upper NY Bay		
Longitude:	74° 07' 22.9" W	Subwatershed:	Upper NY Bay/Kill Van Kull (74d7m30s)		
County:	Essex County	HUC 14 (d):	2030104010030		
Municipality:	Newark	Water Quality Impairments (e):	Fish Tissue (Chlordane, Dieldrin, Dioxin, PCBs), heptachlor epoxide, hexachlorobenzene, Benzo (A) Pyrene		
		Outfall Description			
Outfall Configuration:	submerged pipe	Submerged Pipe Characteristics:	This outfall is located 1 foot below low tide level and is located at a headwall.		

# Outfall Designator: DSN 002A (Secondary Outfall)

Footnotes:

- (a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.12.
- (b) In accordance with N.J.A.C. 7:9B-1.15
- (c) WMA = Watershed Management Area
- (d) HUC 14 = 14 digit Hydrologic Unit Code
- (e) 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).
- (f) Dilution Factors are from the Water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Najarian Associates L.P., Ocean Surveys Inc., and Killam Associates.

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for the Saline Estuary 2 (SE2) and Saline Estuary 3 (SE3) receiving waters are:

# SE2: DSN 001A

- 1. Secondary contact recreation;
- 2 Maintenance and migration of fish populations;
- 3 Migration of diadromous fish;
- 4. Maintenance of wildlife; and
- 5. Any other reasonable uses.

#### SE3: DSN 002A

- 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.

This subwatershed is impaired for benzo[a]pyrene (PAHs); heptachlor epoxide; hexachlorobenzene; and chlordane, DDT, dieldrin, dioxin, and PCBs in fish tissue. Available data shows that these pollutants were not found to be discharged in the effluent. Monitoring requirements have been retained in this permit. Refer to Section 7.B.14 of the Fact Sheet for more details regarding the monitoring requirements for these parameters.

# **6 Type and Quantity of the Wastes or Pollutants:**

The Permit Summary Table near the end of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facility and the proposed effluent limitations.

# Summary of Permit Conditions for Sanitary Wastewater (Category A):

The proposed effluent limitations and other pertinent information regarding the draft permit are described below:

#### A. Basis for Effluent Limitations and Permit Conditions - General:

The effluent limitations and permit conditions in this permit have been developed to ensure compliance with the following, as applicable:

- 1. NJPDES Regulations (N.J.A.C. 7:14A),
- 2. New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B),
- 3. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List),
- 4. Requirements of the Interstate Environmental Commission (N.J.A.C. 7:9B-1.5(b)2),
- 5. Secondary Treatment Standards (40 CFR Part 133, N.J.A.C. 7:14A-12.2 and -12.3),
- 6. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements),
- 7. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements),
- 8. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15),
- 9. Existing Effluent Quality (EEQ) limitations in accordance with N.J.A.C. 7:14A-13.8,
- 10. Pretreatment Requirements (N.J.A.C. 7:14A-19)

When EEQ limitations are appropriate in accordance with N.J.A.C. 7-14A-13.3(e), the maximum daily limit shall be set equal to the maximum projected effluent concentration, which shall be calculated using an approved statistical method, a 95% confidence interval, a 95% probability basis, and at least 10 data points. The AML shall be calculated from the MDL if deemed necessary. Specific procedures concerning the calculation of EEQ limitations are contained in the USEPA's TSD.

In accordance with N.J.A.C. 7:14A-13.5, WQBELs are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey SWQS, N.J.A.C. 7:9B-1.1 <u>et seq.</u>, and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the CWA, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA TSD and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15.

WET is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) for CWEA limited parameters are calculated by multiplying the NJPDES permitted flow value of 330 million gallons per day (MGD) by the conversion factor of 3.785 (L/gal) and the appropriate concentration limitation (mg/L or mg/L). This permit renewal does not authorize any expansion of the current sewer service area or flows greater than 330 MGD calculated on an annual average basis, in accordance with the Northeast New Jersey Water Quality Management Plan (NENJWQMP).

This renewal carries forward provisions for loading for CBOD5, TSS, Ammonia, and CPO based on the March 12, 2015 existing NJPDES permit as originally established in the January 6, 2005 permit. These permits utilized a monthly average flow of 369 MGD which takes into account an increase in loading based on the facility treating

and conveying wet weather flows up to approximately 550 MGD. This value of 369 MGD for certain pollutants considered the acceptance of additional CSO related flows from Newark City.

#### B. Basis and Derivation for Effluent Limitations and Monitoring Requirements- Specific:

All permit limitations and conditions in this permit action, are equal to or more stringent than those contained in the existing permit action. As a result, this permit action satisfies the federal and state anti-degradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A-14, unless specified otherwise in the permit. In accordance with N.J.A.C. 7:14A-14.2, the permittee may submit a written request for a modification of the permit to decrease monitoring frequencies for parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

# DSN 001A: Upper New York Bay

#### 1. <u>Flow</u>:

This permit includes a numerical limitation for flow of 330 MGD that shall be met on an annual average basis for the initial phase. A monitoring requirement is included as a 12-month rolling average.

Amendments to the Capacity Assurance Program (CAP) rules at N.J.A.C. 7:14A-22.16 were adopted in the May 15, 2017 issue of the New Jersey Register (49 NJR 1191(a)). A requirement to report the "12-month rolling average" for effluent flow is added to the discharge monitoring report (DMR) forms.

Flow shall be monitored on a **continuous** frequency with a **metered** sample type.

As part of the final phase, this permit action includes required reporting for influent flow to the Sewage Treatment Plant (STP) under "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent" in order to implement CSO related bypass provisions as an LTCP alternative as a "Final Phase". The number of bypass events is also required to be reported as "Duration of Discharge" namely the number of calendar days per month that a bypass event occurs. Total Flow (Bypass) serves to represent the volume of flows bypassed and shall be measured using a meter. These reporting requirements are included in the Final Phase for this renewal permit and will serve as a means to track increased flows to the plant, track the number of bypass events and to serve as an indication of any reduction in CSOs.

2. <u>5-Day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>)</u>:

The concentration limitations are based on N.J.A.C. 7:14A-12.2(c). The concentration limitations are a monthly average of 25 mg/L and a weekly average of 40 mg/L. The loading limitations are 34,916 kg/d for a monthly average and 55,867 kg/d for a weekly average.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be a **24-hour composite**.

3. Total Suspended Solids (TSS):

The concentration limitations are based on the definition of secondary treatment at 40 CFR 133.102 (b) (1) and (2) and N.J.A.C. 7:14A-12.2(e) 1. and 2. The concentration limitations are 30 mg/L as a monthly average and 45 mg/L as a weekly average. The loading limitations are 41,900 kg/day as a monthly average and 62,850 as a weekly average.

The existing monitoring frequency of once per day is carried forward from the existing permit and the sample type shall be a **24-hour composite**.

# 4. Percent Removal Requirement for CBOD<sub>5</sub> and TSS:

# Initial Phase

The percent removal limitations for both  $CBOD_5$  and TSS are based on the definition of secondary treatment at 40 CFR 133.102(b)(3) and N.J.A.C. 7:14A-12.2(e) 3. The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **calculated**.

#### Final Phase

The percent removal limitations for both  $CBOD_{5}$  and TSS are based on the definition of secondary treatment at 40 CFR 133.102(b)(3) and N.J.A.C. 7:14A-12.2(e) 3. The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **calculated**.

While the percent removal limitation applies under regular operating conditions, the Department has determined that an alternate percent removal requirement is applicable to the permittee during certain wet weather conditions. N.J.A.C. 7:14A-12.3(b) and (c) allows the removal or imposition of a less stringent limitation when a domestic treatment works receives less concentrated influent wastewater during wet weather or for dry weather provided certain conditions are met as detailed at N.J.A.C. 7:14A-12.3(c)1-3. The background for this determination, including USEPA's concurrence, is included in the October 25, 2019 draft NJPDES permit modification.

To implement these percent removal requirements the Department has included two options on the DMR form (Option 1 and Option 2); one for wet weather percent removal (with a reporting only requirement) and one for dry weather percent removal (when the limitation is applicable). The 85% removal limitation is applicable under Option 1 when the instantaneous influent flow is less than 400 MGD for all days during the monthly monitoring period. The 85% removal limitation is not applicable under Option 2 when the instantaneous influent flow for any day during the monthly monitoring period reaches or exceeds the designated flow of 400 MGD. When this condition occurs, the permittee shall report the percent removal value under Option 2 which shall include the percent removal results from all the days during the monthly monitoring period, includes those where flows were above 400 MGD. For whichever option is not applicable, the permittee shall report "Code = N" on the DMR for the monthly monitoring period. For example, if Option 1 is applicable, then the permittee shall report "Code = N" under Option 2.

If the permittee is reporting percent removal under Option 2 for a given monthly monitoring period, a tabular representation of influent flow, effluent flow, CBOD<sub>5</sub> influent, CBOD<sub>5</sub> effluent, CBOD<sub>5</sub> percent removal, TSS influent, and TSS effluent and TSS percent removal shall be tracked on a daily basis and included as an attachment to the Monitoring Report Form.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **calculated**.

# 5. <u>pH</u>:

The effluent limitations are based on the definition of secondary treatment at 40 CFR 133.102(c) and N.J.A.C. 7:14A-12.2 (f) and are 6.0 s.u. as a minimum and 9.0 s.u. as a maximum. These limits are retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of six per day is carried forward from the existing permit and the sample type shall be grab.

#### 6. Oil and Grease:

The effluent limitations are based on N.J.A.C. 7:14A-12.8(c) and are 10 mg/L as a monthly average and 15 mg/L as a instantaneous maximum. These limits are retained from the existing permit in accordance with N.J.A.C. 7:14A-13.19.

The existing monitoring frequency of **twice per month** is carried forward from the existing permit and the sample type shall be **grab**.

#### 7. <u>Ammonia (Total as N)</u>:

Ammonia-N in water exists in two forms: NH3 and  $NH_4^+$ . As  $NH_3$ , ammonia-N is called "un-ionized"; as  $NH_4^+$ , ammonia-N is called "ionized". Generally, the un-ionized fraction is considered more toxic than the ionized fraction. The relative proportion that is found in each fraction is primarily dependent on the temperature and the pH of the solution. At a higher temperature and/or a higher pH, more ammonia-N exists in the un-ionized form as compared to a lower temperature and/or pH. Ammonia-N is usually measured as total ammonia-N, which includes both the ionized and the un-ionized fractions.

The current State Water Quality Standards set an instream limit on the concentration of un-ionized ammonia that may be allowed in the stream. The water quality criteria can be found at N.J.A.C. 7:9B-1.14. The criteria may be expressed as calculations dependent on instream temperature and pH. Where this is the case, the values for temperature and pH used to calculate the un-ionized ammonia criteria are those values that exist after any allowable mixing of the effluent and receiving water. There are criteria values for both acute and chronic toxicity effects. Permit limits to protect against the toxic effects of ammonia instream are based on the more stringent calculated LTA.

#### Limit Derivation:

The WLA was calculated by solving a series of simultaneous equations for the carbonate and ammonia equilibria according to the following methodology. It is assumed that there is complete and total mixing with the receiving stream. The input data in the solution of the equilibrium equations were derived from data obtained from the DMRs.

The final total ammonia-N WLA is calculated by mass balance from the instream un-ionized ammonia criteria. The effluent limitations are calculated using the procedures in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.6(a).

<u>Carbonate Equilibrium</u>: The simultaneous equilibrium (temperature corrected) for the first and second carbonate equilibrium for each pH value are solved to calculate the carbon species and the hydrogen ion concentrations. This is done separately for each stream, i.e. the effluent and the upstream receiving stream.

The downstream concentrations for the carbon fractions are then calculated by mass balance. The downstream final temperature is also calculated by mass balance.

The final downstream hydrogen ion concentration is then calculated by the carbonate equilibrium equations. The final pH is calculated from the final hydrogen ion concentration.

Equilibrium Equation:

# $\log K = -[A/T] + D - C \times T$

C = 0.032786D = 14.8435

#### A = 3404.71T = Temperature in K

<u>Ammonia-N Equilibrium</u>: Using the final pH and the final temperature, the ammonia equilibrium of the final mixed stream is calculated.

Equilibrium Equation:

# $pK_a = 0.09018 + 2729.92/T$

T= Temperature in K

The final total ammonia-N WLA is calculated by mass balance from the instream un-ionized ammonia criteria.

A "reserve capacity" is considered in setting the Ammonia WLA to account for intrinsic uncertainties in the ammonia toxicity analysis.

The effluent limitations are calculated using the procedures in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.6(a).

	Sumn	ier (a)	Wint	er (a)
	Acute	Chronic	Acute	Chronic
Drought flows (cfs)	n/a	n/a	n/a	n/a
Dilution factors	16	22.9	16	22.9
Upstream NH <sub>3</sub> -N (mg/L)	0.37	0.41	0.33	0.31
Upstream pH (su)	7.54	7.65	7.64	7.73
Upstream temperature (°C)	24.44	24.79	12.64	12.67
Upstream alkalinity (mg/L)	96.67	96.67	72.50	72.50
Upstream salinity (‰)	14.60	14.90	14.90	18.90
Applicable effluent flow (MGD)	369.000	369.000	369.000	369.000
Effluent pH (su)	6.39	6.39	6.42	6.42
Effluent temperature (°C)	25.43	24.79	20.41	19.04
Effluent alkalinity (mg/L)	100.00	100.00	100.00	100.00
Effluent salinity (‰)	0.20	0.20	0.20	0.20
Criteria: Unionized NH <sub>3</sub> -N (mg/L)	0.115	0.030	0.115	0.030
Criteria: Equivalent total NH <sub>3</sub> -N (mg/L)	16.91	3.31	37.03	7.74
Criteria: Reserve capacity (%)	20	20	20	20
Criteria: Total NH <sub>3</sub> -N minus reserve	13.53	2.65	29.63	6.19
Wasteload allocation (WLA; mg/L)	210.90	51.61	469.07	135.01
Max data value (DMRs or study; mg/L)	52.40	40.00	52.00	40.00
Is MAX > WLA? If yes, then cause exists	NO	NO	NO	NO
Coefficient of variation	0.23	0.23	0.22	0.22

Data Input for Equilibrium Equations and Calculation Results:

Number of samples/month	30.00	30.00	30.00	30.00
Long-term average (LTA; mg/L)	127.62	46.85	289.66	123.08
WQBEL AML (toxicity-based; mg/L)	-	52.0	-	135.0
WQBEL MDL (toxicity-based; mg/L)	_	77.0	_	199.0

(a) Summer spawning period is from May 1st through October 31st. Winter non-spawning period is from Nov.1st through Feb. 28/29th. March/April period (the winter season spawning months for FW2-NT waters) has been analyzed separately. More stringent of the winter or the March/April period limits are applied for the entire traditional winter season period of Nov. through April. Note: March/April criteria & limits are applicable only to the FW2-NT waters and to no other water classification. n/a = not applicable

As shown by the above analysis, the effluent does not show cause to violate the SWQS for ammonia for either the summer or winter seasons. Therefore, new WQBELs are not warranted for this discharge and the effluent limitations of 53,700 kg/day as a monthly average and 78,400 kg/day as a daily maximum loading are retained from the existing permit as they are more stringent. The permittee shall also monitor for monthly average and daily maximum concentrations.

The monitoring frequency is **once per month** with a **24-hour composite** sample type.

# 8. <u>Bacterial Indicator - Fecal Coliform:</u>

The limitations are based on N.J.A.C. 7:14A-12.5(b) 1. and 2. The monthly average limit of 200 colonies/100 mL and the weekly average of 400 colonies/100 mL are being carried forward from the existing permit in accordance with N.J.A.C. 7:14A-13.19. The receiving waterbody for DSN 001A is classified as SE-2 waters.

The monitoring frequency is **once per day** and is consistent with N.J.A.C 7:14A-14.2. The sample type shall be **grab**.

#### 9. <u>Whole Effluent Toxicity (WET)</u>:

Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's SWQS at N.J.A.C. 7:9B-1.5(a)4 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the NJDEP determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a WQBEL for WET was evaluated for this discharge.

In order to determine the need for a WET WQBEL, the NJDEP has analyzed all available WET effluent data. Based on the review of the applicable data set, WET was found in quantifiable amounts in the effluent. Effluent data from the time period of January 2020 through December 2024 showed 6 detectable values and 12 non-detectable values (>100%) with an average of the detectable values being equal to an LC50 of 74.1%. Therefore, further analyses have been conducted for WET.

#### Cause Analysis:

For WET, a cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to cause an exceedance of the SWQS.

Using the steady state mass balance equation, acute and chronic WLA of 4.8 TUas and 22.9 TUcs respectively, were developed.

A specified in the New Jersey SWQS at N.J.A.C. 7:9B, and dilution factors of 16 for acute and 22.9 for chronic, human health, and human health carcinogen. These dilution factors originate from the water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Najarian Associates L.P., Ocean Surveys Inc. and Killam Associates. Consistent with the recommendations of section 2.3.3 of the TSD, values of 0.3 acute toxic unit (TUa) and 1.0 chronic toxic unit (TUc) were used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)).

Review of the acute WET data set indicates the maximum effluent data value to be 2.45 TUas (i.e. an LC50 = 41 %). Since the maximum reported effluent data value does not exceed the applicable site specific WLA of 4.80 TUas, the discharge does not cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

# Reasonable Potential to Cause:

For WET, a reasonable potential to cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the projected maximum effluent value (in toxic units) exceeds the applicable site specific WLA (in toxic units), the discharge is shown to have reasonable potential to cause or contribute to an exceedance of the SWQS.

The projected maximum effluent value was calculated utilizing the procedures specified in section 3.0 of the USEPA TSD.

For this analysis, the acute reasonable potential multiplying factor (R.P.M.F.) of 1.41 was based on the number of data values in the applicable database specified above (18 data values), a default coefficient of variation (CV) of 0.6, a 95% confidence level and a 95% probability basis (refer to Table 3.1 of USEPA's TSD). Multiplying the R.P.M.F. with the maximum data value of 2.45 TUas from the above cause analysis, results in a projected maximum data value of 3.46 TUas. Since the projected maximum data value does not exceed the applicable site specific WLA of 4.80 TUas, the discharge does not have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS.

#### WQBEL Derivation:

Since the discharge was not found to cause or have reasonable potential to cause an exceedance of the acute interpretation of the narrative criteria for WET identified in the SWQS, no new WQBELs have been calculated in this permit action. However, in accordance with the antibacksliding provisions at N.J.A.C. 7:14A-13.19(a), the existing acute WET effluent action level of LC  $50 \ge 50\%$  has been retained from the existing permit action.

Imposing an action level for acute WET will be equally protective of water quality as an effluent limit in this circumstance, since the violation of either the WET limitation or the action level carries with it the same enforceable permit condition to initiate the Toxicity Reduction and Implementation Requirements (TRIR), in order to correct the toxicity problem should this value be exceeded. This change satisfies the antibacksliding provisions at N.J.A.C. 7:14A-13.19, which incorporate Section 402(o)3 of the Federal Clean Water Act, because it includes the TRIR provisions. Specifically, Section 402(o)3 prohibits the revision of an effluent limit "if the implementation of such limitation would result in a violation of a water quality standard." In this circumstance, violation of either the numerically identical action level or an effluent limitation will trigger an enforceable permit condition to conduct a TRIR in order to address or prevent a violation of a water quality standard.

The test species method to be used for acute testing shall continue to be the *Mysidopsis bahia* 96 hour definitive test. Such selection is based on the saline characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and N.J.A.C. 7:18, the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18).

The TRIR are included in accordance with N.J.A.C. 7:14A-13.17(a), 7:14A-6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to ensure compliance with the applicable WET action level and to expedite compliance with the WET action level should exceedances of the WET limitation occur. As included in section B.1 of the TRIR requirements, the initial step of the TRIR is to identify the variability of the effluent toxicity and to verify that a consistent toxicity problem does in fact exist.

Effluent samples for conducting WET testing are to be collected after the last treatment step, consistent with the collection location for all other parameters.

The existing monitoring frequency of **quarterly** is carried forward from the existing permit and the sample type shall be **composite**.

# 10. Chlorine Produced Oxidants (CPO):

The permittee uses chlorine to disinfect the effluent. The requirements for CPO are retained from the existing permit pursuant to N.J.A.C. 7:14A-13.19. These limits are 0.14 mg/L (196 kg/day) as a monthly average and 0.21 mg/L (293 kg/day) as a daily maximum.

In the existing permit renewal, the Department established a CPO Decay Factor and WQBEL based on two reports on CPO decay entitled "Report on Chlorine Produced Oxidants (CPO) Decay Disinfection Studies for the Passaic Valley Sewerage Commission' Final Effluent," dated January 23, 1998 and "Final Report on Chlorine Produced Oxidants (CPO) Decay and Disinfection Studies for the Passaic Valley Sewerage Commission' Hypochlorite Dosing System," dated January 24, 2001. Both reports were prepared on behalf of PVSC by the Great Lakes Environmental Center (GLEC). These reports are the basis for the CPO decay factor that was incorporated in the existing permit which is now being carried forward in this renewal permit action. Details of the CPO Decay Calculation Procedure are outlined below.

The existing effluent limitations for CPO were calculated using the dilution factors from the dilution and CPO decay studies cited above, the flow of 369 MGD from the existing permit, and the aquatic water quality criteria for CPO in saline waters of 0.013 mg/l and 0.00752 mg/L for acute and chronic respectively. WQBELs have been reevaluated as part of this renewal permit action as outlined below as shown in the Chlorine Produced Oxidants WQBEL Calculation Procedure.

#### a. CPO Decay Calculation Procedure

Following is the procedure for calculating the final CPO concentration that is to be used for DMR reporting and compliance determinations against the WQBELs for CPO in Table III-A-1:

1. Utilizing the following equation, calculate the effluent travel time ("ETT") in minutes from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure at the time the effluent CPO concentration was measured at the treatment plant:

$$ETT = (601.62 / EFR) \times 60$$

where "EFR" equals the effluent flow rate in MGD occurring at the time the effluent grab sample for CPO analysis was taken at the treatment plant.

2. Calculate the CPO concentration decay ("CPODECAY") in mg/L during the effluent travel in the outfall pipe from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure using the equation:

 $CPODECAY = (0.0043 \text{ mg/L/min}) \times ETT$ 

where "ETT" equals the effluent travel time calculated in step 1 above.

3. Calculate the CPO concentration at the discharge location in Upper New York Harbor ("CPOEFFL") using the equation:

CPOEFFL = (CPOMEAS) - (CPODECAY)

where "CPOMEAS" equals the measured effluent CPO concentration at the treatment plant in mg/L and "CPODECAY" equals the CPO concentration decay calculated in step 2 above.

The calculated CPOEFFL is the CPO concentration value that is used to determine compliance with the water quality based maximum daily and average monthly CPO concentration effluent limitations in Table III-A-1 and for all DMR monitoring and reporting purposes.

If the CPOEFFL value calculated using the above procedure is less than the method detection level (MDL) of the method being used to measure CPO, then the CPOEFFL value used for reporting purposes will be < MDL in mg/L. For example, if the MDL for the method being utilized to measure CPO is 0.02 mg/L and the calculated CPOEFFL value is 0.01 mg/L, then < 0.02 mg/L (not 0.01 mg/L) is to be used for DMR reporting purposes for that measurement.

<u>EXAMPLE</u>: An effluent grab sample is taken at the O&M Building Sample Room when the measured effluent flow rate (EFR) is 300 MGD. The measured CPO concentration in that sample (i.e. CPOMEAS) is 0.6 mg/L. The calculated CPO effluent concentration (CPOEFFL) at the discharge location in Upper New York Harbor for DMR reporting and permit compliance purposes is as follows:

Effluent Travel Time:  $ETT = (601.62 / EFR) \times 60$ 

 $ETT = (601.62 / 300 \text{ MGD}) \times 60 = 120 \text{ minutes}$ 

CPO Decay: CPODECAY = (0.0043 mg/L/min)) × ETT

CPODECAY =  $0.0043 \text{ mg/L/min} \times 120 \text{ minutes} = 0.52 \text{ mg/L}$ 

Calculated Upper New York Harbor Discharge Location CPO Concentration:

CPOEFFL = (CPOMEAS) - (CPODECAY)

CPOEFFL = 0.60 mg/L - 0.52 mg/L = 0.08 mg/L

b. Chlorine Produced Oxidants WQBEL Calculation Procedure

The WQBELs were calculated by the procedures set forth in the USEPA TSD. Consistent with the recommendations set forth in Appendix E of the USEPA TSD, the Department utilized a site-specific CV based on the delta-lognormal distribution statistics.

Using the steady state mass balance equation, WLAs were developed utilizing the applicable criteria specified in the New Jersey SWQS at N.J.A.C. 7:9B, pollutant specific upstream concentrations (when available), the permittee's long-term average flow value of 369 MGD, dilution factors from the water quality study dated

dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Najarian Associates L.P., Ocean Surveys Inc., and Killam Associates.

For acute and chronic calculations, LTA values were developed using the 99<sup>th</sup> percentile multiplier and the more stringent results were utilized in calculating the MDL and AMLs. As per N.J.A.C. 7:14-A-13.14(a)2, limitations shall be expressed as concentration and mass loading. Refer to the table below for the input data and calculation results, and the Calculation Equations section of the fact sheet for additional reference.

All concentration units in mg/L	Acute	Chronic		
Upstream concentration, (Cup)	0.0	0.0		
Effluent flow (cfs)	570.8	570.8		
Predetermined Dilution Factors (Df)	16	22.9		
Surface Water Quality Criteria, (Ci)	0.013	0.0075		
Wasteload Allocation, (WLA)	0.21	0.172		
Coefficient of Variation (CV)	0.22	0.22		
WLA multiplier for LTA	0.614	0.78		
Long Term Average, (LTA)	0.0129	0.134		
More stringent LTA	Acute			
LTA multiplier for MDL	1.62			
LTA multiplier for AML		1.1		
Maximum Daily Limitation, (MDL),	0	0.21		
mg/L				
Average Monthly Limitation, (AML),	0	0.14		
mg/L				
Maximum Daily Limitation, (MDL),	293			
kg/day				
Average Monthly Limitation, (AML),	1	196		
kg/day				

#### Data Input and Calculation Results:

The existing monitoring frequency of **six per day** is carried forward from the existing permit and the sample type shall be **grab**.

#### 11. Temperature:

As authorized by N.J.A.C. 7:14A-6.2(a)14, monitoring and reporting requirements for temperature are included in the permit.

The existing monitoring frequency of **six per day** is carried forward from the existing permit and the sample type shall be **grab**.

#### 12. Dissolved Oxygen (DO):

The effluent limitation of 3.0 mg/L as a weekly average is based on the Northeast New Jersey Water Quality Management Plan and is being carried forward in the permit renewal in accordance with N.J.A.C. 7:14A-13.19. A monitoring only requirement for daily average is also retained from the existing permit.

The existing monitoring frequency of **once per day** is carried forward from the existing permit and the sample type shall be **grab**.

# 13. Mercury:

The existing permit contains a monthly average loading limit of 2.5 kg/day for Total Recoverable Mercury with monitoring required for the daily maximum. These limitations were originally imposed in the June 27, 1996 permit renewal and were based on TMDLs which were developed by USEPA as a Federal regulatory action. This Federal promulgation results in the incorporation of TMDLs into State Water Quality Management Plans.

Based on the above, the Department has retained the existing mass-based TMDL requirement as a monthly average permit limitation of 2.5 kg/day for total recoverable mercury in accordance with N.J.A.C. 7:14A-13.19. Monitoring and reporting is also required on a concentration basis as a monthly average and a daily maximum and on a mass basis as a daily maximum. Mercury is regulated on the permittee's user as part of the delegated pretreatment program. See below description for additional detail on a WQBEL analysis for Mercury.

The existing monitoring frequency of **once per month** is being carried forward and the sample type shall be a **24-hour composite**.

#### 14. Toxic Pollutants:

The SWQS at N.J.A.C. 7:9B specify pollutant specific acute and chronic criteria for the protection of aquatic life and human health criteria for various toxic pollutants including Asbestos, and several Acids, Base/Neutrals, Metals, Pesticides, and Volatiles. In accordance with N.J.A.C. 7:14A-13.6(a), a WQBEL shall be imposed when the Department determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a SWQS. A pollutant is considered discharged in "quantifiable amounts" when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis in accordance with the sufficiently sensitive testing methods as detailed in Section D of this Fact Sheet and the Sanitary Wastewater Requirements in Part IV Section A.1.c of this permit.

The New Jersey Water Pollution Control Act as amended (N.J.S.A. 58:10A-7b(3)), commonly called the Clean Water Enforcement Act (CWEA) and N.J.A.C. 7:14A-6.16(a), directs the Department to include effluent limitations in NJPDES permits issued to delegated POTWs with an approved pretreatment program. These effluent limitations for all regulated pollutants listed under the USEPA's Categorical Pretreatment Standards a dopted pursuant to 33 U.S.C., Section 1317, and such other pollutants for which local discharge limitations have been established for a permittee discharging into the PVSC WRRF that are discharged from the facility above detectable levels. PVSC has an approved pretreatment program and is a delegated POTW. The following pollutants are regulated by the permittee on its users and are detected in the effluent: Copper, Chloroform, Chromium, Lead, Mercury, Nickel, and Zinc. Mercury is discussed in item 13 above.

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the NJDEP. Acceptable data sets generally consist of, at a minimum, 10 data values including the most recent 2<sup>1</sup>/<sub>2</sub> years of data collection. A pollutant is considered discharged in "quantifiable amounts" when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis (refer to the "NJPDES Monitoring Report Form Reference (MRF) Manual" for further information). Monitoring requirements for toxic pollutants such as the various Acids, Base/Neutrals, Metals, Pesticides, and Volatiles is specified on the DMR or Waste Characterization Report (WCR) and the data set utilized is during the time period of June 2016 to June 2024. Based on the review of the data sets, the NJDEP has concluded the following:

• All parameters, with the exception of those listed below, were not found to be discharged in the effluent based on WCR data. These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, the annual monitoring and reporting requirements have been increased to **quarterly** based on the size of the facility in this permit action based on

N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA TSD.

- Antimony, Chloroform, and Total Chromium were detected in the effluent in the WCR data sets for the time period of June 2016 to June 2024. Therefore, further analyses have been conducted on these pollutants as shown below.
- Phenols were found to be discharged in quantifiable amounts based on the WCR data sets for the time period of June 2016 to June 2024. A SWQS for phenols does not exist at this time for SE waters; therefore, a WQBEL analysis could not be conducted. Monitoring is continued for Phenols since it is detected in the effluent.
- Insufficient data is available for Arsenic to determine the need for a WQBEL. The annual monitoring frequency has been increased to **quarterly** and moved from the annual WCR to the quarterly WCR to better characterize any quantities that may be present.
- Total Recoverable Copper, Free Cyanide, Total Cyanide, Total Recoverable Lead, Total Mercury, Total Recoverable Nickel and Total Recoverable Zinc were found to be discharged in quantifiable amounts on the DMRs based on the time period of January 2020 to December 2024. Therefore, further analyses have been conducted on these pollutants as shown below.

# Quantified Pollutant Analysis Methodology:

For each pollutant discharged in quantifiable amounts in the effluent, a cause analysis was conducted using the procedures specified in the USEPA TSD in accordance with N.J.A.C. 7:14A-13.5. The cause analysis consists of a comparison between the pollutant's maximum effluent concentration value (or average value of a long term data set in the case of criteria with an averaging period longer than one year) and the pollutant's applicable site specific WLA.

Using the steady state mass balance equation, WLAs were developed utilizing the applicable surface water quality criteria, pollutant specific upstream concentrations (when available), and dilution factors of 16 for acute and 22.9 for chronic, human health, and human health carcinogen. These dilution factors originate from the water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Najarian Associates L.P., Ocean Surveys Inc., and Killam Associates.

For the applicable pollutants (Copper, Lead, Nickel, and Zinc), the applied criteria is based on a water effect ratio (WER) of 1.0.

For the applicable metals, default translators were utilized to convert total recoverable data to its dissolved equivalent for the cause analyses for aquatic criteria, and, if applicable, to convert the dissolved long term averages to total recoverable values for determining WQBELs. Translator values for the parameters listed below, if not site specific, are based on the conversion factors for dissolved metals at N.J.A.C 7:14A-13.6(c). The default metal translators used in the analyses are as follows:

	Saline Water			
Metal	Translator	Translator		
	(acute)	(chronic)		
Copper	0.83	0.83		
Lead	0.951	0.951		
Mercury	0.85	0.85		
Nickel	0.990	0.990		
Zinc	0.946	0.946		

Quantified Pollutant Analysis Results:

Cause analyses were conducted on antimony, chloroform, total chromium, total recoverable copper, free cyanide, total cyanide, total recoverable lead, total mercury, total recoverable nickel, and total recoverable zinc. A SWQS for phenols does not exist at this time for SE- waters; therefore, a WQBEL analysis could not be conducted. Monitoring is continued for Phenols since it is detected in the effluent. The Department's conclusions and results are listed below:

<u>**Table**</u> A: Effluent limitation cause analysis for toxic pollutants; effluent flow of 330 MGD.

Parameter	Data set time period	Number of data	Coefficient of variation	Maximum reported data value	Calculated instream WLA	"Cause" Y = yes	Criteria LTA (µg/L)	Water Quality Based Limit, if applicable	Calculated EEQ maximum daily limit, if applicable
		points	(CV)	(µg/L) (1)	(µg/L)	$\mathbf{N} = \mathbf{n}0$		(µg/L)	(kg/day)
				А	В	A > B ?			
Total	6/2016 to	(dt) = 6	0.6.(d)	1.2	$(a) = N/\Lambda$	$(\mathbf{a}) = \mathbf{N}/\mathbf{A}$	$(\mathbf{n}) = \mathbf{N}/\mathbf{A}$	Pafar to Table P	NI/A
Antimony	6/2024	(nd) = 0 (nd) = 2	0.0 (u)	1.2	(a) = N/A (c) = N/A (h) = 14,656** (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) =14,656 (hc) = N/A	Kelei to Table B	IV/A
~1.1	6 / <b>0</b> 0 1 6			10					27/1
Chloroform	6/2016 to 6/2024	(dt) = 8 $(nd) = 0$	0.6 (d)	13	(a) = N/A (c) = N/A (h) = $48,090$ (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) = 48,090 (hc) = N/A	Refer to Table B	N/A
T ( 1	(2016)	(1) 7	0 ( ( 1)	12.2					
Chromium	6/2016 to 6/2024	(dt) = 7 (nd) = 1	0.6 (d)	13.3	(a) = N/A (c) = N/A (h) = 17,175** (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) =17, 175** (hc) = N/A	Refer to Table B	N/A
<b>D C</b> 11	4 /0.000					()	()		
Free Cyanide	1/2020 to 12/2024	(dt) = 18 (nd) = 39	1.91 (ca)	33.13	(a) = $43.2$ (c) = $61.83$ (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = $5.21$ (c) = $13.16$ (h) = N/A (hc) = N/A	Refer to Table B	N/A
Total Cyanide	1/2020 to 12/2024	(dt) = 2 (nd) = 52	0.15 (ca)	38	(a) = N/A (c) = N/A (h) = $3,206$ (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) = $3,206$ (hc) = N/A	Refer to Table B	MDL = 255 kg/day AML = 120 kg/day EXISTING LIMIT
	1/2020	(1) 50	0.05()	40.0*					
Total Recoverable Copper	1/2020 to 12/2024	(dt) = 52 (nd) = 8	0.87 (ca)	49.8*	(a) = $126.4^*$ (c) = $128.24^*$ (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = $35.3^{**}$ (c) = $64.15^{**}$ (h) = N/A (hc) = N/A	Keter to Table B	AML = 18/** kg/day MDL = 350** kg/day EXISTING LIMIT
Ta 4-1	1/2020 +	(4t) = 22	0.00()	26 14*	(a) = 22(0*)	$(\mathbf{a}) = \mathbf{N}$	(a) = 725.7**	Defente T-1-1- D	$\Lambda MI = 162**1/1$
Recoverable	12/2020 18	(nd) = 33 (nd) = 27	0.99 (ca)	30.14	$(a) = 5300^{+}$ $(c) = 549.6^{*}$	(a) = N $(c) = N$	(a) = 725.7** $(c) = 216.7**$	Keler to Table B	MDL = 300 **  kg/day

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Maximum reported data value (μg/L) (1) Α	Calculated instream WLA (µg/L) B	"Cause" Y = yes N = no A > B ?	Criteria LTA (μg/L)	Water Quality Based Limit, if applicable (µg/L)	Calculated EEQ maximum daily limit, if applicable (kg/day)
Lead					(h) = N/A (hc) = N/A	(h) = N/A $(hc) = N/A$	(h) = N/A $(hc) = N/A$		EXISTING LIMIT
Total Recoverable Mercury	1/2020 to 12/2024	(dt) = 3 (nd) = 57	0.11 (ca)	0.23* 0.27**	(a) = $28.8*$ (c) = $21.53*$ (h) = $1.17**$ (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = $26.57**$ (c) = $22.39**$ (h) = $1.17**$ (hc) = N/A	Refer to Table B	AML = 2.5** kg/day EXISTING TMDL LIMIT
Total Recoverable Nickel	1/2020 to 12/2024	(dt) = 45 (nd) = 15	0.29 (ca)	19.9* 20.1**	(a) = $1024*$ (c) = $503.8*$ (h) = $38,930**$ (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = $555.9^{**}$ (c) = $367.6^{**}$ (h) = $38,930^{**}$ (hc) = N/A	Refer to Table B	AML = 150** kg/day MDL = 262** kg/day EXISTING LIMIT
Total Recoverable Zinc	1/2020 to 12/2024	(dt) = 55 (nd) = 5	0.43 (ca)	402.05* 425**	$\begin{array}{c} (a) = 1,440* \\ (c) = 1,854.9* \\ (h) = 59,5400** \\ (hc) = N/A \end{array}$	(a) = N (c) = N (h) = N (hc) = N/A	(a) = $634.5^{**}$ (c) = $1,221.9^{**}$ (h) = $59,5400^{**}$ (hc) = N/A	Refer to Table B	AML = 562** kg/day MDL = 1037** kg/day EXISTING LIMIT

<u>**Table B**</u>: Effluent limitation reasonable potential analysis for toxic pollutants; effluent flow of 330 MGD.

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Projected Data Value (mg/L)	Calculated instream WLA (mg/L)	"Reasonable Potential to Cause" Y = yes	Criteria LTA (µg/L)	Water Quality Based Limit, if applicable (µg/L)	Calculated EEQ maximum daily limit, if applicable (kg/day)
						N = no			
				С	В	C > B ?			
Total Antimony	6/2016 to 6/2024	(dt) = 6 $(nd) = 2$	0.6 (d)	2.3 (projected max)	(a) = N/A (c) = N/A (h) = 14,656** (hc) = N/A	(a) = N/A $(c) = N/A$ $(h) = N$ $(hc) = N/A$	(a) = N/A (c) = N/A (h) =14,656 (hc) = N/A	MDL = 24,075 AML = 14,656 <b>NOT IMPOSED</b>	N/A
Chloroform	6/2016 to 6/2024	(dt) = 8 $(nd) = 0$	0.6 (d)	24.7 (projected max)	(a) = N/A (c) = N/A (h) = $48,090$ (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) = 48,090 (hc) = N/A	MDL = 78,996 AML = 48,090 IMPOSED AS CWEA LIMIT	N/A
Total Chromium	6/2016 to 6/2024	(dt) = 7 (nd) = 1	0.6 (d)	25.3 (projected max)	(a) = N/A (c) = N/A (h) = 17,175** (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) =17, 175** (hc) = N/A	MDL = 28,213 AML = 17,175 IMPOSED AS CWEA LIMIT	N/A
Free Cyanide	1/2020 to 12/2024	(dt) = 18 (nd) = 39	1.91 (ca)	33.5 (projected max)	(a) = $43.2$ (c) = $61.83$ (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = 5.21 (c) = 13.16 (h) = N/A (hc) = N/A	MDL = 43.2 AML = 24.51 <b>NOT IMPOSED</b>	N/A
Total Cyanide	1/2020 to 12/2024	(dt) = 2 (nd) = 52	0.15 (ca)	38.2 (projected max)	(a) = N/A (c) = N/A (h) = $3,206$ (hc) = N/A	(a) = N/A (c) = N/A (h) = N (hc) = N/A	(a) = N/A (c) = N/A (h) = $3,206$ (hc) = N/A	MDL = 3,767 AML = 3,206 <b>NOT IMPOSED</b>	MDL = 255 kg/day AML = 120 kg/day EXISTING LIMIT
Total Recoverable Copper	1/2020 to 12/2024	(dt) = 52 (nd) = 8	0.87 (ca)	49.8* (projected max)	(a) = $126.4*$ (c) = $128.24*$ (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = $35.3^{**}$ (c) = $64.15^{**}$ (h) = N/A (hc) = N/A	MDL = 152.29** AML = 85.09** NOT IMPOSED	AML = 187 kg/day ** MDL = 350 kg/day ** EXISTING LIMIT

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Projected Data Value (mg/L)	Calculated instream WLA (mg/L)	"Reasonable Potential to Cause" Y = yes N = no	Criteria LTA (μg/L)	Water Quality Based Limit, if applicable (µg/L)	Calculated EEQ maximum daily limit, if applicable (kg/day)
	_			С	В	C > B ?			
Total Recoverable Lead	1/2020 to 12/2024	(dt) = 33 (nd) = 27	0.99 (ca)	36.1* (projected max)	(a) = $3360*$ (c) = $549.6*$ (h) = N/A (hc) = N/A	(a) = N (c) = N (h) = N/A (hc) = N/A	(a) = $725.7^{**}$ (c) = $216.7^{**}$ (h) = N/A (hc) = N/A	MDL = 1,055** AML = 577.92** <b>NOT IMPOSED</b>	AML = 162 kg/day ** MDL = 300 kg/day ** EXISTING LIMIT
Total Recoverable Mercury	1/2020 to 12/2024	(dt) = 3 (nd) = 57	0.11 (ca)	0.23* 0.27** (projected max)	(a) = $28.8^*$ (c) = $21.53^*$ (h) = $1.17^{**}$ (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = 26.57** (c) = 22.39** (h) = 1.17** (hc) = N/A	MDL = 1.32** AML = 1.17** NOT IMPOSED	AML = 2.5 kg/day ** EXISTING TMDL LIMIT
Total Recoverable Nickel	1/2020 to 12/2024	(dt) = 45 (nd) = 15	0.29 (ca)	19.9* 20.1** (projected max)	(a) = $1024*$ (c) = $503.8*$ (h) = $38,930**$ (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = 555.9** (c) = 367.6** (h) = 38,930** (hc) = N/A	MDL = 683.9** AML = 508.89** <b>NOT IMPOSED</b>	AML = 150 kg/day ** MDL = 262 kg/day ** EXISTING LIMIT
Total Recoverable Zinc	1/2020 to 12/2024	(dt) = 55 (nd) = 5	0.43 (ca)	402.05* 425** (projected max)	(a) = $1,440*$ (c) = $1,854.9*$ (h) = $59,5400**$ (hc) = N/A	(a) = N (c) = N (h) = N (hc) = N/A	(a) = $634.5^{**}$ (c) = $1,221.9^{**}$ (h) = $59,5400^{**}$ (hc) = N/A	MDL = 1,522.2** AML = 1,018.2** <b>NOT IMPOSED</b>	AML = 562 kg/day ** MDL = 1,037 kg/day ** EXISTING LIMIT

# **Footnotes and Abbreviations**:

(dt) = data values detected.

(nd) = data values non-detected.

(d) = Default CV

- (d3) = based on N.J.A.C. 7:14A-13.6(c)(ca) = Calculated from data set
- (sst) = site specific translator value
- N/A = Not applicable

- (a) = acute aquatic
- (c) = chronic aquatic
- (h) = human health non-carcinogen
- (hc) = human health carcinogen
- MR = Monitor and Report
- EEQ = Existing Effluent Quality

(\*) = Dissolved

(\*\*) = Total Recoverable

- LTA = Long Term Average
- LTAeq = Long Term Average equivalent
- WLA = Waste Load Allocation
- MDL = Maximum Daily Limit
- AML = Average Monthly Limit

• Since the discharge of Antimony, Chloroform, Total Chromium, T.R. Copper, Free Cyanide, Total Cyanide, T.R. Lead, Total Mercury, T.R. Nickel, and T.R. Zinc in the permittee's effluent was not found to cause or have reasonable potential to cause an excursion of the SWQS, new WQBELs are not proposed in the draft permit for these parameters at this time. However, because of the delegated status of this facility and the fact that Chloroform and Chromium are limited on its users, new CWEA limitations based on WQBEL calculations are being imposed for Chloroform and Chromium. Effluent limitations from the existing permit for Copper, Nickel, Lead, and Zinc have been included based on N.J.A.C. 7:14A-6.16(a) and N.J.A.C. 7:14A-13.3(e) which were originally based on EEQ and are imposed as CWEA limitations. Effluent limitations for Total Cyanide are also being carried forward from the existing permit which were originally based on EEQ and are imposed as CWEA limitations.

The monitoring frequency of **once per month** is imposed for these pollutants and the sample type shall be a **24-hour composite**.

# CWEA Limitations (Parameters Limited on SIU Users):

The existing loading limitations that were based on the CWEA are being carried forward from the existing permit. The Department is imposing concentration limitations during this permit renewal which were derived by back-calculating the loadings by dividing the loading by the permittee's NJPDES permitted flow value of 330 MGD and by the conversion factor of 3.785. Limitations are as follow:

- For total recoverable copper, the CWEA concentration and loading limitations are 150 μg/L (187 kg/day) as a monthly average and 280 μg/L (350 kg/day) as a daily maximum.
- For total recoverable nickel, the CWEA concentration and loading limitations are 120  $\mu$ g/L (150 kg/day) as a monthly average and 210  $\mu$ g/L (262 kg/day) as a daily maximum.
- For total recoverable zinc, the CWEA concentration and loading limitations are 450 µg/L (562 kg/day) as a monthly average and 830 µg/L (1,037 kg/day) as a daily maximum.
- For total recoverable lead, the CWEA concentration and loading limitations are 130 mg/L (162 kg/day) as a monthly average and 240 mg/L (300 kg/day) as a daily maximum.

The monitoring frequency for these parameters shall be **once per month** on the DMR. The sample type shall be a **24-hour composite.** 

In satisfying the recommendations of section 3.1 of the EPA Technical Support Document, it is the Department's position that monitoring frequency requirements as specified in the permit will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

Because of the delegated status of the facility, effluent monitoring of at least annually for the priority pollutants as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, molybdenum (Mo), ammonia (NH3), and phosphorous (P), is required in accordance with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The effluent characterization monitoring data will be used at the time of the next permit action to evaluate whether effluent limitations need to be incorporated into the permit based on the CWEA.

For continuous discharges, N.J.A.C. 7:14A-13.15(a)3 states, "limitations on any pollutant or pollutant parameter where the monitoring frequency is once per month or less may be stated as a maximum daily limitation". The USEPA commented on this NJPDES regulation via a memo dated September 16, 2010 from Barbara A. Finazzo, Director, Division of Environmental Planning and Protection, USEPA-Region 2 to John Plonski, Assistant Commissioner for Water Resources Management, NJDEP.

USEPA noted in the memo that to ensure consistency with the federal regulations, New Jersey must establish permit limitations to provide both short-term and long-term controls to ensure SWQS are met.
Therefore, in situations where the monitoring frequency is once per month or less, as required by USEPA and consistent with Section 5.5.3 of the USEPA TSD, the statistical procedure is employed using n (number of samples) = 4 to derive the AML for acute, chronic and human health WQBEL calculations.

# DSN 002A: Upper Newark Bay

1. Flow, In Conduit or Thru Treatment Plant:

This permit action does not include a numerical limitation for flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13.

Flow shall be monitored on a **continuous** frequency with a **metered** sample type.

2. Flow, Total:

This permit action does not include a numerical limitation for Total Flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13.

Total Flow shall be reported on a **monthly** frequency with a **calculated** sample type.

3. Duration of Discharge:

The permittee shall report the number of days per month that a discharge has occurred though this outfall pursuant to N.J.A.C. 7:14A-13.13.

Duration of Discharge shall be reported on a **monthly** frequency with a **calculated** sample type.

4. Fecal Coliform:

The Department is imposing the SWQS of 1,500 colonies per 100 mL at N.J.A.C. 7:9B-1.14(d)(1) for this outfall as a weekly average geometric mean limitation. The permittee shall also monitor and report for monthly average geometric mean.

The monitoring frequency shall be **once per discharge** due to the intermittent nature of this outfalls discharge. The sample type shall be **grab**.

5. Chlorine Produced Oxidants:

The existing monitor and report only requirement for concertation and loading is being carried forward from the existing permit. The permittee shall report both monthly average and daily maximum CPO.

The existing monitoring frequency of **continuous** is being carried forward from the existing permit. The sample type shall be **metered**.

# C. Influent and Effluent Monitoring Requirements:

In order to calculate percent removals, influent monitoring is required for  $CBOD_5$  and TSS in accordance with N.J.A.C. 7:14A-6.5(b) and -11.2(a) 2. As authorized by the provisions of N.J.A.C. 7:14A-6.3(a), the monitoring requirements for influent pH and temperature are included in the permit.

The annual influent monitoring requirement of the priority pollutants as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, molybdenum (Mo), ammonia (NH<sub>3</sub>), and phosphorous (P), is required in accordance

with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The influent monitoring is required to evaluate the loading to the treatment plant to generate the percent removal data.

## D. CSO Related Bypass Conditions:

In advance of the LTCP submission, PVSC requested approval to pursue CSO related bypass of the secondary treatment portion of the STP in accordance with N.J.A.C. 7:14A-11.12, Appendix C, II.C.7. Bypass was presented to the public as part of the required public participation process (CSM, Part IV.G.2) where a detailed presentation was provided on October 16, 2018 as part of Session #9 of the CSO Supplemental Team Meeting. This presentation is available at https://www.njcleanwaterways.com/supplemental-cso-team-presentations.

A No Feasible Alternatives (NFA) Analysis was completed and submitted in 2019 to the United States Environmental Protection Agency (EPA) and New Jersey Department of Environmental Protection (NJDEP). The NFA recommended that PVSC increase their wet weather capacity to 720 MGD by implementing a secondary bypass that activates when instantaneous flows to the facility exceed 400 MGD in accordance with the established limit for secondary treatment. This would ensure that bypassed flow would receive preliminary treatment (i.e., screening and grit removal), primary treatment, and disinfection prior to discharge. The NFA was approved by EPA and NJDEP and PVSC's permit was revised on December 10, 2019 to include bypassing flow around secondary treatment when instantaneous flows to the facility exceed 400 MGD as a final phase of the permit. Any discharged effluent is required to meet all effluent limitations. Conditions related to the bypass authorization are shown in Part IV.H.3. This authorization will result in incremental water quality improvements to the affected receiving waters through the reduction and/or elimination of CSOs in the short term as part of an overall integrated plan. These conditions were incorporated in a permit action consistent with the recommendation of EPA as per the Administrative Order of Consent (CWA-02-2018-3009) dated April 16, 2018.

The Alterative Wet Weather Treatment Protocol Project is designed to divert primary effluent flow from twin conduits feeding the oxygenation tanks to the effluent channels of the Final Clarifiers (FCs) when influent to PVSC is greater than 400 MGD, bypassing the secondary treatment system. The system will operate by gravity, sending part of the bypassed flow to the effluent channel near FC No. 1 and the remaining part to the effluent channel near FC No. 2. Primary effluent that is bypassed around the final clarifiers will be sent through a chlorine contact tank and then dechlorinated before being discharged through DSN 002A to Newark Bay. This occurs in the final phase of the permit.

## E. Use of Sufficiently Sensitive Test Methods for Reporting:

When more than one test procedure is approved under this part for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 122.21(e)(3), and 122.44(i)(1)(iv).

An EPA-approved method is sufficiently sensitive where:

- A. The method minimum level is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or
- B. The method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- C. The method has the lowest minimum level of the EPA-approved analytical methods.

When there is no analytical method that has been approved under 40 CFR part 136, required under 40 CFR chapter I, subchapter N or O, and is not otherwise required by the Department, the permittee may use any suitable method upon approval by the Department.

For questions regarding the applicability of the rule and whether or not the facility is complying with the target level of sensitivity, contact Stephen Seeberger of the Bureau of Surface Water & Pretreatment Permitting at (609) 292-4860 or via email at <u>Stephen.Seeberger@dep.nj.gov</u>.

For questions regarding laboratory methodologies, certifications, or specifics relating to quantitation limits associated with individual test methods, contact the Office of Quality Assurance at (609) 292-3950 or via email at OQA@dep.nj.gov.

## F. <u>Reporting Requirements</u>:

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. The following reports shall be electronically submitted to the Department via the Department's designated Electronic Submission Service, once available:

- Sewer overflow event non-compliance reports required by N.J.A.C. 7:14A-6.10
- POTW Pretreatment Program Annual Reports consistent with 40 CFR 403.12(i) and N.J.A.C. 7:14A-19.6(f)

Consistent with the provisions of the final rule, the permittee may seek a waiver from the mandatory electronic reporting of the above identified documents and reports for just cause. Such a request shall be made in accordance with the provisions of 40 CFR 127.15 and submitted to the Department at the address identified below:

NJDEP: Division of Water Quality Mail Code 401-02B Bureau of Groundwater, Residuals and Permit Administration P.O. Box 420 401 E. State Street Trenton, NJ 08625-0420

# 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:

The operator classification requirement is no longer included in the permit. 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. Flow Related Conditions:

All flow related conditions are incorporated into the permit to implement the Treatment Works Approval Program (N.J.A.C. 7:14A-22), the Capacity Assurance Program (N.J.A.C. 7:14A-22.16), the Sewer Ban Program (N.J.A.C. 7:14A-22.17), and the applicable Water Quality Management Plan (N.J.A.C. 7:15).

The numerical value used for flow as a permit condition is consistent with the Northeast Water Quality Management Plan in accordance with N.J.A.C. 7:14A-15.4(b).

## J. <u>Pretreatment Conditions</u>:

The Department has approved PVSC's industrial pretreatment program on July 27, 1983. The Permittee is a local agency that owns or operates the Passaic Valley Sewage Commission treatment plant defined under N.J.S.A. 58:10A-3.x and y, and 40 CFR 403.8(a). Therefore, the treatment plant operated by the Permittee is subject to the industrial pretreatment program requirements noted in this NJPDES permit NJ0021016. This program shall enable the permittee to detect and enforce against violations of the categorical pretreatment standards promulgated under Section 307 (b) and (c) of the Federal Clean Water Act and prohibited discharge standards as set forth in 40 CFR Part 403.5.

The Department intends to monitor the conduct and effectiveness of the Permittee's pretreatment program by use of an on-site audit to be scheduled in March of each year. The on-site audit will be a discussion of the Permittee's pretreatment program operational status, industrial compliance status, enforcement activities (if any), industrial monitoring activities, an evaluation of the IPP record keeping system, and a general discussion of the miscellaneous topics related to the pretreatment program.

The program shall comply with N.J.A.C. 7:14A-19, and be implemented in accordance with the approved pretreatment program submitted by The Passaic Valley Sewage Commission.

All industrial pretreatment program related plant monitoring requirements have been incorporated into the Monitoring Section of the permit and should be reported in the Pretreatment Annual Report.

## K. <u>PCB Sampling Requirements and PMP:</u>

The USEPA and the International Agency for Research on Cancer have concluded that PCBs are carcinogenic to humans. The primary non-occupational source of human PCB exposure is food, especially fish and shellfish from contaminated waters. PCBs persist in the environment, accumulate in the tissue of fish and other animals, and biomagnify through the food chain. The Department has, therefore, adopted rules at N.J.A.C. 7:14A-11.13 and 14.4 on December 18, 2006 to reduce discharges of PCBs to New Jersey's surface waters from industrial facilities and sewage treatment plants. The regulations at N.J.A.C. 7:14A-11.13 outline the PCB monitoring requirements and the regulations at N.J.A.C. 7:14A-14.4 outline the monitoring frequency requirements.

The New Jersey 2018/2020 Integrated Water Quality Monitoring and Assessment Report (integrated report) lists pollutants that are currently not meeting the surface water criteria in subwatersheds throughout the state. Since this facility discharges to a subwatershed that is listed as impaired for PCBs under a Fish Advisory in the Integrated Report, more specifically, Sublist 5 of the New Jersey List of Water Quality Limited Waters (also known as the 303(d) List or as the Impaired Waterbodies List), this facility is subject to the rules at N.J.A.C. 7:14A-11.13 and 14.4.

The permittee has completed sampling for PCBs as required in a previous permit action. The Department is currently reviewing the sampling data for this and other facilities to determine which facilities are discharging at more elevated levels. Once the Department completes this review and if the permittee's effluent is discharging PCBs at more elevated levels, the Department will require the permittee to develop and submit a PMP for approval by the date specified in the Department's determination letter consistent with the provisions of N.J.A.C. 7:14A-16.4.

The Department has developed a PMP Technical Manual to help permittees with the development of the PMP, which can be found on the Department's web site at <u>https://dep.nj.gov/dwq/technical-manuals-guidance/</u>.

If based on the monitoring for PCBs, it is determined that the permittee must develop and implement a PCB PMP, the permittee will be required to submit an Annual PMP Progress Report. These reports will be used to update the Department regarding any revisions to the PMP, measures taken to achieve reductions, and changes to the baseline loading.

These conditions have been incorporated into the permit at Part IV, Section D.

## L. Reclaimed Water for Beneficial Reuse (RWBR):

This draft permit contains conditions allowing the PVSC to beneficially reuse treated effluent identified as RWBR provided the effluent is in compliance with the criteria specified for the particular use. There are two main types of RWBR uses, Public Access Use and Restricted Access Use. Conditions applicable to both types of RWBR are included herein. However, currently approved types of RWBR are included in Appendix A of this permit. As specified in Part IV, the permittee must obtain approval from the Department for each additional RWBR application prior to implementation. Approval shall be granted via a minor modification to the permit for any newly requested applications and included in Appendix A of this permit.

1. Effluent Limitations and Monitoring Requirements for Distribution of RWBR for Public Access

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Public Access reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Reclaimed water shall not exceed 5.0 mg/L of TSS at a point before application of disinfection. The sample type shall be grab. The facility shall provide continuous on-line monitoring for turbidity before application of disinfection. These requirements are consistent with the Department's "Technical Manual for RWBR" and USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse", EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where chlorine is utilized for disinfection, CPO of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous online monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for RWBR" and USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

Fecal coliform concentrations shall not exceed 14 fecal coliforms per 100 mL at any given time (as an instantaneous maximum level). Fecal coliform concentrations shall also meet a weekly (7 day) median value of 2.2 fecal coliforms per 100 mL. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for RWBR" and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for RWBR." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and

receiving approval of the information stated in the Engineering Report section of the "Technical Manual for RWBR."

2. Effluent Limitations and Monitoring Requirements for Distribution of RWBR for Restricted Access – Land Application and Non-Edible Crops

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Non Edible Crops reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Where chlorine is utilized for disinfection, CPO of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous online monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for RWBR" and USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" USEPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

Fecal coliform shall comply with the permit limitations as specified in the Effluent Limitations Table in Part III of the permit. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for RWBR" and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for RWBR." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the "Technical Manual for RWBR."

3. Effluent Limitations and Monitoring Requirements for Distribution of RWBR for Restricted Access – Construction and Maintenance Operations and Restricted Access – Industrial Systems

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Construction and Maintenance Operation Systems and/or Industrial Systems reuse identified in Part IV of this permit shall be met.

## **Other Applicable Conditions for RWBR:**

The following conditions are consistent with the requirements of the Department's "Technical Manual for RWBR" and the USEPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" USEPA # 430/09-91-022, September 1991 and the USEPA Manual, "Guidelines for Water Reuse", USEPA document # 625R-92/004, September 1992.

Only reclaimed water meeting high level treatment and the conditions detailed in the approved Operations Protocol shall be diverted for beneficial reuse. Diversion of acceptable quality reclaimed water to the reuse location shall occur only during periods of operator presence unless other provisions for increased facility reliability are detailed in the Operations Protocol. The Operations Protocol must be reviewed and updated as required. Changes to the Operations Protocol must be submitted to the Department and approved by the Department prior to implementation. Reclaimed water produced at the treatment facility that fails to meet the criteria established in the Operations Protocol shall not be diverted for beneficial reuse and must instead, be discharged in compliance with the NJPDES/DSW permitted outfall.

The application of reclaimed water shall not produce surface runoff or ponding of the reclaimed water. Land application sites shall not be frozen or saturated when applying RWBR. All setback distances shall be consistent with the requirements of the Department's "Technical Manual for RWBR".

The permittee must post advisory signs designating the nature of the project in the area where beneficial reuse is practiced. Examples of methods for notification are identified in the Department's "Technical Manual for RWBR".

No cross-connections to potable water systems shall be allowed. All reuse system valves and outlets must be appropriately tagged or labeled to warn the public and employees that the water is not intended for drinking. All piping, pipelines, valves, and outlets must be color coded, or otherwise marked, to differentiate reclaimed water from domestic or other water, as detailed in the Department's "Technical Manual for RWBR".

The permittee is required to submit a Beneficial Reuse Annual Report on February 1 of each year. The annual report shall compile the total flow of reuse water distributed to each approved reuse site for each approved type of reuse for the previous calendar year. Specific requirements for the annual report are identified in the Departments "Technical Manual for RWBR". In addition, a daily log noting the volume of water supplied, the name of the user, date of pick-up, the location and type of reuse (e.g. sewer jetting, landscape irrigation, etc...) and where it is being distributed shall be maintained on-site.

The permittee is required to submit a copy of all Reuse Supplier and User Agreements for existing reuses with its permit application package. Additional Reuse Supplier and User Agreements shall be submitted for each additional user prior to start-up of that use. A Reuse Supplier and User Agreement is a binding agreement between the permittee that supplies the RWBR and the entity that beneficially reuses this water. This agreement is required to ensure that all parties involved work to ensure that construction, operation, maintenance and monitoring of the RWBR system is in compliance with the Technical Manual, all applicable rules and regulations, this permit and the permittee's NJPDES discharge permit. The requirement for submittal of this document is consistent with N.J.A.C. 7:14A-2.11(a). Please note that a Reuse Supplier and User Agreement is not required if the supplier of the RWBR and the user are the same entity.

The permittee is required to submit and receive approval of an Engineering Report in support of RWBR approval requests for new or expanded RWBR projects as detailed in the Department's "Technical Manual for RWBR".

## 8 Variances to Permit Conditions:

To date, the Department has not received a variance request from the permittee.

Procedures for modifying a WQBEL are found in the SWQS, N.J.A.C. 7:9B-1.8 and 1.9. If a WQBEL has been proposed in this permit action, the permittee may request a modification of that limitation in accordance with N.J.A.C. 7:14A-11.7(a). This request must be made prior to the close of the public comment period. The information that must be submitted to support the request may be obtained from the Bureau of Environmental Analysis, Restoration and Standards at (609) 633-1441.

9	<u>Calculation Eq</u>	uations:
A.	Steady State M	ass Balance Equation: $C_d = C_i = (Q_{up} \times C_{up} + Q_w \times WLA)/(Q_{up} + Q_w)$
	where,	$\begin{array}{llllllllllllllllllllllllllllllllllll$
В.	Wasteload Allo	we were exactly we have: WLA = $C_i \times Df - C_{up}(Df - 1)$
	where,	$ \begin{array}{llllllllllllllllllllllllllllllllllll$
C.	Long Term Ave	<u>erage</u> : $LTA = (WLA) \times [WLA multiplier (LTA)]$
	where,	LTA = long term average WLA = wasteload allocation WLA multiplier = wasteload allocation multiplier for long term average, the 99th percentile multiplier, (see Table 5-1 in USEPA TSD, page 102)
D.	<u>Maximum Dail</u>	<u>y Limitation</u> : $MDL = (LTA) \times [LTA multiplier (MDL)]$
	where,	MDL=maximum daily limitationLTA=long term averageLTA multiplier=long term average multiplier for the maximum daily(MDL)=long term average multiplier, (see Table 5-2 in USEPA TSD, page 103)
E.	Average Month	<u>ly Limitation</u> : $AML = (LTA) \times [LTA multiplier (AML)]$
	where,	AML=average monthly limitationLTA=long term averageLTA multiplier=long term average multiplier for the average monthly(AML)=long term average multiplier, (see Table 5-2 in USEPA TSD, page 103)

# **Permit Summary Table**

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.

							MONITO	ORING
PARAMETER	UNITS	AVERAGING PERIOD	WASTE- WATER DATA 1/2020 – 12/2024	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (1)	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant – Effluent	MGD	Monthly Avg. Daily Max. 12-Month Rolling Avg.	240.5 624 242.8	MR MR 330	MR MR 330	MR MR MR	Continuous	Metered
Flow, In Conduit or Thru Treatment Plant – Raw Sewer/Influent	MGD	Monthly Avg. Daily Max.				MR (2) MR (2)	Continuous	Metered
Flow Total – Bypass (3)	Million Gallons	Monthly Total				MR	1/Month	Metered
Duration of Discharge – Bypass	# Days	Monthly Total				MR (2)	1/Month	Calculated
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD5)	kg/d	Monthly Avg. Weekly Avg.	12,110.6 17,166.7	34,916 55,867	34,916 55,867	34,916 55,867	1/Day	24-Hour Composite
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD5)	mg/L	Monthly Avg. Weekly Avg.	13 17.6	25 40	25 40	25 40	1/Day	24-Hour Composite
Influent CBOD5	mg/L	Monthly Avg. Weekly Avg.	205.8 233.7	MR MR	MR MR	MR MR	1/Day	24-Hour Composite
CBOD5 Minimum Percent Removal - Option 1 (Flows Less than 400 MGD)	%	Monthly Avg.	93.5	85	85 (4)	85 (4)	1/Day	Calculated
CBOD5 Minimum Percent Removal - Option 2 (Flows More than 400 MGD)	%	Monthly Avg.				MR (4)	1/Day	Calculated
Total Suspended Solids (TSS)	kg/d	Monthly Avg. Weekly Avg.	20,300 33,857.4	41, 900 62,850	41,900 62,850	41,900 62,850	1/Day	24-Hour Composite
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	21.8 34.3	30 45	30 45	30 45	1/Day	24-Hour Composite
Influent TSS	mg/L	Monthly Avg. Weekly Avg.	177.9 204	MR MR	MR MR	MR MR	1/Day	24-Hour Composite
TSS Minimum Percent Removal - Option 1 (Flows Less than 400 MGD)	%	Monthly Avg.	87.7	85	85 (4)	85 (4)	1/Day	Calculated

# **DSN 001A – Primary Outfall**

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							MONITO	DRING
PARAMETER	UNITS	AVERAGING PERIOD	WASTE- WATER DATA 1/2020 – 12/2024	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (1)	Frequency	Sample Type
TSS Minimum Percent Removal - Option 2 (Flows More than 400 MGD)	%	Monthly Avg.				MR (4)	1/Day	Calculated
Influent pH	su	Instant. Min. Instant. Max.	4.7 8.2	MR MR	MR MR	MR MR	6/Day	Grab
Effluent pH	su	Instant. Min. Instant. Max.	6.0 6.8	6.0 9.0	6.0 9.0	6.0 9.0	6/Day	Grab
Oil and Grease	mg/L	Monthly Avg. Instant Max. # Det. / # N.D.	2.2 9.2 10/50	10 15	10 15	10 15	2/Month	Grab
Ammonia (Total as N)	kg/d	Monthly Avg. Daily Max.	25,523 43,568	53,700 78,400	53,700 78,400	53,700 78,400	1/Month	24-Hour Composite
Ammonia (Total as N)	mg/L	Monthly Avg. Daily Max.	29.2 52.4	MR MR	MR MR	MR MR	1/Month	24-Hour Composite
Fecal Coliform (geometric mean)	# per 100mL	Monthly Avg. Weekly Avg.	6.2 11.6	200 400	200 400	200 400	1/Day	Grab
Acute Toxicity, LC50	% effluent	Minimum	40.8 74.1 (avg. of 6 samples) >100 ( 12 samples)	MR (5)	MR (5)	MR (5)	1/Quarter	Composite
Influent Temperature	C	Instant. Min. Monthly Avg. Instant. Max.	7.7 19.1 29.2	MR MR MR	MR MR MR	MR MR MR	6/Day	Grab
Effluent Temperature	С	Instant. Min. Monthly Avg. Instant. Max.	9.1 20.3 29.4	MR MR MR	MR MR MR	MR MR MR	6/Day	Grab
Chlorine Produced Oxidants	kg/d	Month Avg. Daily Max. # Det. / # N.D.	10.1 414 3/57	196 293	196 293	196 293	6/Day	Grab
Chlorine Produced Oxidants	mg/L	Month Avg. Daily Max. # Det. / # N.D.	0.008 0.242 3/57	0.14 0.21	0.14 0.21	0.14 0.21	6/Day	Grab
Dissolved Oxygen (minimum)	mg/L	Daily Avg. Weekly Avg.	4.0 6.0	MR 3.0	MR 3.0	MR 3.0	1/Day	Grab
Mercury, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	0.23 0.24 3/57	2.5 MR	2.5 MR	2.5 MR	1/Month	24-Hour Composite
Mercury, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	0.26 0.27 3/57	MR MR	MR MR	MR MR	1/Month	24-Hour Composite

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						MONITORING		
PARAMETER	UNITS	AVERAGING PERIOD	WASTE- WATER DATA 1/2020 – 12/2024	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (1)	Frequency	Sample Type
Copper, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	19.7 49 56/4	187 350	187 350	187 350	1/Month	24-Hour Composite
Copper, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	21.3 60 56/4	MR MR	150 280	150 280	1/Month	24-Hour Composite
Nickel, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	9.3 23.6 45/15	150 262	150 262	150 262	1/Month	24-Hour Composite
Nickel, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	10.1 20.1 45/15	MR MR	120 210	120 210	1/Month	24-Hour Composite
Zinc, Total Recoverable	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	80.3 376 55/5	562 1,037	562 1,037	562 1,037	1/Month	24-Hour Composite
Zinc, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	87 425 55/5	MR MR	450 830	450 830	1/Month	24-Hour Composite
Land Total	ka/day	Monthly Ava	3.2	162	162	162		24 Hour
Recoverable	Kg/uay	Daily Max. # Det. / # N.D.	31 33/27	300	300	300	1/Month	Composite
Lead, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	3.6 38 33/27	MR MR	130 240	130 240	1/Month	24-Hour Composite
Cyanide, Total	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	35.1 36.2 2/55	120 255	120 255	120 255	1/Month	Grab
Cyanide, Total	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	35.5 38 2/55	MR MR	100 200	100 200	1/Month	Grab
Chloroform	kg/day	Monthly Avg.		MR	MR	60,067	1/Month	Grab
Chloroform	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	7.2 8.1 5/0	MR MR MR	MR MR MR	98,870 48,090 78,996	1/Month	Grab
Chromium, Total Recoverable	kg/day	Monthly Avg. Daily Max.		MR MR	MR MR	21,452 35,239	1/Month	Grab
Chromium, Total Recoverable	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	7.8 10.6 5/0	MR MR	MR MR	17,175 28,213	1/Month	Grab
Cyanide, Free	kg/day	Monthly Avg. Daily Max. # Det. / # N.D.	5.9 32.3 18/39	MR MR	MR MR	MR MR	1/Month	Grab

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PARAMETER	UNITS	AVERAGING PERIOD	WASTE- WATER DATA 1/2020 – 12/2024	EXISTING LIMITS	INITIAL LIMITS (1)	FINAL LIMITS (1)	MONITC Frequency	DRING Sample Type
Cyanide, Free	ug/L	Monthly Avg. Daily Max. # Det. / # N.D.	5.6 33.1 18/39	MR MR	MR MR	MR MR	1/Month	Grab

Fact Sheet

#### **Footnotes and Abbreviations:**

MR Monitor and report only

- (1) "Initial" phase limitations and monitoring conditions are for the initial phase. The "final" phase is conditional on issuance of a Treatment Works Approval (TWA) and can be activated when bypass operations begin.
- (2) "Duration of discharge" shall be reported as the number of calendar days per month that a bypass event occurs. Continuous flow metering for any flows into the plant shall be reported via the parameter "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent".
- (3) Total Flow (Bypass) serves to represent the volume of flows bypassed and shall be measured via a meter
- (4) The 85% removal limitation is applicable under Option 1 when the instantaneous influent flow is less than 400 MGD for all days during the monthly monitoring period. The 85% removal limitation is not applicable under Option 2 when the instantaneous influent flow for any day during the monthly monitoring period reaches or exceeds the designated flow of 400 MGD. When this condition occurs, the permittee shall report the percent removal value under Option 2 which shall include the percent removal results from all the days during the monthly monitoring period, includes those where flows were above 400 MGD. For whichever option is not applicable, the permittee shall report "Code = N" on the DMR for the monthly monitoring period. For example, if Option 1 is applicable, then the permittee shall report "Code = N" under Option 2.

If the permittee is reporting percent removal under Option 2 for a given monitoring period, a tabular representation of influent flow, effluent flow, CBOD5 influent, CBOD5 effluent, CBOD5 percent removal, TSS influent, and TSS effluent and TSS percent removal shall be tracked on a daily basis and included as an attachment to the Monitoring Report Form.

(5) The permittee shall meet an action level of LC50 > 50%.

PARAMETER	UNITS	AVERAGING	EXISTING	FINAL	Frequency	Sample Type
		PERIOD	LIMITS (1)	LIMITS (2)		
			(2)	(3)		
Flow, In Conduit or Thru	MGD	Monthly Avg.	MR	MR	Continuous	Metered
Treatment Plant – Effluent		Daily Max.	MR	MR		
		12-Month Rolling Avg.	MR	MR		
Flow, Total	Million	Monthly Total	MR	MR	1/Month	Calculated
	Gallons					
Duration of Discharge	# of	Monthly Total	MR	MR	1/Month	Calculated
	Days					
Fecal Coliform	# per	Monthly Avg.		MR	1/Discharge	Grab
(geometric mean)	100mL	Weekly Avg.		1500		
Chlorine Produced Oxidants	mg/L	Monthly Avg.	MR	MR	Continuous	Metered
		Daily Max.	MR	MR		
Chlorine Produced Oxidants	kg/d	Monthly Avg.	MR	MR	Continuous	Metered
		Daily Max.	MR	MR		

# DSN 002A - Secondary Outfall

#### Footnotes and Abbreviations for DSN 002A:

MR Monitor and report only

- (1) The permittee is authorized to use this outfall when the hydraulic capacity of DSN 001A has been reached. This occurs infrequently but could coincide with large rainfall events.
- (2) The effluent limitations/monitoring conditions for this outfall were inactive in the existing permit where it was stated that they would become effective once an approved TWA has been obtained as per Part IV.H.4.
- (3) Because DSN 002A is authorized to discharge, requirements are imposed at EDP.

# **11** Climate Change and Environmental Justice:

## A. <u>Climate Change:</u>

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: <a href="https://www.nj.gov/dep/climatechange/">https://www.nj.gov/dep/climatechange/</a>.

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. <u>Environmental Justice:</u>

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.

## 12 <u>Summary of Permit Conditions for Combined Sewer Management (Category CSM):</u>

# A. <u>NJPDES CSO Permit Overview</u>

The existing NJPDES CSO Permit as issued to PVSC 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 manmade 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 wastewater treatment plant 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;
- Engineering design information; and
- Bypass operation procedures.

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, PVSC's sewer system consists of 25 miles of intercepting sewers and 13 miles of branch interceptors. 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: <a href="https://www.nj.gov/dep/dwq/erp">https://www.nj.gov/dep/dwq/erp</a> 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: <u>https://www.nj.gov/dep/assetmanagement/pdf/asset-management-plan-guidance.pdf</u>.

These enhanced permit conditions for all three components are included in the CSM Requirements of 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 the CSM Requirements of 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.
- b. The permittee shall require SIUs upstream of any CSO outfall which is owned/operated by the Permittee to investigate ways to minimize their discharges during wet weather and report their findings to the permittee.
- c. The permittee shall establish agreements with SIUs upstream of any CSO outfall which is owned or operated by the permittee or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the extent practical during wet weather periods.

This condition is included in the CSM Requirements of 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. 7:14A-11, Appendix C.

This condition is included in the CSM Requirements of Part IV.F.4.

## 5. Prohibition of CSOs During Dry Weather

### Background and Summary of 2015 Permit Requirement

The 2015 NJPDES CSO permit as issued to permittees who own/operate CSO outfalls includes 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

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.5 is included in the existing permit as follows:

a. The permittee shall operate the system in such a way that it does not cause any dry weather overflow from the collection system owned/operated by other permittees in the hydraulically connected system.

This condition is included in the CSM Requirements of 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 as issued to permittees who own/operate CSO outfalls includes a permit condition to incorporate requirements regarding the 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

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.6 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements of 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 encourage municipalities 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 B, where such inlets are in direct contact with repaying, 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 B.

- 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 the CSM Requirements of 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 as issued to permittees who own/operate CSO outfalls includes 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

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.8 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements of 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 as issued to permittees who own/operate CSO outfalls requires 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: <u>https://dep.nj.gov/wp-content/uploads/dwq/pdf/cso-quick-guide-dmr.pdf</u>. 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

Given that the permittee does not own/operate any CSO outfalls, Part IV.F.9 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

See also the CSM Requirements of Part IV G.4. for a discussion of wastewater treatment plant 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

A work plan entitled System Characterization and Landside Modeling Program Quality Assurance Project Plan (QAPP) Part 1 was submitted to the Department cooperatively by the Borough of East Newark, the Town of Harrison, the Town of Kearny, the City of Newark, the City of Paterson and PVSC on December 29, 2015. Additionally, a work plan entitled System Characterization and Landside Modeling Program Quality Assurance Project Plan (QAPP) Part 2 was submitted to the Department cooperatively by the Bayonne City, North Bergen MUA and PVSC on December 28, 2015. These QAPPs describe work plans for data generation and acquisition, assessment and oversight, data validation and usability, and collections system modeling. QAPP Part 1 was approved by the Department on March 30, 2016 and QAPP Part 2 was approved by the Department on August 1, 2016.

The System Characterization Report entitled "Service Area System Characterization Report" dated June 2018 was submitted to the Department. 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 Service Area System Characterization Report incorporated the results of the QAPPs for the System Characterization and Landside Modeling Program, a summary of the Baseline Monitoring and Modeling Plan program, and the System Characterization mapping of the combined and separate sewer areas within the PVSC District Service Area. The Service Area System Characterization Report includes the following elements:

- Characterizes the municipalities that are the subject of the system characterization report and current wastewater treatment facilities within the service area.
- Characterizes the municipal collection sewers, sewer mains, and appurtenances such as pump stations, existing CSO control facilities, regulator structures, and CSO outfalls.
- Documents the precipitation and flow monitoring programs, data analyses, integration of wastewater treatment plant operational data, data validation and QA/QC and presents the results of the analyses.
- Describes the watersheds, physical characteristics, and hydrodynamics of the receiving stream. Also describes the designated uses and current water quality compliance (e.g. 303(d) listings) and achievement of designated use status.

- Documents the regulatory requirements for wastewater and water quality data collection, historic water quality data collection, the CSO and water quality monitoring program and related QAPP and wastewater quality results.
- Documents the requirements for and selection of the typical year and summarizes the hydrologic characteristics of the typical year.
- Documents the development and scope of the hydrologic and hydraulic (H&H) model for the service area as used in the system characterization and to be used in the development of CSO control alternatives. The documentation includes model inputs, sensitivity analyses, model calibration and validation and modeling results.

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



Figure A-2: The PVSC Sewer System Schematic

The June 2018 Service Area System Characterization Report covered the following permittees:

Municipality	NJPDES #
PVSC	NJ0021016
Borough of East Newark	NJ0021016
Town of Harrison	NJ0108871
Town of Kearny	NJ0111244
City of Newark	NJ0108758
City of Paterson	NJ0108880
City of Bayonne	NJ0209240
North Bergen MUA	NJ0108898

# Table B-1: Permittees Covered Under this System Characterization Report

## 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 Service Area System Characterization Report on April 12, 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 WRRF, effluent flow from the PVSC WRRF 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 control 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 the CSM Requirements of 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 (<u>www.nj.gov/pvsc/what/njcso/</u>) 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 (<u>www.njcleanwaterways.com</u>) 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?
  - o 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;
  - o Overview of NJPDES Permit and requirements to develop LTCP;
  - o Listing and location of each CSO Permittee participating in Public Outreach efforts;
  - o LTCP information;
  - Supplemental CSO Team information; and
  - o 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 NBMUA Woodcliff and Guttenberg, is accessible via the PVSC website (<u>www.nj.gov/pvsc</u>). 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 <a href="https://www.nj.gov/dep/ej/communities.html">https://www.nj.gov/dep/ej/communities.html</a>.
- 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 <a href="https://dep.nj.gov/ej/">https://dep.nj.gov/ej/</a>) 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 the CSM Requirements of 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 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.

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

Given that the permittee does not own/operate any CSO outfalls, Part IV.G.3 is included in the existing permit as follows:

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

This condition is included in the CSM Requirements of 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:

Percent capture = 100 x <u>Sum of volume delivered to acceptable treatment</u> 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,
- 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.

In advance of the LTCP submission, PVSC requested approval to pursue CSO related bypass of the secondary treatment portion of the STP in accordance with N.J.A.C. 7:14A-11.12, Appendix C, II.C.7. Bypass was presented to the public as part of the required public participation process (CSM, Part IV.G.2) where a detailed

presentation was provided on October 16, 2018 as part of Session #9 of the CSO Supplemental Team Meeting. This presentation is available at <u>https://www.njcleanwaterways.com/supplemental-cso-team-presentations</u>.

A No Feasible Alternatives (NFA) Analysis was completed and submitted in 2019 to the United States Environmental Protection Agency (EPA) and New Jersey Department of Environmental Protection (NJDEP). The NFA recommended that PVSC increase their wet weather capacity to 720 MGD by implementing a secondary bypass that activates when instantaneous flows to the facility exceed 400 MGD in accordance with the established limit for secondary treatment. This would ensure that bypassed flow would receive preliminary treatment (i.e., screening and grit removal), primary treatment, and disinfection prior to discharge. The NFA was approved by EPA and NJDEP and PVSC's permit was revised on December 10, 2019 to include bypassing flow around secondary treatment when instantaneous flows to the facility exceed 400 MGD. Any discharged effluent is required to meet all effluent limitations. Conditions related to the bypass authorization are shown in Part IV.H.3. This authorization will result in incremental water quality improvements to the affected receiving waters through the reduction and/or elimination of CSOs in the short term as part of an overall integrated plan. These conditions were incorporated in a permit action consistent with the recommendations of EPA as per the Administrative Order of Consent (CWA-02-2018-3009) dated April 16, 2018.

The Alternative Wet Weather Treatment Protocol Project is designed to divert primary effluent flow from twin conduits feeding the oxygenation tanks to the effluent channels of the Final Clarifiers (FCs) when influent to PVSC is greater than 400 MGD, bypassing the secondary treatment system. The system will operate by gravity, sending part of the bypassed flow to the effluent channel near FC No. 1 and the remaining part to the effluent channel near FC No. 2. Primary effluent that is bypassed around the final clarifiers will be sent through a chlorine contact tank and then dechlorinated before being discharged through DSN 002A to Newark Bay.

Permittee	CSO Control Technology			
PVSC	PVSC WRRF Secondary Bypass to 720 MGD WWF			
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)			
Jersey City	I/I Source Control Piping Rehabilitation, 12"-96"			
Jersey City	Sewer Separation at Bates			
Jersey City	Green Infrastructure for 7% impervious area			
Jersey City	Storage Tank at JC001, JC002			
Jersey City	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			

A listing of projects for the Regional LTCP is as follows:

Permittee	CSO Control Technology
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
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. In response to the Department's June 11, 2021 technical comment letter, PVSC and the CSO municipalities submitted a revised LTCP dated August 2021 (revised LTCP). The baseline percent calculation utilized for the revised LTCP is specified in Section F.2.3 and Table F-2 is as follows:

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)
Wet Weather (WW) Inflow	15,104
Wet Weather Captured Flow	14,423
CSO	4,569
Wet Weather Flow from Separate Sanitary	3 888
Communities	5,888
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 percent capture values from the revised LTCP submitted by PVSC and the PVSC municipalities are as follows where an Implementation Schedule is included in Part IV.G.8:

	Baseline		Regional	
Municipality	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.

Influent flow is required to be reported under "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent". The number of bypass events is also required to be reported as "Duration of discharge" namely the number of calendar days per month that a bypass event occurs. These reporting requirements are continued in that renewal permit and will serve as a means to track increased flows to the plant, number of bypass events and will serve as an indication of any reduction in CSOs. 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.

This condition is included in the CSM Requirements of 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 the CSM Requirements of 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 the permittees 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 the CSM Requirements of 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.

In order to reduce CSOs, a project has been undertaken to increase wet weather capacity of the PVSC treatment plant. These improvements will significantly increase treatment quantity and will increase wet weather percent capture.

# 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. 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 the CSM Requirements of 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					
	All <sup>1</sup>	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)					
2025	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					
	All <sup>1</sup>	Regional Interceptor (Begin Property Acquisitions and Easements)					
2027	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					
	All <sup>1</sup>	Regional Interceptor (Continue Property Acquisitions and Easements)					
2028	Bayonne	Force Main Upgrade					
	East Newark	Complete Thread Mill Sewer Separation					
	North Bergen MUA	Closure of Outfall NB014					
	All <sup>1</sup>	Regional Interceptor (Continue Property Acquisition and Easements; Revalidate Route Analysis; Begin Site Surveys and Geotechnical Investigation)					
2020	Bayonne	Begin Storage Tank at BA007					
2029	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 <sup>1</sup>	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					
		Complete Country Village Sewer Separation; Complete Princeton					
		Avenue Sewer Separation; Complete Van Horne Sewer Separation -					
		Phase 1; Complete Nelson Avenue Sewer Separation; Complete Pine					
	Jersey City MUA	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					
		Regional Interceptor (Complete Tunnel Construction; Complete					
	All <sup>1</sup>	CSO Diversion Sewer Construction; Complete Pump Station					
		Construction; Start-up & Commissioning)					
2035 - 2039		Complete Linden Avenue Sewer Separation; Complete Mallory					
2033 - 2037		Avenue Sewer Separation; Complete Jersey Avenue, Marin Blvd.,					
	Jersey City MUA	and Grove Street Sewer Separation; Complete Johnston Avenue					
		Sewer Separation - Phase 2; Complete Wayne Street Sewer					
		Separation					
	Bayonne	Complete Storage Tank for BA021					
	Harrison	Complete Sewer Separation at 005					
		Complete Pine Street Stormwater Pump Station - Phase 3; Complete					
2040 - 2044	Jersey City MUA	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					
	Davonno	Complete Storage Tank for BA001/BA002; Complete Green					
2050 - 2054	Dayonne	Infrastructure					
	Newark	Complete Green Infrastructure					
2055 - 2059	Paterson	Complete Storage Tunnel					
2060 - 2064	Paterson	Complete Green Infrastructure					

<sup>1</sup>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 the CSM Requirements of Part IV.G.9.

# 10. Permittee' 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 described in Section B.5, Need for Regional Approach, 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 acknowledged the need for a regional approach and explained that they 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, Jersey City MUA, 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, Jersey City MUA, 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

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

<u>Jersey City MUA</u> Owner/Operator of CSS: Jersey City MUA Owner of Outfalls: Jersey City MUA Operator of Regulators: Jersey City MUA

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

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

<u>North Bergen MUA</u> Owner of CSS: North Bergen Township Operator of CSS: North Bergen MUA Owner of Outfalls: North Bergen MUA Operator of Regulators: North Bergen MUA

<u>City of Paterson</u> 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 the CSM Requirements of Part IV.G.10.

# D. <u>Renewal Permit Requirements</u>

# 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 was issued 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 statewide resilience planning efforts advance. These materials available as are 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. 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 1<sup>st</sup> and August 1<sup>st</sup> 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.

# **13** 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*.

# 14 Contact Information:

If you have any questions regarding this permit action, please contact Robert Hall, Bureau of Surface Water and Pretreatment Permitting at (609) 292-4860.

**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. [B]
- 2. 40 CFR Part 131, Federal Water Quality Standards. [B]
- 3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [B]
- 4. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A]
- 5. N.J.A.C. 7:14A-1 et seq., NJPDES Regulations. [A]
- 6. N.J.A.C. 7:9B-1 et seq., New Jersey SWQS. [A]
- 7. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A]
- 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
- 10. Pretreatment Program Requirements for Local Agencies (N.J.A.C. 7:14A-19).

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 <a href="https://dep.nj.gov/wp-content/uploads/dwq/mrf\_manual.pdf">https://dep.nj.gov/wp-content/uploads/dwq/mrf\_manual.pdf</a> [A]
- 3. "USEPA TSD for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
- New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A]
- 5. Discharge Monitoring Report Forms for the time period of January 2020 through December 2024.
- 6. Wastewater Characterization Report Forms for the time period June 2016 through June 2023.
- 7. Water quality study dated November 1990, titled "A Field and Model Study of the Dilution Capacity of the Passaic Valley Sewerage Commission's Wastewater Outfall System", and submitted on behalf of The Passaic Valley Sewerage Commission by Najarian Associates L.P., Ocean Surveys Inc., and Killam Associates.
- 8. "Report on Chlorine Produced Oxidants (CPO) Decay Disinfection Studies for the Passaic Valley Sewerage Commission' Final Effluent," dated January 23, 1998.
- 9. "Final Report on Chlorine Produced Oxidants (CPO) Decay and Disinfection Studies for the Passaic Valley Sewerage Commission' Hypochlorite Dosing System," dated January 24, 2001.
- 10. Compliance Evaluation reports June 23, 2020, June 28, 2021, June 24, 2022, May 30, 2023 and October 3, 2023.

Permits / Applications:

- 1. NJPDES/DSW Permit Application dated December 14, 2019.
- 2. Existing NJPDES/DSW Permit NJ0021016, issued March 12, 2015 and effective July 1, 2015.
- 3. Minor Modification to NJPDES/DSW Permit NJ0021016, issued June 1, 2015 and effective on July 1, 2015.

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- 4. Minor Modification to NJPDES/DSW Permit NJ0021016, issued October 9, 2015 and effective on July 1, 2015.
- 5. Major Modification to NJPDES/DSW Permit NJ0021016, issued December 10, 2019 and effective on January 1, 2020.
- 6. Major Modification to NJPDES/DSW Permit NJ0021016, issued May 1, 2020 and effective on June 1, 2020.
- 7. Stay to NJPDES/DSW Permit NJ0021016, issued February 2, 2018 which serves to stay Part IV.F.1.h of the existing permit.
- 8. Stay to NJPDES/DSW Permit NJ0021016, issued April 15, 2020 which serves to extend the LTCP submission date.

# LTCP Report Submissions:

- 1. "System Characterization and Landside Modeling Program Quality Assurance Project Plan (QAPP) Part 1" dated December 29, 2015, revised March 16, 2016.
- 2. "System Characterization and Landside Modeling Program Quality Assurance Project Plan (QAPP) Part 2" dated December 28, 2015, revised March 17, 2016.
- 3. "Service Area System Characterization Report" dated June 2018, revised January 21, 2019 and March 28, 2019.
- 4. "NJCSO Group Compliance Monitoring Program Quality Assurance Project Plan (QAPP)" dated December 31, 2015, revised February 19, 2016 and May 10, 2016.
- 5. "NJCSO Group Compliance Monitoring Program Report" dated June 30, 2018, revised October 5, 2018.
- 6. "Public Participation Process Report" dated June 2018, revised January 25, 2019.
- 7. "Identification of Sensitive Areas Report" dated June 2018, revised October 19, 2018, January 31, 2019 and March 29, 2019.
- 8. "Development and Evaluation of Alternatives for Long Term Control Planning for Combined Sewer Systems -Regional Report" dated June 2019, revised November 22, 2019.
- 9. "Selection and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems Regional Report" dated October 2020, revised August 2021.
- 10. "PVSC Parallel Interceptor Route Analysis Report" dated June 2022.

Correspondences:

- 1. Technical Comments on the "System Characterization and Landside Modeling Program QAPP Part 1" dated February 16, 2016 with the approval letter dated March 30, 2016.
- 2. Technical Comments on the "System Characterization and Landside Modeling Program QAPP Part 2" dated April 11, 2016 with the approval letter dated August 1, 2016.
- 3. EPA Administrative Order of Consent (CWA-02-2018-3009) dated April 16, 2018
- 4. Technical Comments on the "Service Area System Characterization Report" dated October 9, 2018 and February 26, 2019 with the approval letter dated April 12, 2019.
- 5. Technical Comments on the "NJCSO Group Compliance Monitoring Program QAPP" dated January 22, 2016, with the approval letter dated February 24, 2016.
- 6. Technical Comments on the "NJCSO Group Compliance Monitoring Program Report" dated September 7, 2019, with the approval letter dated March 1, 2019.
- 7. Technical Comments on the "Public Participation Process Report" dated December 14, 2018, with the approval letter dated March 29, 2019.
- 8. 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.
- 9. Correspondence dated July 22, 2019 from Douglas McKenna, Chief, Water Compliance Branch, EPA Region 2 to Susan Rosenwinkel, Chief, Bureau of Surface Water Permitting, NJDEP in response to PVSC's July 1, 2019 NJPDES permit application.
- Correspondence dated August 5, 2019 from Douglas McKenna, Chief, Water Compliance Branch, EPA Region 2 to Gregory Tramontozzi, Esq., Executive Director, PVSC in response to PVSC's July 1, 2019 NJPDES permit application.
- 11. Correspondence dated August 14, 2019 from Bridget McKenna of PVSC to Douglas McKenna of EPA Region 2 in response to EPA's July 22, 2019 comments.

- 12. 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.
- 13. Technical Comments on the "Selection and Implementation of Alternatives for Long Term Control Planning for Combined Sewer Systems Regional Report" dated June 11, 2021.
- 14. Letter from NJDEP as addressed to US EPA Region 2 dated May 20, 2021 requesting information regarding the regional alternative for the PVSC system.
- 15. Letter from US EPA Region 2 dated June 9, 2021 regarding the conformance of the Regional Alternative with the National CSO Control Policy.
- 16. Requests for Information dated September 19, 2023.
- 17. Responses to Requests for Information dated October 19, 2023.
- 18. Letter from NJDEP to Permittees regarding Long Term Control Plan dated February 13, 2024.
- 19. Response Letter from North Bergen MUA dated February March 4, 2024.
- 20. Response Letter from East Newark dated March 12, 2024.
- 21. Permittees' submissions dated March 13, 2024.
- 22. Response Letter from Paterson dated March 13, 2024.
- 23. Letter from NJDEP to Permittees regarding Long Term Control Plan dated July 25, 2024.
- 24. East Newark's Implementation Schedule Update dated August 29, 2024.
- 25. Regional Interceptor Implementation Schedule Update dated October 9, 2024.
- 26. Jersey City MUA's Implementation Schedule Update dated December 6, 2024.

# Other:

- 1. Water Quality Based Effluent Limitation and End-Of-Pipe Limitation Analysis Calculation Sheets.
- 2. Whole Effluent Toxicity (WET) Calculation Sheets.
- 3. Site visit to PVSC on December 9, 2024.

# Footnotes:

- [A] Denotes items that may be found on the Department's website located at <u>https://dep.nj.gov/</u>.
- [B] Denotes items that may be found on the USEPA website at <u>http://www.epa.gov/</u>.



<sup>>E</sup> USGS Topographical Map Passaic Valley Sewerage Commission Newark City, Hudson County Sub-watersheds: DSN 001A: Upper NY Bay / Kill Van Kull DSN 002A: Newark Bay / Kill Van Kull

PVSC Wastewater Treatment Plant

330 Million Gallons per Day (MGD) Secondary Wastewater Treatment Plant Process Flow Diagram



The Passaic Valley Sewerage Commission (PVSC) treats wastewater within the PVSC Sewer District by performing several physical, chemical, and biological processes before discharging the environmentally safe water into the New York Harbor. The wastewater is treated to meet applicable discharge permit limitations while also striving to achieve efficiency and sustainable practices. Treatment and equipment specifics are detailed in this process flow diagram.





# Figure 4-6: Secondary Bypass Site Layout

Source: No Feasible Alternatives Analysis, 2019.



# 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: NJ0021016 Draft: Surface Water Renewal Permit Action

# Permittee:

**Co-Permittee:** 

Passaic Valley Sewerage Commission 600 Wilson Avenue Newark, NJ 07105

# **Property Owner:**

# **Location of Activity:**

Passaic Valley Sewerage Commission 600 Wilson Avenue Newark, NJ 07105 Passaic Valley Sewerage Commission 600 Wilson Avenue Newark, NJ 07105 Essex County

Authorization Covered Under This Approval	<b>Issuance Date</b>	<b>Effective Date</b>	<b>Expiration Date</b>
A - Sanitary Wastewater - Renewal	Pending	Pending	Pending
CSM - Combined Sewer Management (IP) - Renewal			

DEP AUTHORIZATION Brett Callanan, Chief Bureau of Surface Water & 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 N.J.A.C. 7:14A-6.2(a)4i **Toxic Pollutants** N.J.A.C. 7:14A-6.2(a)1 & 4 Duty to Comply 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) N.J.A.C. 7:14A-6.2(a)10 Reopener Clause 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 N.J.A.C. 7:14A-22 & 23 Treatment Works Approval c. Operation And Maintenance Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b) N.J.A.C. 7:14A-6.12 Proper Operation and Maintenance d. Monitoring And Records N.J.A.C. 7:14A-6.5 Monitoring N.J.A.C. 7:14A-6.6 Recordkeeping N.J.A.C. 7:14A-6.9 Signatory Requirements for Monitoring Reports 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 N.J.A.C. 7:14A-6.4 Schedules of Compliance 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. Notification of Changes to Emergency Contacts

a. The permittee shall register for the Department's Emergency Contact Management System (ECMS) found at https://www.njportal.com/DEP/ECMS/Home/ and shall actively maintain the emergency contact information within ECMS. The permittee shall update and/or certify the information within ECMS upon the Department's request.

#### 8. 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.

#### 9. 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.
  - 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.

#### **10. 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.

#### 11. 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.

## 12. 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. POTW pretreatment program annual reports
  - ii. Non-compliance reports required by N.J.A.C. 7:14A-6.10 and 40 CFR 122.41(1)(6) and (7) related to sanitary sewer overflows or bypass events.

## C. Custom Requirement

## 1. CSO Reopner 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.

#### PASSAIC VALLEY SEWERAGE COMM, Newark

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:	<b>RECEIVING STREAM:</b>	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
001A Sanitary Outfall	Upper New York Bay	SE2(C2)	A - Sanitary Wastewater (IP)

#### **Location Description**

The effluent sampling point for DSN 001A shall be post chlorination. The influent sampling point for DSN 001A shall be before any treatment, other than degritting, and before the addition of any internal waste streams. DSN 001A is located at Lat. = 40d 39' 16" and Long. = 74d 03' 42" and discharges to the Upper New York Bay, classified as SE-2 waters.

### **Contributing Waste Types**

Sanitary

## 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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

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

PHASE Start Date:

	1 111 10		•	1 111						
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	****	330 12 Month Rolling Av	****	MGD	Continuous	Metered
January thru December	QL	***	***		***	***	***			
рН	Raw Sew/influent	****	****	****	REPORT Report Per Minimum	****	REPORT Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
рН	Effluent Gross Value	****	****	****	6.0 Report Per Minimum	****	9.0 Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***	]	***	***	***			
Solids, Total Suspended	Raw Sew/influent	****	****	****	****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***	]	***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

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

**PHASE Start Date:** 

PHASE: 1 Initial

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Effluent Gross Value	41900 Monthly	62850 Weekly	KG/DAY	****	30 Monthly	45 Weekly	MG/L	1/Day	24 Hour Composite
January thru Docombor		Average ***	Average		***	Average ***	Average			
Solids, Total Suspended	Percent Removal	****	****	****	85 Monthly Av Minimum	****	****	PERCENT	1/Day	Calculated
January thru December	OL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	****	****	****	****	10 Monthly Average	15 Instant Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	53700 Monthly Average	78400 Daily Maximum	KG/DAY	****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	****	****	****	****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC	Raw Sew/influent	****	****	****	****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC	Effluent Gross Value	34916 Monthly Average	55867 Weekly Average	KG/DAY	****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	OL	***	***		***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

# Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements **PHASE Start Date:**

PHASE: 1 Initial

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
BOD, Carbonaceous	Percent	****	****	****	85 Maritha Arr	****	****	PERCENT	1/Day	Calculated
5 Day, 200C	Removal		****	-11111	Minimum	****	****			
January thru December	OI	***	***		winnimum ***	***	***			
LC50 Statre 96hr Acu	Effluent Gross				REPORT			%FFFL	1/Ouarter	Composite
Mysid Bahia	Value	****	****	****	Report Per	****	****	/0EITE	1/ Quarter	Composite
					Minimum					
January thru December	AL	***	***		50	***	***			
Chlorine Produced	Effluent Gross	196	293	KG/DAY		0.14	0.21	MG/L	6/Dav	Grab
Oxidants	Value	Monthly	Daily	110/2111	****	Monthly	Daily		5	
		Average	Maximum			Average	Maximum			
January thru December	MDL	***	***		***	***	***			
Temperature,	Raw				REPORT	REPORT	REPORT	DEG.C	6/Day	Grab
oC	Sew/influent	****	****	****	Report Per	Monthly	Report Per		2	
					Minimum	Average	Maximum			
January thru December	QL	***	***		***	***	***			
Temperature,	Effluent Gross				REPORT	REPORT	REPORT	DEG.C	6/Day	Grab
oC	Value	****	****	****	Report Per	Monthly	Report Per			
					Minimum	Average	Maximum			
January thru December	QL	***	***		***	***	***			
Oxygen, Dissolved	Effluent Gross				3.0	REPORT		MG/L	1/Day	Grab
(DO)	Value	****	****	****	Weekly Av	Daily Avg	****			
					Minimum	Minimum				
January thru December	QL	***	***		***	***	***			
Cyanide, Total	Effluent Gross	120	255	KG/DAY		100	200	UG/L	1/Month	Grab
(as CN)	Value	Monthly	Daily		****	Monthly	Daily			
		Average	Maximum			Average	Maximum			
January thru December	OL	***	***		***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

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

PHASE: 1 Initial	PHAS	E Start Date	:	PHA	<b>ASE End Date</b>	2:				
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Nickel, Total Recoverable	Effluent Gross Value	150 Monthly Average	262 Daily Maximum	KG/DAY	****	120 Monthly Average	210 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	RQL	***	***	1	***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	562 Monthly Average	1037 Daily Maximum	KG/DAY	****	450 Monthly Average	830 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***	-	***	***	***			
Lead, Total Recoverable	Effluent Gross Value	162 Monthly	300 Daily Maximum	KG/DAY	****	130 Monthly	240 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***	-	***	***	***			
Chromium, Total Recoverable	Effluent Gross Value	21452 Monthly Average	35239 Daily Maximum	KG/DAY	****	17175 Monthly Average	28213 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***	-	***	***	***			
Copper, Total Recoverable	Effluent Gross Value	187 Monthly Average	350 Daily Maximum	KG/DAY	****	150 Monthly Average	280 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable	Effluent Gross Value	2.5 Monthly Average	REPORT Daily Maximum	KG/DAY	****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chloroform	Effluent Gross Value	60067 Monthly Average	98670 Daily Maximum	KG/DAY	****	48090 Monthly Average	78996 Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***	]	***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

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

**PHASE Start Date:** 

PHASE: 1 Initial

PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Cyanide, free	Effluent Gross Value	REPORT Monthly	REPORT Daily	KG/DAY	****	REPORT Monthly	REPORT Daily	UG/L	1/Month	Grab
		Average	Maximum			Average	Maximum			
January thru December	QL	***	***		***	***	***			

## Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2 Final	PHAS	E Start Date	:	PHA	SE End Dat	e:				
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of	Bypass					REPORT		# OF DAYS	1/Month	Calculated
Discharge		****	****	****	****	Monthly	****			
						Total				
January thru December	QL	***	***		***	***	***			
Flow, In Conduit or Thru Treatment Plant	Raw Sew/influent	REPORT Monthly	REPORT Daily	MGD	****	****	****	****	Continuous	Metered
		Average	Maximum							
January thru December	QL	***	***		***	***	***			
Flow, In Conduit or	Effluent Gross	REPORT	REPORT	MGD		REPORT		MGD	Continuous	Metered
Thru Treatment Plant	Value	Monthly	Daily		****	12 Month	****			
		Average	Maximum			Rolling Av				
January thru December	QL	***	***		***	***	***			
Flow, Total	Bypass	REPORT		MGAL					1/Month	Measured
		Monthly	****		****	****	****	****		
		Total								
January thru December	QL	***	***		***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

# Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements **PHASE Start Date:**

PHASE: 2 Final

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
pН	Raw				REPORT		REPORT	SU	6/Day	Grab
	Sew/influent	****	****	****	Report Per	****	Report Per			
					Minimum		Maximum			
January thru December	QL	***	***		***	***	***			
pН	Effluent Gross				6.0		9.0	SU	6/Day	Grab
	Value	****	****	****	Report Per	****	Report Per			
					Minimum		Maximum			
January thru December	QL	***	***		***	***	***			
Solids, Total	Raw					REPORT	REPORT	MG/L	1/Day	24 Hour
Suspended	Sew/influent	****	****	****	****	Monthly	Weekly		-	Composite
						Average	Average			
January thru December	QL	***	***	1	***	***	***			
Solids, Total	Effluent Gross	41900	62850	KG/DAY		30	45	MG/L	1/Day	24 Hour
Suspended	Value	Monthly	Weekly		****	Monthly	Weekly		2	Composite
		Average	Average			Average	Average			
January thru December	QL	***	***	1	***	***	***			
Solids, Total	Percent				85			PERCENT	1/Day	Calculated
Suspended	Removal	****	****	****	Monthly Av	****	****		2	
Option 1					Minimum					
January thru December	QL	***	***		***	***	***			
Solids, Total	Percent				REPORT			PERCENT	1/Day	Calculated
Suspended	Removal	****	****	****	Monthly Av	****	****		2	
Option 2					Minimum					
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross					10	15	MG/L	2/Month	Grab
	Value	****	****	****	****	Monthly	Instant			
						Average	Maximum			
January thru December	OL	***	***	1	***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

# Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements **PHASE Start Date:**

PHASE: 2 Final

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Nitrogen, Ammonia	Effluent Gross	53700	78400	KG/DAY		REPORT	REPORT	MG/L	1/Month	24 Hour
Total (as N)	Value	Monthly	Daily		****	Monthly	Daily			Composite
		Average	Maximum			Average	Maximum			
January thru December	QL	***	***	1	***	***	***			
Coliform, Fecal	Effluent Gross					200	400	#/100ML	1/Day	Grab
General	Value	****	****	****	****	Monthly	Weekly		2	
						Geo Avg	Geometric			
January thru December	OL	***	***	1	***	***	***			
BOD, Carbonaceous	Raw					REPORT	REPORT	MG/L	1/Day	24 Hour
5 Day, 20oC	Sew/influent	****	****	****	****	Monthly	Weekly		2	Composite
						Average	Average			_
January thru December	OL	***	***	1	***	***	***			
BOD, Carbonaceous	Effluent Gross	34916	55867	KG/DAY		25	40	MG/L	1/Day	24 Hour
5 Day, 20oC	Value	Monthly	Weekly		****	Monthly	Weekly		2	Composite
		Average	Average			Average	Average			_
January thru December	OL	***	***	1	***	***	***			
BOD, Carbonaceous	Percent				85			PERCENT	1/Day	Calculated
5 Day, 20oC	Removal	****	****	****	Monthly Av	****	****		2	
Option 1					Minimum					
January thru December	QL	***	***	1	***	***	***			
BOD, Carbonaceous	Percent				REPORT			PERCENT	1/Day	Calculated
5 Day, 20oC	Removal	****	****	****	Monthly Av	*****	****		•	
Option 2					Minimum					
January thru December	QL	***	***	1	***	***	***			
LC50 Statre 96hr Acu	Effluent Gross				REPORT			%EFFL	1/Quarter	Composite
Mysid Bahia	Value	****	****	****	Report Per	****	****			
					Minimum					
January thru December	AL	***	***	1	50	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

# Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements **PHASE Start Date:**

PHASE: 2 Final

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chlorine Produced Oxidants	Effluent Gross Value	196 Monthly	293 Daily	KG/DAY	****	0.14 Monthly	0.21 Daily	MG/L	6/Day	Grab
January thru December	OI	Average ***	Maximum ***		***	Average ***	Maximum ***			
Temperature, oC	Raw Sew/influent	****	****	****	REPORT Report Per	REPORT Monthly	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	OL	***	***		***	***	***			
Temperature, oC	Effluent Gross Value	****	****	****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	QL	***	***	1	***	***	***			
Oxygen, Dissolved (DO)	Effluent Gross Value	****	****	****	3.0 Weekly Av Minimum	REPORT Daily Avg Minimum	****	MG/L	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Cyanide, Total (as CN)	Effluent Gross Value	120 Monthly Average	255 Daily Maximum	KG/DAY	****	100 Monthly Average	200 Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	150 Monthly Average	262 Daily Maximum	KG/DAY	****	120 Monthly Average	210 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	562 Monthly Average	1037 Daily Maximum	KG/DAY	****	450 Monthly Average	830 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	OL	***	***		***	***	***			

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 2-Final Phase (CSO bypass conditions): Duration of discharge shall be reported as the # of calendar days/ month that a bypass event occurs. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

# Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2 Final	PHAS	E Start Date	:	PHA	SE End Dat	e:				
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Lead, Total Recoverable	Effluent Gross Value	162 Monthly Average	300 Daily Maximum	KG/DAY	****	130 Monthly Average	240 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chromium, Total Recoverable	Effluent Gross Value	21452 Monthly Average	35239 Daily Average	KG/DAY	****	17175 Monthly Average	28213 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	187 Monthly Average	350 Daily Maximum	KG/DAY	****	150 Monthly Average	280 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***	1	***	***	***			
Mercury Total Recoverable	Effluent Gross Value	2.5 Monthly Average	REPORT Daily Maximum	KG/DAY	****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***	]	***	***	***			
Chloroform	Effluent Gross Value	60067 Monthly Average	98670 Daily Maximum	KG/DAY	****	48090 Monthly Average	78996 Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Cyanide, free	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

# Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Arsenic, Total Recoverable (as As)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Selenium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Thallium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total Recoverable (as Be)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Silver, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total Recoverable	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

# Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Bis (2-chloroiso- propyl) ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chrysene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Diphenyl- hydrazine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Fluorene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo- pentadiene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)- pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Isophorone	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n- propylamine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl- amine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl- amine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

# Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Nitrobenzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Phenanthrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pyrene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2,4-Trichloro- benzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,4-Dichlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro- benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

# Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Naphthalene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Benzidine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Dichlorobromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-Dichloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Bromoform	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Toluene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Benzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Acrolein	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Acrylonitrile	Effluent Gross Value	REPORT	UG/L	Grab	January thru December

# Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Chlorobenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Ethylbenzene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methyl Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Methylene Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Tetrachloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Trichlorofluoro- methane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,1-Trichloro- ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,2-Trichloro- ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro- ethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-Dichloropropane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
1,2-trans-Dichloro- ethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
#### Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Vinyl Chloride	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Trichloroethylene	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Parachloro-m- cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Alpha BHC	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beta BHC	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1221 (Arochlor 1221)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - A - 3: Surface Water WCR - Quarterly Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
2-Nitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dimethylphenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro- phenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

# MONITORED LOCATION:RECEIVING STREAM:STREAM CLASSIFICATION:DISCHARGE CATEGORY(IES):002A Sanitary OutfallUpper Newark BaySE3(C2)A - Sanitary Wastewater (IP)

#### **Location Description**

DSN 002A shall be before any treatment, other than degritting, and before the addition of any internal waste streams. DSN 002A is located at Lat. = 40d 42' 45.5'' and Long. = 74d 07' 22.9'' and discharges to the Newark Bay, classified as SE-3 waters.

#### **Contributing Waste Types**

Sanitary

#### 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).

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

PHASE: Interim	PHAS	E Start Date	:	PHA	SE End Dat	e:				
Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Duration Of	Effluent Gross					REPORT		# OF DAYS	1/Month	Calculated
Discharge	Value	****	****	****	****	Monthly	****			
						Total				
January thru December	QL	***	***		***	***	***			
Flow, In Conduit or	Effluent Gross	REPORT	REPORT	MGD	REPORT			MGD	Continuous	Metered
Thru Treatment Plant	Value	Monthly	Daily		Annual	****	****			
		Average	Maximum		Average					
January thru December	QL	***	***		***	***	***			
Flow, Total	Effluent Gross	REPORT		MGAL					1/Month	Calculated
	Value	Monthly	****		****	****	****	****		
		Total								
January thru December	QL	***	***		***	***	***			
Coliform, Fecal	Effluent Gross					REPORT	1500	#/100ML	1/Discharge	Grab
General	Value	****	****	****	****	Monthly	Weekly			
						Geo Avg	Geometric			
January thru December	QL	***	***		***	***	***			

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).

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

**PHASE Start Date:** 

**PHASE:**Interim

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chlorine Produced Oxidants	Effluent Gross Value	REPORT Monthly	REPORT Daily	KG/DAY	****	REPORT Monthly	REPORT Daily	MG/L	Continuous	Metered
		Average	Maximum			Average	Maxımum			
January thru December	MDL	***	***		***	***	***			

### MONITORED LOCATION:

#### **RECEIVING STREAM:**

### STREAM CLASSIFICATION:

#### **DISCHARGE CATEGORY(IES)**:

**IPPI Influent IPP Requirements** 

A - Sanitary Wastewater (IP)

**Contributing Waste Types** 

Sanitary

### Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: Within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP).

### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Cyanide, Total (as CN)	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Arsenic, Total Recoverable (as As)	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Selenium, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Thallium, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Beryllium, Total Recoverable (as Be)	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Nickel, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Silver, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Zinc, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Cadmium, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Lead, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Chromium, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Copper, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Antimony, Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Mercury Total Recoverable	Raw Sew/influent	REPORT	****	24 Hour Composite	January thru December
Acenaphthylene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Acenaphthene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Anthracene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso- propyl) ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chrysene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
1,2-Diphenyl- hydrazine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluorene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo- pentadiene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)- pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Isophorone	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n- propylamine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl- amine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl- amine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenanthrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Pyrene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
1,2-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2,4-Trichloro- benzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,4-Dichlorobenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
2-Chloronaphthalene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro- benzidine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Naphthalene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzidine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Hexachlorobutadiene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Dichlorobromomethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-Dichloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Bromoform	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chloroform	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Toluene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Benzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Acrolein	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Acrylonitrile	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chlorobenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chlorodibromomethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Ethylbenzene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Methyl Bromide	Raw Sew/influent	REPORT	UG/L	Grab	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Methyl Chloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Methylene Chloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Tetrachloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Trichlorofluoro- methane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1-Dichloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,1-Trichloro- ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,2-Trichloro- ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro- ethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-Dichloropropane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
1,2-trans-Dichloro- ethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Vinyl Chloride	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Trichloroethylene	Raw Sew/influent	REPORT	UG/L	Grab	January thru December
Chloroethane	Raw Sew/influent	REPORT	UG/L	Grab	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Parachloro-m- cresol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenols	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Endosulfan Sulfate	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Aldrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Alpha BHC	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beta BHC	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
Chlordane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Dieldrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Toxaphene	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1221 (Arochlor 1221)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1248 (Arochlor 1248)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

#### Table III - C - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

**PHASE:**Final

**PHASE Start Date:** 

Parameter	Sample Point	<b>Compliance Quantity</b>	Units	Sample Type	Monitoring Period
2,4-Dimethylphenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro- phenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

# PART IV

# **SPECIFIC REQUIREMENTS: NARRATIVE**

# **Notes and Definitions**

#### A. Footnotes

#### 1. These notes are specific to this permit

a. The permit conditions in the CSO section apply only to the combined sewer system owned/operated by the permittee and related discharges.

#### 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

# Sanitary Wastewater (IP)

#### A. MONITORING REQUIREMENTS

#### 1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136, unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. When more than one test procedure is approved for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 136, 40 CFR 122.21(e)(3), and 40 CFR 122.44(i)(1)(iv).

The permittee shall utilize analytical methods for chlorine produced oxidants (CPO) that can achieve results at or below the Required Quantitation Level (RQL) specified in PART III. If a more sensitive method is approved in 40 CFR Part 136 and a CPO value lower than the listed RQL can be achieved, then the RQL is no longer applicable and the most sensitive method must be used. If the permittee and/or contract laboratory determines that the quantitation level for CPO will not be as sensitive as the RQL specified in Part III, the permittee must submit a justification of such to the Department's Office of Quality Assurance.

- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample 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.
- g. Annual and semi-annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- h. Monitoring for Wastewater Characterization Report parameters shall be conducted concurrently with the Whole Effluent Toxicity (WET) monitoring, when feasible.
- i. Any influent and effluent sampling for toxic pollutant analyses shall be collected concurrently.
- j. Influent flow for DSN 001A shall be measured using a flow meter. Effluent flow for DSN 001A shall be calculated by subtracting the flow metered at DSN 002A from the metered influent flow at DSN 001A.

### **B. RECORDKEEPING**

#### 1. Standard Recordkeeping Requirements

a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit and 3) all data used to complete the application for a NJPDES permit, for a period of at least 5 years from the date of the sample, measurement, report, application or record.

# Sanitary Wastewater (IP)

b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

## C. SUBMITTALS

#### 1. Standard Submittal Requirements

a. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

#### 2. New Jersey Polychlorinated Biphenyls (PCB) Requirements

- a. The permittee has completed sampling for PCBs as required in a previous permit action. The Department is currently reviewing the sampling data for this and other facilities to determine which facilities are discharging at more elevated levels. Once the Department completes this review and if the permittee's effluent is discharging PCBs at more elevated levels, the Department will require the permittee to develop and submit a PMP for approval within 12 months from the effective date of the permit action the requirement is incorporated in.
- b. Frequency Reduction, Suspension, Elimination of Monitoring
- c. PCB Pollutant Minimization Plan (PMP) Requirement
  - i. If, based on the review of the Final Report, the Department determines that a PMP is required, the permittee shall prepare and submit a PMP to the Department within 12 months from the effective date of the permit action the requirement is incorporated in.
  - ii. The permittee shall implement the PMP within 30 days after written notification by the Department that the PMP is complete.
  - iii. The PMP shall be developed to achieve maximum practical reduction in accordance with the PMP Technical Manual.
- d. PCB PMP Annual Report Requirement
  - i. The permittee shall submit an annual report in accordance with the Annual Report Guidance Document every 12 months from the implementation of the PMP.
  - ii. Any revisions to the PMP as a result of the ongoing work shall be reported in the annual report.
  - iii. The annual report shall contain, at a minimum, a detailed discussion of the specific progress and actions taken by the permittee during the previous twelve month period that addresses PCB loadings and implementation of the PMP.

### D. FACILITY MANAGEMENT

#### 1. 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 discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.

#### 2. Interstate Environmental Commission

a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations." Although no monitoring requirements specific to the IEC are included in this permit, compliance may be determined by the IEC based on its own sampling events. IEC effluent requirements shall not be considered effluent limitations for the purpose of mandatory penalties under N.J.S.A. 58:10A-10.1.

#### 3. Applicability of Discharge Limitations and Effective Dates

- a. Surface Water Discharge Monitoring Report (DMR) Form Requirements
  - i. This permit includes multiple phases for DSN 001A. The 1-Initial limitation and monitoring conditions are effective from the effective date of the permit (EDP). This permit also includes requirements for when bypass operations begin as the 2-Final Phase. Before the 2-Final Phase can be activated, a Treatment Works Approval (TWA) is required.

The application forms and a checklist for a TWA can be found on the Department's website at http://www.nj.gov/dep/dwq/forms\_twa.htm. The permittee shall submit a request to the Department's Bureau of Surface Water and Pretreatment Permitting at least 30 calendar days prior to commencing bypass operations in order to activate the 2-Final Phase.

- b. Wastewater Characterization Report (WCR) Form Requirements
  - i. The final effluent monitoring conditions contained in PART III for DSN 001A apply for the full term of this permit action.

#### 4. Operation, Maintenance and Emergency conditions

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with N.J.A.C. 7:14A-6.12(d).

#### 5. Introduction to RWBR Requirements

- a. The following RWBR sections contain the conditions for the permittee to beneficially reuse treated effluent or Reclaimed Water for Beneficial Reuse (RWBR), provided the effluent is in compliance with the criteria specified for the particular use specified below.
- b. There are two levels of RWBR uses. Public Access and Restricted Access.

#### 6. RWBR Requirements for Public Access

- a. The Public Access reuse types authorized by this permit are those approved in Appendix A. Other Public Access reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
  - i. Total Suspended Solids (TSS): Instantaneous maximum of 5.0 mg/L prior to disinfection.
  - ii. Nitrogen, Total (NO3 + NH3): Daily maximum of 10.0 mg/L. This requirement only applies when RWBR is land applied.
  - iii. Fecal Coliform: 7-day median maximum of 2.2 colonies per 100 mL and an instantaneous maximum of 14 colonies per 100 mL.
  - iv. Chlorine Produced Oxidants (CPO): If the permittee disinfects utilizing chlorine, an instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow must be met.
- d. Monitoring of the diverted public access RWBR shall be conducted in the following manner:
  - i. Sampling for TSS shall be immediately prior to disinfection. Monitoring for TSS shall be a grab sample once per week.
  - ii. Sampling for Turbidity in systems shall be sampled immediately prior to disinfection. The permittee shall establish a correlation between Turbidity and TSS in their effluent as detailed in the Reuse Technical Manual. A statistically significant correlation between Turbidity and TSS shall be established prior to commencement of the RWBR program and shall be incorporated into the Operations Protocol and updated annually. The initial correlation should be done as part of a daily monitoring program for at least 30 days. To ensure continuous compliance with the 5.0 mg/L TSS level, Turbidity must be monitored continuously and achieve the level established in the Operations Protocol.
  - iii. For chlorine disinfection, monitoring for CPO shall be continuous and shall be monitored after the appropriate contact time is achieved.
  - iv. Monitoring for Fecal Coliform shall be a grab sample, taken in accordance with Part III, at least a minimum of once per week taken immediately after disinfection. Fecal coliform shall be monitored immediately after disinfection.
  - Monitoring for Total Nitrogen (NO3 + NH3) shall be a composite sample, taken in accordance with Part III, at least once per week taken prior to RWBR diversion. Total Nitrogen (NO3 + NH3) shall be monitored after the appropriate disinfection treatment is achieved.
- e. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.
  - i. If chlorine is used for disinfection, the lowest sampling result obtained during the reporting month shall be reported for CPO.
- 7. RWBR Requirements for Restricted Access--Land Application and Non Edible Crops

- a. The Restricted Access--Land Application and Non Edible Crops reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Land Application and Non Edible Crops reuse types may be added by minor modification of this permit.
- b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.
- c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.
- d. Nitrogen, Total (NO3 + NH3): Daily maximum of 10 mg/L. Frequency of sampling for Total Nitrogen shall be at a minimum monthly. The sample shall be collected as a composite sample taken prior to diversion for RWBR. Nitrogen, Total (NO3 + NH3) shall be monitored after the appropriate disinfection treatment time is achieved. This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area.
- e. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection.
- f. Chlorine Produced Oxidants (CPO): For chlorine disinfection, instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow. Frequency of sampling for CPO shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection. The value reported for CPO shall be the minimum sampling result obtained during the reporting month for diverted RWBR. Chlorine Produced Oxidants (CPO) shall be monitored after the appropriate contact time is achieved.
- g. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.

#### 8. RWBR Requirements for Restricted Access--Construction and Maintenance Operations

- a. The Restricted Access--Construction and Maintenance Operations reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Construction and Maintenance Operations reuse types may be added by minor modification of this permit.
- b. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. Fecal coliform shall be monitored immediately after disinfection. This requirement does not apply to sanitary sewer jetting.

#### 9. RWBR Requirements for Restricted Access--Industrial Systems

a. The Restricted Access--Industrial Systems reuse types authorized by this permit are those approved in Appendix A. Other Restricted Access--Industrial Systems reuse types may be added by minor modification of this permit.

#### **10. RWBR Submittal Requirements**

- a. For Public Access RWBR, the permittee shall submit and receive approval of an Operations Protocol or modify the existing Operations Protocol as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Operations Protocol shall be maintained onsite. Specific requirements for the Operations Protocol are identified in the Reuse Technical Manual.
- b. For all types of Restricted Access RWBR, the permittee shall submit and receive approval of a Standard Operations Procedure or modify an existing Standard Operations Procedure as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Standard Operations Procedure are identified in the Reuse Technical Manual. This requirement does not apply to sanitary sewer jetting and STP washdown water.
- c. The permittee shall submit a copy of the Reuse Supplier and User Agreement with each request for authorization to distribute RWBR in which the user is a different entity than the supplier. Specific requirements for the Reuse Supplier and User Agreement are identified in the Reuse Technical Manual.
- d. For Public Access RWBR on Edible Crops, the permittee shall submit an annual inventory of edible crop irrigation with the Beneficial Reuse Annual Report. Specific requirements for the annual inventory are identified in the Reuse Technical Manual.
- e. Submit a Beneficial Reuse Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP).
- f. The permittee shall submit and receive approval of an Engineering Report in support of RWBR authorization requests for new or expanded RWBR projects as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Engineering Report shall be maintained onsite. Specific requirements for the Engineering Report are identified in the Reuse Technical Manual.
- g. All submittals shall be mailed or delivered to: New Jersey Department of Environmental Protection Division of Water Quality Mail Code 401-02B
  Bureau of Surface Water and Pretreatment Permitting P.O. Box 420
  Trenton, New Jersey 08625-0420.

#### 11. RWBR Operational Requirements

- a. Effluent that does not meet the requirements for RWBR established in Part III, Part IV and the operational requirements specified in the facility's approved Operations Protocol or Standard Operations Procedure, as applicable, shall not be diverted for RWBR.
- b. The land application of RWBR shall not produce surface runoff or ponding.
- c. All setback distances shall be consistent with the distances outlined in the Reuse Technical Manual.

- d. Land application sites shall not be frozen or saturated when applying RWBR.
- e. A daily log noting the volume of RWBR distributed to each approved application site shall be maintained on-site by the permittee and made available to the Department upon request. The volume of RWBR to be distributed shall be determined through the use of a totalizing flow meter, or other means of accurate flow measurement.
- f. Any vehicle used to transport and/or distribute RWBR shall be appropriately marked. The vehicle shall not be used to transport water or other fluid that does not meet all limitations and requirements as specified in this permit for water diverted for RWBR, unless the tank has been emptied and adequately cleaned prior to the addition of the RWBR.
- g. The permittee shall post Access Control and Advisory Signs in accordance with the requirements of the Reuse Technical Manual.
- h. There shall be no cross-connections to potable water systems.
- i. All RWBR piping, pipelines, valves, and outlets shall be appropriately color coded, tagged or labeled to warn the public and employees that the water is not intended for drinking. Worker contact with RWBR shall be minimized.
- j. The issuance of this permit for the use of RWBR shall not be considered as a waiver of any applicable federal, state or local rule, regulation or ordinance.

#### 12. Toxicity Testing Requirements - Acute Whole Effluent Toxicity

- a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- b. Acute toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- c. Any test that does not meet the specifications of N.J.A.C. 7:18, laboratory certification regulations, must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- d. The permittee shall collect and analyze the concentration of ammonia-N in the effluent on the day a sample is collected for WET testing. This result is to be reported on the Biomonitoring Report Form.
- e. The permittee shall resubmit an Acute Methodology Questionnaire within 60 days of any change in laboratory.
- f. Submit an acute whole effluent toxicity test report within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP).
- g. Test reports shall be submitted to:
  - i. biomonitoring@dep.nj.gov
  - ii. Toxicity@drbc.gov

#### 13. Toxicity Reduction Implementation Requirements (TRIR)

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit or action level specified in Part III of this permit.
  - i. If the exceedence of the toxicity limit or action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits or action levels in Part III. The monitoring frequency for toxicity testing shall be increased to monthly. Up to 12 additional tests may be required.
  - i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit or action level.
  - ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit or action level in Part III, the permittee shall repeat the Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the third exceedence of the toxicity limit or action level specified in Part III during toxicity characterization.
  - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
  - ii. As appropriate, the PTI shall include:
    - (1) treatment plant performance evaluation,
    - (2) pretreatment program information,
    - (3) evaluation of ammonia and chlorine produced oxidants levels and their effect on the toxicity of the discharge,
    - (4) evaluation of chemical use and processes at the facility, and
    - (5) an evaluation of incidental facility procedures such as floor washing, and chemical spill disposal which may contribute to effluent toxicity.
  - iii. If the permittee demonstrates that the cause of toxicity is the chlorine added for disinfection or the ammonia concentration in the effluent and the chlorine and/or ammonia concentrations are below the established water quality based effluent limitation for chlorine and/or ammonia, the permittee shall identify the procedures to be used in future toxicity tests to account for chlorine and/or ammonia toxicity in their preliminary toxicity identification report.
  - iv. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET limitation or action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.

- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit or action level in Part III can not be made.
  - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
  - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit or action level in Part III, a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
  - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
  - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.
- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
  - i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit or action level in Part III in four consecutive toxicity tests.
  - ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit or action level in Part III, the permittee shall submit a plan for resuming the CTI.
  - iii. Documents regarding Toxicity Investigations shall be sent to the following: New Jersey Department of Environmental Protection Mail Code 401-02B Division of Water Quality Bureau of Surface Water Permitting 401 East State Street P.O. Box 420 Trenton, New Jersey 08625-0420

## E. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

#### 1. General Requirements

- a. The Permittee has developed an industrial pretreatment program pursuant to the General Pretreatment Regulations 40 CFR Part 403 and N.J.A.C. 7:14A-1 et seq. The Permittee shall implement and enforce its approved pretreatment program to prevent the introduction of pollutants into its system which would:
  - i. interfere with attainment of the effluent limitations contained in the permittee's NJPDES permit;
  - ii. pass through the treatment works and impair the water quality of the receiving stream; or
  - iii. affect sludge quality so as to interfere with the use or management of the municipal sludge.

- b. The Permittee shall comply with the public participation and notification requirements, including but not limited to, those specified in N.J.A.C. 7:14A-19.10, and 40 CFR Part 25.
- c. The Permittee shall secure and maintain sufficient resources and qualified personnel to carry out the program implementation procedures described in this permit.

#### 2. Identify and Locate Industrial Users

- a. The Permittee shall update its inventory of indirect users at a frequency and diligence adequate to ensure proper identification of indirect users subject to pretreatment standards, appropriate characterization of the nature of their discharges, and correct designation of indirect users as categorical, significant/major, or other regulated. At a minimum, this inventory shall be updated annually and shall be included in the Pretreatment Program 40 CFR Part 403 Annual Report.
- b. The Permittee shall notify an indirect user of pretreatment standards and requirements within thirty (30) days of the determination of the indirect user being subject to regulation under the pretreatment program.

#### 3. Program Modifications

- a. The Permittee shall notify the Bureau of Surface Water and Pretreatment Permitting of all substantial industrial pretreatment program (IPP) modifications, as defined under 40 CFR 403.18(b), and comply with the program modification requirements under N.J.A.C. 7:14A-19.9. The Permittee must await formal approval from the BPR before implementing substantial program modifications.
- b. For non-substantial program modifications, the Permittee shall provide to the BPR the information required under N.J.A.C. 7:14A-19.9(b). The Permittee, as required by 40 CFR 403.18(d)(1), must submit this information to the BPR at least 45 days prior to implementation. Modifications that are not considered substantial are deemed approved unless the Department notifies the Permittee within 45 days that the modifications are not approved.

#### 4. Develop Local Limits

- a. The Permittee has developed and shall enforce local limits as required by N.J.A.C. 7:14A-19.7.
- b. The Permittee shall submit a written technical evaluation of the need to revise local limits as required under N.J.A.C. 7:14A-19.7(f).
- c. The written technical evalulation required in b. above shall be submitted: within 6 months from the effective date of the permit (EDP).

#### 5. Issue IPP Permits

- a. The Permittee must issue an individual IPP Permit to those facilities which are classified as "Significant Industrial Users" (SIUs) as defined in the Passaic Valley Sewerage Commissioners Rules and Regulations.
- b. These individual IPP Permits must contain the minimum requirements as specified under N.J.A.C. 7:14A-19.8(b).
- c. The Permittee shall issue a draft IPP Permit to a newly identified (i.e. currently discharging) IU within 180 days of identifying that IU.
- d. New IUs shall receive an IPP Permit prior to commencement of discharge.

e. The Permittee shall issue or reissue the IPP Permits, in absence of litigation and/or enforcement action(s) initiated by the Permittee, within one hundred and eighty (180) days of the expiration date of the IPP Permit previously issued to an existing industrial user.

#### 6. Perform Compliance Monitoring and Inspections

- a. The Permittee shall randomly inspect indirect users and randomly sample and analyze indirect user effluents at a frequency commensurate with the character, consistency, and volume of the contribution. However, the frequency of sampling shall be adequate to determine the compliance status of the indirect user exclusive of self-monitoring data submitted by the user. Specifically, the frequency of inspection and sampling of all significant industrial users (SIU), as defined by Passaic Valley Sewerage Commissioners, shall be no less than once per year for inspection and no less than once per year for sampling. Also, in accordance with N.J.A.C. 7:14A-19.6(a)1, facilities which have an IPP permit from the POTW but do not meet the POTW's definition of SIU i.e., "other regulated IUs"), and are not CIUs, must be inspected by the POTW once per year and must be sampled by the POTW at least once every three (3) years.
- b. Sample collection and analysis and the gathering of other compliance data shall be performed with sufficient care to produce evidence admissible in judicial enforcement proceedings.

#### 7. Take Enforcement Actions

a. The permittee shall take enforcement actions based upon indirect users' noncompliance in accordance with its approved enforcement response plan.

#### 8. Perform Data Management and Record Keeping

- a. The Permittee shall develop and maintain a data management system which includes industrial user inventory, characterization of discharge, compliance status, IPP permit status, and enforcement actions.
- b. The Permittee shall retain for a minimum of five (5) years all records of monitoring activities and results (whether or not such activities are required by this permit) and shall make such records available to EPA and the State upon request.

#### 9. Notification Requirements

a. The Permittee shall notify its significant industrial users in writing of their obligation to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

#### **10. Pretreatment Annual Report**

- a. The Permittee shall submit a report annually to the Bureau of Surface Water and Pretreatment Permitting describing the Permittee's pretreatment activities for the twelve (12) month period from August 1 through July 31. In the event that the Permittee is not in compliance with any conditions or requirements of the approved industrial Pretreatment program, the Permittee shall also include the reason for noncompliance and state how and when the Permittee shall comply with such conditions and requirements.
- b. Submit the Annual Pretreatment Program Report: by September 1 of each year beginning from the effective date of the permit (EDP) This report shall contain the following:.

- i. a summary of analytical results of the pollutants molybdenum (Mo), ammonia (NH3), phosphorus (P), and the priority pollutant scans performed on the Delegated Local Agency's (DLA) influent, effluent, and sludge during the annual reporting period noted in (a) above.
- a discussion of upset, interference, or pass through incidents, if any, at the DLA treatment plant(s) which the Permittee knows or suspects were caused by indirect users of the DLA system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the indirect user(s) responsible;
- iii. an updated list of the Permittee's industrial users including their names and addresses, and a list of deletions and additions. The Permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to Federal categorical standards and which set(s) of standards are applicable; significant/major non-categorical IUs (as defined by the DLA); and other regulated non-categorical industries. The Permittee shall characterize the compliance status of each industrial user with respect to the discharge limitations and reporting requirements;
- iv. a summary of the inspection and sampling activities conducted by the Permittee during the period covered by the annual report to gather information and data regarding industrial users;
- a summary of the compliance and enforcement activities during the period covered by the annual report. The summary shall include administrative and legal/judicial actions initiated by the permittee during the period noted;
- vi. a description of any significant changes in operating the pretreatment program which differ from the information in the Permittee's approved DLA pretreatment program including, but not limited to, changes concerning:
  - (1) the program's administrative structure
  - (2) local industrial discharge limitations
  - (3) monitoring program or monitoring frequencies
  - (4) Legal authority or enforcement policy
  - (5) funding mechanisms
  - (6) resource requirements
  - (7) staffing levels;
- vii. a summary of the annual pretreatment funding, including salaries (as a lump sum), analytical costs for both in-house and contract analyses, equipment costs, and other expenditures associates with implementation of the pretreatment program. The Permittee must also provide a manpower estimate in full-time equivalents (FTEs);
- viii. a summary of public participation activities to involve and inform the public. This shall include a copy of the annual publication of significant non-compliance, if such publication was needed to comply with N.J.A.C. 7:14A-19.10(b); and
- ix. other information as required and described in the NJDEP 403 Annual Report Guidance.

c. Two copies of the Pretreatment Program Annual Report shall be submitted to the BSWPP in the form prescribed in that guidance. The reports shall be submitted to:

NJDEP Mail Code - 401-02B Bureau of Surface Water and Pretreatment Permitting 401 E. State Street P.O. Box 420 Trenton, N.J. 08625-0420.

#### 11. CWEA Annual Report

- a. The Permittee must submit information required by N.J.A.C. 7:14A-19.6(c), (d) and (e) pertaining to the implementation of the DLA's approved pretreatment program.
- b. Submit the CWEA Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP).
- c. Two copies of this report shall be submitted to:

NJDEP Mail Code - 401-02B Bureau of Surface Water and Pretreatment Permitting 401 E. State Street P.O. Box 420 Trenton, N.J. 08625-0420.

#### 12. Grace Period Annual Report

- a. The permittee must submit the information required by N.J.A.C. 7:14A-19.6(h) and (i) pertaining to implementation of the DLA's approved pretreatment program.
- b. Submit the Grace Period Annual Report: by March 1 of each year beginning from the effective date of the permit (EDP).
- c. Two copies of this report shall be submitted to:

NJDEP Mail Code 401-02B Bureau of Surface Water and Pretreatment Permitting 401 E. State Street P.O. Box 420 Trenton, N.J. 08625-0420.

#### F. CONDITIONS FOR MODIFICATION

#### 1. Notification requirements

a. The permittee may request a minor modification for a reduction in monitoring frequency for a non-limited parameter when four consecutive test results of "not detected" have occurred using a sufficiently sensitive quantification level as defined at 40 CFR 136, 40 CFR 122.21(e)(3), and 40 CFR 122.44(i)(1)(iv).

#### 2. Causes for modification

- a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.
- b. The permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.

#### G. Custom Requirement

#### 1. Chlorine Produced Oxidants (CPO) Requirements (Only Applicable to DSN 001A)

- a. The permittee shall collect the effluent CPO grab samples at the treatment plant O&M Building Sample Room. For the purpose of DMR reporting and compliance with the applicable maximum daily and monthly average effluent limitations in Table III-A-1, the measured effluent CPO concentration value in mg/L will be adjusted as follows:.
  - i. Utilizing the following equation, calculate the effluent travel time ("ETT") in minutes from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure at the time the effluent CPO concentration was measured at the treatment plant:

ETT = (601.62 / EFR) \* 60

where "EFR" equals the effluent flow rate in MGD occurring at the time the effluent grab sample for CPO analysis was taken at the treatment plant.

ii. Calculate the CPO concentration decay ("CPODECAY") in mg/L during the effluent travel in the outfall pipe from the treatment plant O&M Building Sample Room to the Upper New York Harbor outfall structure using the equation:

CPODECAY = (0.0043 mg/L/min) \* ETT

where "ETT" equals the effluent travel time calculated in step i. above.

iii. Calculate the CPO concentration at the discharge location in Upper New York Harbor ("CPOEFFL") using the equation:

CPOEFFL = (CPOMEAS) - (CPODECAY)

where "CPOMEAS" equals the measured effluent CPO concentration at the treatment plant in mg/L and "CPODECAY" equals the CPO concentration decay calculated in step ii. above.

iv. The calculated CPOEFFL is the CPO concentration value that is used to determine compliance with the water quality based maximum daily and average monthly CPO concentration effluent limitations in Table III-A-1 and Table III-A-2 and for all DMR monitoring and reporting purposes.

v. If the CPOEFFL value calculated using the above procedure is less that the method detection level (MDL) of the method being used to measure CPO, then the CPOEFFL value used for reporting purposes will be < MDL in mg/L. For example, if the MDL for the method being use to measure CPO is 0.05 mg/L and the calculated CPOEFFL value is 0.01 mg/L, then < 0.05 mg/L (not 0.01 mg/L) is to be used for DMR reporting purposes for that measurement.</p>

#### 2. Re-evaluation of Section (A) Power Supply of Emergency Plan

a. PVSC shall re-evaluate section section (A) Power Supply of their Emergency Plan required in accordance with N.J.A.C. 7:14A-6.12(d)3i(1) to determine if any modifications need to be considered in consideration of recent region wide power outages, and submit the evaluation and any such modifications to the Department for review.

#### 3. Bacterial Indicator Sample Requirement (Only applicable to DSN 001A)

a. The permittee is authorized to hold the bacterial indicator samples (fecal coliform) in a bottle prior to testing for permit limitation compliance reporting purposes for a time period not to exceed the travel time in the outfall pipe (in minutes) calculated using the following equation:

(25.069 million gallons X 24 hours/day X 60 mins/hour) / (flow rate in MGD).

#### 4. Bypass as a CSO Measure

- a. This permit renewal serves to concur with the selection of CSO related bypass as a CSO control measure through implementation of the Alternative Wet Weather Treatment Protocol Project. As such, effluent limitations that apply to a bypass of secondary treatment are included in the final phase of Part III.
- b. Bypass is prohibited unless and until a Treatment Works Approval is issued for the construction and operation of the bypass line. If issued, operation of the bypass must comply with the terms and conditions of this NJPDES permit and the Treatment Works Approval.
- c. Bypassing of the secondary treatment is prohibited except during wet weather events when influent flows exceed 400 MGD as an instantaneous flow. All bypassed flow shall be combined with fully treated effluent flow prior to discharge.
- d. The use of Outfall DSN 002A is conditional upon the hydraulic capacity of Outfall DSN 001A being exceeded.
- e. All applicable effluent limitations and monitoring conditions as included in this permit for DSN 001A and DSN 002A are required to be met at all times including during wet weather bypassing using the TWA approved bypass line.
- f. At any time that this bypass occurs during a calendar day, whether for the entire day or a portion of that day, the Duration of Discharge shall be reported as one day for outfall DSN 001A. In the event that the capacity of DSN 001A is exceeded and DSN 002A is utilized, it shall also be reported as one day for DSN 002A. In the event that the bypass line is utilized sporadically throughout a 24-hour period, that shall also be reported as one day for outfall DSN 001A and DSN 002A, if the flow exceeds the capacity of DSN 001A.

g. The 85% removal limitation is applicable under Option 1 when the instantaneous influent flow is less than 400 MGD for all days during the monthly monitoring period. The 85% removal limitation is not applicable under Option 2 when the instantaneous influent flow for any day during the monthly monitoring period reaches or exceeds the designated flow of 400 MGD. When this condition occurs, the permittee shall report the percent removal value under Option 2 which shall include the percent removal results from all the days during the monthly monitoring period, including those where flows were above 400 MGD. For whichever option is not applicable, the permittee shall report "Code = N" on the DMR for the monthly monitoring period. For example, if Option 1 is applicable, then the permittee shall report "Code = N" under Option 2.

If the permittee is reporting percent removal under Option 2 for a given monitoring period, a tabular representation of influent flow, effluent flow, CBOD5 influent, CBOD5 effluent, CBOD5 percent removal, TSS influent, and TSS effluent and TSS percent removal shall be tracked on a daily basis and included as an attachment to the Monitoring Report Form.

h. The permittee shall continuously meter flow for any flows into the plant and report it on the DMR form under the parameter "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent" for DSN 001A.

Effluent flow for DSN 001A shall be calculated by subtracting the flow metered at DSN 002A from the metered influent flow at DSN 001A.

- Approval of the interim bypass and the conditions on the use of the interim bypass may be modified or terminated by the Department via a subsequent permit action under N.J.A.C. 7:14A-16.4 for cause such as if there is a substantial increase in the volume or character of pollutants being introduced to the WWTP.
- j. Total Flow (Bypass) serves to represent an approximate amount of volume that would otherwise be discharged via Combined Sewer Overflows (CSOs) but now receives primary treatment.

#### 5. Notification of Bypass

a. The permittee shall notify the Department of bypass events by submission of Discharge Monitoring Reports. Such notification serves to meet the intent of the notice requirements of 40 CFR 122.41(m)(3). By granting this approval through a permit action, the permittee is not required to notify the Department of every individual bypass event if it complies with the notification requirements contained in this NJPDES permit.

# **Combined Sewer Management (IP)**

## A. MONITORING REQUIREMENTS

#### 1. CSO Monitoring Requirements

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

### **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.

### C. **REPORTING**

#### 1. Reporting Requirements

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

### **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 summarize on a semiannual basis its CSO construction related activities, as well as those reported to them by the other CSO entities, in their system. Notification through the TWA process is sufficient for this purpose. The permittee shall make these construction related activities available publicly on their website or other acceptable means.

# **Combined Sewer Management (IP)**

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. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

### 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 PVSC the total system is 25 miles of intercepting sewers and 13 miles of branch interceptors.
  - 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.
- 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 PVSC:
  - 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;
  - Bypass operation procedures; 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.
- 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.
- b. The permittee shall require SIUs upstream of any CSO outfall which is owned/operated by the Permittee to investigate ways to minimize their discharges during wet weather and report their findings to the permittee.
- c. The permittee shall establish agreements with SIUs upstream of any CSO outfall which is owned or operated by the permittee or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the extent practical during wet weather periods.

#### 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. The permittee shall operate the system in such a way that it does not cause any dry weather overflow from the collection system owned/operated by other permittees in the hydraulically connected system

#### 6. Control of Solids/Floatables in CSOs

a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

#### 7. Implementation of Pollution Prevention Measures

- a. The permittee shall continue to encourage municipalities 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 B, 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 B.
  - 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. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.
- 9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls
  - a. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.

## 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, PVSC submitted the System Characterization and Landside Modeling Program Quality Assurance Project Plan (QAPP) Part 1 dated December 29, 2015, revised March 16, 2016, the QAPP Part 2 dated December 28, 2015, revised March 17, 2016 and the Service Area System Characterization Report dated June 2018, revised January 21, 2019 and March 28, 2019. The work plans and the System Characterization Report were approved by the Department on March 30, 2016, August 1, 2016 and April 12, 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 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. Since the permittee does not own and/or operate any CSO outfalls, this section does not apply.
- 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.

d. To supplement these measures, as a condition of the NJPDES permit as issued to PVSC, influent flow is required to be reported under "Flow, In Conduit or Thru Treatment Plant" as "Raw Sew/Influent". The number of bypass events is also required to be reported as "Duration of discharge" namely the number of calendar days per month that a bypass event occurs. These reporting requirements are included to serve as a means to track increased flows to the plant, number of bypass events and will serve as an indication of any reduction in CSOs.

#### 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 WRRM Secondary Bypass.
  - 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).
- 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;
  - 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.

**PI #:** 46756

## Masterfile #: 8439

# **RWBR** Approval Status List

The permittee is only authorized to utilize RWBR for the specific category, type and location that has been approved in the table below.

RWBR		Location	Status
Category	Specific RWBR Type		
PA	Spray Irrigation (Golf Course)	None	Not Approved
PA	Spray Irrigation (Athletic Fields,	None	Not Approved
	Playgrounds)		
PA	Spray Irrigation (Residential Lawns)	None	Not Approved
PA	Vehicle Washing	None	Not Approved
PA	Hydroseeding/Fertilizing	None	Not Approved
PA	Decorative Fountains	None	Not Approved
PA	Toilet Flushing	None	Not Approved
RA-LA	Sod Irrigation	None	Not Approved
RA-LA	Spray Irrigation within a fenced	None	Not Approved
	perimeter or otherwise restricted area		
RA-LA	Spray Irrigation within a fenced	Locations (if any) shall be	Approved
	perimeter or otherwise restricted area	listed in the Annual Reuse	
	(Without NH3 + NO3)	Report	
RA-LA	Spray Irrigation (not fenced or restricted	None	Not Approved
	area)		
RA-CM	Street Sweeping	<b>PVSC's Sewer Service Area</b>	Approved
RA-CM	Dust Control	None	Not Approved
RA-CM	Fire Protection	Locations (if any) shall be	Approved
		listed in the Annual Reuse	
		Report	
RA-CM	Vehicle Washing (at STP or DPW)	None	Not Approved
RA-CM	Composting	None	Not Approved
RA-IS	Sanitary Sewer Jetting	PVSC Sewer Service Area	Approved
RA-IS	Non-Contact Cooling Water	Locations (if any) shall be	Approved
		listed in the Annual Reuse	
		Report	
RA-IS	Boiler Makeup Water	Locations (if any) shall be	Approved
		listed in the Annual Reuse	
		Report	
RA-IS	Road Milling	None	Not Approved
RA-IS	Hydrostatic Testing	None	Not Approved
RA-IS	Parts Washing	None	Not Approved
RA-IS	STP Washdown	<b>PVSC's Facilities</b>	Approved

Categories:

PA Public Access
RA-LA Restricted Access-Land Application and Non-Edible Crops
RA-CM Restricted Access--Construction and Maintenance Operations
RA-IS Restricted Access--Industrial Systems

Abbreviations:

NH3 - Ammonia

NO3 - Nitrate

STP - Sewage Treatment Plant

DPW - Dept. of Public Works

# **Annual Reuse Report**

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

- (1)The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;
- R = \_\_\_\_\_ gallons (2)The total wastewater discharged (D) by the facility in the previous calendar year;
- D = \_\_\_\_\_ gallons The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows: (3) %R = R/(R+D), expressed as a percent;
- \_\_\_\_\_ percent (4) The total wastewater that was reused for each reuse type in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Category	Specific RWBR Type	Location	Flow (gallons)

#### **RWBR** Usage Table

Attach additional pages as necessary.

An update to the correlation between Total Suspended Solids and Turbidity, if necessary; (5)

Correlation =

%R =

Submit a completed copy of this form to: (6) For paper copies: ATTN: RWBR Review Team Mail Code 401 - 02BDivision of Water Quality Bureau of Surface Water & Pretreatment Permitting P.O. Box 420 Trenton, NJ 08625-0420

For electronic copies: DWQRWBR@dep.nj.gov

# **Annual Reuse Report - SAMPLE**

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

(1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;

R = gallons

- (2) The total wastewater discharged (D) by the facility in the previous calendar year; D = gallons
- (3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows: %R = R/(R+D), expressed as a percent;

%R = percent

(4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

KWBR Usage Table				
RWBR Category	Specific RWBR Type	Location	Flow	
Category			(gallons)	
	For Example:		, 	
RA-CM	Street Sweeping	Local Township	42,000	
RA-IS	Sanitary Sewer Jetting	Facility Sewer Service Area	15,000	
RA-IS	STP Washdown	Sewage Treatment Plant	43,000	
		Grand Total (R)	100,000	

RWBR Usage Table

Attach additional pages as necessary.

(5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;

Correlation =

(6) Submit a completed copy of this form to: For paper copies: ATTN: RWBR Review Team Mail Code 401 – 02B Division of Water Quality Bureau of Surface Water & Pretreatment Permitting P.O. Box 420 Trenton, NJ 08625-0420

For electronic copies: <u>DWQRWBR@dep.nj.gov</u>

# Appendix B

# 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.