State of New Jersey

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

SHAWN M. LATOURETTE
Commissioner

Via Email Only
March 27, 2023

Re: **Draft Renewal Discharge to Surface Water (DSW) Consolidated Master General Permit Renewal**
Category: BPW – Potable Water Treatment Plant (GP)
NJPDES Permit No. NJ0129500
NJPDES Master General Permit Program Interest

Dear Interested Parties:

Enclosed is a **draft** NJPDES permit action identified above which has been issued in accordance with N.J.A.C. 7:14A.

Notice of this draft permit action will appear in the *Burlington County Times* (Burlington County), the *Star Ledger* (Morris, Passaic, Somerset, Sussex, and Warren Counties), the *Trenton Times* (Mercer County), the *Asbury Park Press* (Monmouth County), *South Jersey Times* (Salem County), and in the April 5, 2023 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at http://www.state.nj.us/dep/bulletin. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close thirty days after its appearance in the newspaper with the last publication date.

As detailed in the *DEP Bulletin* and aforementioned newspapers, written comments or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing to Susan Rosenwinkel, Bureau Chief, Mail Code 401-02B, Division of Water Quality, Bureau of Surface Water & Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 or by email at Susan.Rosenwinkel@dep.nj.gov by the close of the public comment period. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

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

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

Sincerely,

Robert D. Hall

Robert Hall
Environmental Specialist 3
Bureau of Surface Water & Pretreatment Permitting

Enclosures
c: Permit Distribution List
Masterfile #: 39609; PI #: 50577

Table of Contents for the Draft Permit

This permit package contains the items below:

List of Acronyms

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

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) Consolidated Master General Permit for Potable Water Treatment Plants (Category - BPW) NJ0129500, in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq.

This renewal DSW Consolidated Master GPW General Permit is issued to continue to authorize the existing discharges from twenty potable water treatment plants (WTPs) into the surface waters of the State of New Jersey. The Department has determined that these discharges are more appropriately controlled under a general permit as the wastewater characteristics of the effluent from these facilities are similar; therefore, the applicable effluent limitations and monitoring conditions are also similar. Individual authorizations will be issued for each of the twenty WTPs following the finalization of this general permit. A full copy of the consolidated master general permit, including a complete description of all effluent limitations and monitoring conditions will be made available at www.state.nj.us/dep/dwq.

Although this general permit is specifically designed for these existing WTPs, the Department reserves the right to include any new WTPs, with similar wastewater characteristics, that have received all applicable Federal, State, and local approvals, including the appropriate Departmental approvals and any necessary wastewater management plan (WMP) approvals.

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.

A draft NJPDES permit renewal has been prepared for this facility based on the administrative record which is on file at the offices of the Department, located at 401 East State Street, Trenton, New Jersey. It is available for inspection, by appointment, Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection may be requested through the Office of Records Access. Details are available online at www.nj.gov/dep/opra, or by calling (609) 341-3121.

Written comments, or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing to Susan Rosenwinkel, Chief, or Attention: Comments on Public Notice NJ0129500, at Mail Code 401-02B, Division of Water Quality, Bureau of Surface Water and Pretreatment Permitting, P.O. Box 420, Trenton, NJ 08625-0420 or by email at dwq_bswp@dep.nj.gov by the close of the public comment period, which closes thirty calendar days after publication of this notice in the newspaper. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

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

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

FACT SHEET

Masterfile #: 39609 **PI #:** 50577

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 (NJPDES).

PERMIT ACTION: Renewal of NJPDES Discharge to Surface Water (DSW) Consolidated Master General Permit for Potable Water Treatment Plants, Category BPW – NJ0129500

Background Information:

Water Treatment Plants (WTPs) operate under the Standard Industrial Code (SIC) 4941 and provide potable water after appropriate treatment for domestic and industrial use. At the present time, there are twenty WTPs in the State that discharge wastewater resulting from the production of potable water to the surface waters of the State. The nature of the operations at the WTPs and the types of wastewater discharged are substantially similar.

In accordance with N.J.A.C. 7:14A-6.13(b)4, the New Jersey Department of Environmental Protection (hereafter "the Department") may issue one master general permit to cover a category of discharges that meet the following criteria: involve the same or substantially similar types of operations; discharge the same types of wastes; require the same or similar effluent limitations and operating conditions; require the same or similar monitoring; and are more appropriately controlled under a General Permit than through individual permits. There are many benefits to renewing this master general permit for these discharges. First, issuance of a master general permit serves to simplify and streamline the NJPDES permitting process for these similar types of discharges. Secondly, the Department can issue more NJPDES/DSW permits in an expeditious manner with no sacrifice in protection of the water resource. Finally, given the de-minimis nature of the flow quantities and expected pollutants, issuance of a master general permit ensures that the Department's resources are utilized in a sound manner.

A General Permit is designed to provide environmental protection under conditions typical of the covered industrial group. Therefore, the Department reserves the right to include any new facilities with similar wastewater characteristics that have received all applicable Federal, State and local approvals, including the appropriate Departmental approvals and any necessary Wastewater Management Plan (WMP) approvals. Conversely, when site specific conditions at a facility are not typical of the industrial group or they are beyond the scope of the Master BPW Permit, an individual permit may be required.

The nature of the operations at WTPs meets all the criteria mentioned above for coverage under a General Permit. Therefore, in an effort to ensure consistency in the requirements specified in the permits for various WTPs, the Department issued a new Consolidated Master General Permit for Potable Water Treatment Plants, Category BPW – NJ0129500 (Master BPW Permit) in February 2012, with an effective date of April 1, 2012, and an expiration date of March 31, 2017. A renewal of that permit was issued in July 2017 with an effective date of October 1, 2017, and an expiration date of September 30, 2022 and covered 22 facilities. This proposed permit action is for the renewal of the existing Master BPW Permit issued in 2017, and it authorizes the discharge of wastewater from twenty existing facilities. Note that North Jersey District Water Supply Commission (NJG0062111), as covered under the July 2017 Master BPW permit, is being issued a separate individual NJPDES permit due to the complexity of the discharge.

All existing facilities covered under this Master BPW Permit are rated as minor facilities by the Department in accordance with the USEPA rating criteria. An individual authorization issued under this Master BPW Permit Renewal

is given two NJPDES numbers: the NJPDES number on the individual authorization page that is specific to the individual facility, and the NJPDES number NJ0129500, which identifies this Master BPW General Permit.

1 Name and Address of the Applicant:

Indicated on Individual Authorizations

2 Name and Address of the Facility/Site:

Indicated on Individual Authorizations

The facilities covered under this Master BPW Permit renewal are listed in the table below:

	NJPDES #	Facility Name	Facility County
1	NJG0133965	Alpha Borough – Well #3	Warren
2	NJG0034924	Atlantic Highlands WTP	Monmouth
3	NJG0025721	Butler Water Department	Morris
4	NJG0035742	City of Salem WTP	Salem
5	NJG0098540	Clyde Potts WTP	Morris
6	NJG0029190	Freehold Borough WTP	Monmouth
7	NJG0004731	Green Street WTP	Burlington
8	NJG0031887	Harbor Road WTP	Monmouth
9	NJG0068705	Heron Avenue WTP	Salem
10	NJG0109266	Mansfield WTP	Burlington
11	NJG0136603	Morris Lake WTP	Sussex
12	NJG0063711	Pequannock WTP	Passaic
13	NJG0000965	Raritan Millstone WTP	Somerset
14	NJG0001198	Robert Frost Water Treatment Facility (Well #10)	Mercer
15	NJG0025453	Shorelands Water Company, Inc., Treatment Plant #1	Monmouth
26	NJG0025461	Shorelands Water Company, Inc., Treatment Plant #2	Monmouth
17	NJG0064271	Taylortown Filter Plant	Morris
18	NJG0035190	Township of North Brunswick WTP	Somerset
19	NJG0068730	Water Street WTP	Salem
20	NJG0062693	Woodlane WTP	Burlington

3 Discharge Location Information and Receiving Waterbody Classification:

Receiving waterbody classifications are obtained from N.J.A.C. 7:9B-1.1 et seq., the New Jersey SWQS. In accordance with the SWQS, saline waters are considered to be those waters classified as Saline Estuary (SE)1, SE2, SE3, or Saline Coastal (SC) and fresh waters are considered to be those waters classified as Fresh Water (FW)1 or FW2 waters. For waters with two classifications (e.g., FW2-NT/SE1), the waterbody is defined as saline if the result of a salinity measurement exceeds 3.5 parts per thousand at mean high tide or as fresh if the salinity is less than or equal to 3.5 parts per thousand, in accordance with N.J.A.C. 7:9B-1.4.

As per the SWQS at N.J.A.C. 7:9B, the designated uses for the receiving waters specific to the authorizations covered under this Master BPW Permit are:

FW2:

1. Maintenance, migration and propagation of the natural and established biota;
2. Primary and secondary contact recreation;
3. Industrial and agricultural water supply;
4. Public potable water supply after conventional filtration treatment (a series of processes including filtration, flocculation, coagulation, and sedimentation, resulting in substantial particulate removal but no consistent removal of chemical constituents) and disinfection; and
5. Any other reasonable uses.

SE1:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;
2. Maintenance, migration and propagation of the natural and established biota;
3. Primary and secondary contact recreation; and
4. Any other reasonable uses.

As per the SWQS at N.J.A.C. 7:9B-1.13, the designated uses for the mainstem Delaware River and Delaware Bay are those contained in the "Delaware River Basin Commission, Water Quality Regulations, Administrative Manual – Part III," Article 3, dated October 23, 1996, including all amendments and future supplements thereto.

DRBC Zone 5:

Zone 5 is that part of the Delaware River extending from R.M. 78.8 to R.M. 48.2, Liston Point, including the tidal portions of the tributaries thereof. The quality of waters in Zone 5 shall be maintained in a safe and satisfactory condition for the following uses:

1. Industrial water supplies after reasonable treatment;
2. a. Maintenance of resident fish and other aquatic life,
   b. Propagation of resident fish from R.M. 70.0 to R.M. 48.2,
   c. Passage of anadromous fish,
   d. Wildlife;
3. Recreation;
4. Navigation.

Water Quality Impairments:

The SWQS also form the basis for the Department's Integrated Water Quality Monitoring and Assessment Report, which is developed pursuant to Sections 303(d) and 305(b) of the CWA. Sublist 5 of this Report lists the pollutant specific water quality impairments for the State's waters (303(d) list). As per New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (which includes the 303(d) list), several of the receiving waters for the facilities covered under this General Permit are included on the 303(d) list as being impaired for various pollutants. Receiving water specific pollutant impairments are identified on the individual PSTs at the end of this Fact Sheet. Monitoring requirements for these pollutants have been retained in the individual authorizations.

The twenty WTPs covered under this Master BPW Permit discharge wastewater resulting from potable water production via a total of thirty-two permitted outfalls. There was no discharge in the existing permit cycle from fourteen outfalls at various facilities. These outfalls are marked as NODI (No Discharge) in the table below. The outfall specific receiving waters and their respective classifications are summarized in the table below:

	NJPDES #	Facility	Outfall	Receiving Water	Receiving Water Classification
1	NJG0133965	Alpha Borough – Well #3	001A	Unnamed Tributary to Pohatcong Creek	FW2-TM (C1)
2	NJG0034924	Atlantic Highlands WTP	001A	Many Mind Creek	FW2-NT (C2)
3	NJG0025721	Butler Water Department	001A (NODI) 002A 003A (NODI)	Stone House Brook Stone House Brook Stone House Brook	FW2-NT (C2) FW2-NT (C2) FW2-NT (C2)
4	NJG0035742	City of Salem WTP	001A (NODI) 002A (NODI)	Keasbey's Creek Keasbey's Creek	FW2-NT/SE1 (C2) FW2-NT/SE1 (C2)
5	NJG0098540	Clyde Potts WTP	001A	Harmony Brook	FW2-TP (C1)
6	NJG0029190	Freehold Borough WTP	001A	McGellaird's Brook	FW2-NT (C2)
7	NJG0004731	Green Street WTP	001A	Rancocas Creek	FW2-NT (C2)

	NJPDES #	Facility	Outfall	Receiving Water	Receiving Water Classification
8	NJG0031887	Harbor Road WTP	001A	Deep Run	FW2-NT (C2)
9	NJG0068705	Heron Avenue WTP	001B (NODI)	Delaware River	DRBC Zone 5
10	NJG0109266	Mansfield WTP	001A (NODI)	Unnamed Tributary to Craft's Creek	FW2-NT (C2)
11	NJG0136603	Morris Lake WTP	001A	Morris Lake	FW2-NT (C1)
12	NJG0063711	Pequannock WTP	001A 002A (NODI) 003A (NODI) 004A (NODI) 005A	Charlotteburg Reservoir Pequannock River Pequannock River Pequannock River Pequannock River	FW2-TM (C1) FW2-TP (C1) FW2-TP (C1) FW2-TP (C1) FW2-TP (C1)
13	NJG0000965	Raritan Millstone WTP	001A (NODI) 003A 004A (NODI)	Raritan River via ditch Raritan River via ditch Raritan River via ditch	FW2-NT (C2) FW2-NT (C2) FW2-NT (C2)
14	NJG0001198	Robert Frost Treatment Facility (Well #10)	001A	Pond Run	FW2-NT (C2)
15	NJG0025453	Shorelands Water Company, Inc., Treatment Plant #1	001B (NODI)	East Creek	FW2-NT (C2)
26	NJG0025461	Shorelands Water Company, Inc., Treatment Plant #2	001B (NODI) 002B	East Creek East Creek	FW2-NT (C2) FW2-NT (C2)
17	NJG0064271	Taylortown Filter Plant	001A	North Valhalla Brook	FW2-NT (C2)
18	NJG0035190	Township of North Brunswick WTP	001A 005A 006A (NODI)	D&R Canal D&R Canal D&R Canal	FW2-NT (C2) FW2-NT (C2) FW2-NT (C2)
19	NJG0068730	Water Street WTP	001A	Delaware River	DRBC Zone 5
20	NJG0062693	Woodlane WTP	001A	Unnamed tributary to Barker's Brook	FW2-NT (C2)

The receiving waterbody classification and outfall name for each discharge are also indicated on the individual authorization page for each facility, as well as on the facility specific individual Permit Summary Tables (PSTs) located at the end of this fact sheet. A copy of the appropriate section of a USGS quadrangle map indicating the location of the facility and discharge point(s) will be included in each individual authorization.

4 Facility Description:

WTPs provide potable water after appropriate treatment for domestic and industrial use. WTPs may use either surface water or groundwater as their source water. Treatment processes utilized at WTPs may include air stripping, oxidation, coagulation/flocculation, sedimentation, filtration, and disinfection. Typical surface water treatment includes sedimentation and filtration to remove suspended solids and pathogenic organisms and may also include carbon adsorption. Precipitation, coagulation and flocculation are frequently used to increase the effectiveness of sedimentation and filtration. Typical groundwater treatment involves oxidation to precipitate dissolved minerals such as iron and manganese followed by filtration to remove the mineral oxides. Although any one facility may not utilize all the processes, the wastestream produced by any combination of processes is relatively similar. Both treatment strategies generally employ filtration and filters lose their effectiveness as the filtrate accumulates and must be cleaned to avoid breakthrough and unacceptable head loss. Filter cleaning is accomplished by reversing the flow of water and backflushing the filter thereby producing wastewater composed of the filtrate and backflush water. This wastewater is known as backwash and constitutes the majority of the wastewater discharge which is the subject of this master general permit. Depending on the specific treatment processes utilized at a facility, alternatively or in addition to filter backwash, the other components of the wastewater discharge may include clarifier blowdown, potable water tank overflow, or wastewater resulting from sludge dewatering and sedimentation basin cleaning. The resulting wastewater is either

discharged directly to surface water or directed to one or more settling ponds (lagoons) where, after a period of settling, and, in some instances, dechlorination, the water from the surface of the pond is drained off either by pump or gravity and discharged via a pipe to the receiving waterbody.

A facility specific schematic of the treatment steps will be included in each individual authorization.

Conditions for residual management are covered through individual authorizations under the Residual General Permit No. NJ0215546. If there are any questions regarding the NJPDES RES permit, contact the Bureau of Groundwater, Residuals, and Permit Administration at (609) 633-7021.

A State Map depicting the locations of the included facilities is attached at the end of this Fact Sheet.

5 Type and Quantity of the Wastes or Pollutants:

The contaminants of concern in the wastewater resulting from the production of potable water are dependent on the source water for the WTPs, which may be either surface water or ground (well) water. The facility specific intake source waters are as follows:

	NJPDES #	Facility Name	Source Water
1	NJG0133965	Alpha Borough – Well #3	Well
2	NJG0034924	Atlantic Highlands WTP	Well
3	NJG0025721	Butler Water Department	Kakeout Reservoir
4	NJG0035742	City of Salem WTP	Well
5	NJG0098540	Clyde Potts WTP	Clyde Potts Reservoir
6	NJG0029190	Freehold Borough WTP	Well
7	NJG0004731	Green Street WTP	Well
8	NJG0031887	Harbor Road WTP	Well
9	NJG0068705	Heron Avenue WTP	Well
10	NJG0109266	Mansfield WTP	Well
11	NJG0136603	Morris Lake WTP	Morris Lake
12	NJG0063711	Pequannock WTP	Charlotteburg Reservoir
13	NJG0000965	Raritan Millstone WTP	Raritan River
14	NJG0001198	Robert Frost Treatment Facility (Well #10)	Well
15	NJG0025453	Shorelands Water Company, Inc., Treatment Plant #1	Well
16	NJG0025461	Shorelands Water Company, Inc., Treatment Plant #2	Well
17	NJG0064271	Taylortown Filter Plant	Boonton Reservoir
18	NJG0035190	Township of North Brunswick WTP	Delaware & Raritan Canal
19	NJG0068730	Water Street WTP	Well
20	NJG0062693	Woodlane WTP	Well

As seen in the table above, seven facilities use surface water as source water, and thirteen facilities use well water as source water. Surface water sources are expected to have a higher concentration of total suspended solids, whereas ground water sources are more likely to have a higher concentration of metals, such as iron and manganese. Accordingly, treatment is directed at the removal of these contaminants. Treatment of surface water involves the use of coagulants such as aluminum sulfate (alum), ferric chloride, and others to precipitate suspended solids. Polymers are another common additive that may be used to enhance coagulation, flocculation, or filtration. Treatment of groundwater involves the use of oxidants such as ozone, chlorine, or potassium permanganate to precipitate iron and manganese followed by filtration to remove the iron and manganese oxides. Other additives may include compounds to adjust pH (e.g. soda ash). Chlorine may be added before filtration as an oxidizing agent for precipitation and to remove unwanted taste and color. Chlorine is also frequently added after filtration for disinfection purposes producing the “finished water” for distribution as drinking water. This chlorinated finished water is typically used to backwash the filters. Thus, the filtrate includes substances removed from the source water and any additives applied to enhance their removal as well as chemicals such as chlorine, zinc orthophosphate and others that are present in the finished water.

Facility specific summaries of the pollutants treated and discharged at the eighteen outfalls that were operated in the existing permit cycle as well as the proposed effluent limitations for all thirty-two permitted outfalls are included in the individual Permit Summary Tables (PSTs) near the end of this Fact Sheet. Effluent data was obtained from the Monitoring Report Forms (MRFs) for the time period of October 1, 2017 to May 31, 2022. This information is included on the individual PSTs.

6 Summary of Permit Conditions:

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 SWQS (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 DRBC (N.J.A.C. 7:9B-1.5(b)1)
5. Highlands Commission (N.J.S.A. 13:20-1 et seq)
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)

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 et seq., 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.

In accordance with N.J.A.C. 7:14A-13.14(a), due to the intermittent nature of the discharges at these facilities, loading limitations are not included since the expression of limitations as mass is infeasible because the mass of the pollutant discharged cannot be related to a measure of operation.

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. 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.

1. Flow: 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.

Given the intermittent nature of the discharge from the facilities covered under this permit, this permit renewal retains the monitoring and reporting requirements for the following three parameters related to Flow:

- Flow, In Conduit or Thru Treatment Plant is intended for reporting the volume of wastewater discharged to the receiving stream (and not that which is discharged to lagoons and/or holding tanks at the facility). The discharge event with the highest volume shall be reported as the Daily Maximum value for that monitoring period, and the monthly average shall be calculated by dividing the total flow for the monitoring period by the number of days a discharge occurred during the monitoring period specified in the individual authorization. Therefore, if a facility has a monthly DMR requirement, and discharges 7 days during the month, the monthly average shall be calculated by dividing the total flow for the month by 7 (and not the number of calendar days in the month).

- Duration of Discharge is the number of days (and not the number of times in a day) a discharge occurs during the monitoring period specified in the individual authorization and shall be reported as the total number of days for that monitoring period. Therefore, if more than one discharge occurs in a day, it should only be counted as one day towards the total for that monitoring period. However, each discharge event at the facility shall be metered, measured, or calculated as specified in the individual authorization.

- Total Flow is the sum of the flows from each discharge event during a monitoring period and shall be reported as a total in million gallons for that monitoring period.

2. Total Suspended Solids (TSS): Effluent limitations are specified for every facility covered under the Master BPW Permit. These facility and outfall specific monthly average and daily maximum concentration limitations are retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19.

   The monthly average limitation of 20 mg/L was historically imposed in the individual NJPDES/DSW permits for WTPs and has been found to be technologically and economically achievable. This limitation is also consistent with the limitation specified in the USEPA memorandum dated June 13, 1974, for Water Supply Plant Permits. The daily maximum limitation of 40 mg/L for all outfalls that discharge to receiving waters classified as FW2-NT waters and the daily maximum of 25 mg/L for all outfalls that discharge to receiving waters classified as FW2-TM or FW2-TP waters is consistent with the SWQS at N.J.A.C. 7:9B-1.14(d)7. For those facilities that discharge to DRBC Zone 5 waters, the monthly average and daily maximum limitations of 20 mg/L and 40 mg/L, respectively, also satisfy the Effluent Quality Requirements of the DRBC Water Quality Regulations, Section 3.10.4.

3. pH: Effluent limitations are specified for every facility covered under the Master BPW Permit. These facility and outfall specific instantaneous minimum and instantaneous maximum limitations are retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19.

   The individual authorizations for all facilities (except for Morris Lake WTP and Mansfield WTP) specify limitations of a minimum of 6.0 S.U. and a maximum of 9.0 S.U. These limitations were originally specified in historical individual permits for these facilities and were based on Best Professional Judgement after consideration of monitoring data of existing permits for WTPs and were found to be consistently achievable. These limitations are consistent with the technology-based limitations imposed in the majority of permits for the discharge of industrial and domestic wastewater to surface waters in the State. These limitations are also consistent with the Effluent Quality Requirements of the DRBC Water Quality Regulations, Section 4.30.5.C.1.

   The individual authorizations for two facilities (Morris Lake WTP and Mansfield WTP) specify effluent limitations of a minimum of 6.5 Standard Units (S.U.) and a maximum of 8.5 S.U. These limitations were

originally specified in historical individual permits for these facilities and were based on the SWQS at N.J.A.C. 7:9B-1.14(d)5.

4. Total Organic Carbon (TOC): Given that WTPs generally use high quality source waters to maximize their ability to provide a healthy and aesthetically pleasing product, organic contaminants are not expected to be present in significant amounts and TOC is not considered to be a pollutant of concern in the discharge of wastewater from potable WTPs. Therefore, limitations or monitoring requirements for TOC are not specified in the existing individual authorizations for the majority of facilities. Furthermore, no new limitations or monitoring requirements are included in the permit renewal.

   However, monthly average concentration limitations and daily maximum monitoring requirements for TOC were specified in the individual authorizations for three facilities: Mansfield WTP, Morris Lake WTP, and Robert Frost Water Treatment Facility (Well #10). These limitations were originally specified in historical individual permits for these facilities and were based on the minimum BOD_5 effluent standards at N.J.A.C. 7:14A-12.4(b). The substitution of BOD_5 with TOC was authorized by N.J.A.C. 7:14A-12.4(c)1. The monthly average limitation for Morris Lake WTP was originally based on the BOD_5 effluent standard for the Wallkill River Basin. The monthly average limitation for Mansfield WTP and Robert Frost Water Treatment Facility (Well #10) was based on the BOD_5 effluent standard for the Delaware River at N.J.A.C. 7:14A-12.4(b. In accordance with N.J.A.C. 7:14A-13.19, these facility and outfall specific limitations and monitoring requirements are retained in the permit renewal.

5. Chemical Oxygen Demand (COD): Based on the rationale described above for the parameter TOC, COD is also not considered to be a pollutant of concern in the discharge of wastewater from potable WTPs. Therefore, limitations or monitoring requirements for COD are not specified in the existing individual authorizations for the majority of facilities. Furthermore, no new limitations or monitoring requirements are included in the permit renewal.

   However, concentration limitations and/or monitoring requirements for COD were specified in the individual authorizations for five facilities: Butler Water Department (DSN002A), Clyde Potts WTP, Harbor Road WTP, Taylortown Filter Plant, and the Township of North Brunswick WTP. These limitations and/or monitoring requirements were originally specified in historical individual permits for these facilities and were based on the minimum BOD_5 effluent standards at N.J.A.C. 7:14A-12.4(b). The substitution of BOD_5 with COD was authorized by N.J.A.C. 7:14A-12.4(c)1. For Butler Water Department, Clyde Potts WTP, and Taylortown Filter Plant, these limitations and/or monitoring requirements were based on the minimum BOD_5 effluent standards for the Passaic River Basin. For Harbor Road WTP and the Township of North Brunswick WTP, these limitations and/or monitoring requirements were retained from historical permits. In accordance with N.J.A.C. 7:14A-13.19, these facility specific limitations and/or monitoring requirements are retained in the permit renewal.

6. Petroleum Hydrocarbons: Given that WTPs generally use high quality source waters to maximize their ability to provide a healthy and aesthetically pleasing product, petroleum hydrocarbons are not expected to be present in significant amounts and petroleum hydrocarbons are not considered to be a pollutant of concern in the discharge of wastewater from potable WTPs. Therefore, limitations or monitoring requirements for petroleum hydrocarbons are not specified in the existing individual authorizations for the majority of facilities. Furthermore, no new limitations or monitoring requirements are included in the permit renewal.

   However, concentration limitations of a monthly average of 10 mg/L and a daily maximum of 15 mg/L are specified in the individual authorizations for four facilities: Clyde Potts WTP, Morris Lake WTP, Pequannock WTP, and the Township of North Brunswick WTP. These limitations were originally specified in historical individual permits for these facilities and were based on the effluent standards at N.J.A.C. 7:14A-12.8. The existing limitations are retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19.

7. Chlorine Produced Oxidants (CPO): Chlorine continues to be the primary disinfectant used in potable water treatment. This is significant in that finished water, which is chlorinated, is typically used to backwash the filters. The SWQS at N.J.A.C. 7:9B-1.14 (d) specify aquatic life criteria for CPO. Therefore, limitations and/or monitoring requirements are specified in the individual authorizations for most facilities where CPO is expected to be present in the effluent.

   However, no monitoring requirements are specified in the individual authorizations for Alpha Borough Well #3, Butler Water Department DSN 002A, Harbor Road WTP, and Township of North Brunswick WTP (DSN001A). CPO monitoring requirements are not applicable for these facilities based on the nature of the wastewater discharged at these outfalls either because unchlorinated source water is used to backwash the filters, or chlorine is not used at a point where it may be expected to be a component of the discharge. Additionally, the existing authorization for Butler Water Department does not specify limitations or monitoring requirements for CPO at DSN003A. However, this outfall authorizes the potential discharge of potable water from storage tanks where CPO is expected to be present. Therefore, monitoring requirements are included at this outfall in this permit renewal.

   Based on a review of the DMR data for the period of October 2017 to May 2022 for all facilities covered under this permit, the Department has concluded the following:

   - There was no discharge at Butler Water Department (DSN001A), City of Salem WTP, Heron Avenue WTP, Mansfield WTP, Pequannock WTP (DSNs 002A, 003A, and 004A), Raritan Millstone WTP (DSN001A and 004A), Shorelands Water Company, Inc., Treatment Plant #1, Shorelands Water Company, Inc., Treatment Plant #2 (DSN001B), and Township of North Brunswick WTP (DSN006A). As a result, no CPO data is available and existing requirements are retained.

   - CPO was not found to be discharged in quantifiable amounts in the effluent at Atlantic Highlands WTP, Morris Lake WTP, Pequannock WTP (DSNs 001A and 005A), and Robert Frost WTP.

   Therefore, no further analyses were conducted for these facilities. However, facility and outfall specific limitations specified in the existing authorizations have been retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19. Where only monitoring requirements were specified in the existing authorizations, these requirements are retained in the permit renewal in accordance with 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.

   - CPO was found to be discharged in quantifiable amounts in the effluent at Clyde Potts, Freehold Borough WTP, Green Street WTP, Raritan Millstone WTP (DSN003A), Shorelands Water Company, Inc., Treatment Plant #2 (DSN002B), Taylortown WTP, Water Street WTP, and Woodlane WTP.

   For these facilities (except Water Street WTP) where CPO was detected in one or more sampling results, WQBELs were calculated by the procedures set forth in the USEPA TSD. WQBEL calculations could not be completed for Water Street WTP as the facility discharges to the tidal mainstem Delaware River Zone 5, and no information is available at this time regarding the upstream flows or the applicable dilution factors (although dilution is considerable). Effluent limitations for Water Street WTP have been retained from the existing permit.

   Consistent with the recommendations set forth in Appendix E of the USEPA TSD, as applicable, the Department utilized a site-specific CV based on the lognormal or delta-lognormal distribution statistics in the analysis for some facilities. And consistent with the recommendations set forth in the USEPA TSD (Section 5.5.2), as applicable, the Department utilized a default CV of 0.6 for the analysis for other facilities.

   Using the steady state mass balance equation, WLAs were developed utilizing the applicable SWQS, the facility and outfall specific long term average flows, and MA1CD10 (1Q10) and MA7CD10 (7Q10) stream design low flow values.

For acute and chronic calculations, LTA values were developed using the 99th percentile multiplier and the more stringent results were utilized in calculating the MDLs and AMLs. Please refer to the table below for the input data and calculation results, and the Calculations Equations section of the fact sheet for additional reference.

All Concentration Units in mg/L	**Clyde Potts WTP DSN001A**		**Freehold WTP DSN001A**		**Green Street WTP DSN001A**		**Raritan Millstone WTP DSN003A**	
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic
Effluent Flow (cfs)	0.55	0.55	0.004	0.004	0.03	0.03	0.25	0.25
Surface Water Quality Criteria (Ci)	0.019	0.011	0.019	0.011	0.019	0.011	0.019	0.011
Upstream concentration, (Cup)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream flows, cfs (Qup)	0.1	0.2	0.4	0.4	31	40	80	109
WLA	0.021	0.014	1.25	0.72	12.71	9.49	4.44	3.14
CV	0.46	0.46	0.6	0.6	0.53	0.53	0.6	0.6
WLA multiplier for LTA	0.396	0.604	0.321	0.527	0.358	0.567	0.321	0.527
LTA	0.0084	0.0082	0.40	0.38	4.55	5.38	1.43	1.66
More Stringent LTA	0.0082 (c)		0.38 (c)		4.55 (a)		1.43 (a)	
LTA multiplier for AML	1.656		1.896		1.764		1.896	
LTA multiplier for MDL	2.524		3.114		2.793		3.114	
Newly Calculated AML, MDL	0.01, 0.02		0.72, 1.19		8.03, 12.71		2.40, 3.95	
Existing Limits or MR Monthly Avg., Daily Max.	MR, 0.051		MR, MR		MR, MR		0.51, 1.07	
Limits or MR in Permit Renewal: Monthly Avg. Daily Max.	**0.01 0.02**		**0.72 1.19**		**8.03 12.71**		**0.51 1.07**	

All Concentration Units in mg/L	**Shorelands WTP #2 DSN002B**		**Taylortown WTP DSN001A**		**Water Street WTP DSN001A**		**Woodlane WTP DSN001A**	
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic
Effluent Flow (cfs)	0.001	0.001	0.028	0.028			0.016	0.016
Surface Water Quality Criteria (Ci)	0.019	0.011	0.019	0.011	0.019	0.011	0.019	0.011
Upstream concentration, (Cup)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upstream flow, cfs (Qup)	0.2	0.2	0.0	0.0	N/A	N/A	0.0	0.0
WLA	2.48	1.43	0.019	0.011	--	--	0.019	0.011
CV	0.6	0.6	0.6	0.6	--	--	0.48	0.48
WLA multiplier for LTA	0.321	0.527	0.321	0.527	--	--	0.387	0.595
LTA	0.795	0.756	0.0061	0.0058	--	--	0.0073	0.0065
More Stringent LTA	0.756 (c)		0.0058 (c)		--		0.0065 (c)	
LTA multiplier for AML	1.896		1.896		--		1.681	
LTA multiplier for MDL	3.114		3.114		--		2.587	
Newly Calculated AML, MDL	1.43, 2.35		0.01, 0.02		--		0.01, 0.02	
Existing Limits or MR Monthly Avg., Daily Max.	MR, 1.27		MR, MR		MR, 0.1		MR, 0.01	
Limits or MR in Permit Renewal: Monthly Avg. Daily Max.	**MR 1.27**		**0.01 0.02**		**MR 0.1**		**MR 0.01**	

Footnotes: MR: Monitor and Report Only; N/A: Not Available; --: Analysis could not be completed

As seen in the table above, WQBEL analysis for Raritan Millstone WTP (DSN003A), Shorelands WTP #2 (DSN002B), and Woodlane WTP resulted in monthly average and/or daily maximum concentration limitations that are less stringent than the existing limitations. Therefore, in accordance with the antibacksliding provisions

at N.J.A.C. 7:14A-13.19 and the antidegradation policies at N.J.A.C. 7:9B-1.5(d), the existing CPO concentration limitations have been retained for these facilities in the permit renewal. Furthermore, monitoring only requirements for monthly average concentration specified in the existing authorizations for Shorelands WTP #2 (DSN002B), and Woodlane WTP (DSN001A) are also retained in the permit renewal.

WQBEL analysis for Clyde Potts WTP (DSN001A) and Taylortown Filter Plant resulted in monthly average and daily maximum concentration limitations that are more stringent than the requirements specified in the existing authorization for these facilities. Review of the DMR data indicates that the levels of CPO in the discharge at both facilities sometimes exceed the newly calculated WQBELs. Therefore, in accordance with N.J.A.C. 7:14A-6.4(a) and 13.21(b), a schedule to achieve compliance with the newly calculated CPO WQBELs has been included in the individual authorization for these facilities where the final effluent limitations will become effective three years from the effective date of the permit (EDP + 3 years). During the interim period between EDP to EDP + 3 years, the daily maximum limitation, and the monthly average monitoring only requirements specified in the individual authorization for Clyde Potts WTP and the monitoring only requirements for monthly average and daily maximum for Taylortown Filter Plant are retained in the permit renewal. During the compliance schedule period, the permittee is required to submit progress reports in accordance with N.J.A.C. 7:14A-6.4(a)2ii and 13.17(a)7. Please refer to the Compliance Schedule section of this fact sheet for further clarification.

The existing authorizations for Freehold WTP DSN001A, and Green Street WTP DSN001A specify monitoring only requirements for monthly average and daily maximum concentration. Since the WQBEL analysis for these facilities resulted in new monthly average and daily maximum concentration limitations, these limitations are imposed in the permit renewal. Furthermore, since, review of the DMR data indicates that the levels of CPO in the effluent are below the newly proposed WQBELs, a compliance schedule has not been included in the individual authorizations for these facilities.

The individual authorizations for several facilities covered under this general permit specify concentration limitations for CPO which are <0.02 mg/L and include the facilities of Clyde Potts WTP, Mansfield WTP, Morris Lake WTP, Pequannock WTP, Robert Frost WTF, Taylortown Filter Plant, Twp of North Brunswick WTP, and Woodlane WTP. In September 2014, the USEPA codified the use of sufficiently sensitive test methods. Due to adoption of the sufficiently sensitive test methods rule, a new RQL for CPO of 0.02 mg/L was developed which was been shown to be attainable using a USEPA approved standard method. Specifically, the Department has determined that this RQL is routinely achievable using a handheld colorimetric test (DPD Colorimetric Method (4500-Cl G-11)) where this method is well described in the Standard Methods for the Examination of Water and Wastewater, available at www.standardmethods.org. This method is standard practice in testing for CPO and has been available for decades. Therefore, the RQL of 0.02 mg/L that was included in Part III of the existing permit and the explanatory language in Part IV.A.1 have been retained in the permit renewal.

8. Total Phosphorus (TP): The Department has utilized two approaches to control the discharge of phosphorus in the surface waters of the State. One is through the issuance of NJPDES permits with site specific WQBELs based on the 0.1 mg/L phosphorus standard established in the NJSWQS. In accordance with the SWQS at N.J.A.C. 7:9B-1.14(d).4.ii (1) and (2), concentrations of phosphorus shall not exceed 0.1 mg/L in any non-tidal stream and 0.05 mg/L in any lake, pond, or reservoir. In accordance with N.J.A.C. 7:14A-13.6(a) and 13.5(a), a WQBEL shall be imposed when the Department has determined that the discharge causes an excursion above the SWQS. The other approach is through the development of phosphorus total maximum daily loads (TMDLs) which are based on a more comprehensive analysis and provide watershed based (rather than site specific) phosphorus limits for the affected dischargers.

   Given the widespread use of Phosphorus based compounds in potable water treatment, it has the potential to be present in the wastewater discharge from facilities that use finished water to backwash the filters. Therefore, in accordance with N.J.A.C. 7:14A-13.5(k)3, monitoring requirements for phosphorus were included in the existing authorizations for fourteen facilities where Phosphorus containing additives were known to be used in the treatment system. These facilities include the City of Salem WTP (DSNs 001A and 002A), Freehold

Borough WTP, Green Street WTP, Heron Avenue WTP, Mansfield WTP, Morris Lake WTP, Raritan Millstone WTP (DSNs 001A, 003A, and 004A), Robert Frost Treatment Facility (Well #10), Shorelands Water Company, Inc., Treatment Plant #1, Shorelands Water Company, Inc., Treatment Plant #2 (DSNs 001B and 002B), Taylortown Filter Plant, the Township of North Brunswick WTP (DSNs 005A and 006A), Water Street WTP, and Woodlane WTP. For the permit renewal, monitoring requirements for TP are newly specified for Butler Water Department (DSNs 001A, 002A, and 003A) based on information provided by the permittee regarding the use of Phosphorus based additives at their facility.

The Department reviewed the discharge monitoring report (DMR) data for the facilities with TP monitoring requirements in the existing permit that also discharged during the existing permit cycle. These facilities include Freehold Borough WTP, Green Street WTP, Raritan Millstone WTP, Robert Frost Treatment Facility, Shorelands Water Company, Inc. Treatment Plant #2, Taylortown Filter Plant, Water Street WTP, and Woodlane WTP.

Based on the review of the DMR data, the Department has concluded the following:

- Effluent data for Freehold Borough WTP, Green Street WTP, Raritan Millstone WTP, Robert Frost Treatment Facility, Shorelands Water Company, Inc. Treatment Plant #2, and Water Street WTP indicates that the discharge does not cause an exceedance of the criteria specified in the NJSWQS at N.J.A.C. 7:9B. Therefore, no new WQBELs have been included in the permit renewal at this time. However, the Department has retained the existing monitoring for the monthly average and daily maximum concentrations.

- The Woodlane facility does not fall under any TMDL at this time. In accordance with N.J.A.C. 7:14A-13.6(a) and 13.5(a), a WQBEL shall be imposed when the Department has determined that the discharge causes an excursion above the SWQS. In accordance with N.J.A.C. 7:9B-1.14(c), the criteria for TP is 0.1 mg/L except where site-specific or watershed criteria are developed or it can be demonstrated that TP is not a limiting nutrient and will not otherwise render the waters unsuitable for the designated uses. At this time, the Department does not have evidence to conclude that phosphorus is not the limiting nutrient in the receiving stream, nor that the discharge of phosphorus from the permittee will not render the waters unsuitable for the designated uses. Furthermore, site-specific or watershed criterion has not been developed for the subwatershed into which the permittee discharges. Any facility not subject to a TMDL can elect to have a Stream Visual Assessment Protocol (SVAP) performed under the Department's "Technical Manual for Phosphorus Evaluations For Discharge to Surface Waters" (Technical Manual) (see https://www.nj.gov/dep/dwq/pdf/p-manual-07-30-08.pdf. The SVAP provides a basic level of stream health evaluation and assesses the applicability of the water quality criteria for small discharges. Given the size and intermittent nature of the discharge, the Department has determined it appropriate to perform a SVAP on the receiving stream which must occur during low flow conditions, typically in the late summer/early fall. Therefore, until the SVAP scores are available, and a determination has been made as to whether there is sufficient proof that phosphorus is not rendering the waters unsuitable for the designated uses, the existing limit and monitoring and reporting requirements will be retained.

- The Taylortown Filter Plant discharges intermittently for 8 minutes, 1 time/day at DSN 003A. Given the infrequent nature of the discharge where existing phosphorus data shows 0.03 mg/L as a monthly average, it has been determined that phosphorus loadings from this facility are deminimis in nature.

TP monitoring requirements are not specified in the individual authorizations for Alpha Borough – Well #3, Atlantic Highlands WTP, Clyde Potts WTP, Harbor Road WTP, Mansfield WTP, and Pequannock WTP as these facilities either do not use Phosphorus based additives in their treatment system, or the water used to backwash the filters is taken from a point in the treatment system before the addition of additives containing Phosphorus.

9. Whole Effluent Toxicity (WET): Section 101(a) of the 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 Department 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.

   Monitoring and/or limitations are specified in the existing authorizations for all twenty facilities, covering thirty-two outfalls. There was no discharge during the existing permit cycle at a few of the outfalls with WET requirements. Therefore, in order to determine the need for WET WQBELs, the Department analyzed available WET data from the outfalls that did have a discharge during the existing permit cycle. The Department's conclusions are explained below:

   - Acute WET was found in quantifiable amounts in the effluent at Alpha Borough Well #3 (DSN001A), Harbor Road WTP (DSN001A), and Water Street WTP (001A).

   - Chronic WET was found in quantifiable amounts in the effluent at Clyde Potts WTP (DSN001A) and the Township of North Brunswick WTP (DSN001A).

   Therefore, further analyses were conducted for acute and chronic WET at these outfalls.

   Cause Analysis:

   Cause analyses were conducted in accordance with N.J.A.C. 7:14A-13.5 for each outfall where acute and chronic WET was found in quantifiable amounts in the effluent. 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 WLAs were developed utilizing the narrative criteria for toxic substances (general) specified in the SWQS at N.J.A.C. 7:9B, the permittee's outfall specific long-term average flows, and MA1CD10 (1Q10) and MA7CD10 (7Q10) stream design low flow values. The 7Q10 stream design flow is utilized for the chronic calculations, while the 1Q10 stream design flow is utilized for acute calculations. 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)).

   The outfall specific maximum effluent data value for each facility was compared to the site specific WLA to determine whether the discharge causes an exceedance of the acute and chronic interpretation of the narrative criteria for WET identified in the SWQS.

   WQBEL Derivation:

   As a result of the cause analyses, the discharge from the outfalls identified in the table below was found to cause an exceedance of the acute or chronic interpretation of the narrative criteria for WET identified in the SWQS. Therefore, WQBELs were calculated in accordance with N.J.A.C. 7:14A-13.6(a), 40 CFR 122.44(d) and the TSD.

   To enable a comparison between acute and chronic WET limits, the acute WLA (WLAa) was translated to equivalent chronic toxic units (WLAac) by multiplying the WLAa by a default acute to chronic ratio (ACR) of 10. The acute and chronic WLAs were then converted to an acute Long Term Average (LTAac) and a chronic LTA (LTAc) using default acute and chronic CVs of 0.6 and default multipliers of 0.321 and 0.527 for the acute and chronic LTAs respectively. The LTA multipliers are based on the 99th percentile consistent with Response

to Comments 13-74 through 13-89, 29 NJR 1861 and are found on Page 102 of the TSD. The resultant LTA values were evaluated and the more protective (lower) value selected for translation into a daily maximum WET limit using the applicable 99th percentile multiplier, as found on Page 103 of the TSD. The daily maximum chronic WET limit in TUcs was then converted to a permit limitation expressed as an NOAEC or IC25 (% effluent).

The following table summarizes the calculation inputs utilized for the cause analyses and WQBEL calculations:

Facility	**Clyde Potts WTP DSN001A**	**Township of North Brunswick DSN001A**	**Harbor Road WTP DSN001A**	**Alpha Borough Well #3 DSN001A**
Continuous?	Yes	Yes	No	No
LTA flow (MGD)	0.55	0.006	0.01	0.052
1Q10 (cfs)	0.1	0	0.3	0.1
7Q10 (cfs)	0.2	9.1	1	0.1
Acute WLA (TU_as)	0.34	0.3	2.24	0.67
Chronic WLA (TU_cs)	1.24	9804.92	7.46	2.24
Data (Mo/Yr – Mo/Yr)	10/17 – 6/22	10/17 – 6/22	10/17 – 6/22	10/17 – 6/22
# data values	10	8	1	3
Max data value (TU_as)	N/A	N/A	1.74	6.17
Max data value (TU_cs)	1.09	4.10	N/A	N/A
Does N_{max} exceed WLA?	**No**	**No**	**No**	**Yes**
Acute LTA (TU_{ac}s)	1.08	0.96	7.19	2.16
Chronic LTA (TU_cs)	0.65	5171	3.94	1.18
MDL	2.03 TU_c	0.30 TUa	12.26 TU_c	3.68 TU_c
New LC50 limit (% effluent)	N/A	N/A	82	N/A
New IC25 limit (% effluent)	49	33	N/A	N/A
New NOAEC Limit (% effluent)	N/A	N/A	N/A	100
Existing Limit or MR	40	MR	MR	MR
Limit Imposed in Permit Renewal	**IC25=40**	**MR**	**MR**	**NOAEC=100**

Footnotes:

WLA: Wasteload Allocation
TU_a: Acute Toxic Unit
TU_c: Chronic Toxic Unit
LTA: Long Term Average
MGD: Million Gallons per Day
cfs: Cubic Feet per Second
N/A= not applicable
N_{max}: Maximum Data Value
ACR: Acute to Chronic Ratio
MDL: Maximum Daily Limit
IC25: Inhibition Concentration Affecting 25% of Test Organisms
MR: Monitor and Report Only
LC50:Lethal Concentration Affecting 50% of Test Organisms
NOEAC= No Observed Acute Effect Concentration

Conclusions on available WET data are as follows:

- For Clyde Potts WTP (DSN001A), Township of North Brunswick WTP (DSN001A) and Harbor Road WTP (DSN001A), since the discharge **was not** found to cause or have reasonable potential to cause an exceedance of the acute or chronic 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 a chronic WET effluent limitation for Clyde Potts WTP (DSN001A) and monitoring and reporting requirements for the Township of North Brunswick WTP (DSN001A) and Harbor Road WTP (DSN001A) have been retained from the existing permit action.

- For Alpha Borough Well #3 (DSN001A), the limit imposed in this permit renewal is more stringent than the existing permit conditions where a No Observed Acute Effect Concentration (NOAEC) limit of 100% is imposed. Therefore, in accordance with N.J.A.C. 7:14A-6.4(a) and 13.21(b), a schedule to achieve compliance with the newly calculated chronic WET WQBELs has been included in the individual authorization for this facility where the final effluent limitations will become effective three years from the effective date of the permit (EDP + 3 years). During the interim period between EDP to EDP + 3 years, existing limitations or monitoring only requirements are retained in this permit renewal. Language has been included in Part IV Section F.2.c. of the permit, to allow the Department to extend the compliance date where the permittee is conducting a toxicity investigation as specified in Part IV of the permit, but has not yet attained consistent compliance with the new WET limit.

- For Water Street, WTP WET calculations could not be completed at this time as the facility intermittently discharges to the tidal mainstem Delaware River Zone 5 and dilution factors are not available for the discharge at this time. The existing WET monitoring requirements have been retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.5(k)3.

For Robert Frost Treatment Facility (Well #10), the existing permit specifies a No Observed Acute Effect Concentration of (NOAEC) of 100%. Effluent data consisted of 7 data points, all reported as NOAEC values of 100%, which are non-detectable values. Therefore, the NOAEC limit of 100% is being retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19.

For discharges to freshwater receiving streams, the test species method to be used for acute testing shall be the *Ceriodaphnia dubia* 48 hr definitive test. For discharges to saline receiving streams, the test species method to be used for acute testing shall be the *Mysidopsis bahia* 96 hour definitive test. Such selection is based on the fresh/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 facilities with chronic WET limitations and/or monitoring requirements for all discharges to freshwater receiving streams, the test species method to be used for chronic testing for all facilities except Morris Lake WTP shall be the *Ceriodaphnia dubia*, Survival and Reproduction Test, 40 CFR 136.3, method 1002.0. The test species method to be used for chronic testing for Morris Lake WTP shall be the Fathead minnow (*Pimephales promelas*) 7-day larval survival and growth test, 40 CFR 136.3, method 1000.0. Such selection is based on the freshwater characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program" document. This document is included as Appendix A of this permit, in accordance with N.J.A.C. 7:14A-6.5, 11.2(a)2.iv and 40 CFR Part 136.

The Toxicity Reduction Implementation Requirements (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 limitation on its effective date and to expedite compliance with the WET limitation should exceedances of the WET limitation occur. As included in Section E.6.b.i 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.

10. Iron (Total Recoverable (TR)): The removal of Iron at WTPs is a fundamental step in providing clean and aesthetically pleasing water to the customers. Additionally, Iron is naturally found in groundwater; therefore, it is of greater concern in WTPs that use well water as the source water. As shown in the table under Section 5 of the fact sheet, thirteen facilities use well water as their source water; therefore, limitations and/or monitoring requirements are specified in the individual authorizations for these facilities. Effluent limitations are specified for only two of these facilities, Green Street WTP and Woodlane WTP, whereas, monitoring only requirements are specified for the remaining eleven facilities that use well water as source water. Additionally, effluent

limitations for Iron are specified for one facility, Butler Water Department, that uses surface water as its source water. The source water for this facility is known to contain Iron and the discharge at DSNs 001A and 002A consists of filter backwash and decant from lagoons that hold iron slurry. Monitoring requirements are not specified in the individual authorizations for other facilities that use surface water as source water.

The monthly average effluent limitation of 1.5 mg/L was originally specified in historical permits for Butler Water Department, Green Street WTP and Woodlane WTP and was based on what best available technology (oxidation, precipitation, and gravity clarification or filtration) could achieve while the daily maximum value was calculated by multiplying the monthly average value by two. Therefore, the concentration limitations of a monthly average of 1.5 mg/L and a daily maximum of 3.0 mg/L specified in the existing authorizations for these facilities are retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19. Furthermore, since available data indicates that Iron is detected in the effluent at most facilities, monitoring only requirements specified in the authorizations for eleven facilities have also been retained in the permit renewal.

11. Manganese, TR: The removal of Manganese at WTPs is a fundamental step in providing clean and aesthetically pleasing water to the customers. Additionally, Manganese is naturally found in ground water; therefore, it is of greater concern in WTPs that use well water as the source water. Manganese is also introduced in the system as a component of potassium permanganate, which is often used as an oxidizing agent in potable water treatment. As a result, it is particularly likely to be present in the wastewater discharged from facilities that use groundwater as source water and/or use permanganate-based additives. Therefore, monitoring requirements for Manganese are specified as a DMR requirement in the individual authorizations for these facilities. For facilities that use surface water as source water and do not use permanganate-based additives in the treatment system, monitoring requirements for Manganese are specified on the WCR in order to characterize the wastestream.

    Effluent limitations of a monthly average of 2000 ug/L and a daily maximum of 4000 ug/L are specified in the individual authorization for Raritan Millstone WTP. These limitations were originally specified in historical individual permits for this facility and are retained in the permit renewal in accordance with N.J.A.C. 7:14A-13.19. Manganese was found to be discharged in quantifiable amounts in the effluent at some facilities that discharge to freshwater streams. At the present time, the SWQS only specify saline criteria for Manganese. However, given that Manganese has the potential to be present in the wastewater discharge due to its presence in the additives used at these facilities, and available data indicates that Manganese is detected in the effluent at several facilities, monitoring only requirements have been retained in the permit renewal based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs at the next permit renewal should freshwater criteria be adopted for this pollutant.

12. Zinc, TR: The SWQS at N.J.A.C. 7:9B and the DRBC Water Quality Regulations specify aquatic criteria for Zinc. Therefore, monitoring requirements for Zinc are specified in all the individual authorizations covered under the Master BPW Permit. Based on the use of Zinc based (e.g. Zinc Orthophosphate) additives at ten facilities namely, City of Salem WTP, Green Street WTP, Harbor Road WTP, Heron Avenue WTP, Mansfield WTP, Morris Lake WTP, Robert Frost Treatment Facility (Well#10), Shorelands Water Company, Inc., Treatment Plant #1, Shorelands Water Company, Inc., Treatment Plant #2, Water Street WTP, and Woodlane WTP, monitoring requirements for Zinc were specified on the DMR in the individual authorizations for these facilities. For other facilities that did not report using Zinc based additives, monitoring requirements for Zinc were specified on the WCR in order to characterize the wastestream.

    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. Therefore, the Department reviewed the available data for all facilities to determine the need for WQBELs. 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 6.D of this Fact Sheet and Part IV Section A.1 of this permit. Based on a review of the available data between October 2017 through June 2022, the Department has concluded the following:

- The following facilities did not report using Zinc based additives and no detectable data was reported on the WCR: Alpha Borough – Well #3, Atlantic Highlands WTP, Butler Water Department, Clyde Potts WTP, Freehold Borough WTP, Pequannock WTP, Raritan Millstone WTP, Taylortown Filter Plant, and Township of North Brunswick WTP. TR Zinc does not have effluent limitations proposed in the draft permit at this time for Alpha Borough – Well #3, Atlantic Highlands WTP, Butler Water Department, Clyde Potts WTP, Freehold Borough WTP, Pequannock WTP, Raritan Millstone WTP, Taylortown Filter Plant, and Township of North Brunswick WTP. However, monitoring and reporting requirements have been retained 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 USEPA TSD.

- Insufficient data is available for TR Zinc for the City of Salem WTP, Heron Avenue WTP, Mansfield WTP, Shorelands Water Company, Inc., Treatment Plant #1, and Shorelands Water Company, Inc., Treatment Plant #2 (Outfall DSN 001B) as these facilities did not discharge effluent during the period of October 2017 and June 2022. Therefore, no further analyses were conducted for these facilities. However, based on the use of additives containing Zinc, monitoring requirements have been retained in the permit renewal in accordance with 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.

- Several facilities use Zinc based additives in their treatment systems. The Green Street WTP, Harbor Road WTP, Morris Lake WTP, Robert Frost Treatment Facility (Well#10), and Woodlane WTP datasets provided sufficient data and all data points were significantly below the SWQS; therefore, cause and reasonable potential to cause is not demonstrated for these facilities. A single detectable data point was reported for Harbor Road WTP, Shorelands Water Company, Inc., Treatment Plant #2 (Outfall DSN 002B), Water Street WTP; therefore, the Department will be increasing the monitoring frequencies at these facilities. All other detectable data values for these facilities were significantly below the SWQS and no cause analysis was performed.

13. Radium 226 and Radium 228: The SWQS at N.J.A.C. 7:9B do not directly specify aquatic or human health criteria for these pollutants. Instead, they refer to the State's Drinking Water Quality Standards for these pollutants, which in turn specify a standard of 5 pCi/L based on the Federal Primary Drinking Water Standard for Radium-226 and Radium-228 combined. These parameters have been found to be of concern in WTPs that use groundwater as the source water and use greensand filters for treatment, where they have the potential to be concentrated in these filters and therefore be present in the filter backwash water.

    Based on information provided by the permittees regarding the use of greensand filters at the time of issuance of the first Master BPW Permit in 2012, monitoring requirements were included for Radium-226, Radium-228, and combined Radium-226/228 at three facilities (Mansfield WTP, Robert Frost Water Treatment Facility (Well #10), and Woodlane WTP) and were retained in the 2017 Master BPW Permit renewal. Since there was no discharge at Mansfield WTP during the existing permit cycle, the Department reviewed the available data for Robert Frost Water Treatment Facility (Well #10), and Woodlane WTP. Based on the review of the data, these parameters were found to be detected in the effluent at these facilities. The highest detected values for Radium-226 and 228 combined at Robert Frost Water Treatment Facility (Well #10) and Woodlane WTP were 1.56 pCi/L and 1.29 pCi/L, both of which are below the State's Primary Drinking Water Standard of 5 pCi/L.

    However, the nature of operations at these facilities indicates that these parameters have the potential to be present in the effluent and effluent data does show that these parameters are consistently detected in the effluent. Therefore, in accordance with N.J.A.C. 7:14A-6.2(a), monitoring requirements for these parameters have been retained for these facilities in the permit renewal.

14. Foam: The narrative foam permit condition is based on N.J.A.C. 7:14A-12.6.

15. 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.

    The existing permit specifies monitoring requirements for these pollutants at varying frequencies. Given the low volume, and intermittent and infrequent nature of the discharge at several facilities, the existing permit specifies a 1/5 year frequency (once per permit cycle) for 13 outfalls at 11 facilities; and a 1/year frequency for 5 outfalls at 19 facilities. Furthermore, several facilities did not have a discharge during the existing permit cycle.

    Based on the size and nature of the discharge at the various WTPs as well as an evaluation of the discharge frequency, the outfall specific monitoring frequencies for all toxic pollutants at the various outfalls is summarized in the table below. These monitoring requirements are included on the WCR form for each outfall. When monitoring and/or limitations are specified for a toxic pollutant on the DMR, as described previously, these pollutants are not part of the WCR monitoring requirement and therefore, are not included in this table.

Monitoring Frequencies for Toxic Pollutants

NJPDES #	Facility Name	Monitoring Frequency	
		Existing	Proposed
NJG0133965	Alpha Borough - Well #3 DSN001A	1/year	1/year 1/6 months (Arsenic, Copper)
NJG0034924	Atlantic Highlands DSN001A	1/5 years	1/5 years
NJG0025721	Butler Water Department DSN001A	1/year	1/year
	Butler Water Department DSN002A	1/year	1/year
	Butler Water Department DSN003A	1/year	1/year
NJG0035742	City of Salem WTP DSN001A	1/year	1/year
	City of Salem WTP DSN002A	1/year	1/year
NJG0098540	Clyde Potts WTP DSN001A	1/5 years	1/5 years
NJG0029190	Freehold Borough WTP DSN001A	1/5 years	1/5 years
NJG0004731	Green Street WTP DSN001A	1/5 years	1/5 years
NJG0031887	Harbor Road WTP DSN001A	1/5 years	1/5 years
NJG0068705	Heron Avenue WTP DSN001B	1/year	1/year
NJG0109266	Mansfield WTP DSN001A	1/year	1/year
NJG0136603	Morris Lake WTP DSN001A	1/year	1/year
NJG0063711	Pequannock WTP DSN001A	1/year	1/year
	Pequannock WTP DSN002A	1/year	1/year
	Pequannock WTP DSN003A	1/year	1/year
	Pequannock WTP DSN004A	1/year	1/year
	Pequannock WTP DSN005A	1/5 years	1/5 years
NJG0000965	Raritan Millstone WTP DSN001A	No Requirements	1/year

NJPDES #	Facility Name	Monitoring Frequency	
		Existing	Proposed
	Raritan Millstone WTP DSN003A	1/year	1/year
	Raritan Millstone WTP DSN004A	1/year	1/year
NJG0001198	Robert Frost WTP (Well #10) DSN001A	1/5 years	1/5 years
NJG0025453	Shorelands Water Company, Inc., Treatment Plant #1 DSN001B	1/5 years	1/5 years
NJG0025461	Shorelands Water Company, Inc. Treatment Plant #2 DSN001B	1/5 years	1/5 years
	Shorelands Water Company, Inc., Treatment Plant #2 DSN002B	1/5 years	1/5 years
NJG0064271	Taylortown Filter Plant DSN001A	1/5 years	1/5 years
NJG0035190	Township of North Brunswick WTP DSN001A	1/5 years	1/5 years
	Township of North Brunswick WTP DSN005A	1/year	1/year
	Township of North Brunswick WTP DSN006A	1/year	1/year
NJG0068730	Water Street WTP DSN001A	1/year	1/year
NJG0062693	Woodlane WTP DSN001A	1/5 years	1/5 years

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all available effluent data that was submitted on DMRs and WCRs based on the monitoring requirements specified in the existing permit by the facilities that discharged during the existing permit cycle. 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 6.D of this Fact Sheet and Part IV Section A of this permit.

Based on the review of the existing data, the following toxic pollutants were included on the DMRs for some outfalls and specified on the WCRs for other outfalls in the existing renewal permits and were detected at levels exceeding the SWQS based on recent data. Any detected values are described below as well as how theses parameters are addressed in this permit. Any priority pollutants not identified below were non-detected in the available data set.

- Bromodichloromethane: (NJG0000965)

  For Raritan Millstone (DSN 003A), DMR data showed 11 detectable values with a monitoring frequency of 1/6 months. Therefore, the Department has performed a cause analysis as detailed below.

- Chlorodibromomethane: (NJG0000965)

  For Raritan Millstone (DSN 003A), DMR data showed 6 detectable values with a monitoring frequency of 1/6 months. Therefore, the Department has performed a cause analysis as detailed below.

- Copper: (NJG0133965)

  Since the DMR data for Robert Frost Well #10 showed 5 detectable values out of 12 samples based on a monitoring frequency of 1/year, the Department has performed a cause analysis for Robert Frost Treatment Facility Well #10 as detailed below.

Based on WCR data submitted, insufficient data exist for a few parameters (Dieldrin, Arsenic, Thallium, Cadmium, Copper and Beta BHC) at some facilities to determine the need for a WQBELs. Therefore, as authorized by N.J.A.C. 7:14A-13.5(l), the Department has carried the monitoring frequencies forward from the existing permit, with the exception for Copper and Arsenic for Alpha Borough #3 where the frequency is being increased from once per year to once per 6 months.

Except for the pollutants mentioned above, all other toxic pollutants were either not found to be discharged in quantifiable amounts in the effluent, or below the SWQS at this time to determine the need for WQBELs. Therefore, no further analyses were conducted for these pollutants. However, monitoring requirements have been retained in this permit renewal in accordance with 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.

In satisfying the recommendations of Section 3.1 of the TSD, it is the Department's position that the monitoring frequencies specified in the table above for the toxic parameters will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

Consistent with the intent of 40 CFR 122.45(c) and N.J.A.C. 7:14A-13.14(b), monitoring data for toxic metals shall be expressed as total recoverable.

Parameters Where a Cause Analysis Was Performed

- After review of the applicable data sets from the DMRs were sufficient data was available, Bromodichloromethane and Chlorodibromomethane were detected at outfall DSN 003A for Raritan Millstone; while Copper was detected for Robert Frost (NJG0001198) in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on Bromodichloromethane and Chlorodibromomethane for Raritan Millstone and for Copper for Robert Frost.

  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 criteria, pollutant specific upstream concentrations (when available), the permittee's long-term average flow and MA1CD10 (1Q10), MA7CD10 (7Q10), and/or 75th percentile stream design low flows values as shown in the table below. The 7Q10 stream design flow is utilized for all chronic and human health non-carcinogenic calculations, while the 1Q10 and 75th percentile stream design flows are utilized for acute and human health carcinogenic calculations respectively.

Facility	Parameter	Long-Term Average Flow, MGD	Stream 1Q10, CFS	Stream 7Q10, CFS	75th Percentile Flow, CFS
Raritan Millstone (NJG0000965)	Bromodichloromethane Chlorodibromomethane	0.25	80	109	239
Robert Frost (NJ0001198)	Copper	0.033	0	0	0

For Copper, the applied criteria is based on a default hardness value of 100 mg/L of $CaCO_3$ and a default WER of 1.0.

For Copper, default translators of 0.908 for acute and chronic 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 40 CFR Part 131 and N.J.A.C. 7:14A-13.6(c). The default metal translators used in the analyses are as follows:

Quantified Pollutant Analysis Results:

Cause analyses and a reasonable potential to cause analyses were conducted on bromodichloromethane and copper. As a result of the cause analyses, only Copper for Robert Frost was found to cause an excursion of the SWQS. The Department's conclusions and results are listed below.

Parameter	Data set time period	# of data	Coefficient of variation (CV)	Maximum reported data value (µg/L) (1) * A	Calculated instream WLA (µg/L) * B	"Cause" Y = yes N = no A > B ?	Aquatic criteria LTA (µg/L) **	Water Quality Based Limit, if applicable (µg/L) **
Bromodichloromethane (Raritan Millstone)	2/2018 – 2/2022	(dt) = 11 (nd) = 0	0.49 (ca)	2.75 (LTAeq)	(a) = N/A (c) = N/A (h) = N/A (hc) = 340.43	(a) = N/A (c) = N/A (h) = N/A (hc) = N	(a) = N/A (c) = N/A	MDL = N/A AML = N/A
Chlorodibromomethane (Raritan Millstone)	2/2018 – 2/2022	(dt) = 6 (nd) = 3	0.6 (d)	0.58 (LTAeq)	(a) = N/A (c) = N/A (h) = N/A (hc) = 247.59	(a) = N/A (c) = N/A (h) = N/A (hc) = N	(a) = N/A (c) = N/A	MDL = N/A AML = N/A
Copper (Robert Frost)	11/2017 – 5/2022	(dt) = 5 (nd) = 7	0.48 (ca)	18.25 (max)	(a) = 12.71 (c) = 8.47 (h) = 1300 (hc) = N/A	(a) = Y (c) = Y (h) = N (hc) = N/A	(a) = 5.38 (c) = 5.53	**MDL = 14 AML = 9.1 IMPOSED**

(1) For human health carcinogen (hc) water quality based calculations, the data set's long-term average equivalent is used instead of the maximum reported data value. For human health carcinogen (hc) EEQ limitations, the maximum reported data value is used.

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 Copper for Robert Frost's effluent was found to cause an excursion of the SWQS, WQBELs are proposed in the draft permit for the parameters in accordance with N.J.A.C. 7:14A-13.6(a). The effluent limitations are a monthly average of 9.1 ug/L and a daily maximum of 14 ug/L. The monitoring frequency for this parameter shall be once per month with a grab sample type.

- Since the discharge of Bromodichloromethane and Chlorodibromomethane in Raritan Millstone's effluent were not found to cause or show 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, monitoring and reporting requirements have been included 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 USEPA TSD).

In accordance with N.J.A.C. 7:14A-6.4(a), a 3-year schedule to achieve compliance with the new Copper WQBELs for has been included in this permit for the Robert Frost permit. Interim monthly average and daily maximum monitoring and reporting requirements have been included as authorized by N.J.A.C. 7:14A-6.2(a)14. During the compliance schedule period, the permittee is required to submit progress reports in accordance with N.J.A.C. 7:14A-6.4(a)2ii and 13.17(a)7. Refer to the Compliance Schedule section of this fact sheet for further clarification. Upon submission of the information outlined in Part IV Section, the Department may consider proposing a modification to this permit to remove or modify the effluent limitations proposed for the toxic pollutants.

WQBEL Derivation Procedures (non 303(d) listed pollutants) for Robert Frost Copper:

Consistent with N.J.A.C. 7:14A-13.6(a), the WQBELs were calculated using 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 for Copper.

For aquatic criteria based calculations (i.e. acute and chronic), LTA values are developed from the WLAs using the 99th percentile multipliers calculated using the equations set forth in Table 5-1 of the USEPA TSD. The more stringent LTA value was then utilized in calculating the MDL(s) and AML(s). For human health criteria based calculations (carcinogenic and non-carcinogenic), the AML is set equal to the WLA consistent with the recommendations of Section 5.4.4 of the USEPA TSD. The MDL is developed from the AML utilizing a MDL-to-AML multiplier calculated in accordance with the equations set forth in Table 5-3 of the USEPA TSD based on a 99th percentile exceedance probability for the MDL and AML. The more stringent MDL/AML combination resulting from a comparison between the aquatic and human health results is established as the applicable WQBEL. In accordance with N.J.A.C. 7:14-A-13.14(a)2, effluent limitations are expressed as concentration and mass loading. The limitations for the metal parameters are expressed in the total recoverable form in accordance with 40 CFR 122.45(c).

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.

Consistent with the intent of 40 CFR 122.45(c) and N.J.A.C. 7:14A-13.14(b), monitoring data for toxic metals (excluding Hexavalent Chromium) shall be expressed as total recoverable. As authorized by N.J.A.C. 7:14A-13.14(b)3, the monitoring data for Hexavalent Chromium shall be expressed as dissolved.

This permit includes a monitoring frequency of **once per permit cycle** for some facilities as shown in the table above. Please note that due to limitations on the computer system utilized by the Department, there is not a specific form for **once per permit cycle**. Therefore, the parameters with a monitoring frequency of **once per permit cycle** in this permit are included on a **semi-annual** WCR form. However, this **semi-annual** WCR form should only be used to report the monitoring period between EDP + 4 and EDP + 4.5 years.

Please refer to the "NJPDES Monitoring Report Form Reference Manual, available on the Department's website at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf for further information regarding reporting.

The Department has added Free Cyanide to the WCRs for all facilities as the SWQS for acute and chronic criteria are now expressed as Free Cyanide and expressed as Total Cyanide for human health criteria. Therefore, the WCRs contain monitoring for both parameters.

The existing permits for these facilities requires annual or once per year monitoring for Hexavalent Chromium and Total Phenols. The Department has eliminated the monitoring requirement for these parameters because:

1. Hexavalent Chromium is eliminated because TR Chromium was not detected. The existing monitoring for Total Chromium will be carried forward from the existing permits.
2. There are no SWQS for Phenols.

C. 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 Stephen.Seeberger@dep.nj.gov.

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.

D. Reporting Requirements:

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

Electronic Reporting Requirements

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

In accordance with this rule, all required monitoring results reported on MRFs shall be electronically submitted to the Department via the Department's Electronic MRF Submission Service. In addition, the following documents or reports shall be electronically submitted to the Department via the Department's designated Electronic Submission Service:

- Requests for authorization (i.e. RFAs) under this general permit
- Requests for termination/revocation under this general permit

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 Ground Water, Residuals, and Permit Administration
Permit Administration Section
P.O. Box 420
401 E. State Street
Trenton, NJ 08625-0420

E. Perfluoroalkyl and Polyfluoroalkyl Compounds (PFAS):

The Department has been made aware that there may be facilities that are in the process of installing potable water treatment units to address PFAS. This may include facilities that are not covered under this existing master general permit. In certain circumstances, particularly with new treatment units, a filter backwash wastewater source may be generated. As a result, the Department will incorporate PFAS requirements to assess any levels that may be present as a result of a backwash discharge. These requirements will be included on a case-by-case basis in any new or existing individual authorization. These requirements would be in addition to any effluent limitations and monitoring conditions specified in Section 6.B above.

PFAS are toxic substances and pollutants. N.J.A.C. 7:9B-1.4: N.J.A.C. 7:14A-1.2: N.J.A.C. 7:1E, Appendix A (identifying PFOA, PFNA, and PFOS as hazardous substances). PFAS are a family of manmade chemicals that have been used in industrial and commercial applications for over 70 years. PFAS, also known as "forever chemicals," repel water and oil and are resistant to heat and chemical reactions. PFAS are extremely persistent in the environment and soluble and mobile in water. PFAS are developmental toxicants, liver toxicants, and immune system toxicants that are probable carcinogens and bioaccumulate in animal and human tissue. Since these chemicals are persistent and heavy, they may settle at the bottoms of tanks and pits and be present long after PFAS-containing chemicals were used. Therefore, in accordance with N.J.A.C. 7:14A-6.2(a)14, the Department is hereby imposing monitoring and reporting requirements for the following PFAS substances listed below on an as needed basis, which will be specified in any individual authorizations. These parameters are listed in an Attachment to Part III of this permit.

- C4 – Perfluorobutanoic Acid (PFBA)
- C5 – Perfluoropentanoic Acid (PFPeA)
- C6 – Perfluorohexanoic acid (PFHxA)
- C7 – Perfluoroheptanoic acid (PFHpA)
- C8 – Perfluorooctanoic acid (PFOA)
- C9 – Perfluorononanoic acid (PFNA)
- C10 – Perfluorodecanoic acid (PFDA)
- C11 – Perfluoroundecanoic acid (PFUnA)
- C12 – Perfluorododecanoic acid (PFDoA)
- C13 – Perfluorotridecanoic acid (PFTriA)
- C14 – Perfluorotetradecanoic acid (PFTeA)
- C4-S – Perfluorobutanesulfonic acid (PFBS)
- C6-S – Perfluorohexanesulfonic acid (PFHxS)
- C8-S – Perfluorooctanesulfonic acid (PFOS)
- GenX chemicals including Hexafluoropropylene Oxide (HFPO) Dimer Acid and its Ammonium Salt

F. 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.

G. 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.

H. Flow Related Conditions:

All facilities covered under this permit are located within their area specific Water Quality Management Plans.

I. Compliance Schedule:

Since the effluent data for Clyde Potts WTP (DSN001A) and Taylortown Filter Plant indicates that they are unable to consistently comply with the final effluent limitation for CPO, a schedule of compliance is included in the permit, including interim deadlines for progress or reports of progress towards compliance with the conditions of this permit, in accordance with N.J.A.C. 7:14A-6.4(a).

Since the effluent data for Alpha Borough Well #3 (DSN001A) indicates that they are unable to consistently comply with the final effluent limitation for Acute WET, a schedule of compliance is included in the permit, including interim deadlines for progress or reports of progress towards compliance with the conditions of this permit, in accordance with N.J.A.C. 7:14A-6.4(a).

The compliance schedules for CPO and Acute WET are established at 36 months from the EDP to allow the permittee sufficient time to achieve compliance with the newly established effluent limitations. This schedule is provided in consideration of the time it would require for the permittee to undertake steps needed to modify or install treatment facilities, operations or other required measures.

Beginning on EDP + 1 year and every subsequent year after, until the final effluent limitations becomes effective, the permittee must submit a progress report to the Department on the steps taken towards compliance with the final effluent limitations. The progress report must include but is not limited to the following information:

- Investigative work as to what type of treatment options or other means of compliance are considered;
- Decision on the chosen method of treatment;
- Progress on design, bidding and construction schedule;
- The permittee's intent to do studies indicated in Part IV of this permit (to obtain site specific hardness, translator and WER values, etc.).

1. Compliance Schedule for CPO for Clyde Potts WTP (DSN001A) and Taylortown Filter Plant:

   a. During the Initial Phase, from the EDP to EDP + 36 Months, the permittee shall only monitor and report for the above referenced parameter for Taylortown Filter Plant and comply with the specified interim effluent limitations for Clyde Potts WWTP.

   b. During the Final Phase, beginning EDP + 37 Months, the permittee shall meet the final effluent limitations for the above referenced parameter.

2. Compliance Schedule for Acute WET for Alpha Borough Well #3 (DSN001A):

   a. During the Initial Phase, from the EDP to EDP + 36 Months, the permittee shall only monitor and report for the above referenced parameter and comply with the specified interim effluent limitations.

   b. During the Final Phase, beginning EDP + 37 Months, the permittee shall meet the final effluent limitations for the above referenced parameter.

7 Variances to Permit Conditions:

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.

8 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 following newspapers, which represent the counties indicated, and in the *DEP Bulletin* available at https://dep.nj.gov/bulletin/.

Newspaper	County
Burlington County Times	Burlington
Star Ledger	Morris, Passaic, Somerset, Sussex, and Warren
The Times	Mercer
Asbury Park Press	Monmouth
South Jersey Times	Salem

9 Contact Information

If you have any questions regarding this permit action, please contact Johnathan Lakhicharran (Johnathan.Lakhicharran@dep.nj.gov), or Jonathan Hanuschik (Jonathan.Hanuschik@dep.nj.gov) of the Bureau of Surface Water & Pretreatment Permitting by email or phone at (609) 292-4860.

10 Permit Summary Tables

Please refer to the attached "Permit Summary Tables" at the end of this Fact Sheet for details regarding the individual effluent limitations and monitoring requirements for each of the covered discharges.

11 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. DRBC: Administrative Manual – Part III Water Quality Regulations.
9. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.

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 http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf. [A]
3. "USEPA TSD for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991. [B]
4. New Jersey's 2018/2020 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A]
5. USEPA Memorandum, Water Supply Plant Permits, June 13, 1974 (William M. Sonnett, Sanitary Engineer, Permit Assistance Branch, USEPA, Washington D.C.).
6. Facility specific MRFs for the time period of October 2017 through May 2022.

Permits / Applications:

1. Existing NJPDES/DSW Permit NJ0129500, issued July 24, 2017 and effective October 1, 2017.
2. NJPDES/DSW Permit Applications for the facilities covered under the permit renewal are shown in the table below:

	NJPDES Permit #	Facility Name	Issuance Date of Existing Permit Authorization	Receipt Date of Renewal Application
1	NJG0133965	Alpha Borough - Well #3	7/24/17	10/3/22
2	NJG0034924	Atlantic Highlands WTP	7/24/17	4/17/22
3	NJG0025721	Butler Water Department	7/25/17	5/9/22
4	NJG0035742	City of Salem WTP	7/25/17	3/9/23
5	NJG0098540	Clyde Potts WTP	7/24/17	4/5/22
6	NJG0029190	Freehold Borough WTP	7/24/17	5/24/22
7	NJG0004731	Green Street WTP	7/25/17	3/31/22
8	NJG0031887	Harbor Road WTP	7/25/17	3/23/22
9	NJG0068705	Heron Avenue WTP	7/26/17	6/13/22
10	NJG0109266	Mansfield WTP	7/24/17	3/31/22
11	NJG0136603	Morris Lake WTP	7/24/17	7/18/22
12	NJG0063711	Pequannock WTP	7/24/17	5/24/22
13	NJG0000965	Raritan Millstone WTP	7/24/17	4/4/22
14	NJG0001198	Robert Frost Water Treatment Facility (Well #10)	7/26/17	6/28/22

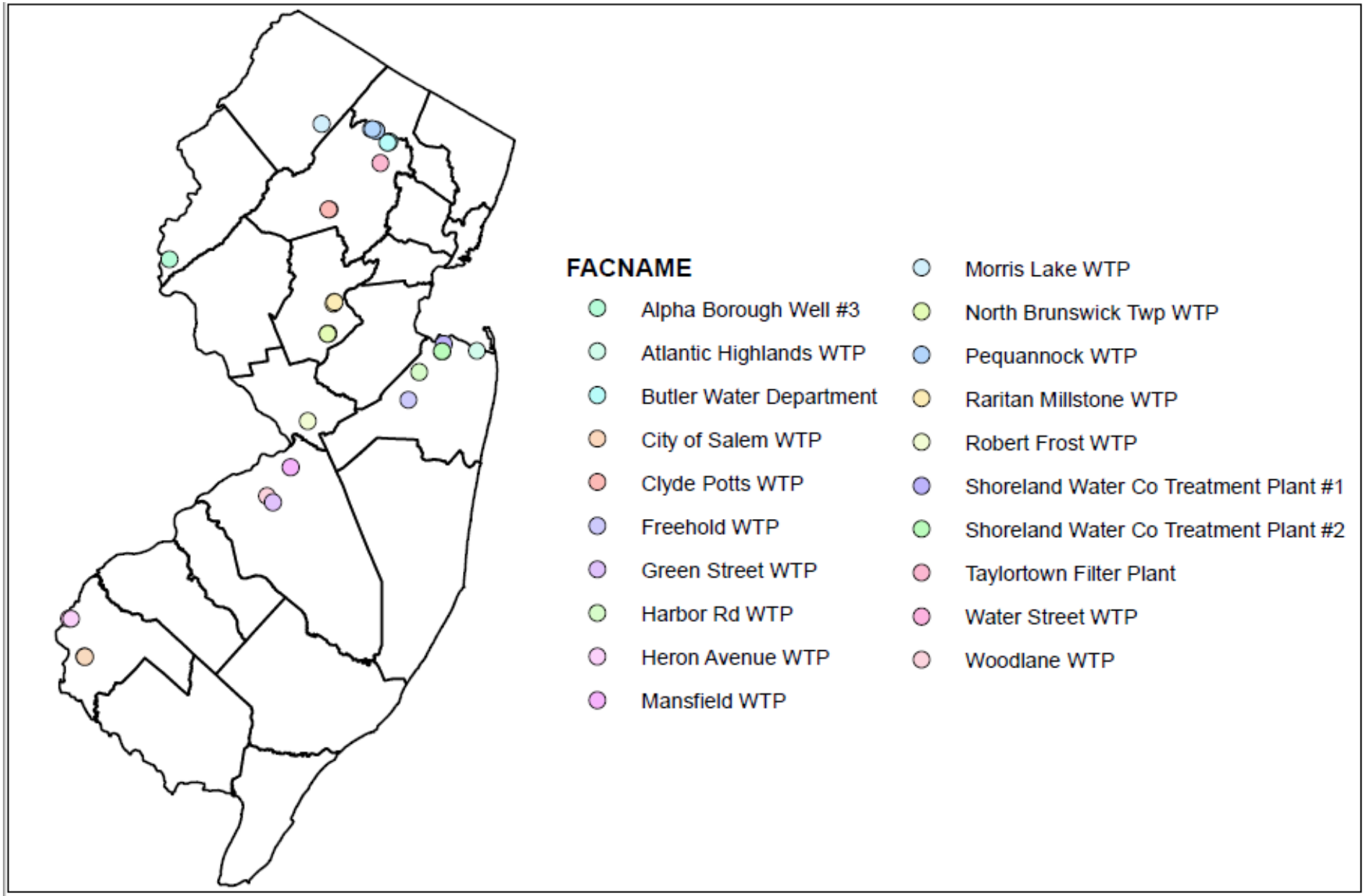
	NJPDES Permit #	Facility Name	Issuance Date of Existing Permit Authorization	Receipt Date of Renewal Application
15	NJG0025453	Shorelands Water Company, Inc., Treatment Plant #1	7/26/17	4/4/22
16	NJG0025461	Shorelands Water Company, Inc., Treatment Plant #2	7//26/17	4/4/22
17	NJG0064271	Taylortown Filter Plant	7/26/17	6/28/22
18	NJG0035190	Township of North Brunswick WTP	7/26/17	5/17/22
19	NJG0068730	Water Street WTP	7/26/17	6/2/22
20	NJG0062693	Woodlane WTP	7/26/17	3/31/22

Other:

1. WQBEL Analysis Calculation Sheets.
2. WET Calculation Sheets.

Footnotes:

N/A Not Applicable
[A] Denotes items that may be found on the Department's website located at http://www.state.nj.us/dep/.
[B] Denotes items that may be found on the USEPA website at http://www.epa.gov/.



USGS Topographical Map
BPW Facility State Map
New Jersey

(#1) Alpha Borough Well #3 – NJG0133965

Facility Description

Source Water: Ground water from one well
Discharge Frequency: 001A is intermittent, discharging backwash once every, one and a half to two days for one hour (45,000 total gallons).
Additives: None in backwash water.
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Pohatcong Creek via public storm sewer and unnamed tributary
Receiving Water Classification: FW2-TM (C1)
Hydraulic Unit Code (HUC) 14: 02040105140070
Water Quality Impairments: No Known Impairments

OUTFALL 001A

Discharge consists of backwash from the cation exchanger which treats for calcium and magnesium in ground water. Raw well water is used to backwash the cation exchanger.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 9/2018 - 4/2022 (1)	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.052 0.082	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	# of Days	Monthly Total	12	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.50	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4.0 33	20 25	20 25	1/Month	Composite
pH	S.U.	Instant Min. Instant Max.	6.3 8.7	6.0 9.0	6.0 9.0	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.19 0.5 9/1	MR MR	MR MR	1/6 Months	Composite
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	19.7 142	MR MR	MR MR	1/6 Months	Composite
Acute WET LC50 NOEAC (*Ceriodaphnia dubia)*	% Effluent	Minimum	16.2 **(2)** --	MR --	-- 100 (3)	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Discharged only during this time period. No discharge before and after that during this permit cycle. As indicated by the operator, wastewater is sent to the sanitary sewer system when there is no discharge at this outfall.
(2) Acute WET data consists of three data points of 16.2, 34.2, and >100.
(3) This effluent limitation will become effective at EDP + 37 Months. The permittee shall continue to monitor and report from EDP to EDP + 36 Months.

(#2) Atlantic Highlands WTP – NJG0034924

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent, almost daily for 30 minutes
Additives: Alum (aluminum sulfate) and Lime
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: Many Mind Creek
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030104060060
Water Quality Impairments: Dissolved Oxygen, Fecal Coliform, Total Phosphorus, Arsenic, Chlordane in Fish Tissue, DDT in Fish Tissue, and Mercury in Fish Tissue

OUTFALL 001A

Filter backwash and sludge supernatant from stainless steel storage tanks; pre chlorinated water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.022 0.075	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Monthly Total	24 (**1**)	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.58	MR	MR	1/Month	Calculated
pH	S.U.	Instant Min. Instant Max.	6.8 8.8	6.0 9.0	6.0 9.0	1/Quarter	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.5 6	20 40	20 40	1/Quarter	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.01 <0.01 0/37	MR MR	-- --	N/A (**2**)	--
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	1.03 3.6 37/19	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.22 2 12/44	MR MR	MR MR	1/6 Months	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	>100 (5 samples)	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- Not Required
(1) Duration of Discharge" data as reported from 1/2021 to 5/2022, not provided for the period before that.
(2) As indicated by the operator, John Kelleher, pre-chlorinated (not finished) water is used to backwash the filters. Therefore, CPO monitoring requirements are removed in this permit renewal.

(#3) Butler Water Department - NJG0025721

Facility Description for Outfalls 001A, 002A and 003A

Source Water: Kakeout (Butler) Reservoir
Discharge Frequency: **001A**: intermittent, **002A**: intermittent; **003A**: no discharge to date
Additives: Alum (aluminum sulfate), Caustic Soda, Chlorine, Orthopolyphosphate (DSNs 001A and 003A only)
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: **001A & 002A**: Stone House Brook; **003A**: Butler Reservoir
Receiving Waters Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030103050070
Water Quality Impairments: Temperature

OUTFALL 001A

Backwash from four dual media (anthracite and sand) filters (using finished water) via two unlined lagoons

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Monthly Total	NODI	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	NODI	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Quarter	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.17	MR 0.17	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	1.5 3.0	1.5 3.0	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/6 Months	Composite
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

NODI No Discharge
MR Monitor and Report only

(#3) Butler Water Department - NJG0025721 (continued)

OUTFALL 002A

Decant water from two lined lagoons (which consists of slurry from the iron and suspended solids removal unit)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.013 0.04	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	# of Days	Monthly Total	31	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.33	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	6.87 31 14/5	20 40	20 40	1/Quarter	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	20.71 52.6 14/4	MR MR	MR MR	1/Quarter	Grab
pH	S.U.	Instant Min. Instant Max.	6.4 7.26	6.0 9.0	6.0 9.0	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.36 0.902 4/7	1.5 3.0	1.5 3.0	1/6 Months	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	22.2 (**1**)	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Test result was deemed to be invalid.

OUTFALL 003A

Overflow from (2) potable water storage tanks (no discharge to date.)

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Composite

Footnotes & Abbreviations:

NODI No Discharge
MR Monitor and Report only

(#4) City of Salem WTP- NJG0035742

Facility Description for Outfalls 001A and 002A

Source Water: Ground water
Discharge Frequency: Intermittent, no discharge has occurred since April 2012.
Additives: Klenphos (zinc orthophosphate), Chlorine
WCR Parameters: For 001A and 002A: 1 / Year

Receiving Waterbody Information

Receiving Water: Unnamed tributary to Keasbeys Creek
Receiving Water Classification: FW2-NT/SE1
Hydraulic Unit Code (HUC) 14 for 001A: 02040206040040
Hydraulic Unit Code (HUC) 14 for 002A: 02040206040020
Water Quality Impairments for 001A and 002A: Enterococcus and PCBs in Fish Tissue (001A) / PCBs in Fish Tissue (002A)

OUTFALL 001A

Filter backwash & clarifier blowdown via 2 settling lagoons; Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge

(#4) City of Salem WTP- NJG0035742 (continued)

OUTFALL 002A

Filter Backwash & Clarifier Blowdown via 2 settling lagoons; No discharge, only used when Lagoon #1 is out of service to be cleaned; Finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge

(#5) Clyde Potts WTP – NJG0098540

Facility Description

Source Water: Clyde Potts Reservoir
Discharge Frequency: Continuous
Additives: None expected to be present in the discharge.
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: 001A to Harmony Brook
Receiving Water Classification: FW2-TP (**C1**)
Hydraulic Unit Code (HUC) 14: 02030103020010
Water Quality Impairments: Arsenic, Temperature

OUTFALL 001A

Wastewater generated during the weekly maintenance cleaning cycle of the membrane filters; backwash of raw water strainers, stormwater, reservoir overflow, diverted reservoir flow, seepage from reservoir toe drains and filter blankets. Potable water is used for backwashing but prior to use of any additives.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.55 0.91	MR MR	MR MR	Continuous	Measured
Duration of Discharge	# of Days	Monthly Total	31	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	16.63	MR	MR	1/Month	Calculated
pH	S.U.	Instant Min. Instant Max.	6.5 8.57	6.0 9.0	6.0 9.0	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	6.93 98	20 25	20 25	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	17.78 32	MR 50	MR 50	1/Quarter	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Det./# Non-Det.	<1.0 - <5.0 <1.0 - <5.0 0/14	10 15	10 15	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Det./# Non-Det.	0.029 0.06 40/16	MR 0.051	0.01 (**1**) 0.02 (**1**)	1/Month	Grab
Thallium, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Det./# Non-Det.	<0.010-<10 <0.010-<10 0/10	-- MR	-- MR (**2**)	1/6 Months	Grab
Chronic WET, IC25 (*Ceriodaphnia dubia*)	% Effluent	Minimum # Det./# Non-Det.	91.7 (**3**) 1/9	40	40	1/6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- Not Required
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L. These effluent limitations will become effective after a 3-year compliance schedule. However, the permittee will be required to meet the RQL of 0.02 mg/L at that time.
(2) Monitoring requirements for Thallium are specified on the 1/ 5 Year WCR in the permit renewal.
(3) Chronic WET data consists of 9 results of >100%, only one result of 91.7%.

Other Information:

002A discharges to the Clyde Potts Reservoir, but this discharge does not include monitoring requirements because the discharge consists of unfiltered and physically filtered reservoir water withdrawn from the Clyde Potts Reservoir and returned directly to the reservoir with no addition of pollutants.

(#6) Freehold Borough WTP - NJG0029190

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent (1-2 times a year, 2-3 days each time)
Additives: Lime, Sodium Hypochlorite, Fluoride, Polyphosphate (does not contain any zinc)
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: McGellaird's Brook
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030105150020
Water Quality Impairments: No known impairment

OUTFALL 001A

In the new treatment plant (since May 2022) filter backwash goes to a 100,000 gallons backwash holding tank from which residuals are pumped to the existing outdoor lined basin for settling. Settled iron then goes to sludge drying beds which discharge to surface water. Finished water is used to backwash the greensand filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 – 3/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.004 0.007	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	6 Month Total	4	MR	MR	1/6 Months	Calculated
Total Flow	Million Gallons	6 Month Total	0.016	MR	MR	1/6 Months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	2.67 4	20 40	20 40	1/6 Months	Grab
pH	S.U.	Instant Min. Instant Max.	6.81 7.58	6.0 9.0	6.0 9.0	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.065 0.11 2/5	MR MR	0.72 1.19	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.99 1.7 2/5	MR MR	MR MR	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.09 0.1 3/4	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.04 <0.04 0/7	MR MR	MR MR	1/6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	>100 **(2)**	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Flow is calculated by equating the square footage of the sludge drying bed and measuring the distance it falls in a 24-hour period.
(2) Based on the once per permit cycle monitoring frequency specified in the existing permit, one WET result was submitted.

(#7) Green Street WTP - NJG0004731

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent (2 times a week; discharge duration is approximately 3 hours each time)
Additives: Sodium Hypochlorite, Caustic soda, Zinc Phosphate
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: North Branch of Rancocas Creek
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02040202040050
Water Quality Impairments: PCBs in Fish Tissue; Arsenic, Total Phosphorus

OUTFALL 001A
Filter Backwash via lagoon; Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.03 0.22	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	# of Days	Monthly Total	8	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.23	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	3 10	20 40	20 40	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.02 8.61	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.008 0.02 18 /36	MR MR	8.03 12.71	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.506 1.9 51/3	1.5 3.0	1.5 3.0	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	70.97 900 25/29	MR MR	MR MR	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.08 0.56 23/31	MR MR	MR MR	1/Month	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	5.37 21.8 6/48	MR MR	MR MR	1/ Quarters	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	>100	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

(#8) Harbor Road WTP – NJG0031887

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent
Additives: Caustic Soda, Sodium Hypochlorite
WCR Parameters: 1 / 5 Year

Receiving Waterbody Information

Receiving Water: Deep Run
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030105160010
Water Quality Impairments: E. Coli, Total Phosphorus, Arsenic

OUTFALL 001A

Filter backwash via lagoons; Finished water is used to backwash the greensand filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.01 0.3	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	Days/Month	Monthly Total	9	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total **(2)**	0.33	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	10.66 83 17/39	20 40	20 40	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.37 8.1	6.0 9.0	6.0 9.0	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	16.86 30.6 10/11	MR MR	MR MR	1/Quarter	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	1.5 13.2 20/7	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	52 324 18/9	MR MR	MR MR	1/6 Months	Grab
Bromodichloromethane	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<10-<1 <10-<1 0/4	MR MR	MR (4) MR (4)	1/ 5 Years	Grab
Chlorodibromomethane	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<10-<1 <10-<1 0/4	MR MR	MR (4) MR (4)	1/ Years	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	69.67 300 7/5	MR MR	MR MR	1/Quarter	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	-- --	-- --	MR MR	1/6 Months	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	57.4 **(3)**	MR	MR	1 / 5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

-- CPO monitoring was not required during the existing permit cycle based on the use of raw well water for backwashing the filters.

(1) Flow is calculated using the pumping rate of the filter backwash pumps.

(2) Raw water was used to backwash the filters in the existing permit. Based on information provided by the permittee in email dated 2/14/23, finished water is used to backwash the filters since the new treatment plant was placed in operation.

(3) One result available based on the existing permit which specifies a one per permit cycle monitoring frequency for WET.

(4) Sampling for Chlorodibromomethane and Bromodichloromenthane are being removed from the DMR and included on the 1 /5 Year WCR based on data showing all non-detectable values for these parameters.

(#9) Heron Avenue WTP – NJG0068705

Facility Description

Source Water: Well water: wells #3 & #6
Discharge Frequency: Backup plant, no discharge from 10/2017 to 9/2021; discharged during the annual period of 10/2021 to 9/2022. (this period is not covered in the DMR data download)
Additives: Zinc Orthophosphate, Chlorine (gas), Sodium Hypochlorite, Lime, Aluminum Sulfate, polymers
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Delaware River Zone 5
Receiving Water Classification: Zone 5 (Saline)
Hydraulic Unit Code (HUC) 14: Delaware River 18
Water Quality Impairments: Fish Tissue: Chlordane, DDT, Dieldrin, Mercury

OUTFALL 001B
Filter backwash (using finished water) & clarifier blowdown (to 2 unlined lagoons & then generally recycled to head of plant).

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 9/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.0219 0.0361	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	81	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	0.178	MR	MR	1/Year	Calculated
pH	S.U.	Instant Min. Instant Max.	8.9 8.9	6.0 9.0	6.0 9.0	1/Year	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	1 1	20 40	20 40	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0 0	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	0.0638 0.0638	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	0.864 0.864	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max	<0.02 <0.02	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max	<0.05 <0.05	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Mysidopsis bahia)*	% Effluent	Minimum	>100	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only

(#10) Mansfield WTP – NJG0109266

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent (no discharge since October 2006)
Additives: Zinc Orthophosphate, Chlorine
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Unnamed tributary to Craft's Creek
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02040201090020
Water Quality Impairments: PCBs in Fish Tissue; Arsenic, E. coli

OUTFALL 001A

Well blow-offs from four supply wells, sand drying bed underdrains, finished water tank emergency overflow, greensand filter backwash, and stormwater.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total **(1)**	NODI	MR	MR	1/Year	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	NODI NODI	25 MR	25 MR	1/Year	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.5 8.5	6.5 8.5	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.018	MR 0.018 **(1)**	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#11) Morris Lake WTP – NJG0136603

Facility Description

Source Water: Morris Lake
Discharge Frequency: Almost continuous (daily 2-3 batches/hour @ ~1400 gallons/ batch)
Additives: Sodium Hypochlorite and Sodium Bisulfite, Zinc Orthophosphate, Hydrofluorosilic Acid, Sodium Carbonate
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Morris Lake
Receiving Water Classification: FW2-NT **(C1)**
Hydraulic Unit Code (HUC) 14: 02020007010010
Water Quality Impairments: No known impairment

OUTFALL 001A
Membrane filter backwash and self-cleaner backwash (using finished water prior to addition of Zinc Orthophosphate).

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.07 1.2	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Monthly Total	31	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total **(1)**	2.15	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	9.41 18	20 40	20 40	1/Month	Grab
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max.	6.74 10.9	15 MR	15 MR	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.5 6.8	6.5 8.5	6.5 8.5	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<1.0-<5.0 <1.0-<5.0 0/19	10 15	10 15	1/Quarter	Grab
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<10 10 1/55	MR MR	MR MR	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.02 <0.02 0/56	MR 0.018	MR 0.018 **(1)**	1/Month	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<30 <30 0/20	MR MR	MR MR	1/Quarter	Grab
Chronic WET IC25 (*Pimephales promelas)*	% Effluent	Minimum	>100	61	61	1/6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#12) Pequannock WTP – NJG0063711

Facility Description

Source Water: Charlotteburg Reservoir
Discharge Frequency: 001A varies depending on rainfall, 002A NODI, 003A NODI, 004A NODI, 005A every day (~1025 gpd)
Additives: Aluminum Sulfate, Liquefied Chlorine, Polyaluminum Chloride, Lime, Sodium Silicate, Polymers
WCR Parameters: 1 / Year (DSN 001A – DSN 004A), 1 / 5 Years (DSN 005A)

Receiving Waterbody Information

Receiving Water: DSN001A discharges to the Charlotteburg Reservoir; DSN002A- DSN005A discharge to the Pequannock River
Receiving Water Classification: Charlotteburg Reservoir- FW2-TM (**C1**); Pequannock River - FW2-TP (**C1**)
Hydraulic Unit Code (HUC) 14 for 001A: 02030103050050
Hydraulic Unit Code (HUC) 14 for 002A: 02030103050060
Hydraulic Unit Code (HUC) 14 for 003A: 02030103050060
Hydraulic Unit Code (HUC) 14 for 004A: 02030103050060
Hydraulic Unit Code (HUC) 14 for 005A: 02030103050060
Water Quality Impairments for 001A: Arsenic and Dissolved Oxygen
Water Quality Impairments for 002A, 003A, 004A, 005A: No known impairments

OUTFALL 001A
Emergency overflow of supernatant from the sludge lagoon.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 2/2018 - 7/2019 (1)	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max	0.01 0.12	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	# of Days	Monthly Total	14	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.26	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	9.53 21	20 25	20 25	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.39 6.89	6.0 9.0	6.0 9.0	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.05-<5 <0.05-<5 0/18	10 15	10 15	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.01 <0.01 0/15	MR 0.01	MR 0.01 **(2)**	1/Quarter	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	--	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- No data available
(1) NODI from 10/2017 to 1/1/2018, and 8/2019 to 5/2022.
(2) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#12) Pequannock WTP – NJG0063711 (continued)

OUTFALL 002A **INACTIVE 002A:** Emergency overflow from the coagulation tank.							
PARAMETER	**UNITS**	**AVERAGING PERIOD**	**WASTEWATER DATA 10/2017 - 9/2021**	**EXISTING LIMITS**	**FINAL LIMITS**	**FINAL MONITORING FREQUENCY**	**SAMPLE TYPE**
Flow	MGD	Monthly Average Daily Max	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 25	20 25	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI NODI	10 15	10 15	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.01	MR 0.01 **(1)**	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

OUTFALL 003A **INACTIVE 003A:** Emergency overflow from the clear well.							
PARAMETER	**UNITS**	**AVERAGING PERIOD**	**WASTEWATER DATA 10/2017 - 9/2021**	**EXISTING LIMITS**	**FINAL LIMITS**	**FINAL MONITORING FREQUENCY**	**SAMPLE TYPE**
Flow	MGD	Monthly Average Daily Max	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 25	20 25	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI NODI	10 15	10 15	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.01	MR 0.01 **(1)**	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#12) Pequannock WTP – NJG0063711 (continued)

OUTFALL 004A

INACTIVE 004A: Emergency overflow from the "wastewater" holding tanks.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 9/2021	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Average Daily Max	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 25	20 25	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI NODI	10 15	10 15	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.01	MR 0.01 **(1)**	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

OUTFALL 005A

Screen backwash (every 4 to 6 hours) using raw water where each discharge lasts for 6 minutes.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow (**1**)	MGD	Monthly Average Daily Max	0.027 (**1**) 0.027	MR MR	MR MR	Continuous	Calculated
Duration of Discharge	# of Days	Monthly Total	30 (**1**)	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.837 (**1**)	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	3.31 12.5	20 25	20 25	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.08 7.33	6.0 9.0	6.0 9.0	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.05-<5.0 <0.05-<5.0 0/29	10 15	10 15	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.01 <0.01 0/29	MR 0.01	MR 0.01 **(2)**	1/Quarter	Grab
Chronic WET IC25 (*Ceriodaphnia dubia*)	% Effluent	Minimum	>100	MR	MR	1/6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Data for the parameters related to Flow are for the period of 10/2020 to 5/2022. NODI from July 2018 to 9/2020.
(2) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#13) Raritan Millstone WTP – NJG0000965

Facility Description

Source Water: Raritan River
Discharge Frequency: 001A has not discharged since 2002, 003A discharges daily, and 004A has not discharged to date per Department records.
Additives: Sodium Hypochlorite, Aluminum Sulfate, Fluoride, Phosphoric Acid, Sulfuric Acid, Polymers, Potassium Permanganate
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Raritan River via a ditch
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14 for 001A: 02030105080030
Hydraulic Unit Code (HUC) 14 for 003A: 02030105120140
Hydraulic Unit Code (HUC) 14 for 004A: 02030105120140
Water Quality Impairments for 001A: Dieldrin in Fish Tissue, DDT in Fish Tissue, PCBS in Fish Tissue, pH, Temperature, Turbidity,
Water Quality Impairments for 003A and 004A: Arsenic, Benzene, Total Phosphorus, pH, PCBS in Fish Tissue

OUTFALL 001A

Emergency bypass from 2 concrete basins; no discharge since 2002.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	2000 4000	2000 4000	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge

(#13) Raritan Millstone WTP – NJG0000965 (continued)

OUTFALL 003A

The traveling screen wash (using raw river water and city water) is done on 10-minute cycles performed daily in the winter and two to three times per day in the summer for approximately 5 days per week. Therefore, the screen washes occur more frequently in the summer than in the winter. Discharge at this outfall consists of traveling screen wash, sedimentation basins 1 and 2 overflow, and 12" underdrain

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.25 7.7	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Monthly Total	31	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	6.74	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	6.1 31.3 39/17	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.79 2.5 56/0	0.51 1.07	0.51 1.07	1/Month	Grab
pH	s.u.	Instant Min. Instant Max.	6.8 8.3	6.0 9.0	6.0 9.0	1/Month	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	445 1850 55/1	2000 4000	2000 4000	1/Month	Grab
Bromodichloromethane	µg/L	Monthly Avg. Daily Max.	1.97 3.9	MR MR	MR MR	1/6 Months	Grab
Chlorodibromomethane	µg/L	Monthly Avg. Daily Max.	0.32 1.08	MR MR	MR MR	1/6 Months	Grab
Phosphorus, Total **(1)**	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.64 9.9 55/1	MR MR	MR MR	1/Quarter	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	>100 **(2)**	MR	MR	1/5 Years	Composite

OUTFALL 004A

Filter backwash, only if not recycled back through the treatment process.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DAT5 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	2000 4000	2000 4000	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
-- No Data Available

(1) Facility is located within the Deferred area of the Raritan TMDL; therefore, no limits were calculated. See Fact Sheet for more details.
(2) Based on once per permit cycle monitoring frequency specified in the existing permit, one WET data result of LC50>100% dated August 27, 2020, was provided in the renewal application.

(#14) Robert Frost Treatment Facility (Well #10) – NJG0001198

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent, occurs once per day to once per three days and lasts one to three hours.
Additives: Hypochlorite, Fluoride, Zinc Polyphosphate, and Potassium permanganate
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: Pond Run
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02040105240040
Water Quality Impairments: pH, Total Phosphorus, TSS, and Arsenic

OUTFALL 001A

Filter backwash held in concrete lined basin, finished water is used to backwash greensand filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.033 0.07	MR MR	MR MR	1/Discharge	Measured
Duration of Discharge	# of Days	Monthly Total	7	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.21	MR	MR	1/Month	Calculated
Total Organic Carbon (TOC)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.73 1.2 9 / 4	25 MR	25 MR	1/6 Months	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	2.4 6.3 27 / 29	20 40	20 40	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.46 7.79	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	<0.01 - 0.1 <0.01 - 0.1	MR 0.018	MR 0.018 **(1)**	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.64 7.14 12 / 0	MR MR	MR MR	1/ 6 Months	Grab
Copper, Total Recoverable	µg/L	Monthly Avg. Daily Max.	8.57 20.1	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	0.76 2.85	MR MR	MR MR	1/ 6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	41.4 130	MR MR	MR MR	1/ 6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	41.4 53.5 3 / 9	MR MR	MR MR	1/ 6 Months	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	0.281 0.390	MR MR	MR MR	1/Year	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	0.883 1.17	MR MR	MR MR	1/Year	Grab
Radium-226 + 228, Total	PCi/L	Monthly Avg. Daily Max.	1.08 1.56	MR MR	MR MR	1/Year	Grab
NOAEC (*Ceriodaphnia dubia*)	% Effluent	Minimum	>100 **(2)**	100	100	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- No data available
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.
(2) WET data consists of seven data points all >100% dated 11/2017, 8/2018, 3/2019, 3/2020, 7/2020, 5/2021, and 5/2022

(#15) Shorelands Water Company, Inc., Treatment Plant #1 – NJG0025453

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent, supernatant from lagoons containing filter backwash is usually returned to the head of the plant.
Additives: Sodium Hypochlorite, Sodium Hydroxide, Stern Pac (Aluminum Sulfate), Zinc Orthophosphate
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: East Creek
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030104060040
Water Quality Impairments: Dissolved Oxygen, Enteroccocus, Fecal Coliform, Chlordane in Fish Tissue, DDT in Fish Tissue, Mercury in Fish Tissue, PCBS in Fish Tissue

OUTFALL 001B
Supernatant from lagoons containing filter backwash; Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	Yearly Total	NODI **(2)**	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) Flow is calculated by a bucket and stopwatch method.
(2) This facility has not discharged during the existing permit cycle.

(#16) Shorelands Water Company, Inc., Treatment Plant #2 - NJG0025461

Facility Description

Source Water: Well water
Discharge Frequency: **001B:** filter backwash is usually returned to the head of the plant. Discharge has not occurred in the past five years.
002B: Intermittent; Water from drainage pipes underlying sludge drying beds is usually recycled to the head of the plant, but during the existing permit cycle, discharged during the winter semi-annual monitoring periods of October through March each year; and did not discharge during the summer semi-annual monitoring periods of April through September each year.
Additives: Sodium Hypochlorite, Lime, Stern Pac (Aluminum Sulfate), Zinc Orthophosphate
WCR Parameters: **001B**: 1 / 5 Years
002B: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: East Creek
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030104060040
Water Quality Impairments: Dissolved Oxygen, Enterococcus, Fecal Coliform, Chlordane in Fish Tissue, DDT in Fish Tissue, Mercury in Fish Tissue, PCBS in Fish Tissue

OUTFALL 001B
Filter Backwash and Clarifier Blowdown via lagoons; Finished water is used to backwash the filters

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.09	MR 0.09	1/Year	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Bromodichloromethane	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) Flow is calculated by a bucket and stopwatch method.

(#16) Shorelands Water Company, Inc., Treatment Plant #2 - NJG0025461 (continued)

OUTFALL 002B

Backwash water (using finished water) from drainage pipes underlying sludge drying beds is usually recycled to the head of the plant; therefore, discharge is intermittent in nature. During the existing permit cycle, discharged during the winter semi-annual monitoring periods from October to March each year; and did not discharge during the summer semi-annual monitoring periods of April through September each year.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.001 0.005	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	6 Month Total	29	MR	MR	1/6 Months	Calculated
Total Flow	Million Gallons	6 Month Total	0.029	MR	MR	1/6 Months	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	6 8 2/3	20 40	20 40	1/6 Months	Grab
pH	S.U.	Instant Min. Instant Max.	6.61 7.6	6.0 9.0	6.0 9.0	1/6 Months	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.0125 0.02 4/1	MR 1.27	MR 1.27	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.02 - <0.12 0.2 1/4	MR MR	MR MR	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.98 - <15 13.9 1/4	MR MR	MR MR	1/6 Months	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.077 0.2 3/2	MR MR	MR MR	1/6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<6.6 - <20 232 1/4	MR MR	MR MR	1/Quarter	Grab
Thallium, Total Recoverable	µg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.17 - <2.0 <2 0/5	MR MR	-- MR (3)	1 / 5 Years	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	>100 **(2)**	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Flow is calculated by a bucket test method.
(2) Based on the once per permit cycle monitoring requirement specified in the existing permit, one Acute WET result was submitted in April 2022.
(3) Sampling for thallium is being removed from the DMR and included on the 1 /5 Year WCR since all reported samples resulted in non-detectable values.

(#17) Taylortown Filter Plant - NJG0064271

Facility Description

Source Water: Boonton Reservoir
Discharge Frequency: Intermittent
Additives: Orthophosphate, Aluminum Sulfate, Chlorine (gas & tablets)
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: North Valhalla Brook via publicly owned storm sewer
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030103030160
Water Quality Impairments: No Known Impairments

OUTFALL 001A

GAC filter backwash (using finished water), possible emergency bypass of reservoir water, & possible clear well overflow

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.028 0.066	MR MR	MR MR	Continuous	Metered
Duration of Discharge	# of Days	Monthly Total	21	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.55	MR	MR	1/Month	Calculated
pH	S.U.	Instant Min. Instant Max.	6.40 7.44	6.0 9.0	6.0 9.0	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	20.03 50 25/31	50 75	50 75	1/Quarter	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	6.47 23 12/44	20 40	20 40	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.045 0.1 3/6	MR MR	0.01 (2) 0.02 (2)	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.030 0.069 9/0	MR MR	MR MR	1/6 Months	Grab
Acute WET, LC50 (*Ceriodaphnia dubia*)	% Effluent	Minimum	>100 **(1)**	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) Based on the once per permit cycle monitoring requirement specified in the existing permit, one Acute WET data consists of a single data value of >100%.
(2) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L. These effluent limitations will become effective on EDP + 36 Months, but the permittee will be required to meet the RQL of 0.02 mg/L at that time.

(#18) Township of North Brunswick WTP – NJG0035190

Facility Description for all Outfalls

Source Water for all outfalls: Delaware and Raritan Canal
Discharge Frequency: 001A is intermittent but almost continuous, occurs four times per hour for a few minutes; 005A is dependent on rain events; 006A would only discharge in an emergency situation.
Additives: For 005A and 006A only, Sodium Hypochlorite, Polyphosphate, Polyaluminum Chloride, Polymers, Caustic (Sodium Hydroxide)
WCR Parameters: 001A: 1 / 5 Years
005A and 006A: 1 / Year

Receiving Waterbody Information

Receiving Water: All outfalls discharge to the Delaware and Raritan Canal
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02030105110110
Water Quality Impairments: Arsenic, Total Phosphorus

OUTFALL 001A
Water from the pipe gallery sump pumps, meter pit, and some storm water runoff from on-site paved areas.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.0006 0.001	MR MR	MR MR	1/Month	Calculated **(1)**
Duration of Discharge	# of Days	Monthly Total	31	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.019	MR	MR	1/Month	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	12.17 22 11/8	MR 50	MR 50	1/Quarter	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	8.075 26 8/48	20 40	20 40	1/Month	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<1.38 <1.3 0/12	10 15	10 15	1/6 Months	Grab
pH	S.U.	Instant Min. Instant Max.	6.19 8.07	6.0 9.0	6.0 9.0	1/Month	Grab
Bromodichloromethane	µg/L	Monthly Avg. Daily Max.	<0.2 - 2.12 2.12 1/4	MR MR	MR MR	1/Year	Composite
Chronic WET, IC25 (*Ceriodaphnia dubia)*	% Effluent	Minimum	24.4 **(2)**	MR	MR	1/6 Months	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- No data available
(1) Process water flow is calculated from the pumping rate of the sump pump and a pump curve. Stormwater is calculated using the drainage area and rainfall totals.
(2) Chronic WET data consists of three data points of >100 and five data points of 26%, 25%, 54.9%, 64.3%, and 24.4%.

(#18) Township of North Brunswick WTP – NJG0035190 (continued)

OUTFALL 005A

Backwash holding tank emergency overflow and storm water. Filters are backwashed using potable water. Backwash is generally recycled, will only be discharged via 005A in an emergency situation.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.18 0.35	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	Yearly Total	7	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	1.28	MR	MR	1/Year	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<4.8 - 13 13 1/4	MR 50	MR 50	1/Year	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	<2.5 <2.5	20 40	20 40	1/Year	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<1.475 <1.4 0/5	10 15	10 15	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	6.46 6.75	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	<0.02 <0.02 0/4	MR 0.02	MR 0.02 **(2)**	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.065 0.12 4/0	MR MR	MR MR	1/Year	Grab
Acute WET, LC50 *(Ceriodaphnia dubia)*	% Effluent	Minimum	>100	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
-- No data available
(1) Flow is calculated based on the flow rate in drainage lines. Stormwater is calculated using the drainage area and rainfall totals.
(2) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

(#18) Township of North Brunswick WTP – NJG0035190 (continued)

OUTFALL 006A Clear well storage tank overflow only in emergency situation.							
PARAMETER	**UNITS**	**AVERAGING PERIOD**	**WASTEWATER DATA 10/2017 - 5/2022**	**EXISTING LIMITS**	**FINAL LIMITS**	**FINAL MONITORING FREQUENCY**	**SAMPLE TYPE**
Flow	MGD	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Discharge	Calculated **(1)**
Duration of Discharge	# of Days	Yearly Total	NODI	MR	MR	1/Year	Calculated
Total Flow	Million Gallons	Yearly Total	NODI	MR	MR	1/Year	Calculated
Chemical Oxygen Demand (COD)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 50	MR 50	1/Year	Grab
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	NODI NODI	20 40	20 40	1/Year	Grab
Petroleum Hydrocarbons	mg/L	Monthly Avg. Daily Max.	NODI NODI	10 15	10 15	1/Year	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR MR	MR MR	1/Year	Grab
pH	S.U.	Instant Min. Instant Max.	NODI NODI	6.0 9.0	6.0 9.0	1/Year	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	NODI NODI	MR 0.02	MR 0.02 **(2)**	1/Year	Grab
Acute WET, LC50 (*Ceriodaphnia dubia)*	% Effluent	Minimum	NODI	MR	MR	1/Year	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
NODI No Discharge
(1) Flow shall be calculated using clear well tank volume and time duration of overflow.
(3) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.

Additional Information for Outfalls 002A, 003A and 004:

002A: Inactivated

This outfall was eliminated from the permit when DSN005A and DSN006A were created. DSN002A was a sampling point that was closer to the end of the pipe. However, the water level in the D&R Canal has gone up and samples at DSN002A included ambient water along with wastewater, so the monitoring point was moved further back into the pipe and became DSN005A. However, DSN005A now samples before the clear well overflow enters the discharge so DSN006A covers the clear well overflow discharge, which would only occur in an emergency.

003A: No requirements (Intake Screen Washwater)

No monitoring or limitations are needed at this outfall since the discharge consists of only intake screen washwater which is discharged to the same waterbody from which it is withdrawn.

004A: Inactivated

This outfall was removed from the permit as a result of the permittee's request on 5/18/11.

(#19) Water Street WTP – NJG0068730

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent; backwash stored in lagoons is usually recycled to the head of the plant.
Additives: Sodium Hypochlorite, Lime, Alum Sulfate, Polyphosphate (Klenphos)
WCR Parameters: 1 / Year

Receiving Waterbody Information

Receiving Water: Delaware River
Receiving Water Classification: Zone 5 (Saline)
Hydraulic Unit Code (HUC) 14: Delaware River 18
Water Quality Impairments: Fish Tissue: Chlordane, DDT, Dieldrin, Mercury

OUTFALL 001A

Filter backwash and clarifier blowdown from unlined lagoons; finished water is used to backwash the filters.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY (1)	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.024 0.18	MR MR	MR MR	1/Discharge	Calculated
Duration of Discharge	# of Days	Yearly Total	108	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Yearly Total	2.22	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	3.77 7.2	20 40	20 40	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	7.42 8.45	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max.	0.035 0.1	MR 0.1	MR 0.1	1/Month	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	0.64 1.15	MR MR	MR MR	1/Month	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	99.9 389	MR MR	MR MR	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	<0.05 - <0.1 <0.05 - <0.1	MR MR	MR MR	1/Month	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	25.6 239	MR MR	MR MR	1/Month	Grab
Acute WET, LC50 (*Mysidopsis Bahia*)	% Effluent	Minimum	24.8	MR	MR	1/Month	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) The DMR reporting requirement is being change from 1 / Year in the existing permit to 1 / Month in this renewal as the permittee has begun discharging at a more routine frequency.

(#20) Woodlane WTP – NJG0062693

Facility Description

Source Water: Well water
Discharge Frequency: Intermittent, one to two times per week
Additives: Hypochlorite, Sodium Hydroxide, and Zinc Orthophosphate
WCR Parameters: 1 / 5 Years

Receiving Waterbody Information

Receiving Water: Unnamed Tributary to Barker's Brook
Receiving Water Classification: FW2-NT (C2)
Hydraulic Unit Code (HUC) 14: 02040201100030
Water Quality Impairments: E. coli, Total Phosphorus, and Arsenic

OUTFALL 001A

Filter backwash; Finished water is used to backwash the greensand filters then discharged via an unlined lagoon to a neighborhood storm sewer and then to the stream.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA 10/2017 - 5/2022	EXISTING LIMITS	FINAL LIMITS	FINAL MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	Monthly Avg. Daily Max.	0.016 0.216	MR MR	MR MR	1/Discharge	Metered
Duration of Discharge	# of Days	Monthly Total	9	MR	MR	1/Month	Calculated
Total Flow	Million Gallons	Monthly Total	0.15	MR	MR	1/Month	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Daily Max.	4.03 18	20 40	20 40	1/Month	Grab
pH	S.U.	Instant Min. Instant Max.	6.21 8.92	6.0 9.0	6.0 9.0	1/Month	Grab
Chlorine Produced Oxidants (CPO)	mg/L	Monthly Avg. Daily Max. # Detect/# Non-Detect	0.02 0.07 28/28	MR 0.01	MR 0.01 **(1)**	1/Month	Grab
Phosphorus, Total	mg/L	Monthly Avg. Daily Max.	0.07 0.29	MR MR	MR MR	1/6 Months	Grab
Iron, Total Recoverable	mg/L	Monthly Avg. Daily Max.	0.55 1.6	1.5 3.0	1.5 3.0	1/6 Months	Grab
Manganese, Total Recoverable	µg/L	Monthly Avg. Daily Max.	183.52 2600	MR MR	MR MR	1/6 Months	Grab
Zinc, Total Recoverable	µg/L	Monthly Avg. Daily Max.	8.44 16.4	MR MR	MR MR	1/Quarter	Grab
Radium-226, Total	PCi/L	Monthly Avg. Daily Max.	0.32 0.39	MR MR	MR MR	1/Year	Grab
Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	0.56 0.78	MR MR	MR MR	1/Year	Grab
Radium-226 & Radium-228, Total	PCi/L	Monthly Avg. Daily Max.	0.85 1.29	MR MR	MR MR	1/Year	Grab
Acute WET (*Ceriodaphnia dubia)*	% Effluent	Minimum	>100 **(2)**	MR	MR	1/5 Years	Composite

Footnotes & Abbreviations:

MR Monitor and Report only
(1) The Permittee shall utilize analytical methods for CPO that will ensure compliance with the specified required quantification level of 0.02 mg/L.
(2) Acute WET Data consists of one data point of >100%.

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: NJ0129500

Draft: Surface Water Master General Permit Renewal

Permittee:

NJPDES Master General Permit Program Interest
Category BPW – Potable Water Treatment Plant General Permit
Per Individual Notice of Authorization
Bureau of Surface Water & Pretreatment Permitting
Mail Code 401-02B
P.O. Box 420
401 East State Street
Trenton, NJ 08625-0420

Property Owner:

NJPDES Master General Permit Program Interest
Category BPW
Per Individual Notice of Authorization
Bureau of Surface Water & Pretreatment Permitting
Mail Code 401-02B
P.O. Box 420
401 East State Street
Trenton, NJ 08625-0420

Location Of Activity:

NJPDES Master General Permit Program Interest
Category BPW
Per Individual Notice of Authorization
Bureau of Surface Water & Pretreatment Permitting
Mail Code 401-02B
P.O. Box 420
401 East State Street
Trenton, NJ 08625-0420

Authorization Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
BPW – Potable Water Treatment Plant (GP)			

By Authority of:
Commissioner's Office

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

c. Operation And Maintenance

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

d. Monitoring And Records

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

e. Reporting Requirements

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

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

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

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

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

B. General Conditions

1. Scope

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

2. Permit Renewal Requirement

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

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

b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. 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.

6. Operator Certification

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

i. Notifications shall be submitted to:

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

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

7. 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 condtion for water or waste, except as specifically authorized by a valid NJPDES permit.

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

a. MRFs shall be electronically submitted to the Department via the Department's Electronic 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 Monitoring Report Form Reference Manual and any updates thereof.

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

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

9. Standard Reporting Requirements - Electronic Submission of NJPDES Information

a. Effective December 21, 2020, the below identified documents and reports, if required to be submitted by this permit, shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

i. General permit authorization requests (i.e. RFAs)

ii. General permit termination/revocation requests

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
BPW- Potable Plant Discharge	Varies		BPW - Potable Water Treatment Plant (GP)

Location Description

Effluent samples should be taken after all treatment (where applicable) and just prior to discharge to the receiving water.

Actual permit conditions and MRF reporting requirements will be specified for each individual authorization when issued. The receiving stream classifications vary among the individual facilities.

Additional Perfluoroalkyl and Polyfluoroalkyl Compounds (PFAS) Monitoring

In certain circumstances, particularly with new treatment units, a filter backwash wastewater source may be generated. As a result, the Department will incorporate PFAS requirements to assess any levels that may be present as a result of a backwash discharge. These requirements will be included on a case-by-case basis in any new or existing individual authorization.

In addition to complying with the effluent limitations and monitoring conditions as shown on the individual Permit Summary Tables for each facility, sampling for the PFAS indicated below may also be required in an individual authorization if the facility installs treatment units to address PFAS in the future. This monitoring will also be required for any new individual authorizations that install treatment units for PFAS.

- C4 – Perfluorobutanoic Acid (PFBA)
- C5 – Perfluoropentanoic Acid (PFPeA)
- C6 – Perfluorohexanoic acid (PFHxA)
- C7 – Perfluoroheptanoic acid (PFHpA)
- C8 – Perfluorooctanoic acid (PFOA)
- C9 – Perfluorononanoic acid (PFNA)
- C10 – Perfluorodecanoic acid (PFDA)
- C11 – Perfluoroundecanoic acid (PFUnA)
- C12 – Perfluorododecanoic acid (PFDoA)
- C13 – Perfluorotridecanoic acid (PFTriA)
- C14 – Perfluorotetradecanoic acid (PFTeA)
- C4-S – Perfluorobutanesulfonic acid (PFBS)
- C6-S – Perfluorohexanesulfonic acid (PFHxS)
- C8-S – Perfluorooctanesulfonic acid (PFOS)
- GenX chemicals including Hexafluoropropylene Oxide (HFPO) Dimer Acid and its Ammonium Salt

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Potable Water Treatment Plant (GP)

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, 122.21(e)(3), and 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 test 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 test 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 Office of Quality Assurance.

An RQL of 0.02 mg/L is specified in Part III of this permit for CPO only. Since the WQBELs for some facilities are less than the RQL of 0.02 mg/L the RQL will serve as a compliance point for any CPO limitations that are below it.

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 with the Monitoring Report Forms.

g. If annual and semi-annual wastewater testing is specified, it 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. Based on the nature of the operations at the facilities covered under this Master BPW Permit, the parameter Flow, In Conduit or Thru Treatment Plant is intended for the reporting of the final volume of wastewater discharged to the receiving stream. Due to the intermittent nature of the discharge from these facilities, monitoring and reporting for two additional parameters, "Duration of Discharge" and "Total Flow" are also included in this permit. Duration of Discharge is the number of days a discharge occurs during the monitoring period specified in the individual authorization and shall be reported as the total number of days for that monitoring period. Therefore, if more than one discharge occurs in a day, it should only be counted as one day towards the total for that monitoring period. Total Flow is the sum of the flows from each discharge event during a monitoring period and shall be reported as a total in million gallons for that monitoring period.

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, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

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.

D. FACILITY MANAGEMENT

1. Discharge Requirements

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

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. Applicability of Discharge Limitations and Effective Dates

a. Surface Water Discharge Monitoring Report (DMR) Form Requirements

i. If a three year compliance is not included in the individual authorization -Part III) The final effluent limitations and monitoring conditions in Part III of the individual authorization apply for the full term of this permit action and are effective on EDP.

ii. (If a three year compliance schedule is included for the individual authorization- Part III) This permit includes multiple phases for "initial" and "final." The "initial" phase limits are effective from the effective date of the permit (EDP) to EDP + 36 months. The "final" limits will become effective beginning EDP + 36 months.

b. Wastewater Characterization Report (WCR) Form Requirements

3. Delaware River Basin Commission (DRBC) (Applicable to NJG0133965, NJG0035742, NJG0068730, NJG0062693, NJG0109266, NJG0004731, NJG0001198, NJG0035742, NJG0068705)

a. The permittee shall comply with the Delaware River Basin Commission (DRBC) "Water Quality Regulations."

b. Except as otherwise authorized by this permit, if the permittee seeks relief from any limitation based upon a Delaware River Basin Commission water quality standard or minimum treatment requirement, the permittee shall apply for approval from the Delaware River Basin Commission Executive Director and NJDEP for a permit revision.

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 and 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. Acute Toxicity Testing Requirements (applicable only if an acute toxicity requirement is specified in Part III)

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 the individual authorization.

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. LC50 - Lethal Concentration - Concentration of effluent that is lethal to 50% of the test organisms, as compared to the control.

e. NOAEC (No Observable Adverse Effect Concentration): The lowest concentration of effluent where survival in the test group is not significantly different from the control. This is always set at 100% effluent.

f. The permittee shall submit an Acute Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.

g. Submit an acute whole effluent toxicity test report along with your Discharge Monitoring Reports within twenty-five days after the end of every monitoring period (as specified in the individual authorization) during which an acute whole effluent toxicity test was performed. These toxicity tests shall be performed according to the frequency specified in the individual General Permit Authorization. The permittee shall submit toxicity test results on the appropriate forms.

i. Test reports shall be submitted to:

biomonitoring@dep.nj.gov
Toxicity@drbc.gov.

6. Chronic Toxicity Testing Requirements (applicable only if a chronic toxicity requirement is specified in Part III)

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. Chronic 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 contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Program" document 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. IC25 - Inhibition Concentration - Concentration of effluent which has an inhibitory effect on 25% of the test organisms for the monitored effect, as compared to the control (expressed as percent effluent).

e. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing endpoint yields IC25's from more than one test endpoint, the most sensitive endpoint will be used to evaluate effluent toxicity.

f. The permittee shall submit a Chronic Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.

g. Submit a chronic whole effluent toxicity test report along with your Discharge Monitoring Reports within twenty-five days after the end of every monitoring period (as specified in the individual authorization) during which a chronic whole effluent toxicity test was performed. These toxicity tests shall be performed according to the frequency specified in the individual General Permit Authorization. The permittee shall submit toxicity test results on appropriate forms.

i. Test reports shall be submitted to:

biomonitoring@dep.nj.gov
Toxicity@drbc.gov

7. Toxicity Reduction Implementation Requirements (TRIR) (applicable only if a whole effluent toxicity limit is specified in Part III)

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 specified in Part III of the individual authorization.

   i. If the exceedence of the toxicity limit 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 in Part III. The monitoring frequency for toxicity testing shall be increased to semi-monthly (i.e. every two months). 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.

   ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit in Part III, the permittee shall repeat Toxicity Reduction Implementation Requirements.

c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the fourth exceedence of the toxicity limit 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) evaluation of chemical use and processes at the facility, and
   (3) an evaluation of incidental facility procedures and chemical spill disposal which may contribute to effluent toxicity.

   iii. 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 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 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 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 in Part III in four consecutive toxicity tests.

ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit in Part III, the permitee shall submit a plan for resuming the CTI.

E. CONDITIONS FOR MODIFICATION

1. Notification Requirements

a. For new discharges, the permittee shall notify the Department that a tag to mark the location of the outfall pipe has been installed consistent with N.J.A.C. 7:14A-6.2(a)9.

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. For discharges where a new whole effluent toxicity limit is imposed: The Department may issue a minor modification to the affected individual authorization, further deferring the effective date of the whole effluent toxicity limitation if a facility is implementing the Toxicity Reduction Implementation Requirements (TRIR) in Part IV of this permit.

F. OPERATIONAL ISSUES

1. Operational Requirements

a. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge to the recieving waterbody.

2. Use of Chemical Addition Agents

a. If a permittee proposes addition of any chemical agents which may be found in the discharge due to their presence in backwash water, the permittee must obtain permission from the Department in writing prior to use of such compounds.

b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a safety data sheet for the product(s).

c. This letter shall be submitted to the Bureau of Surface Water and Pretreatment Permitting, at the address indicated in the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under the permit. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for purposes of improving treatment system performance.

3. Third Party Storm Sewers

a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this permit to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

4. Revocation of an Individual Authorization under the Permit.

a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the permit. The permittee can obtain the necessary revocation forms by accessing www.state.nj.us/dep/dwq/forms_admins.htm or by contacting the Department's Permit Administration Section at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.

b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee. However, the Department will not revoke an individual authorization if the Site Remediation Program disagrees that revocation is appropriate.

APPENDIX A:

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 3.0

May 2017

TABLE OF CONTENTS

Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements and outline and implement the interlaboratory Standard Reference Toxicant Program until specific chronic requirements are incorporated into the laboratory certification regulations under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and method specifications (test organism specific) contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall possess certification for the applicable chronic methodologies incorporated by reference through the laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Parts III&IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the fifth version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. The Department recommends the use of the 5 standard dilutions plus a dilution water control to cover the entire range of effluent test concentrations e.g. 0%, 6.25%, 12.5%, 25%, 50%, 100%.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department through the completion of a Whole Effluent toxicity testing

methodology questionnaire. Reconstituted water and DMW should be prepared with Millipore Super Q^{R} or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. Unless otherwise specified, three samples shall be collected as specified above, preferably one every other day. The first sample should be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample should be used for the final three renewals. For the *Selenastrum* test, a single sample shall be collected not more than 24 hours prior to test initiation. In no case, shall more than 36 hours' elapse between collection and first use of the sample. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire, or as otherwise specified by the Department. The use of grab samples or other special sampling procedures may be approved by the Department based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. When a laboratory adjusts a freshwater effluent salinity and the pH of the test concentration changes more than 0.5 pH units from the initial pH, the laboratory shall readjust the pH of the test concentration to within 0.5 pH units of the original test concentration. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows unless more stringent criteria is required by the method:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of each test concentration and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning and end of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning and end of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- When natural salt water is used; nitrite, nitrate, and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

For point estimate techniques, statistical analysis must follow the protocol contained in the approved testing method. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's “NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf for further information.

If the result reported by the ICp method is greater than 100% effluent, the test result is reported as ">100%"

If separate IC25's can be calculated from multiple test endpoints, for example a reproductive and/or growth endpoint and a survival endpoint, the lowest IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the IC25 value for the test. If the IC25 value for growth and/or reproduction is not lower than that for survival, the IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet the test acceptability criteria of the chronic toxicity method will not be used by the Department for any purpose and must be repeated as soon as practicable, with freshly collected samples.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for chronic toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen samples, not refrigerating samples upon collection, or unapproved pretreatment of an effluent sample.

3. Controls shall meet, at a minimum, the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

7. If more stringent criteria are required within the chronic toxicity test method or rule, the more stringent criteria must be met.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of $\geq$15 young per surviving female
Selenastrum capricornutum	Density $\geq 2x10^5$cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.20 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program must be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals. Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, potassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to the Department's laboratory certification program prior to obtaining certification for chronic toxicity testing. Certification for the applicable chronic toxicity method must be obtained prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purposes, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing must be conducted at least once per month for each species/method.

2. Where the laboratory purchases organisms for the conduct of chronic toxicity testing for the test organism in question, the testing laboratory must conduct a concurrent SRT per lot of organisms, unless the supplier provides at least the most recent five monthly SRT's using the same toxicant and control conditions. SRT data provided by the supplier for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the supplier for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a monthly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. If a testing laboratory conducts testing for a species/method less frequently than monthly, then an SRT shall be run concurrent with the toxicity test.

   NOTE: Based on these requirements, SRT data are considered applicable to a compliance test when the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any twenty tests, the laboratory shall investigate sources of variability, take corrective actions to reduce identified sources of variability, and perform an additional SRT during the same month. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any twenty test results which are outside the established upper and lower limits for a specific test species, the laboratory shall cease to conduct chronic toxicity tests for compliance purposes for that test species until the reason(s) for the outliers have been resolved. Approval to resume testing may be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the biomonitoring program at the address below within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets (including chain of custody documents) for all endpoints analyzed shall be included with the report submitted to the Department. All chronic toxicity test report forms shall be submitted to the following email addresses as applicable:

biomonitoring@dep.nj.gov

Toxicity@drbc.gov

In addition, the results of all chronic toxicity tests conducted must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0

VIII. REFERENCES

1. NJPDES Monitoring Report Form Reference Manual October 2007 http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf

2. USEPA. 2002. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-821-R-02-014. October 2002. Third Edition.

3. USEPA. 2002. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA-821-R-02-013. October 2002. Fourth Edition.

New Jersey Department of Environmental Protection
Water Pollution Management Element
Bureau of Surface Water & Pretreatment Permitting
biomonitoring@dep.nj.gov

CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM

THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST IS PREMATURELY ENDED FOR ANY REASON

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: _____/_____/_____ TEST END DATE: _____/_____/_____

REASON FOR CANCELLATION: _____

_____

_____

_____

When is retest scheduled to be performed?

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

_____

SAMPLING INITIATED: DATE: ____/____/____ TIME: _____

SAMPLING ENDED: DATE: ____/____/____ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

_____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.