



Department of
Environmental
Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	4952	NAICS Code:	221320	SPDES Number:	NY0207004
Discharge Class (CL):	07	DEC Number:	6-2256-00007/00001		
Toxic Class (TX):	N	Effective Date (EDP):			
Major-Sub Drainage Basin:	09 - 06	Expiration Date (ExDP):			
Water Index Number:	SL-25-7-3	Item No.:	910 - 1101	Modification Dates (EDPM):	
Compact Area:	IJC				

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. '1251 et.seq.)

PERMITTEE NAME AND ADDRESS					
Name:	Village of Theresa			Attention:	Mayor
Street:	124 Commercial Street			State:	NY
City:	Theresa	Zip Code:	13691		
Email:	office@villageoftheresany.com			Phone:	(315) 628-4425

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL										
Name:	Village of Theresa WWTP									
Address / Location:	Ralston, Bridge, and Morgan Streets						County:	Jefferson		
City:	Theresa				State:	NY	Zip Code:	13691		
Facility Location:	Latitude:	44 °	13 '	9 " N	& Longitude:	75 °	48 '	4 " W		
Primary Outfall No.:	001	Latitude:	44 °	13 '	14 " N	& Longitude:	75 °	47 '	56 " W	
Outfall Description:	Treated Sanitary	Receiving Water:	Indian River				Class:	C	Standard:	C

and the additional outfalls listed in this permit, in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1 and 750-2.

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

- BWP Permit Coordinator (permit.coordinator@dec.ny.gov)
- RWE
- EPA Region II (Region2_NPDES@epa.gov)
- NYSEFC (Nancy.myers@efc.ny.gov)

Permit Administrator:	
Address:	317 Washington Street, Watertown, NY 13601
Signature	Date

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SUMMARY OF ADDITIONAL OUTFALLS

Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
002	Treated Sanitary	44 ° 13 ' 1 " N	75 ° 47 ' 30 " W
Receiving Water:	Indian River		Class: C
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
003	Treated Sanitary	44 ° 12 ' 57 " N	75 ° 47 ' 27 " W
Receiving Water:	Indian River		Class: C

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DEFINITIONS

TERM	DEFINITION
7-Day Geo Mean	The highest allowable geometric mean of daily discharges over a calendar week.
7-Day Average	The average of all daily discharges for each 7-days in the monitoring period. The sample measurement is the highest of the 7-day averages calculated for the monitoring period.
12-Month Rolling Average (12 MRA)	The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by the number of months for which samples were collected in the 12-month period.
30-Day Geometric Mean	The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Action Level	Action level means a monitoring requirement characterized by a numerical value that, when exceeded, triggers additional permittee actions and department review to determine if numerical effluent limitations should be imposed.
Compliance Level / Minimum Level	A compliance level is an effluent limitation. A compliance level is given when the water quality evaluation specifies a Water Quality Based Effluent Limit (WQBEL) below the Minimum Level. The compliance level shall be set at the Minimum Level (ML) for the most sensitive analytical method as given in 40 CFR Part 136, or otherwise accepted by the Department.
Daily Discharge	The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
Daily Maximum	The highest allowable Daily Discharge.
Daily Minimum	The lowest allowable Daily Discharge.
Effective Date of Permit (EDP or EDPM)	The date this permit is in effect.
Effluent Limitations	Effluent limitation means any restriction on quantities, quality, rates and concentrations of chemical, physical, biological, and other constituents of effluents that are discharged into waters of the state.
Expiration Date of Permit (ExDP)	The date this permit is no longer in effect.
Instantaneous Maximum	The maximum level that may not be exceeded at any instant in time.
Instantaneous Minimum	The minimum level that must be maintained at all instants in time.
Monthly Average	The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Outfall	The terminus of a sewer system, or the point of emergence of any waterborne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the State.
Range	The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.
Receiving Water	The classified waters of the state to which the listed outfall discharges.
Sample Frequency / Sample Type / Units	See NYSDEC's "DMR Manual for Completing the Discharge Monitoring Report for the SPDES" for information on sample frequency, type and units.

INTERIM PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year Unless Otherwise Noted	Indian River	EDP	4/30/2026

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.045	MGD			Continuous	Meter	X		
pH	Daily Minimum	6.0	SU			5/Week	Grab		X	5
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°C			5/Week	Grab		X	5
BOD ₅	Monthly Average	30	mg/L	11.3	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	16.9	lbs/d	Quarterly	Grab		X	4
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	11.3	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	16.9	lbs/d	Quarterly	Grab		X	4
Settleable Solids	Daily Maximum	0.3	mL/L			5/Week	Grab		X	5
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	Quarterly	Grab		X	4

Footnotes Located on Page 9

INTERIM PERMIT LIMITS, LEVELS AND MONITORING (Continued)

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
002	All Year Unless Otherwise Noted	Indian River	EDP	Upon Decommission of the Treatment System

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.008	MGD			Continuous	Meter	X		
pH	Daily Minimum	6.0	SU			5/Week	Grab		X	5
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°C			5/Week	Grab		X	5
BOD ₅	Monthly Average	30	mg/L	2.0	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	3.0	lbs/d	Quarterly	Grab		X	4
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	2.0	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	3.0	lbs/d	Quarterly	Grab		X	4
Settleable Solids	Daily Maximum	0.1	mL/L			5/Week	Grab		X	5
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L			Quarterly	Grab		X	4

Footnotes Located on Page 9



INTERIM PERMIT LIMITS, LEVELS AND MONITORING (Continued)

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
003	All Year Unless Otherwise Noted	Indian River	EDP	Upon Startup of the Treatment System Upgrades

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.015	MGD			Continuous	Meter	X		
pH	Daily Minimum	6.0	SU			5/Week	Grab		X	5
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°C			5/Week	Grab		X	5
BOD ₅	Monthly Average	30	mg/L	3.8	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	5.6	lbs/d	Quarterly	Grab		X	4
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	3.8	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	5.6	lbs/d	Quarterly	Grab		X	4
Settleable Solids	Daily Maximum	0.1	mL/L			5/Week	Grab		X	5
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	Quarterly	Grab		X	4

Footnotes Located on Page 9

FINAL PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year Unless Otherwise Noted	Indian River	5/1/2026	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.045	MGD			Continuous	Meter	X		
pH	Daily Minimum	6.0	SU			Daily	Grab		X	
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°C			Daily	Grab		X	
BOD ₅	Monthly Average	30	mg/L	11.3	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	16.9	lbs/d	Quarterly	Grab		X	4
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	11.3	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	16.9	lbs/d	Quarterly	Grab		X	4
Settleable Solids	Daily Maximum	0.3	mL/L			Daily	Grab		X	
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	Quarterly	Grab		X	4
EFFLUENT DISINFECTION		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Required Seasonal from May 1st - October 31st										
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL			Quarterly	Grab		X	2,4
	7-Day Geometric Mean	400	No./100 mL			Quarterly	Grab		X	2,4
Chlorine, Total Residual	Daily Maximum	2.0	mg/L			Daily	Grab		X	2,3,4

Footnotes Located on Page 9

FINAL PERMIT LIMITS, LEVELS AND MONITORING (Continued)

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
003	All Year Unless Otherwise Noted	Indian River	Upon Startup of Treatment System Upgrades	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.023	MGD			Continuous	Meter		X	
pH	Daily Minimum	6.0	SU			Daily	Grab		X	
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°C			Daily	Grab		X	
BOD ₅	Monthly Average	30	mg/L	5.8	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	8.6	lbs/d	Quarterly	Grab		X	4
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	5.8	lbs/d	Quarterly	Grab	X	X	1,4
	7-Day Average	45	mg/L	8.6	lbs/d	Quarterly	Grab		X	4
Settleable Solids	Daily Maximum	0.3	mL/L			Daily	Grab		X	
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	Quarterly	Grab		X	4
EFFLUENT DISINFECTION										
Required Seasonal from May 1st - October 31st		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL			Quarterly	Grab		X	2,4
	7-Day Geometric Mean	400	No./100 mL			Quarterly	Grab		X	2,4
Chlorine, Total Residual	Daily Maximum	2.0	mg/L			Daily	Grab		X	2,3,4

FOOTNOTES:

1. Effluent shall not exceed 15% and 15% of influent concentration values for BOD₅ & TSS respectively.
2. This is a final effluent limitation. Effluent limitations and monitoring requirements become effective on May 1, 2026. See the Schedule of Compliance on Page 13 for details.
3. Sampling and reporting for total residual chlorine are only necessary if chlorine is used for disinfection, elsewhere in the treatment process, or the facility otherwise has reasonable potential to discharge chlorine. Otherwise, the permittee shall report NODI-9 on the DMR.
4. Quarterly samples shall be collected in calendar quarters (Q1 – January 1st to March 31st; Q2 – April 1st to June 30th; Q3 – July 1st to September 30th; Q4 – October 1st to December 31st).
5. 5/week monitoring shall be performed on weekdays.

MERCURY MINIMIZATION PROGRAM (MMP) - Type IV

On 11/9/2023, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10.

1. General - The permittee must develop, implement, and maintain a mercury minimization program (MMP), containing the elements set forth below.
2. MMP Elements - The MMP must be a written document and must include any necessary drawings or maps of the facility and/or collection system. Other related documents already prepared for the facility may be used as part of the MMP and may be incorporated by reference. At a minimum, the MMP must include the following elements¹ as described in detail below:
 - a. Conditional Exclusion Certification - A certification (Appendix D of *DOW 1.3.10*), signed in accordance with 750-1.8 Signature of SPDES forms, must be submitted once every five (5) years for each outfall to the Regional Water Engineer and to the Bureau of Water Permits certifying that the outfalls for each facility are neither a mercury source nor receives flows from a mercury source. Criteria to determine if a facility has a mercury source are as follows:
 - The facility is or receives discharge from 1) individually permitted combined sewer overflow (CSOs)² communities and/or 2) Type II sanitary sewer overflow (SSO)³ facilities;
 - One or more effluent samples which exceed 12 ng/L, including samples taken as a result of the SPDES application process;
 - Internal or tributary waste stream samples exceed the GLCA effluent limitation **AND** the final effluent samples are less than the GLCA due primarily to dilution by uncontaminated or less contaminated waste streams. Both components of this criterion may include samples taken as a result of the SPDES application process;
 - A permit application or other information indicates that mercury is handled on site and could be discharged through outfalls;
 - Outfalls which contain legacy mercury contamination;
 - The facility's collection system receives discharges from a dental and/or categorical industrial user (CIU)⁴ that may discharge mercury;
 - The facility accepts hauled wastes; or,
 - The facility is defined as a categorical industry that may discharge mercury. This may also include dentists, universities, hospitals, or laboratories which have their own SPDES permit.
 - b. Control Strategy - The control strategy must contain the following minimum elements:
 - i. Equipment and Materials – Equipment and materials (e.g., thermometers, thermostats) used by the permittee, which may contain mercury, must be evaluated by the permittee. As equipment and materials containing mercury are updated/replaced, the permittee must use mercury-free alternatives, if possible.
 - ii. Bulk Chemical Evaluation – For chemicals, used at a rate which exceeds 1,000 gallons/year or 10,000 pounds/year, the permittee must obtain a manufacturer's certificate of analysis, a chemical analysis performed by a certified laboratory, and/or a notarized affidavit which describes the substances' mercury concentration and the detection limit achieved. If possible, the permittee must only use bulk chemicals utilized in the wastewater treatment process which contain <10 ppb mercury.

¹Neither monitoring nor outreach is required for facilities meeting the criteria for MMP Type IV, but monitoring and/or outreach can be included in the permittee's control strategy.

² CSO permits are included under the 05 and 07 permit classifications.

³ These are overflow retention facilities (ORFs) and are included under the 05 and 07 permit classifications.

⁴ CIUs include those listed under Federal Regulation in 40 CFR Part 400.

MERCURY MINIMIZATION PROGRAM (MMP) – Type IV (Continued)

- c. **Status Report** - An **annual** status report must be developed and maintained on site, in accordance with the [Schedule of Additional Submittals](#), summarizing:
- i. Review of criteria to determine if the facility has a potential mercury source;
 - a. If the permittee no longer meets the criteria for MMP Type IV, the permittee must notify the Department for a permittee-initiated permit modification;
 - ii. All actions undertaken, pursuant to the control strategy, during the previous year; and
 - iii. Actions planned, pursuant to the control strategy, for the upcoming year.

The permittee must maintain a file with all MMP documentation. The file must be available for review by Department representatives and copies must be provided upon request in accordance with 6 NYCRR 750-2.1(i) and 750-2.5(c)(4).

3. **MMP Modification** - The MMP must be modified whenever:
- a. Changes at the facility, or within the collection system, increase the potential for mercury discharges;
 - b. A letter from the Department identifies inadequacies in the MMP.

The Department may use information in the annual status reports, in accordance with 2.c of this MMP, to determine if the permit limitations and MMP Type is appropriate for the facility.

DEFINITIONS:

Potential mercury source – a source identified by the permittee that may reasonably be expected to have total mercury contained in the discharge. Some potential mercury sources include switches, fluorescent lightbulbs, cleaners, degreasers, thermometers, batteries, hauled wastes, universities, hospitals, laboratories, landfills, Brownfield sites, or raw material storage.

DISCHARGE NOTIFICATION REQUIREMENTS

- (a) The permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit, unless the Permittee has obtained a waiver in accordance with the Discharge Notification Act (DNA). Such signs shall be installed before initiation of any new discharge location.
- (b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
- (c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
- (d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

<p>N.Y.S. PERMITTED DISCHARGE POINT</p> <p>SPDES PERMIT No.: NY_____</p> <p>OUTFALL No. : _____</p> <p>For information about this permitted discharge contact:</p> <p>Permittee Name: _____</p> <p>Permittee Contact: _____</p> <p>Permittee Phone: () - ### - ####</p> <p>OR:</p> <p>NYSDEC Division of Water Regional Office Address:</p> <p>NYSDEC Division of Water Regional Phone: () - ### - ####</p>
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- (e) Upon request, the permittee shall make available electronic or hard copies of the sampling data to the public. In accordance with the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS page of your permit, each DMR shall be maintained (either electronically or as a hard copy) on record for a period of five years.
- (f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Compliance Action	Compliance Date ⁵
	<p><u>ENGINEERING REPORT</u> The permittee shall submit an approvable engineering report that meets the requirements of the most recent version of the EFC/DEC Engineering Report Outline (https://www.dec.ny.gov/permits/6054.html). The report shall be prepared by a Professional Engineer licensed to practice engineering in New York State and detail the designs that will be used to comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine. Approvable is defined as that which can be approved by the Department with only minimal revision. Minimal revision shall mean revised and resubmitted to the Department within thirty days of notification by the Department of the revisions that are necessary. All approvable engineering submissions must include the seal and signature of the professional engineer.</p>	Completed
	<p><u>ENGINEERING PLANS / SPECIFICATIONS / SCHEDULE</u> The permittee shall submit approvable Engineering Plans, Specifications, and Construction Schedule for the implementation of effluent disinfection.</p>	Submitted
	<p><u>BEGIN CONSTRUCTION</u> The permittee shall begin construction of the treatment facilities in accordance with the Department approved schedule.</p>	June 1, 2024
	<p><u>INTERIM PROGRESS REPORT</u> The permittee shall provide a status update for <i>Complete Construction</i>.</p>	March 1, 2025 December 1, 2025
	<p><u>COMPLETE CONSTRUCTION AND COMMENCE OPERATION</u> The permittee shall complete construction and commence operation of the system and comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.</p>	May 1, 2026
Unless noted otherwise, the above actions are one-time requirements.		

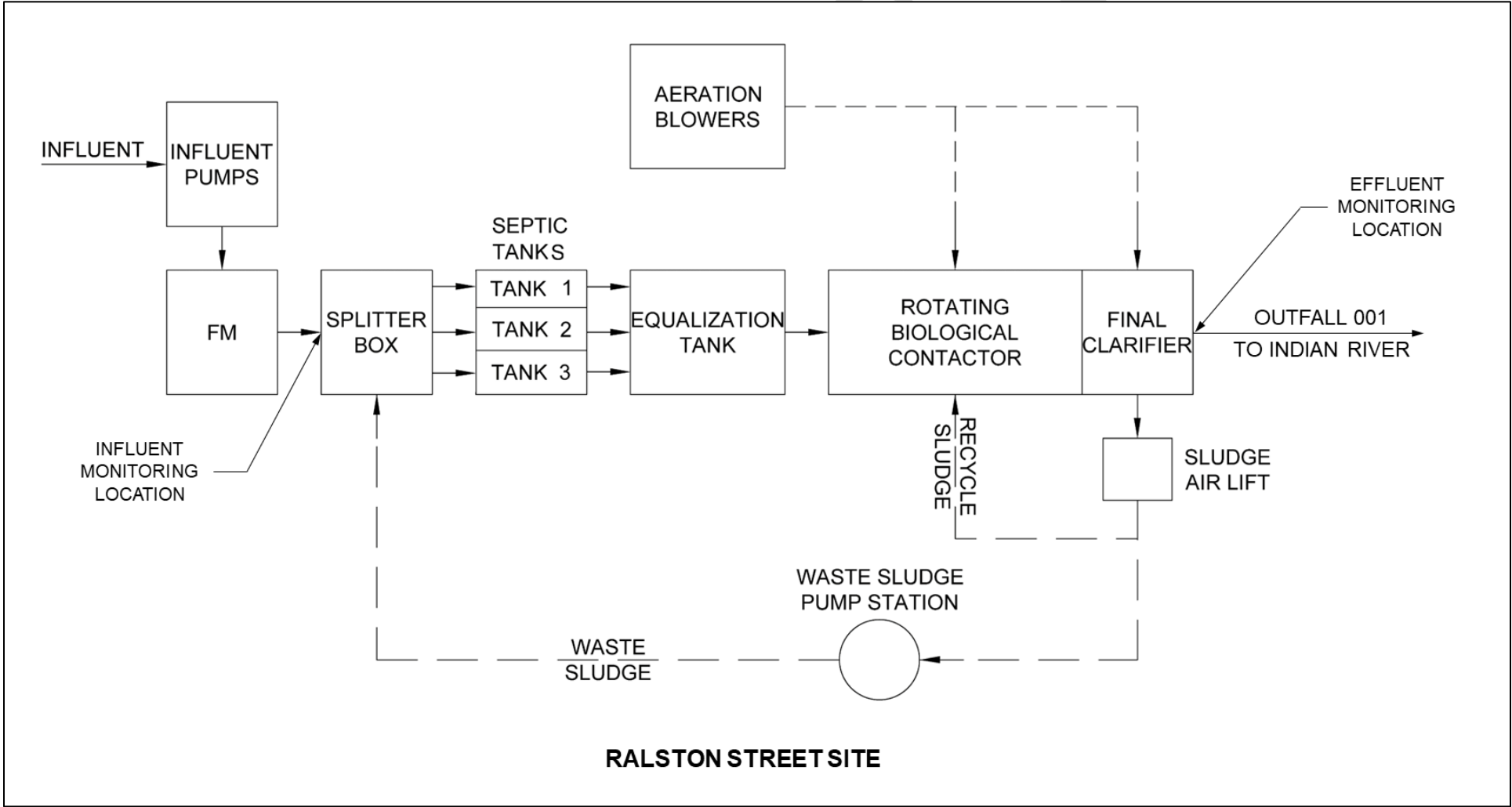
- b) The permittee shall submit a notice of non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All notifications shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:
1. A short description of the non-compliance;
 2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
 3. Any details which tend to explain or mitigate an instance of non-compliance; and
 4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.
- c) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer and to the Bureau of Water Permits.

⁵ 6 NYCRR 750-1.14 (a)

INTERIM MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

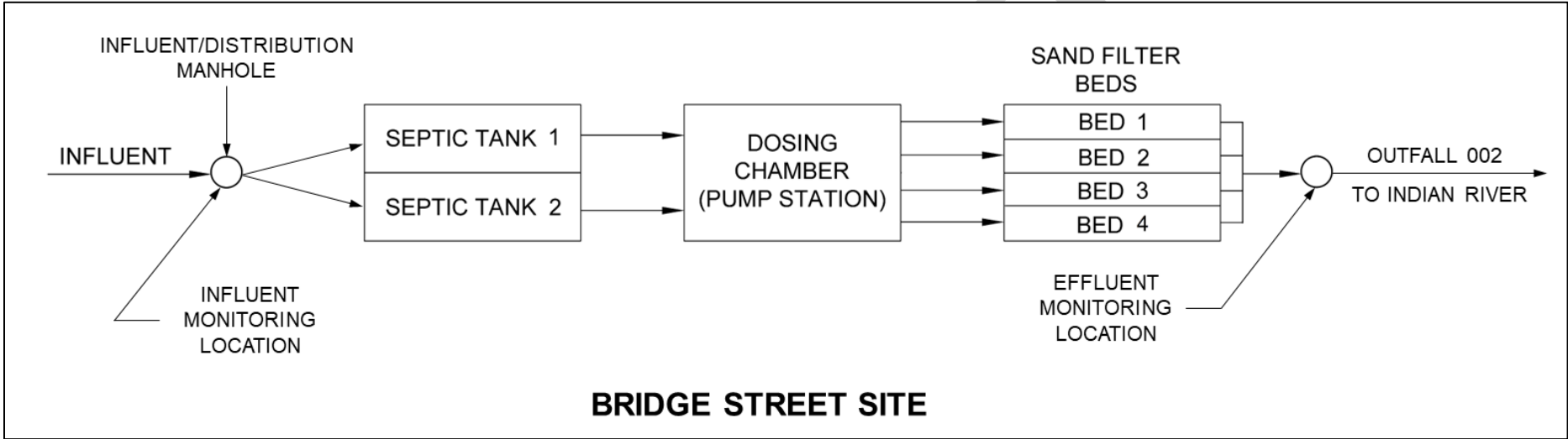
Outfall 001



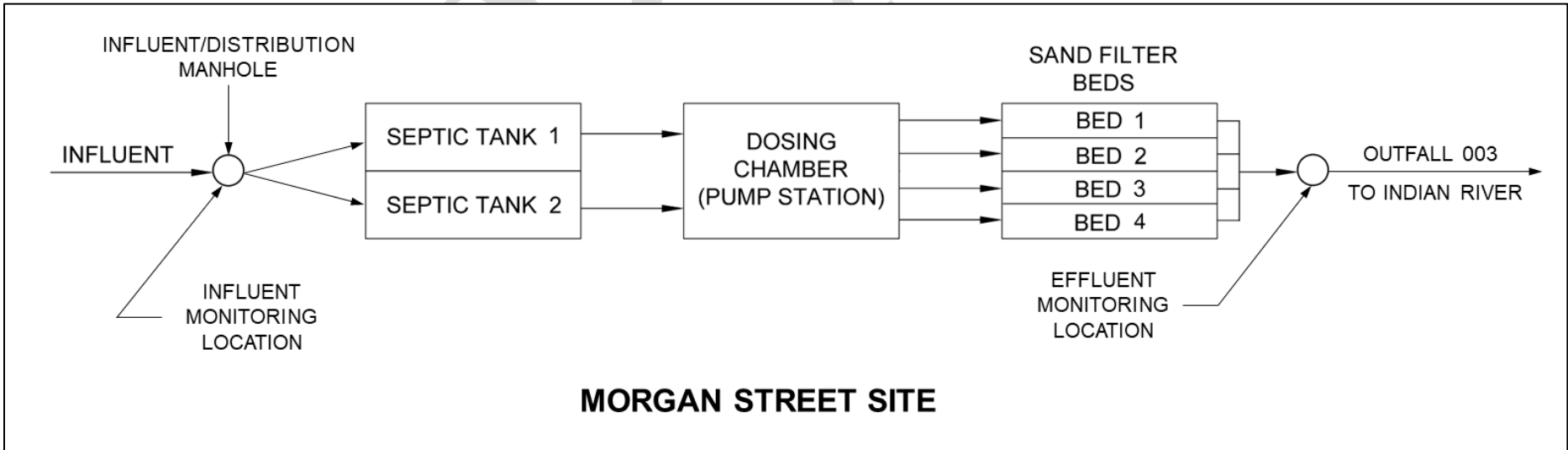
INTERIM MONITORING LOCATIONS (Continued)

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

Outfall 002



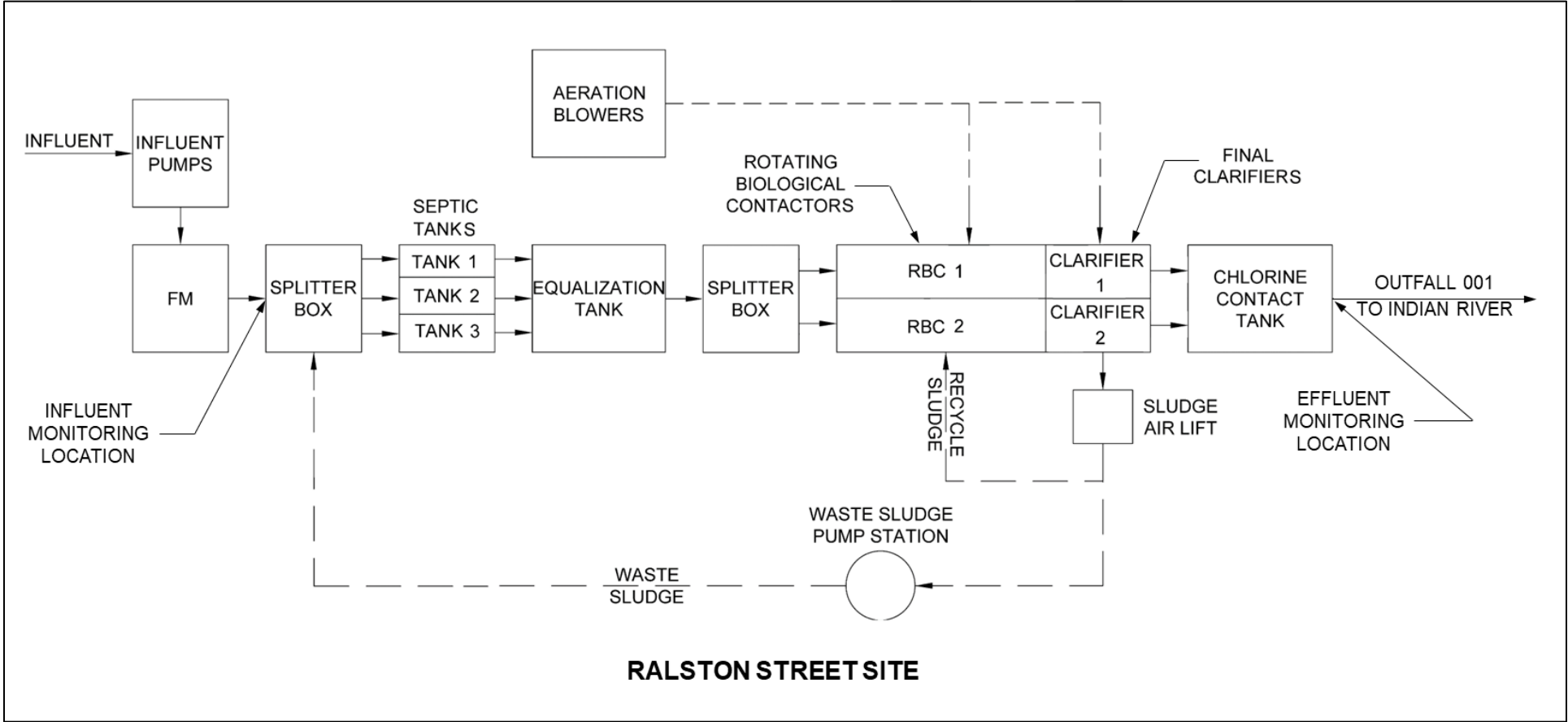
Outfall 003



FINAL MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

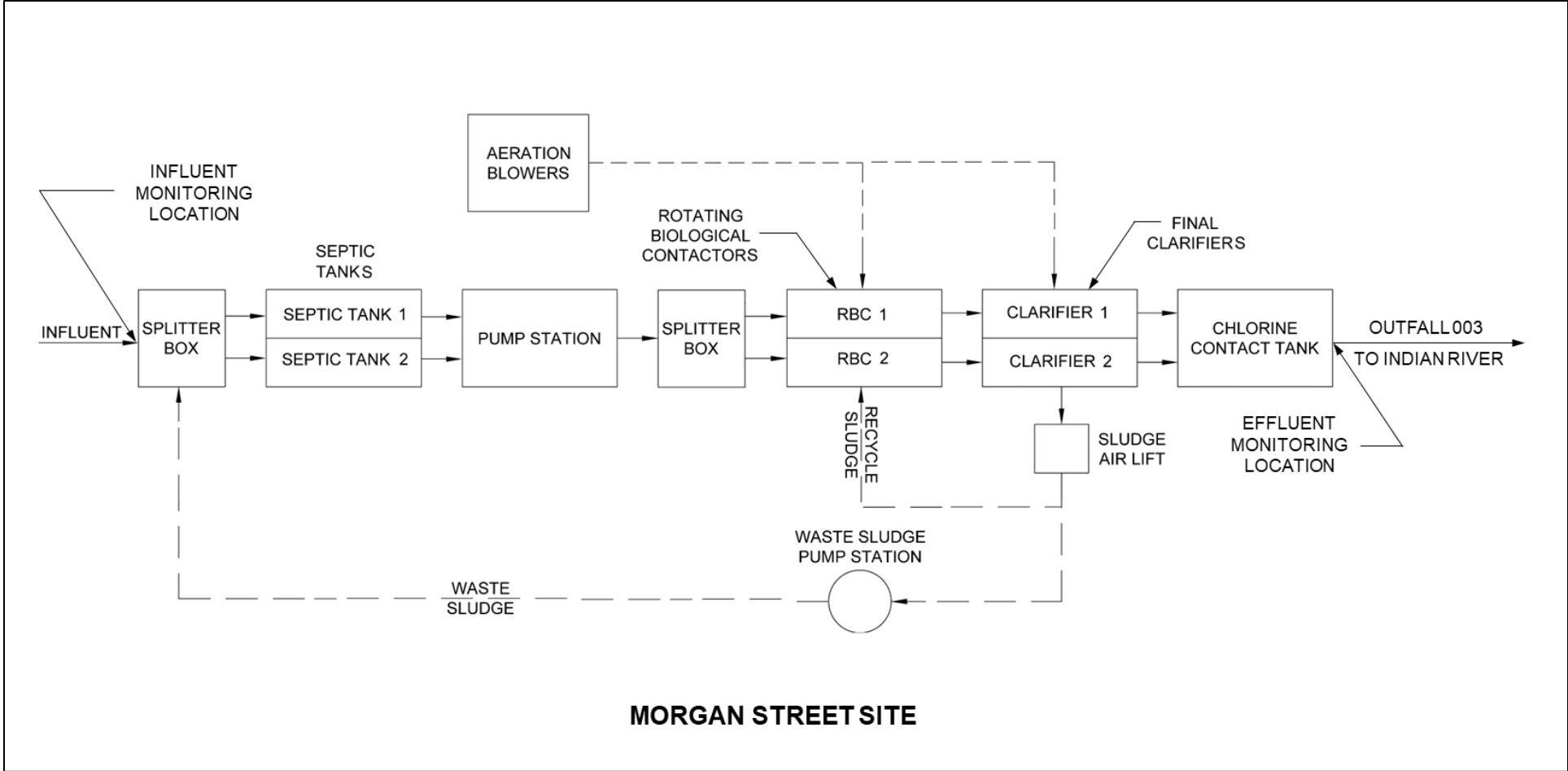
Outfall 001 – Upon Implementation of Effluent Disinfection



FINAL MONITORING LOCATIONS (Continued)

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

Outfall 003 – Upon Completion of the Treatment System Upgrades



GENERAL REQUIREMENTS

- A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through I as follows:
- B. General Conditions
- | | |
|--|---|
| 1. Duty to comply | 6 NYCRR 750-2.1(e) & 2.4 |
| 2. Duty to reapply | 6 NYCRR 750-1.16(a) |
| 3. Need to halt or reduce activity not a defense | 6 NYCRR 750-2.1(g) |
| 4. Duty to mitigate | 6 NYCRR 750-2.7(f) |
| 5. Permit actions | 6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h) |
| 6. Property rights | 6 NYCRR 750-2.2(b) |
| 7. Duty to provide information | 6 NYCRR 750-2.1(i) |
| 8. Inspection and entry | 6 NYCRR 750-2.1(a) & 2.3 |
- C. Operation and Maintenance
- | | |
|-----------------------------------|--------------------------------------|
| 1. Proper Operation & Maintenance | 6 NYCRR 750-2.8 |
| 2. Bypass | 6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7 |
| 3. Upset | 6 NYCRR 750-1.2(a)(94) & 2.8(c) |
- D. Monitoring and Records
- | | |
|---------------------------|--|
| 1. Monitoring and records | 6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d) |
| 2. Signatory requirements | 6 NYCRR 750-1.8 & 2.5(b) |
- E. Reporting Requirements
- | | |
|---|-----------------------------|
| 1. Reporting requirements | 6 NYCRR 750-2.5, 2.7 & 1.17 |
| 2. Anticipated noncompliance | 6 NYCRR 750-2.7(a) |
| 3. Transfers | 6 NYCRR 750-1.17 |
| 4. Monitoring reports | 6 NYCRR 750-2.5(e) |
| 5. Compliance schedules | 6 NYCRR 750-1.14(d) |
| 6. 24-hour reporting | 6 NYCRR 750-2.7(c) & (d) |
| 7. Other noncompliance | 6 NYCRR 750-2.7(e) |
| 8. Other information | 6 NYCRR 750-2.1(f) |
| 9. Additional conditions applicable to a POTW | 6 NYCRR 750-2.9 |
- F. Planned Changes
- The permittee shall give notice to the Department as soon as possible of planned physical alterations or additions to the permitted facility when:
 - The alteration or addition to the permitted facility may meet any of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
 - The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject either to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
 - The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

GENERAL REQUIREMENTS (Continued)

G. Notification Requirement for POTWs

All POTWs shall provide adequate notice to the Department and the USEPA of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice shall include information on:
 - i. the quality and quantity of effluent introduced into the POTW, and
 - ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address:

U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be submitted in electronic format and attached to either the December DMR or the annual monitoring report required below. The *WTC Notification Form and WTC Annual Report Form* are available from the Department's website at: <http://www.dec.ny.gov/permits/93245.html>

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- A. The monitoring information required by this permit shall be retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent.
- B. Discharge Monitoring Reports (DMRs): Completed DMR forms shall be submitted for each month reporting period in accordance with the DMR Manual available on Department's website.

DMRs must be submitted electronically using the electronic reporting tool (NetDMR) specified by NYSDEC. Instructions on the use of NetDMR can be found at <https://www.dec.ny.gov/chemical/8461.html>. **Hardcopy paper DMRs will only be accepted if a waiver from the electronic submittal requirements has been granted by DEC to the facility.**

Attach the monthly "Wastewater Facility Operation Report" (form 92-15-7) and any required DMR attachments electronically to the DMR or with the hardcopy submittal.

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

- C. Additional information required to be submitted by this permit shall be summarized and reported to the Regional Water Engineer and Bureau of Water Permits at the following addresses:

Department of Environmental Conservation
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111

Department of Environmental Conservation
Regional Water Engineer, Region 6
State Office Building, 317 Washington Street, Watertown, New York, 13601-3787 Phone: (315) 785-2513

- D. Bypass and Sewage Pollutant Right to Know Reporting: In accordance with the Sewage Pollutant Right to Know Act (ECL § 17-0826-a), Publicly Owned Treatment Works (POTWs) are required to notify DEC and Department of Health within two hours of discovery of an untreated or partially treated sewage discharge and to notify the public and adjoining municipalities within four hours of discovery. Information regarding reporting and other requirements of this program may be found on the Department's website. In addition, POTWs are required to provide a five-day incident report and supplemental information to the DEC in accordance with Part 750-2.7(d) by utilizing the Division of Water Report of Noncompliance Event form unless waived by DEC on a case-by-case basis.

- E. Schedule of Additional Submittals

The permittee shall submit the following information to the Regional Water Engineer and to the Bureau of Water Permits, unless otherwise instructed:

SCHEDULE OF ADDITIONAL SUBMITTALS		
Outfall(s)	Required Action	Due Date
001, 003	<p><u>EMERGING CONTAMINANT SHORT-TERM MONITORING PROGRAM</u> The permittee shall collect grab samples of both the influent and effluent from the facility's treatment system(s) associated with the identified outfall for Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane (1,4-D), unless permittee receives written notification from the Department during this time that sampling can be discontinued. Samples must be analyzed utilizing EPA draft analytical method 1633 and EPA Method 8270D SIM or 8270E SIM, respectively. The samples must represent normal discharge conditions and treatment operations and shall be obtained on a quarterly basis for at least 4 consecutive quarters, unless written notification from the Department indicates otherwise. The results shall be reported through the "Emerging Contaminants Survey for POTWs" found at: https://www.dec.ny.gov/chemical/127939.html.</p> <p>The permittee shall initiate track down of potential sources by completing the "Emerging Contaminants Investigation Checklist for POTWs" available at the above link. The Department may periodically request updates and/or additional monitoring to check progress on track down investigations. Elements of the checklist may be used as permit conditions in future permit modifications.</p>	<p>8/1/2027</p> <p>Within 90 days of DEC written notification</p>
003	<p><u>NOTIFICATION OF START DATE ("START-UP")</u> The permittee shall provide the Department with the proposed start date for the treatment system upgrades at Outfall 003. This date will be used to establish the start of compliance reporting for the final effluent limitations at Outfall 003. Notice shall be provided to the Regional Water Engineer and via email to: NetDMR@dec.ny.gov.</p>	<p>30-days prior to completion of the treatment system upgrades</p>
001, 003	<p><u>WATER TREATMENT CHEMICAL (WTC) ANNUAL REPORT FORM</u> The permittee shall submit a completed WTC Annual Report Form each year that Water Treatment Chemicals are used. The form shall be attached to the December DMR.</p>	<p>December DMR (January 28th)</p>
001, 002, 003	<p><u>ANNUAL FLOW CERTIFICATION</u> The permittee shall submit an Annual Flow Certification form each year in accordance with 750-2.9(C)(4). The form shall be attached to the February DMR or submitted through nForm.</p>	<p>February DMR (March 28th)</p>
001, 003	<p><u>MERCURY - CONDITIONAL EXCLUSION CERTIFICATION</u> Permittee must submit a mercury conditional exclusion certification every five years in order to maintain MMP Type IV status. As part of the certification the permittee will be required to sample the effluent and measure <12 ng/L.</p>	<p>11/9/2028 and every 5 years thereafter</p>
001, 003	<p><u>MERCURY MINIMIZATION PLAN</u> The permittee must complete and maintain onsite an annual mercury minimization status report in accordance with the requirements of this permit.</p>	<p>Maintained Onsite EDP + 12 months, annually thereafter</p>

Unless noted otherwise, the above actions are one-time requirements.

- F. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

- G. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.
- H. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- I. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- J. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

DRAFT

SPDES Permit Fact Sheet

Village of Theresa

Village of Theresa WWTP

NY0207004



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Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) permittee-initiated permit modification has been drafted for the Village of Theresa WWTP. The changes to the permit are summarized below:

- Updated permit format, definitions, and general conditions
- Added Interim Permit Limits, Levels, and Monitoring tables for Outfalls 001, 002, and 003.
- Added Final Permit Limits, Levels and Monitoring tables for Outfalls 001 and 003.
- Updated the table footnotes.
- Updated the Mercury Minimization Program language.
- Revised the Schedule of Compliance to include Interim Progress Reports and extending the begin construction date for effluent disinfection from May 1, 2023, to June 1, 2024, and the complete construction and commence operation date for effluent disinfection from May 1, 2024 to May 1, 2026.
- Added requirement for emerging contaminant monitoring.
- Updated the Monitoring Locations diagrams.
- Added the Schedule of Additional Submittals.

This fact sheet summarizes the information used to determine the effluent limitations (limits) and other conditions contained in the permit. General background information including the regulatory basis for the effluent limitations and other conditions are in the [Appendix](#) linked throughout this fact sheet.

Administrative History

- 10/1/2020 The last full technical review was performed and the SPDES permit became effective with a new five-year term and expiration date of 10/31/2025. The 2020 permit, along with all subsequent modifications, has formed the basis of this permit.
- 10/1/2022 Permit was modified to include updated coordinates for Facility Location for Primary Outfall No. 001 and coordinates for Outfalls 002 and 003; updated flow, monthly average and 7-day average for BOD and monthly average and 7-day average for TSS to correct typographical errors in the Permit Limits, Levels, and Monitoring table for Outfall 003; updated footnotes for all outfalls; and updated permit format, definitions, and general conditions to reflect the current language and permit format.
- 4/27/2023 The Village of Theresa submitted a request to modify the permit to extend the begin construction date and complete construction and commence operation date to secure the required funding. On 5/15/2023, the Village submitted a revised request to extend the begin construction date from 5/1/2023 to 6/1/2024 and the complete construction and commence operation date from 5/1/2024 to 5/1/2026.
- 10/25/2023 The Village of Theresa submitted a NY-2A permit application. The application was submitted as part of the upcoming wastewater improvement project which includes a new treatment system at the Outfall 003 location, a new pump station at the Outfall 002 location to pump wastewater to the treatment system at the Outfall 003 location and decommissioning of the treatment system at Outfall 002.

The Notice of Complete Application, published in the [Environmental Notice Bulletin](#) and newspapers, contains information on the public notice process.

Facility Information

This facility is a publicly owned treatment works that receives flow from domestic users, with effluent consisting of treated sanitary sewage. The collection system consists of separate sewers. The facility does not have any significant industrial users (SIUs).

The system currently consists of three separate treatment plant sites. Outfall 001 is located on Ralston Street and is permitted for 0.045 MGD. The treatment system consists of septic tanks, a flow equalization tank, and rotating biological contactor with a clarifier.

Outfall 002 is located on Bridge Street and is permitted for 0.008 MGD. Outfall 003 is located on Morgan Street and is permitted for 0.015 MGD. The treatment system at both sites consists of septic tanks and buried sand filters.

Sludge from the septic tanks at all three treatment systems is hauled to the City of Watertown Water Pollution Control Facility for treatment.

All outfalls are located on the bank of the Indian River and consist of an 8" submerged pipe. Outfall 001 is located off Ralston Street, outfall 002 is located off Bridge Street, and outfall 003 is located off Morgan Street.

The facility is planning the following upgrades/improvements:

- Addition of a redundant rotating biological contactor and clarifier at the Outfall 001 treatment plant site,
- Addition of a pumping station at the Outfall 002 treatment plant site to pump the wastewater from the Outfall 002 treatment plant site to the Outfall 003 treatment plant site,
- Decommissioning and demolition of the existing Outfall 002 treatment plant site after the completion of the new pumping station,
- Addition of a new treatment system at the Outfall 003 treatment plant site to consist of septic tanks and rotating biological contactors with clarifiers,
- Decommissioning and demolition of the existing treatment system at the Outfall 003 treatment plant site after completion of the new treatment system,
- Addition of chlorine disinfection on the existing treatment system at the Outfall 001 treatment plant site and on the new treatment system at the Outfall 003 treatment plant site to comply with the Schedule of Compliance in the current SPDES permit, and
- Upgrades to the existing pump stations in the collection systems serving the Outfall 001, 002, and 003 treatment plant sites.

The facility accepts wastewater from the following municipalities:

Municipality	POSS # or SPDES #	Collection System
Village of Theresa	NY0207004	Separate

A full technical review was not completed for Outfall 002 since this outfall will be removed as part of the Village's upgrades/improvements.

Site Overview

The following images show the three separate outfall locations.

Outfall 001 (Ralston Street) Location



Outfall 002 (Bridge Street) and Outfall 003 (Morgan Street) Locations



Enforcement History

Compliance and enforcement information can be found on the EPA's [Enforcement and Compliance History Online \(ECHO\)](#) website.

Existing Effluent Quality

The [Pollutant Summary Table](#) presents the existing effluent quality and effluent limitations. The existing effluent quality was determined from Discharge Monitoring Reports and the application submitted by the permittee for the period 1/1/2018 to 12/31/2022. [Appendix Link](#)

Interstate Water Pollution Control Agencies

Outfall(s) 001 and 003 are located within the Great Lakes watershed and International Joint Commission (IJC) compact area. There are no specific permit requirements under the IJC Compact applicable to the discharges. [Appendix Link](#)

Receiving Water Information

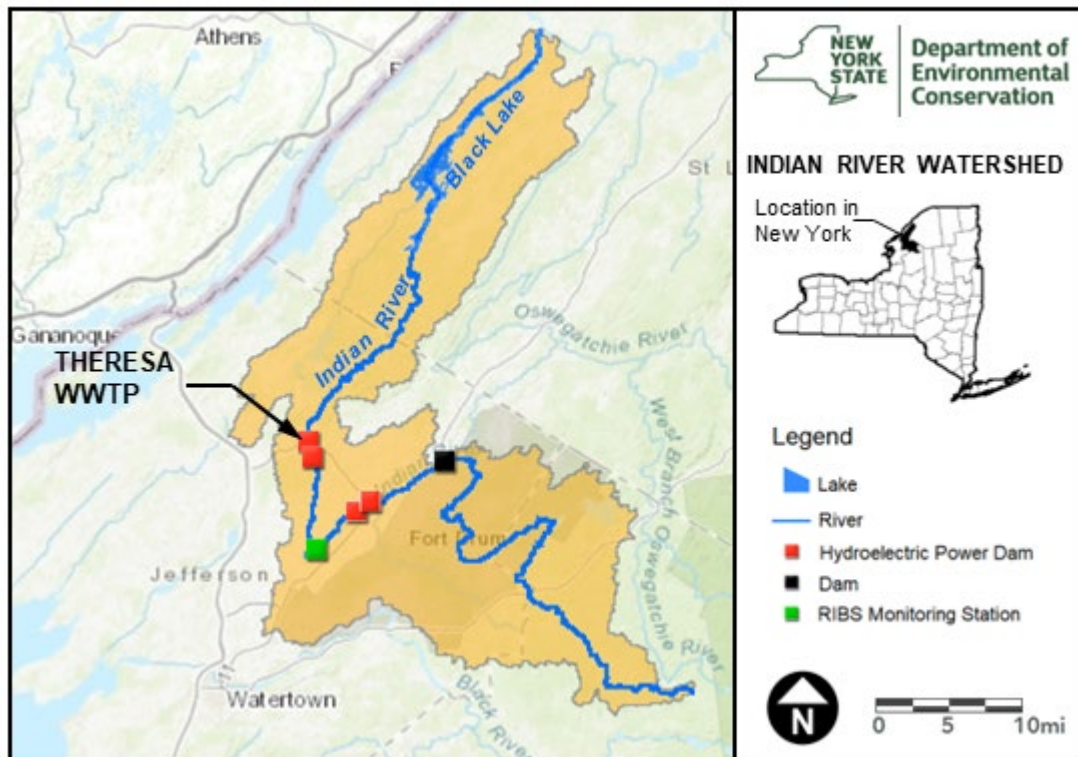
The facility discharges via the following outfalls:

Outfall No.	Design Flow (MGD)	SIC Code	Wastewater Type	Receiving Water
001	0.045	4952	Treated Sanitary Sewage	Indian River, Class C
003	0.023	4952	Treated Sanitary Sewage	Indian River, Class C
Former Outfall 002 – Removing from permit upon completion of the new system at Outfall 003				

Reach Description:

The Indian River is in the St. Lawrence watershed and drains area of 390 square miles before entering Black Lake. The Indian River is a long meandering stream with headwaters originating in the Town of Croghan, Lewis County, New York and flows about 100 miles to Black Lake in the Town of Rossie, St. Lawrence County, New York.

Indian River Watershed



Flows in the middle portion of the Indian River are affected to an unknown degree by four hydroelectric power projects at Theresa, Indian Falls, Sandy Hollow, and Philadelphia, and a non-power dam at Antwerp. The combined rated power generating capacity of the four hydroelectric projects is 6.4 megawatts (MW). Each of the hydroelectric power dams is operated in “run-of-river” mode.

Outfall 003 is about 1/4-mile upstream of Theresa Dam, which was constructed on top of a natural waterfalls. Significant dissolved oxygen reaeration occurs at his location because of the 70-foot drop in elevation. Outfall 001 is about 1/3-mile downstream of the dam.

Theresa Dam Looking Downstream



Theresa Dam Looking Upstream



The segment of the Indian River at Theresa has a drainage area of about 320 square miles and is specified in 6 NYCRR Part 910, Table 1, Item 1101, Waters Index Number (WIN) SL-25-3, and is classified as a Class C waterbody.

The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The classifications of individual surface waters are specified in 6 NYCRR Parts 800 - 941. The best uses and standards of quality and purity applicable to specific water classes are specified in 6 NYCRR Parts 701-706.

See the [Outfall and Receiving Water Summary Table](#) and [Appendix](#) for additional information.

Impaired Waterbody Information

The Indian River segment (PWL No. 0906-0021) at the discharge location is not listed on the 2018 [New York State Section 303\(d\) List](#) of Impaired/TMDL Waters, and therefore, there are no applicable wasteload allocations (WLAs) for this discharge.

Black Lake/Black Lake Outlet (SL-25-7/P1) (PWL No. 0906-0001) is located about 23 miles downstream from Theresa and was first listed on the 1998 New York State Section 303(d) List of Impaired/TMDL Waters as impaired due to phosphorus from agriculture activity. The segment continues to be listed as of the 2018 NYS Section 303(d) List. A TMDL has not been developed to address the impairment, and therefore, there are no applicable wasteload allocations (WLAs)

for this facility. Should a TMDL be developed in the future, phosphorus limits may become a necessary requirement, depending on the results of the TMDL study.

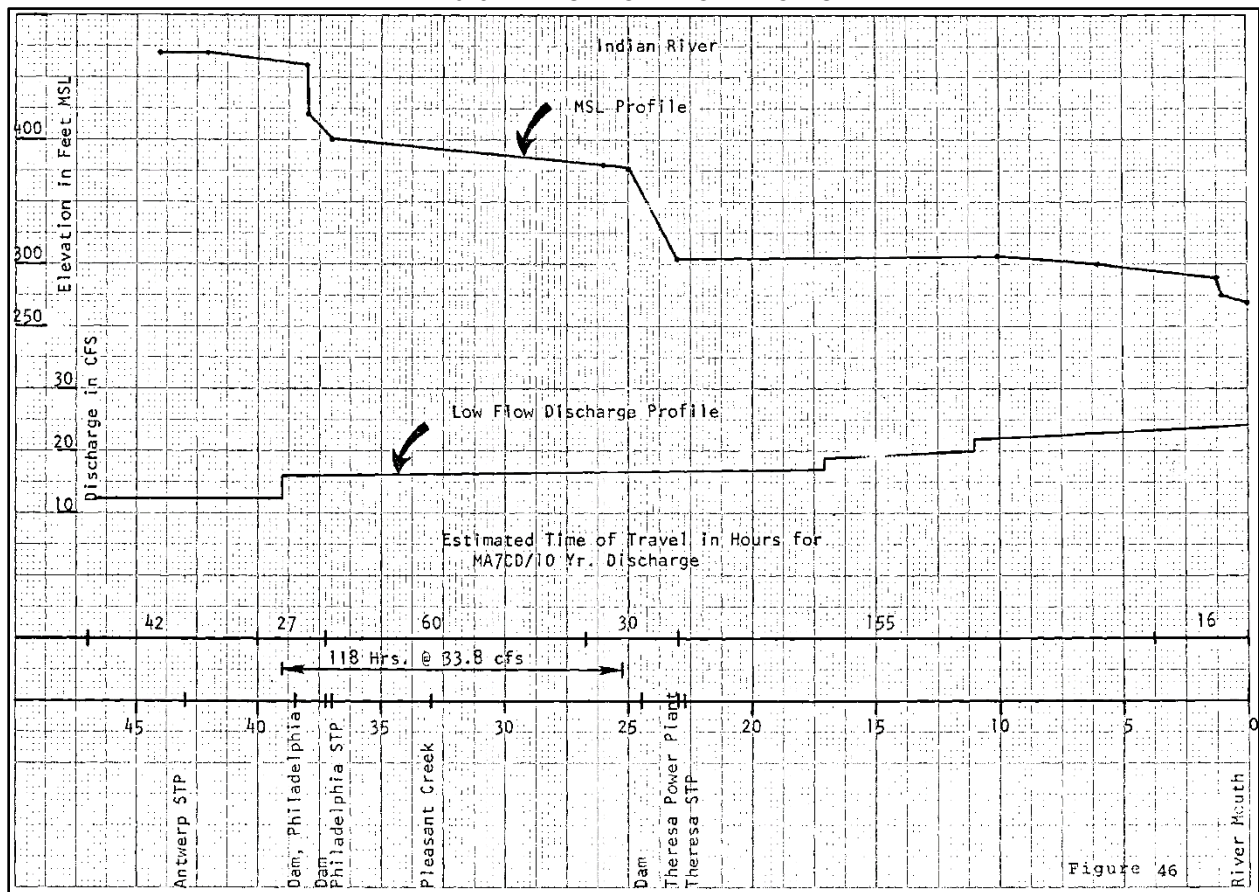
Critical Receiving Water Data & Mixing Zone

NYSDEC uses critical low flows to evaluate effluent limits to ensure water quality standards are maintained. The 1Q10, 7Q10, and 30Q10 flows can be thought of as being the lowest 1-Day, 7-Day and 30-Day average flows that are expected to occur on average once every 10 years.

The 1Q10 flow is used to evaluate for aquatic acute A(A), the 7Q10 for aquatic chronic A(C), and the 30Q10 for human, aesthetic, wildlife (HEW) criteria.

The 7Q10 flow of 16.3 CFS for the Indian River at Theresa was obtained from *Water Quality Management Plan for the St. Lawrence Basin (09-00), New York State Department of Environmental Conservation, June 1975, (p. 162).*

Indian River Low Flow Profile



The 1Q10 flow was estimated as half the 7Q10 and the 30Q10 flow was estimated as 1.2 x 7Q10. These are NYSDEC default critical low flow multipliers. To convert from cubic feet per second (CFS) to million gallons per day (MGD), a multiplier of 0.6463 is applied. The critical flows in MGD are:

Critical Receiving Water Low Flows

Receiving Water	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)
Indian River at Theresa	5.3	10.5	12.6

The 1Q10, 7Q10, and 30Q10 flows and the facility designs flows were used to calculate the acute, chronic, and human, aesthetic, wildlife (HEW) dilution ratios, respectively.

$$\text{Dilution Ratio} = (\text{Facility Design Flow} + \text{Low Flow}) / \text{Facility Design Flow}$$

Flow Based Dilution Ratios

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	119:1	243:1	281:1	Low Flow Analysis
003	231:1	458:1	549:1	Low Flow Analysis
Combined Discharge	79:1	155:1	186:1	Low Flow Analysis

Because there are two outfalls, a combined dilution ratio will be used to evaluate the resulting water quality for conservative (non-degrading) pollutants that accounts for the effects of both outfalls on receiving water quality.

In accordance NYSDEC Technical Operations Guidance Series (TOGS) 1.3.1 for large rivers and current NYSDEC permitting practice, maximum dilution ratios of 50:1 and 100:1 for aquatic acute and chronic mixing zone criteria, respectively, shall be used as the limiting conditions for evaluating water quality. HEW is set to a maximum allowance of 100:1. The maximum dilutions ratios apply to the sum of both outfalls.

Maximum Allowable Dilution Ratios

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
Combined Discharge	50:1	100:1	100:1	TOGS 1.3.1

Ambient receiving water background concentrations were obtained from New York’s Rotating Integrated Basin Studies (RIBS) Program at Station 09-INDN-33.7, Indian River in Le Ray, which is located about 11 miles upstream of Theresa.

Receiving Water Quality

Parameter	Units	Mean	Range	75 th Percentile	Number of Samples
pH	SU	7.8	7.6 - 8.0	7.9	6
Hardness	mg/L	65	48 - 102	-	7

The 75th percentile for pH is used to evaluate ammonia in accordance with TOGS 1.3.1.E.

When receiving water background concentrations need to be considered, the predicted instream concentration for conservative pollutants based on dilution ratios can be calculated as:

$$C_r = \frac{C_d + C_u(D - 1)}{D}$$

Where:

- C_r = resulting downstream pollutant concentration
- C_d = discharge pollutant concentration
- C_u = Upstream or background concentration
- D = Allowable dilution

When the receiving water background concentration for a pollutant is considered negligible or zero, the above equation reduces to the discharge concentration divided by the dilution ratio:

$$C_r = \frac{C_d}{D}$$

Effluent limits for conservative pollutants can be calculated using allowable dilution as follows:

$$C_{eff} = (C_{wqs} - C_b)D + C_b$$

Where:

- C_{eff} = Allowable effluent concentration
- C_{wqs} = Water quality standard concentration
- C_b = Background pollutant concentration
- D = Allowable dilution

For the case when the background concentration is considered negligible or zero, the above equation simplifies to the water quality standard times allowable dilution:

$$C_{eff} = (C_{wqs})D$$

To calculate the mass loading of a pollutant in pounds per day (lbs/d) from a concentration, the following conversion formula is applied:

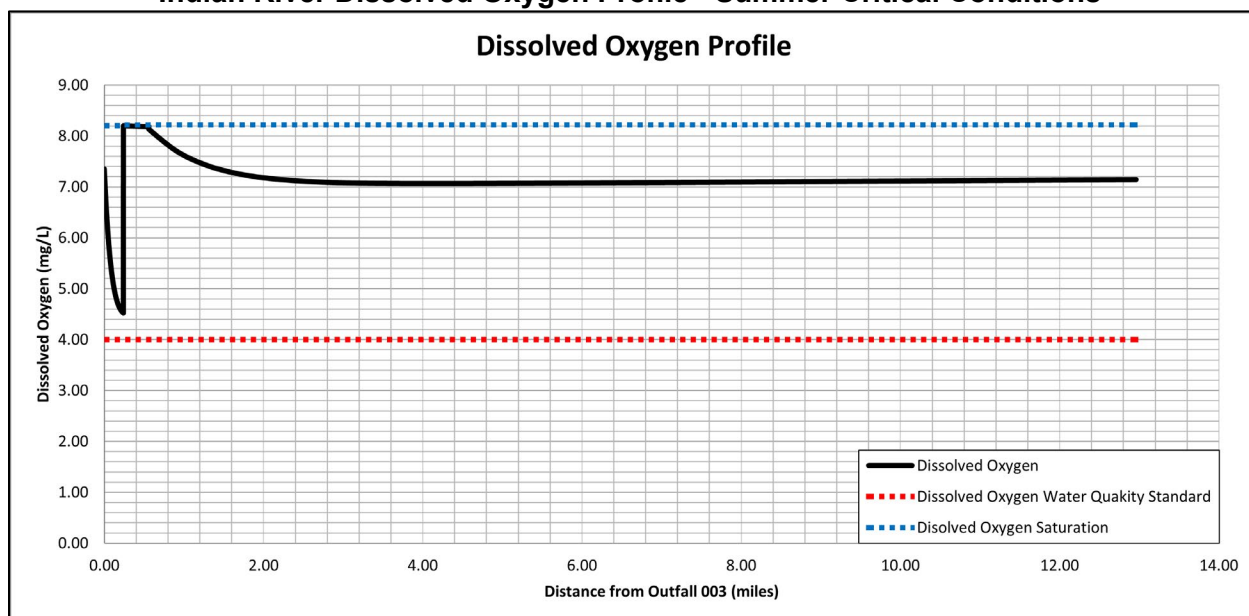
$$\text{Loading (lbs/d)} = \text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34$$

For non-conservative, oxygen-demanding pollutants, instream dissolved oxygen concentrations from a point source discharge to a river or stream are calculated using modeling tools developed by NYSDEC based on the Streeter-Phelps equations. The method used is documented in *Water*

Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water, EPA/600/6-85/002a. The method calculates the dissolved oxygen deficit for ultimate oxygen demand (UOD) based on ultimate carbonaceous biochemical oxygen Demand (CBOD_u) and nitrogenous oxygen demand (NOD).

The projected dissolved oxygen profile under summer critical receiving conditions with a water temperature of 25 °C and the maximum discharge limits set by the SPDES permit is shown below. As expected, dissolved oxygen levels rapidly drops from Outfall 003 to Theresa Dam reaching a low of 4.5 mg/L at the dam due to low river velocities (0.02 ft/sec) and minimal instream reaeration. Dissolved oxygen levels then return to about 100% saturation (8.2 mg/L) because of the 70-foot drop over the Theresa Dam and waterfalls. From Outfall 001, dissolved oxygen levels drop to a low of 7.1 mg/L about 3.6 miles downstream of the outfall where it then slowly starts to increase due to instream reaeration and CBOD depletion. The 23-mile section of the Indian River from Theresa Dam to Black Lake has a relatively gradual stream slope, dropping about 31 feet which is about 1.3 feet per mile.

Indian River Dissolved Oxygen Profile - Summer Critical Conditions



Critical receiving water data and model details are listed in the [Pollutant Summary Table](#) at the end of this fact sheet. [Appendix Link](#)

Permit Requirements

The technology based effluent limitations ([TBELs](#)), water quality-based effluent limitations ([WQBELs](#)), [Existing Effluent Quality](#) and a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the [Pollutant Summary Table](#).

Whole Effluent Toxicity (WET) Testing

None of the seven criteria that are indicative of potential toxicity are applicable to this facility; therefore, WET testing is not included in the permit. [Appendix Link](#)

Anti-backsliding

In general, state and federal regulations prohibit the relaxation of effluent limitations in permits unless one of the specified exceptions applies. [Appendix Link](#)

The draft permit includes a proposed settleable solids TBEL of 0.3 ml/L compared to the current permit limitation of 0.1 ml/L at Outfall 003.

The treatment technology at Outfall 003 is changing from intermittent sand filtration to Rotating Biological Contactors (RBCs) because of the treatment plant upgrades. In accordance with TOGS 1.3.3, a biological treatment facility should be given a TBEL 0.3 ml/L for settleable solids.

Pursuant to 6 NYCRR Part 750-1.10(c)(2)(ii) and 40 CFR 122.44(l)(2)(i)(A), antibacksliding is allowed if material and substantial alterations or additions to the permitted facility occurred after permit issuance, which justify the application of a less stringent effluent limitation. The change in treatment technology at Outfall 003 is a material and substantial alteration that justifies the TBEL of 0.3 ml/L.

Antidegradation

The permit contains effluent limitations which ensure that the best usages of the receiving waters will be maintained. The Notice of Complete Application published in the Environmental Notice Bulletin contains information on the State Environmental Quality Review (SEQR)¹ determination. [Appendix Link](#)

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters, unless a waiver is obtained. This requirement is being continued from the previous permit.

Additionally, the permit contains a requirement to make the DMR sampling data available to the public upon request. This requirement is being continued from the previous permit.

Mercury²

The multiple discharge variance (MDV) for mercury provides the framework for NYSDEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. [Appendix Link](#)

The facility is classified as a municipal (07) facility located within the Great Lakes Basin and does not have a mercury source. On 11/9/2023, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10 and the effluent measured <12 ng/L. Therefore, consistent with DOW 1.3.10, the permit includes requirements for the implementation of MMP Type IV and does not include mercury effluent limitations. The [Schedule of Additional Submittals](#) includes a mercury minimization plan annual status report (maintained onsite), and re-certification of the exclusion every five years. As part of the re-certification, the effluent must be sampled and continue to measure <12 ng/L. This requirement is new.

¹ As prescribed by 6 NYCRR Part 617

² In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

Schedule(s) of Compliance

A Schedule of Compliance is being included³ for the following items ([Appendix Link](#)):

- Compliance period for attainment of final effluent limits for Fecal Coliform and TRC. This is continuing from the previous permit and the facility is working towards compliance.

Emerging Contaminant Monitoring

Emerging Contaminants, such as Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), and 1,4-Dioxane (1,4-D), have been used in a wide variety of consumer and industrial product as well as in manufacturing processes for decades. These contaminants do not break down easily, therefore their presence in wastewater can remain a concern for years following their discontinued use. As the science surrounding these contaminants is still evolving, additional monitoring is needed to better understand potential sources and background levels. For more information on emerging contaminants, please see the NYSDEC Division of Water web page: <https://www.dec.ny.gov/chemical/127939.html>.

Pursuant to 6 NYCRR Part 750-1.13(b), the permit includes a short-term monitoring program listed in the Schedule of Additional Submittals to evaluate the influent and effluent discharge levels of Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane. This monitoring program is consistent with PFAS guidance released in EPA guidance memos dated April 28, 2022, and December 5, 2022.

The Department will review the monitoring results and pursuant to 6 NYCRR 750-2.1(i) may notify the permittee of the need for further monitoring to identify potential sources as specified in the Emerging Contaminants Investigation Checklist for POTWs to determine whether cause exists to modify the permit to incorporate a pollutant minimization program per 6 NYCRR 750-1.14(f).

The Department will consider this information and progress made to track down and reduce or eliminate the source of the identified pollutants in determining if a permit modification is needed.

Schedule(s) of Additional Submittals

A schedule of additional submittals has been included for the following ([Appendix Link](#)):

- Emerging Contaminant Short-Term Monitoring
- Notification of Start Date (“Start-up”) 30 days prior to completion of the treatment system upgrades.
- Water Treatment Chemical (WTC) Annual Report Form
- Annual Flow Certification form each year by March 28th.
- Mercury – Conditional Exclusion Certification every five years.
- Mercury Minimization Program Annual Status Report (maintained onsite).

³ Pursuant to 6 NYCRR 750-1.14

OUTFALL AND RECEIVING WATER SUMMARY TABLE

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/l)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
001	44° 13' 14" N	75° 47' 56" W	Indian River	C	SL-25-7-3 PWL: 0906-0021	09/06	65 ⁴	5.3	10.5	12.6	0.045	119:1	243:1	281:1
003	44° 12' 57" N	75° 47' 27" W									0.023	231:1	458:1	549:1
Combined Discharge – Flow Based												79:1	155:1	186:1
Combined Discharge – Maximum Allowable												50:1	100:1	100:1

POLLUTANT SUMMARY TABLE

Outfall 001

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage														
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & QBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. QBEL	Basis for QBEL			
General Notes: Existing discharge data from 1/1/2018 to 12/31/2022 was obtained from Discharge Monitoring Reports provided by the permittee. All applicable water quality standards were reviewed for development of the QBELs. The standard and QBEL shown below represent the most stringent.																
Flow Rate	MGD	Monthly Avg	0.045	0.023 Actual Average	60 / 0	0.045	TOGS 1.3.3	Narrative: No alterations that will impair the waters for their best usages.						703.2	-	TBEL
	TBELs In accordance with TOGS 1.3.3, the flow limit is set at the design flow of the wastewater treatment facility.															
	QBELs Not applicable.															
	Basis of Permit Condition The TBELs based on the design flow are specified in the permit.															

⁴ Ambient hardness was calculated from RIBs station 09-INDN-33.7, Indian River in LeRay.

⁵ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
pH	SU	Minimum	6.0	4.8	60 / 0	6.0	TOGS 1.3.3	7.8 ⁶	7.78	6.5 – 8.5	Range	-	703.3	-	TBEL
		Maximum	9.0	8.4	60 / 0	9.0			7.81						
Existing effluent quality is the lowest minimum and the highest maximum.															
<u>TBELs</u> Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards.															
<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1, the projected instream concentrations (PIC) based on the TBELs for the combined discharge at outfalls 001 and 003 are: $\text{PIC Minimum} = [6.0 + 7.8(100 - 1)] / 100 = 7.78 \text{ SU}$ $\text{PIC Maximum} = [9.0 + 7.8(100 - 1)] / 100 = 7.81 \text{ SU}$															
<u>Basis of Permit Condition</u> Based on the PIC, there is no reasonable potential to exceed the water quality standards for pH, therefore, WQBELs are unnecessary. The TBELs ensure water quality is maintained and are specified in the permit.															
Temperature	°C	Daily Max	Monitor	17/25	60 / 0	Monitor	750-1.13 Monitor	-	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5F over the temperature that existed before the addition			704.2	-	Monitor	
Existing effluent quality is the average/maximum.															
<u>TBELs</u> Consistent with 6 NYCRR 750-1.13(a), monitoring is required and may be used to inform future permitting decisions. This requirement is continued from the previous permit.															
<u>WQBELs</u> Considering existing effluent quality and a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, there is no reasonable potential to exceed the thermal water quality criteria. Therefore, WQBELs are unnecessary.															
<u>Basis of Permit Condition</u> Temperature monitoring is continued from the previous permit.															

⁶ Ambient pH calculated from RIBS station 09-INDN-33.7, Indian River in LeRay.

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Dissolved Oxygen (DO)	mg/L	Daily Min	-	No Data		-	-	7.4	4.5	(Non-Trout) 4.0	Narrative	-	703.3	-	No Limitation
<p>TBELs Not applicable.</p> <p>WQBELs The resulting downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under summer receiving water critical conditions:</p> <p>Receiving Water Characteristics: Flow = 11.4 CFS (7Q10 reduced by 30% due to flow regulation, TOGS 1.3.1) Temperature = 25°C (Non-trout Waters, TOGS 1.3.1.D) DO Saturation = 90% (7.38 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p> <p>Effluent Characteristics: Outfall 001: Flow = 0.070 CFS (0.045 MGD, Permit Limit) Outfall 003: Flow = 0.036 CFS (0.023 MGD, Permit Limit) Applied at Each Outfall: Temperature = 25°C (Non-trout Waters, TOGS 1.3.1.D) DO = 0.0 mg/l (Worst Case Scenario) BOD₅/CBOD₅ = 45 mg/L (Permit Limit) Ammonia = 10 mg/L (NYSDEC Default) Organic Nitrogen = 6.0 mg/L (NYSDEC Default)</p> <p>The receiving water was modeled for a 13-mile segment from Outfall 003 to Hanson Bridge Road. Model segments include the 0.24-mile section from Outfall 003 to Theresa Dam, 0.32-mile section from Theresa Dam to Outfall 001, and a 12.40-mile section from Outfall 001 to the bridge crossing at Hanson Bridge Road.</p> <p>Modeling results predicted a minimum instream DO concentration of 4.5 mg/L at Theresa Dam from Outfall 003 due to the low river velocity (0.02 ft/sec) and minimal instream reaeration caused by the dam. Flows over the 70-foot drop at the dam resulted in dissolved oxygen levels reaching 100% saturation (8.2 mg/L). From Outfall 001, dissolved oxygen levels drop to a low of 7.1 mg/L about 3.6 miles downstream of the outfall. Modeling winter conditions is unnecessary.</p> <p>Basis of Permit Condition Because the minimum dissolved oxygen levels do not fall below the water quality standard of 4.0 mg/L, the TBELs for BOD₅ ensure water quality is maintained. Therefore, additional WQBELs for ultimate oxygen demand (UOD), dissolved oxygen and ammonia are unnecessary.</p>															

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
5-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg	30	57	20 / 0	30	TOGS 1.3.3	-	See Dissolved Oxygen			703.3	-	TBEL	
		7 Day Avg	45	52	20 / 0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	11.3	13.6	20 / 0	11.3	-								
		7 Day Avg	16.9	13.3	20 / 0	16.9	-								
	% Rem	Minimum	85	77/93	20 / 0	85	TOGS 1.3.3								
Existing effluent quality for the % removal is the minimum/average.															
<u>TBELs</u> Consistent with 40 CFR Part 133.102 and TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. See justification for Dissolved Oxygen.															
<u>WQBELs</u> WQBELs are unnecessary, please see the analysis for Dissolved Oxygen for details.															
<u>Basis of Permit Condition</u> The TBELs are protective of water quality and are specified in the permit.															

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	31	19 / 0	30	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.	703.2	-	TBEL			
		7 Day Avg	45	29	19 / 0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	11.3	6.16	19 / 0	11.3	-								
		7 Day Avg	16.9	5.69	19 / 0	16.9	-								
	% Rem	Minimum	85	64/93	16 / 0	85	TOGS 1.3.3								
Existing effluent quality for the % removal is the minimum/average.															
<u>TBELs</u> Consistent with 40 CFR Part 133.102 and TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards.															
<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of narrative water quality standards for TSS. Therefore, WQBELs are unnecessary.															
<u>Basis of Permit Condition</u> The TBELs are specified in the permit.															
Settleable Solids	mL/L	Daily Max	0.3	0.01	60 / 0	0.3	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages	703.2	-	TBEL			
		<u>TBELs</u> Consistent with TOGS 1.3.3, the effluent limitation is equal to the TBEL of 0.3 mL/L for POTWs providing secondary treatment without filtration.													
	<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of narrative water quality standards for settleable solids. Therefore, WBQELs are unnecessary.														
	<u>Basis of Permit Condition</u> The TBELs are specified in the permit.														

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Nitrogen, Ammonia (as N)	mg/L	Monthly Avg	-	No Data	-	-	-	0.10	0.92 (Summer)	A(C)	92 (Summer)	703.5	-	No Limitation	
									1.33 (Winter)	A(C)	162 (Winter)				
<p>TBELs Not applicable.</p> <p>WQBELs The Projected Instream Concentration (PIC) was calculated using the NYSDEC default ammonia discharge concentration of 10 mg/L and a combined maximum allowable dilution ratio of 100:1. The PIC is for the combined discharge from outfalls 001 and 003.</p> <p style="text-align: center;">PIC = 10 mg/L / 100 = 0.10 mg/L</p> <p>The water quality standard for Ammonia (as NH₃) based on a Class C waterbody (non-trout) is 1.12 mg/L for summer conditions and 1.62 mg/L for winter conditions and was determined from Table 1 in TOGS 1.1.1 for total ammonia (as NH₃) with a pH of 7.8 and a summer temperature of 25°C and winter temperature of 10°C. The pH of the receiving waterbody was set to the 75th percentile from RIBS Station 09-INDN-33.7, Indian River in Le Ray, and the summer/winter temperatures was taken from TOGS 1.3.1.E.</p> <p>SUMMER 6/1 – 10/31 Effluent limitations and reporting for Ammonia has been changed from (as NH₃) to (as N) for simpler data reporting by being consistent with typical commercial laboratory reporting units. Values can be converted using the equation: Ammonia (as N) = Ammonia (as NH₃) x 0.8224. The water quality standards for Ammonia (as N) becomes:</p> <p style="padding-left: 40px;">Summer - Ammonia (as N) = 1.12 mg/L x 0.8224 = 0.92 mg/L Winter - Ammonia (as N) = 1.62 mg/L x 0.8224 = 1.33 mg/L</p> <p>The WQBEL was calculated using the combined maximum allowable dilution ratio of 100:1 and is applicable for combined discharge from outfalls 001 and 003:</p> <p style="padding-left: 40px;">Summer - WQBEL = 0.92 mg/L x 100 = 92 mg/L Winter - WQBEL = 1.62 mg/L x 100 = 162 mg/L</p> <p>Based on a comparison of the PIC of 0.10 mg/L versus the summer WQBEL of 92 mg/L, the combined discharge for outfalls 001 and 003 have no reasonable potential to exceed the water quality standards for ammonia. Summer/Winter WQBELs are unnecessary.</p> <p>Basis of Permit Condition Effluent limits and monitoring requirements are not necessary and are not being specified in the permit.</p>															

Outfall #	Description of Wastewater: Treated Sanitary Sewage														
	Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Phosphorus	mg/L	Monthly Avg	Monitor	15	20 / 0	Monitor	TOGS 1.3.6	-	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.			703.2	-	Monitor	
	<p>TOGS 1.3.6, Phosphorus Removal Requirements for Wastewater Discharges to Lakes and Lake Watersheds, sets forth the NYSDEC strategy for preserving lakes and lake watersheds, and is applicable for discharges to or upstream of ponded waters (those with a "P") in the Waters Index Number (WIN) listed in 6 NYCRR Parts 800-941. The strategy involves requiring effluent limits for new or expanded discharges as way of "holding the line" on existing phosphorus loadings.</p> <p>Black Lake/Black Lake Outlet (SL-25-7/P1) is 23 miles downstream of the discharge location and is a ponded waterbody. TOGS 1.3.6 requires that discharges over 10,000 gpd either to lakes or in a ponded watersheds should be required to monitor the effluent for total phosphorus at an appropriate interval. Phosphorus monitoring is used to establish baseline loadings allowing an effluent limit to be calculated as a result from a treatment plant expansion such that the phosphorus loadings are the same prior to the plant expansion.</p> <p>The POTW is not being expanded as the sum of the design flows are remaining the same as prior to the upgrades. Therefore, quarterly phosphorus monitoring is continued from the previous permit. Should a future treatment plant expansion occur that increases the total design flow, an appropriate effluent can be calculated.</p>														
Total Mercury	ng/L	Daily Max	-	0.006	1 / 0	-	EEQ	-	-	0.7	H(FC)	-	-	-	DOW 1.3.10
See Mercury section of this fact sheet for details and permit conditions.															
Coliform, Fecal	#/100 ml	30d Geo Mean	200	No Data	200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.			703.4	-	TBEL		
		7d Geo Mean	400	No Data	400	TOGS 1.3.3	-								
	<p>TBELs Consistent with TOGS 1.3.3, effluent disinfection is required seasonally from May 1st - October 31st, due to the class of the receiving waterbody.</p> <p>WQBELs With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of water quality standards. Therefore, WQBELs are unnecessary.</p> <p>Basis of Permit Condition The TBELs are specified in the permit. Disinfection is not required until the disinfection system is completed as specified in the Schedule of Compliance.</p>														

Outfall #	001	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Influent pumps, splitter box, septic tanks, equalization tank, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁵	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Residual Chlorine (TRC)	mg/L	Daily Max	2.0	No Data		2.0	TOGS 1.3.3	-	-	0.005	A(C)	2.5	703.5	-	TBEL
	<u>TBELs</u> Effluent disinfection is currently required seasonally and will remain a permit requirement.														
	<u>WQBELs</u> The WQBEL was calculated by multiplying the water quality standard by the combined allowable chronic dilution ratio of 100:1 and a decay factor of five as established by TOGS 1.3.1.E. $100 \times 0.005 \text{ mg/L} \times 5 = 2.5 \text{ mg/L}$														
	The calculated WQBEL is for the combined discharge from outfalls 001 and 003. Consistent with TOGS 1.3.1.E, for discharge situations with available dilution greater than 80:1, WQBELs are unnecessary as the TBEL of 2.0 mg/L at each outfall ensures water quality is maintained.														
	<u>Basis of Permit Condition</u> The TBELs are specified in the permit. Disinfection is not required until the disinfection system is completed as specified in the Schedule of Compliance.														

Outfall 003

Outfall #	Description of Wastewater: Treated Sanitary Sewage														
	Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 1/1/2018 to 12/31/2022 was obtained from Discharge Monitoring Reports provided by the permittee. All applicable water quality standards were reviewed for development of the WQBELs. The standard and WQBEL shown below represent the most stringent.															
Flow Rate	MGD	Monthly Avg	0.015	0.005 Actual Average	60 / 0	0.023	TOGS 1.3.3	Narrative: No alterations that will impair the waters for their best usages.				703.2	-	TBEL	
	<u>TBELs</u> In accordance with TOGS 1.3.3, the flow limit is set at the design flow of the wastewater treatment facility.														
	<u>WQBELs</u> Not applicable.														
	<u>Basis of Permit Condition</u> The TBELs based on the design flow are specified in the permit.														
pH	SU	Minimum	6.0	6.4	60 / 0	6.0	TOGS 1.3.3	7.8 ⁸	7.78	6.5 – 8.5	Range	-	703.3	-	TBEL
		Maximum	9.0	9.0	60 / 0	9.0			7.81						
	Existing effluent quality is the lowest minimum and the highest maximum.														
	<u>TBELs</u> Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards.														
<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1, the projected instream concentrations (PIC) based on the TBELs for the combined discharge at outfalls 001 and 003 are: $\text{PIC Minimum} = [6.0 + 7.8(100 - 1)] / 100 = 7.78 \text{ SU}$ $\text{PIC Maximum} = [9.0 + 7.8(100 - 1)] / 100 = 7.81 \text{ SU}$															
<u>Basis of Permit Condition</u> Based on the PIC, there is no reasonable potential to exceed the water quality standards for pH, therefore, WQBELs are unnecessary. The TBELs ensure water quality is maintained and are specified in the permit.															

⁷ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

⁸ Ambient pH calculated from RIBS station 09-INDN-33.7, Indian River in LeRay.

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Temperature	°C	Daily Max	Monitor	15/23	60 / 0	Monitor	750-1.13 Monitor	-	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5F over the temperature that existed before the addition			704.2	-	Monitor	
<p>Existing effluent quality is the average/maximum.</p> <p><u>TBELs</u> Consistent with 6 NYCRR 750-1.13(a), monitoring is required and may be used to inform future permitting decisions. This requirement is continued from the previous permit.</p> <p><u>WQBELs</u> Considering existing effluent quality and a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, there is no reasonable potential to exceed the thermal water quality criteria. Therefore, WQBELs are unnecessary.</p> <p><u>Basis of Permit Condition</u> Temperature monitoring is continued from the previous permit.</p>															

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Dissolved Oxygen (DO)	mg/L	Daily Min	-	No Data		-	-	7.4	4.5	(Non-Trout) 4.0	Narrative	-	703.3	-	No Limitation
<p>TBELs Not applicable.</p> <p>WQBELs The resulting downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under summer receiving water critical conditions:</p> <p>Receiving Water Characteristics: Flow = 11.4 CFS (7Q10 reduced by 30% due to flow regulation, TOGS 1.3.1) Temperature = 25°C (Non-trout Waters, TOGS 1.3.1.D) DO Saturation = 90% (7.38 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p> <p>Effluent Characteristics: Outfall 001: Flow = 0.070 CFS (0.045 MGD, Permit Limit) Outfall 003: Flow = 0.036 CFS (0.023 MGD, Permit Limit) Applied at Each Outfall: Temperature = 25°C (Non-trout Waters, TOGS 1.3.1.D) DO = 0.0 mg/l (Worst Case Scenario) BOD₅/CBOD₅ = 45 mg/L (Permit Limit) Ammonia = 10 mg/L (NYSDEC Default) Organic Nitrogen = 6.0 mg/L (NYSDEC Default)</p> <p>SUMMER 6/1 – 10/31 The receiving water was modeled for a 13-mile segment from Outfall 003 to Hanson Bridge Road. Model segments include the 0.24-mile section from Outfall 003 to Theresa Dam, 0.32-mile section from Theresa Dam to Outfall 001, and a 12.40-mile section from Outfall 001 to the bridge crossing at Hanson Bridge Road.</p> <p>WINTER 11/1 – 5/31 Modeling results predicted a minimum instream DO concentration of 4.5 mg/L at Theresa Dam from Outfall 003 due to the low river velocity (0.02 ft/sec) and minimal instream reaeration caused by the dam. Flows over the 70-foot drop at the dam resulted in dissolved oxygen levels reaching 100% saturation (8.2 mg/L). From Outfall 001, dissolved oxygen levels drop to a low of 7.1 mg/L about 3.6 miles downstream of the outfall. Modeling winter conditions is unnecessary.</p> <p>Basis of Permit Condition Because the minimum dissolved oxygen levels do not fall below the water quality standard of 4.0 mg/L, the TBELs for BOD₅ ensure water quality is maintained. Therefore, additional WQBELs for ultimate oxygen demand (UOD), dissolved oxygen and ammonia are unnecessary.</p>															

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
5-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg	30	18	20 / 0	30	TOGS 1.3.3	-	See Dissolved Oxygen			703.3	-	TBEL	
		7 Day Avg	45	17	20 / 0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	3.8	2.0	2 / 0	5.8	-								
		7 Day Avg	5.6	5.7	2 / 0	8.6	-								
	% Rem	Minimum	85	98/99	2 / 0	85	TOGS 1.3.3								
Existing effluent quality for the % removal is the minimum/average.															
<u>TBELs</u> Consistent with 40 CFR Part 133.102 and TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. See justification for Dissolved Oxygen.															
<u>WQBELs</u> WQBELs are unnecessary, please see the analysis for Dissolved Oxygen for details.															
<u>Basis of Permit Condition</u> The TBELs are protective of water quality and are specified in the permit.															

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	2.3	17 / 0	30	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.	703.2	-	TBEL			
		7 Day Avg	45	2.9	17 / 0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	3.8	1.0	2 / 0	5.8	-								
		7 Day Avg	5.6	12	2 / 0	8.6	-								
	% Rem	Minimum	85	99/99	2 / 0	85	TOGS 1.3.3								
Existing effluent quality for the % removal is the minimum/average.															
<u>TBELs</u> Consistent with 40 CFR Part 133.102 and TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards.															
<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of narrative water quality standards for TSS. Therefore, WQBELs are unnecessary.															
<u>Basis of Permit Condition</u> The TBELs are specified in the permit.															
Settleable Solids	mL/L	Daily Max	0.1	0.01	60 / 0	0.3	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages	703.2	-	TBEL			
		<u>TBELs</u> Consistent with TOGS 1.3.3, the effluent limitation is equal to the TBEL of 0.3 mL/L for POTWs providing secondary treatment without filtration.													
	<u>WQBELs</u> With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of narrative water quality standards for settleable solids. Therefore, WBQELs are unnecessary.														
	<u>Basis of Permit Condition</u> The TBELs are specified in the permit.														

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Nitrogen, Ammonia (as N)	mg/L	Monthly Avg	-	No Data	-	-	-	0.10	0.92 (Summer)	A(C)	92 (Summer)	703.5	-	No Limitation	
									1.33 (Winter)	A(C)	162 (Winter)				
<p>TBELs Not applicable.</p> <p>WQBELs The Projected Instream Concentration (PIC) was calculated using the NYSDEC default ammonia discharge concentration of 10 mg/L and a combined maximum allowable dilution ratio of 100:1. The PIC is for the combined discharge from outfalls 001 and 003.</p> <p style="text-align: center;">$PIC = 10 \text{ mg/L} / 100 = 0.10 \text{ mg/L}$</p> <p>The water quality standard for Ammonia (as NH₃) based on a Class C waterbody (non-trout) is 1.12 mg/L for summer conditions and 1.62 mg/L for winter conditions, and was determined from Table 1 in TOGS 1.1.1 for total ammonia (as NH₃) with a pH of 7.8 and a summer temperature of 25°C and winter temperature of 10°C. The pH of the receiving waterbody was set to the 75th percentile from RIBS Station 09-INDN-33.7, Indian River in Le Ray, and the summer/winter temperatures was taken from TOGS 1.3.1.E.</p> <p>SUMMER 6/1 – 10/31 Effluent limitations and reporting for Ammonia has been changed from (as NH₃) to (as N) for simpler data reporting by being consistent with typical commercial laboratory reporting units. Values can be converted using the equation: Ammonia (as N) = Ammonia (as NH₃) x 0.8224. The water quality standards for Ammonia (as N) becomes:</p> <p style="padding-left: 40px;">Summer - Ammonia (as N) = 1.12 mg/L x 0.8224 = 0.92 mg/L Winter - Ammonia (as N) = 1.62 mg/L x 0.8224 = 1.33 mg/L</p> <p>The WQBEL was calculated using the combined maximum allowable dilution ratio of 100:1 and is applicable for combined discharge from outfalls 001 and 003:</p> <p style="padding-left: 40px;">Summer - WQBEL = 0.92 mg/L x 100 = 92 mg/L Winter - WQBEL = 1.62 mg/L x 100 = 162 mg/L</p> <p>Based on a comparison of the PIC of 0.10 mg/L versus the summer WQBEL of 92 mg/L, the combined discharge for outfalls 001 and 003 have no reasonable potential to exceed the water quality standards for ammonia. Summer/Winter WQBELs are unnecessary.</p> <p>Basis of Permit Condition Effluent limits and monitoring requirements are not necessary and are not being specified in the permit.</p>															

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Phosphorus	mg/L	Monthly Avg	Monitor	6.1	20 / 0	Monitor	TOGS 1.3.6	-	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.			703.2	-	Monitor	
	<p>TOGS 1.3.6, Phosphorus Removal Requirements for Wastewater Discharges to Lakes and Lake Watersheds, sets forth the NYSDEC strategy for preserving lakes and lake watersheds, and is applicable for discharges to or upstream of ponded waters (those with a "P") in the Waters Index Number (WIN) listed in 6 NYCRR Parts 800-941. The strategy involves requiring effluent limits for new or expanded discharges as way of "holding the line" on existing phosphorus loadings.</p> <p>Black Lake/Black Lake Outlet (SL-25-7/P1) is 23 miles downstream of the discharge location and is a ponded waterbody. TOGS 1.3.6 requires that discharges over 10,000 gpd either to lakes or in a ponded watersheds should be required to monitor the effluent for total phosphorus at an appropriate interval. Phosphorus monitoring is used to establish baseline loadings allowing an effluent limit to be calculated as a result from a treatment plant expansion such that the phosphorus loadings are the same prior to the plant expansion.</p> <p>The POTW is not being expanded as the sum of the design flows are remaining the same as prior to the upgrades. Therefore, quarterly phosphorus monitoring is continued from the previous permit. Should a future treatment plant expansion occur that increases the total design flow, an appropriate effluent can be calculated.</p>														
Total Mercury	ng/L	Daily Max	-	0.004	1 / 0	-	EEQ	-	-	0.7	H(FC)			-	DOW 1.3.10
	See Mercury section of this fact sheet for details and permit conditions.														
Coliform, Fecal	#/100 ml	30d Geo Mean	200	No Data		200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.			703.4	-	TBEL	
		7d Geo Mean	400	No Data		400	TOGS 1.3.3	-							
	TBELs Consistent with TOGS 1.3.3, effluent disinfection is required seasonally from May 1st - October 31st, due to the class of the receiving waterbody.														
	WQBELs With a combined maximum allowable dilution ratio of 100:1 for outfalls 001 and 003, the TBELs are protective of water quality standards. Therefore, WQBELs are unnecessary.														
Basis of Permit Condition The TBELs are specified in the permit. Disinfection is not required until the disinfection system is completed as specified in the Schedule of Compliance.															

Outfall #	003	Description of Wastewater: Treated Sanitary Sewage													
		Type of Treatment: Septic tanks, pump station, rotating biological contactors with final clarifiers, and chlorine disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Residual Chlorine (TRC)	mg/L	Daily Max	2.0	No Data		2.0	TOGS 1.3.3	-	-	0.005	A(C)	2.5	703.5	-	TBEL
	<u>TBELs</u> Effluent disinfection is currently required seasonally and will remain a permit requirement.														
	<u>WQBELs</u> The WQBEL was calculated by multiplying the water quality standard by the combined allowable chronic dilution ratio of 100:1 and a decay factor of five as established by TOGS 1.3.1.E. 100 x 0.005 mg/L x 5 = 2.5 mg/L														
	The calculated WQBEL is for the combined discharge from outfalls 001 and 003. Consistent with TOGS 1.3.1.E, for discharge situations with available dilution greater than 80:1, WQBELs are unnecessary as the TBEL of 2.0 mg/L at each outfall ensures water quality is maintained.														
	<u>Basis of Permit Condition</u> The TBELs are specified in the permit. Disinfection is not required until the disinfection system is completed as specified in the Schedule of Compliance.														

Appendix: Regulatory and Technical Basis of Permit Authorizations

The Appendix is meant to supplement the fact sheet for multiple types of SPDES permits. Portions of this Appendix may not be applicable to this specific permit.

Regulatory References

The provisions of the permit are based largely upon 40 CFR 122 subpart C and 6 NYCRR Part 750 and include monitoring, recording, reporting, and compliance requirements, as well as general conditions applicable to all SPDES permits. Below are the most common citations for the requirements included in SPDES permits:

- Clean Water Act (CWA) 33 section USC 1251 to 1387
- Environmental Conservation Law (ECL) Articles 17 and 70
- Federal Regulations
 - 40 CFR, Chapter I, subchapters D, N, and O
- State environmental regulations
 - 6 NYCRR Part 621
 - 6 NYCRR Part 750
 - 6 NYCRR Parts 700 - 704 – Best use and other requirements applicable to water classes
 - 6 NYCRR Parts 800 – 941 - Classification of individual surface waters
- NYSDEC water program policy, referred to as Technical and Operational Guidance Series (TOGS)
- USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E

The following is a quick guide to the references used within the fact sheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPS) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10 (DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

Outfall and Receiving Water Information

Impaired Waters

The [NYS 303\(d\) List of Impaired/TMDL Waters](#) identifies waters where specific best usages are not fully supported. The state must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. SPDES permits must include effluent limitations necessary to implement a WLA of an EPA-approved TMDL (6 NYCRR 750-1.11(a)(5)(ii)), if applicable. In accordance with 6 NYCRR 750-1.13(a), permittees discharging to waters which are on the list but do not yet have a TMDL developed may be required to perform additional monitoring for the parameters causing the impairment. Accurate monitoring data is needed to

determine the existing capabilities of the wastewater treatment plants and to assure that wasteload allocations (WLAs) are allocated equitably.

Interstate Water Pollution Control Agencies

Some POTWs may be subject to regulations of interstate basin/compact agencies including: Interstate Sanitation Commission (ISC), International Joint Commission (IJC), Delaware River Basin Commission (DRBC), Ohio River Valley Water Sanitation Commission (ORSANCO), and the Susquehanna River Basin Commission (SRBC). Generally, basin commission requirements focus principally on water quality and not treatment technology. However, interstate/compact agency regulations for the ISC, IJC, DRBC and NYC Watershed contain explicit effluent limits which must be addressed during permit drafting. 6 NYCRR 750-2.1(d) requires SPDES permits for discharges that originate within the jurisdiction of an interstate water pollution control agency, to include any applicable effluent standards or water quality standards (WQS) promulgated by that interstate agency.

Existing Effluent Quality

The existing effluent quality is determined from a statistical evaluation of effluent data in accordance with TOGS 1.2.1 and the USEPA Office of Water, Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E (TSD). The existing effluent quality is equal to the 95th (monthly average) and 99th (daily maximum) percentiles of the lognormal distribution of existing effluent data. When there are greater than three non-detects, a delta-lognormal distribution is assumed, and delta-lognormal calculations are used to determine the monthly average and daily maximum pollutant concentrations. Statistical calculations are not performed for parameters where there are less than ten data points. If additional data is needed, a monitoring requirement may be specified either through routine monitoring or a short-term high intensity monitoring program. The [Pollutant Summary Table](#) identifies the number of sample data points available.

Permit Requirements

Basis for Effluent Limitations

Sections 101, 301, 304, 308, 401, 402, and 405 of the CWA and Titles 5, 7, and 8 of Article 17 ECL, as well as their implementing federal and state regulations, and related guidance, provide the basis for the effluent limitations and other conditions in the permit.

When conducting a full technical review of an existing permit, the previous effluent limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing effluent limitations to determine if these should be continued, revised, or deleted. Generally, existing limitations are continued unless there are changed conditions at the facility, the facility demonstrates an ability to meet more stringent limitations, and/or in response to updated regulatory requirements. Pollutant monitoring data is also reviewed to determine the presence of additional contaminants that should be included in the permit based on a reasonable potential analysis to cause or contribute to a water quality standards violation.

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(l) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this fact sheet. Consistent with current case law⁹ and USEPA interpretation¹⁰ anti-backsliding requirements do not apply should a revision to the final effluent limitation take effect before the scheduled date of compliance for that final effluent limitation.

⁹ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

¹⁰ U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents: (1) Organization and Delegation Memorandum #85-40, "Water Quality Antidegradation Policy" (September 9, 1985); and, (2) TOGS 1.3.9, "Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985) (undated)." The permit for the facility contains effluent limitations which ensure that the existing best usage of the receiving waters will be maintained. To further support the antidegradation policy, SPDES applications have been reviewed in accordance with the State Environmental Quality Review Act (SEQR) as prescribed by 6 NYCRR Part 617.

Effluent Limitations

In developing a permit, the Department determines the technology-based effluent limitations (TBELs) and then evaluates the water quality expected to result from technology controls to determine if any exceedances of water quality criteria in the receiving water might result. If there is a reasonable potential for exceedances of water quality criteria to occur, water quality-based effluent limitations (WQBELs) are developed. A WQBEL is designed to ensure that the water quality standards of receiving waters are met. In general, the CWA requires that the effluent limitations for a particular pollutant are the more stringent of either the TBEL or WQBEL.

Technology-based Effluent Limitations (TBELs)

CWA sections 301(b)(1)(B) and 304(d)(1), 40 CFR 133.102, ECL section 17-0509, and 6 NYCRR 750-1.11 require technology-based controls, known as secondary treatment. These and other requirements are summarized in TOGS 1.3.3. Where the TBEL is more stringent than the WQBEL, the TBEL is applied as a limit in accordance with TOGS 1.3.3. Equivalent secondary treatment, as defined in 40 CFR 133.105, allow for effluent limitations of the more stringent of the consistently achievable concentrations or monthly/weekly averages of 45/65 mg/l, and the minimum monthly average of at least 65% removal. Consistently achievable concentrations are defined in 40 CFR 133.101(f) as the 95th percentile value for the 30-day (monthly) average effluent quality achieved by the facility in a period of two years. The achievable 7-day (weekly) average value is equal to 1.5 times the 30-day average value calculated above. Equivalent secondary treatment applies to those facilities where the principal treatment process is either a trickling filter or a waste stabilization pond; the treatment works provides significant biological treatment of municipal wastewater; and, the effluent concentrations consistently achievable through proper operation and maintenance of the facility cannot meet traditional secondary treatment requirements. There are no federal technology-based standards for toxic pollutants from POTWs. A statistical analysis of existing effluent data, as described in TOGS 1.2.1, may be used to establish other performance-based TBELs.

Water Quality-Based Effluent Limitations (WQBELs)

In addition to the TBELs, permits must include additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. CWA sections 101 and 301(b)(1)(C), 40 CFR 122.44(d)(1), and 6 NYCRR Parts 750-1.11 require that permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. Additionally, 6 NYCRR Part 701.1 prohibits the discharge of pollutants that will cause impairment of the best usages of the receiving water as specified by the water classifications at the location of discharge and at other locations that may be affected by such discharge. Water quality standards can be found under 6 NYCRR Parts 700-704. The limitations must be stringent enough to ensure that water quality standards are met at the point of discharge and in downstream waters and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6. The Department considers a mixing zone analysis, critical flows, and reasonable potential analysis when developing a WQBEL.

Mixing Zone Analyses

In accordance with TOGS 1.3.1., the Department may perform additional analysis of the mixing condition between the effluent and the receiving waterbody. Mixing zone analyses using plume dispersion modeling are conducted in accordance with the following:

“EPA Technical Support Document for Water Quality-Based Toxics Control” (March 1991); EPA Region VIII’s “Mixing Zones and Dilution Policy” (December 1994); NYSDEC TOGS 1.3.1, “Total Maximum Daily Loads and Water Quality-Based Effluent Limitations” (July 1996); “CORMIX v11.0” (2019).

Critical Flows

In accordance with TOGS 1.2.1 and 1.3.1, WQBELs are developed using dilution ratios that relate the critical low flow condition of the receiving waterbody to the critical effluent flow. The critical low flow condition used in the dilution ratio will be different depending on whether the limitations are for aquatic or human health protection. For chronic aquatic protection, the critical low flow condition of the waterbody is typically represented by the 7Q10 flow and is calculated as the lowest average flow over a 7-day consecutive period within 10 years. For acute aquatic protection, the critical low flow condition is typically represented by the 1Q10 and is calculated as the lowest 1-day flow within 10 years. However, NYSDEC considers using 50% of the 7Q10 to be equivalent to the 1Q10 flow. For the protection of human health, the critical low flow condition is typically represented by the 30Q10 flow and is calculated as the lowest average flow over a 30-day consecutive period within 10 years. However, NYSDEC considers using 1.2 x 7Q10 to be equivalent to the 30Q10. The 7Q10 or 30Q10 flow is used with the critical effluent flow to calculate the dilution ratio. The critical effluent flow can be the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, or the facility design flow. When more than one applicable standard exists for aquatic or human health protection for a specific pollutant, a reasonable potential analysis is conducted for each applicable standard and corresponding critical flow to ensure effluent limitations are sufficiently stringent to ensure all applicable water quality standards are met as required by 40 CFR 122.44(d)(1)(i). For brevity, the pollutant summary table reports the results of the most conservative scenario.

Reasonable Potential Analysis (RPA)

The Reasonable Potential Analysis (RPA) is a statistical estimation process, outlined in the 1991 USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), Appendix E. This process uses existing effluent quality data and statistical variation methodology to project the maximum amounts of pollutants that could be discharged by the facility. This projected instream concentration (PIC) is calculated using the appropriate ratio and compared to the water quality standard (WQS). When the RPA process determines the WQS may be exceeded, a WQBEL is required. The procedure for developing WQBELs includes the following steps:

- 1) identify the pollutants present in the discharge(s) based upon existing data, sampling data collected by the permittee as part of the permit application or a short-term high intensity monitoring program, or data gathered by the Department;
- 2) identify water quality criteria applicable to these pollutants;
- 3) determine if WQBELs are necessary (i.e. reasonable potential analysis (RPA)). The RPA will utilize the procedure outlined in Chapter 3.3.2 of EPA’s Technical Support Document (TSD). As outlined in the TSD, for parameters with limited effluent data the RPA may include multipliers to account for effluent variability; and,
- 4) calculate WQBELs (if necessary). Factors considered in calculating WQBELs include available dilution of effluent in the receiving water, receiving water chemistry, and other pollutant sources.

The Department uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value (i.e. numeric interpretation of a narrative water quality standard), then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted

pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

For carbonaceous and nitrogenous oxygen demanding pollutants, the Department uses a model which incorporates the Streeter-Phelps equation. The equation relates the decomposition of inorganic and organic materials along with oxygen reaeration rates to compute the downstream dissolved oxygen concentration for comparison to water quality standards.

The Division of Water has been using the TMDL approach in permit limit development for the control of toxic substances. Since the early 1980's, the loading capacity for specific pollutants has been determined for each drainage basin. Water quality-limiting segments and pollutants have been identified, TMDLs, wasteload allocations and load allocations have been developed, and permits with water quality-based effluent limits have been issued. In accordance with TOGS 1.3.1, the Division of Water implements a Toxics Reduction Strategy which is committed to the application of the TMDL process using numeric, pollutant-specific water quality standards through the Watershed Approach. The Watershed Approach accounts for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments.

Whole Effluent Toxicity (WET) Testing:

WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. TOGS 1.3.1 includes guidance for determining when aquatic toxicity testing should be included in SPDES permits. The authority to require toxicity testing is in 6NYCRR 702.9. TOGS 1.3.2 describes the procedures which should be followed when determining whether to include toxicity testing in a SPDES permit and how to implement a toxicity testing program. Per TOGS 1.3.2, WET testing may be required when any one of the following seven criteria are applicable:

1. There is the presence of substances in the effluent for which ambient water quality criteria do not exist.
2. There are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.
3. There is the presence of substances for which WQBELs are below analytical detectability.
4. There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.
5. There are observed detrimental effects on the receiving water biota.
6. Previous WET testing indicated a problem.
7. POTWs which exceed a discharge of 1 MGD. Facilities of less than 1 MGD may be required to test, e.g., POTWs <1 MGD which are managing industrial pretreatment programs.

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1)(iv) and 6 NYCRR 750-2.5(d), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is "sufficiently sensitive" when the method's minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

CWA section 308, 40 CFR 122.44(i), 6 NYCRR 750-1.13, and 750-2.5 require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and reporting results on Discharge Monitoring Reports (DMRs). The permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance and characterize the nature of the discharge of the monitored flow or pollutant. Variable effluent flows and pollutant levels may be required to be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels (6 NYCRR 750-1.13). For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1. For municipal facilities, sampling frequency is based on guidance provided in TOGS 1.3.3.

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) "to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed." The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The Department has determined that the MDV is consistent with the protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH.

All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Compliance

Schedules of compliance are included in accordance with 40 CFR Part 132 Attachment F, Procedure 9, 40 CFR 122.47 and 6 NYCRR 750-1.14. Schedules of compliance are intended to, in the shortest reasonable time, achieve compliance with applicable effluent standards and limitations, water quality standards, and other applicable requirements. Where the time for compliance is more than nine months, the schedule of compliance must include interim requirements and dates for their achievement. If the time necessary to complete the interim milestones is more than nine months, and not readily divisible into stages for completion, progress reports must be required.

Schedule(s) of Additional Submittals

Schedules of Additional Submittals are used to summarize the deliverables required by the permit not identified in a separate Schedule of Compliance.