

APPENDIX A: REGULATIONS

A-1: USEPA 2002 FAD - Catskill Turbidity Control Study

New York City Filtration Avoidance Determination

USEPA - November 2002

Surface Water Treatment Rule Determination for
New York City's Catskill/Delaware Water Supply System

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4.9 Catskill Turbidity Control

The City’s Long-Term Watershed Protection Program includes a Catskill Turbidity Control program (Section 6.4.9) to address elevated turbidity in Catskill watershed.

The FAD requires the City to implement the Catskill Turbidity Control Program as detailed in Section 6.4.9 of the City’s Long-Term Watershed Protection Program and in accordance with the modified milestone schedule below. The City will also augment its stream management program by implementing additional projects that may reduce turbidity. For example, in addition to the specific stream restoration projects identified in the milestone table of Section 4.5 of the FAD, the City will also identify two restoration projects in Schoharie Reservoir Basin and one restoration project in either the Schoharie or Ashokan Reservoir basin and complete these 3 projects no later than 12/06.

Milestone/Reporting Requirements

Requirement	Due Date
Submit NYCDEP contractor’s Preliminary Assessment Report on Catskill turbidity controls.	completed
Conduct an assessment of the feasibility of installing a turbidity curtain or other interim BMP to reduce turbidity levels entering Esopus Creek. If the assessment determines that there are feasible, cost-effective BMP(s), NYCDEP will submit a schedule for implementation and, upon approval of the schedule by EPA/NYSDOH, will implement such BMP(s).	completed
Complete dredging of the Schoharie Reservoir intake channel	12/31/05
<p>Conduct a comprehensive analysis of engineering and structural alternatives at the Schoharie Reservoir that may reduce turbidity levels entering Esopus Creek. The study will be implemented in accordance with the following schedule:</p> <ul style="list-style-type: none"> • Develop and submit scope of work. • Develop contract, select consultant and begin work. • Submit report on phase I of study. Phase I includes (1) a preliminary screening assessment of all alternatives and (2) a comprehensive turbidity curtain study, including an in-reservoir pilot. • Develop a plan, subject to EPA, NYSDOH, and NYSDEC approval, with appropriate milestones for implementing a turbidity curtain as an early action if determined to be feasible and cost effective. • Submit final report upon completion of phase II of study. Phase II will incorporate the results of a fully calibrated and verified reservoir model. The report will include preliminary designs and detailed cost information for final decision-making purposes. • Develop a plan, subject to EPA, NYSDOH and NYSDEC approval, with appropriate milestones for implementing any feasible, cost effective measures identified by the comprehensive engineering analysis. 	<p>completed</p> <p>10/30/03</p> <p>12/31/04</p> <p>3/31/05</p> <p>9/30/06</p> <p>12/31/06</p>

Work with NYSDEC to develop a sediment transport model for the Schoharie and Esopus basins. This model is intended to provide a technical basis for future TMDL decisions in these basins.	12/31/03
Work with NYSDEC to develop a release management strategy, along with an implementation schedule, for water from Schoharie Reservoir to Esopus Creek and the Ashokan Reservoir. If the regime cannot be completed by the milestone date, NYCDEP will provide EPA with a discussion as to what was and what was not agreed upon, with a detailed explanation of issues of disagreement. (EPA expects NYSDEC to submit similar information.)	5/31/03
Submit a report identifying sources of turbidity in the Schoharie basin, analyze their relative impacts on water quality in the Schoharie basin, and identify whether (and how) they are specifically being addressed through the City's 2001 Long-Term Watershed Protection Program.	7/31/03
Develop a plan and schedule for the implementation of specific projects or activities, that are feasible and cost-effective, and not currently being addressed through the City's 2001 Long-Term Watershed Protection Plan, for the purpose of controlling/remediating sources of turbidity in the Schoharie basin. In developing the plan, NYCDEP will take into consideration any actions taken to meet TMDLs in the basin.	1/31/04
Expand the water quality telemetry system for the Schoharie Reservoir and Shandaken tunnel	1/31/04
Provide technical support to NYSDEC in NYSDEC's development of a suspended sediment TMDL for the Schoharie and Esopus basins.	continuous
<i>Reporting:</i> Report on the implementation of all elements of the Catskill Turbidity Control Program	annually
Convene meeting every six months with EPA, NYSDOH and NYSDEC to review progress on all Catskill turbidity control efforts, including but not limited to the City's analysis of engineering alternatives for the Schoharie Reservoir as well as report on the status of source control initiatives.	semi-annually (September and March)

A-2: Part 670 Reservoir Release Regulations (6 NYCRR)

**NEW YORK CODES, RULES AND REGULATIONS
TITLE 6 DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CHAPTER X DIVISION OF WATER RESOURCES
SUBCHAPTER A GENERAL
ARTICLE 1 MISCELLANEOUS RULES
PART 670 RESERVOIR RELEASES REGULATIONS:
SCHOHARIE RESERVOIR - SHANDAKEN TUNNEL - ESOPUS CREEK**

- 6 NYCRR 670.1 Purpose and applicability.
- 6 NYCRR 670.2 Definitions.
- 6 NYCRR 670.3 Operation of the Shandaken tunnel.
- 6 NYCRR 670.4 Monitoring.
- 6 NYCRR 670.5 Recreational activities.
- 6 NYCRR 670.6 Records.
- 6 NYCRR 670.7 Emergency situations.
- 6 NYCRR 670.8 Enforcement.
- 6 NYCRR 670.9 Revisions.

6 NYCRR 670.1 Purpose and applicability.

It is the purpose of this Part to implement the policy of the State with regard to the release and diversion of waters from certain reservoirs, as set forth in title 8 of article 15 of the Environmental Conservation Law. Accordingly, it is the purpose of this Part to regulate the volume and rate of change of diversions of water from the Schoharie reservoir through the Shandaken tunnel into Esopus Creek, in order to protect and enhance the recreational use of waters in Esopus Creek in a manner consistent with the protection of existing recreational uses of the Ashokan and Schoharie reservoirs, while ensuring and without impairing an adequate supply of water for power production or for any municipality which uses water from such reservoirs for drinking and other purposes.

6 NYCRR 670.2 Definitions.

As used in this Part, the following words and terms shall have the meaning ascribed to them, unless the context requires otherwise:

(a) Ashokan reservoir shall mean the reservoir known as the Ashokan reservoir, located in the Towns of Olive, Marbletown and Hurley, Ulster County.

(b) City shall mean the City of New York.

(c) City reservoir releases manager shall mean an employee of the city formally designated by the mayor of the city to fulfill the responsibilities of the city reservoir releases manager set forth in this Part, which designation shall be on file in the office of the department reservoir releases manager. In lieu of such designation, the city reservoir releases manager shall be the administrator of the city environmental protection administration.

(d) Close the Shandaken tunnel shall mean the action of closing a gate or gates located at the Schoharie reservoir to stop or decrease the flow of water from the reservoir into the Shandaken tunnel.

(e) Commissioner shall mean the Commissioner of Environmental Conservation.

(f) Department shall mean the Department of Environmental Conservation.

(g) Department reservoir releases manager shall mean the commissioner or an employee of the department formally designated by the commissioner to fulfill the responsibilities of the department reservoir releases manager set forth in this Part, which designation shall be on file in the office of the city reservoir releases manager.

(h) Diversion shall mean the withdrawal of water from the Schoharie reservoir into the Shandaken tunnel.

(i) Esopus Creek shall mean that portion of a creek known as Esopus Creek which runs from the Shandaken gaging station to the Ashokan reservoir.

(j) Open the Shandaken tunnel shall mean the action of opening a gate or gates located at the Schoharie reservoir to commence or increase the flow of water from the reservoir into the Shandaken tunnel.

(k) Schoharie reservoir shall mean that reservoir known as the Schoharie reservoir, located in the Towns of Conesville and Gilboa, Schoharie County; the Town of Prattsville, Greene County; and the Town of Roxbury, Delaware County.

(l) Shandaken gaging station shall mean the United States Geological Survey (USGS) stream gaging station No. 01362198, located on Esopus Creek at Shandaken, New York, as identified in Water Resources Data for New York, Water Year 1975, U.S. Geological Survey water data report NY-75-1 (see section 672.6 of this Title).

(m) Shandaken tunnel shall mean the tunnel known as the Shandaken tunnel running beneath ground from the Schoharie reservoir to Esopus Creek at Allaben, New York.

(n) Spill or spilling shall mean the flow of water over the spillway of a dam which contains a reservoir or reservoirs.

6 NYCRR 670.3 Operation of the Shandaken tunnel.

The city shall utilize the Shandaken tunnel only in accordance with the provisions of this section.

(a) During all times of the year, the city shall divert through the Shandaken tunnel those quantities of water, as determined at the tunnel intake chamber, that when added to the flow of Esopus Creek, as measured at the Shandaken gaging station, are necessary and sufficient to provide at all times a combined flow of at least 160 million gallons per day

— mgd (248 cubic feet per second — cfs); provided, when the Schoharie reservoir is physically incapable of providing sufficient water to maintain such combined minimum flow, the city shall make the maximum diversions of water into the Shandaken tunnel which the Schoharie reservoir is physically capable of providing. The provisions of this subdivision shall not be applicable when water is spilling from the Ashokan reservoir.

(b) Between June 1st and October 31st, inclusively, the city shall not make any diversion of water through the Shandaken tunnel:

(1) whenever the flow of Esopus Creek, as measured at the Shandaken gaging station, exceeds 300 mgd (465 cfs); or

(2) whenever the amount of that diversion, as determined at the intake chamber of the Shandaken tunnel, added to the flow of Esopus Creek, as measured at the Shandaken gaging station, will produce a combined flow exceeding 300 mgd (465 cfs).

Provided, in order to minimize spill from Schoharie reservoir, the city may make such diversions when the unfilled storage capacity of Schoharie reservoir is less than five billion gallons and the unfilled storage capacity of Ashokan reservoir is more than five billion gallons.

(c) During all times of a year, the city shall, in making any diversions into the Shandaken tunnel, open the Shandaken tunnel at intervals of one hour or more in increments not exceeding 40 mgd (62 cfs), and shall close the Shandaken tunnel at intervals of one hour or more in increments not exceeding 20 mgd (31 cfs). Provided, the provisions of this subdivision shall not be applicable from November 1st to May 31st, inclusively, whenever the flow in Esopus Creek, as measured at the Shandaken gaging station, exceeds 300 mgd (465 cfs).

(d) From November 1st to May 31st, inclusively, whenever the flow in Esopus Creek, as measured at the Shandaken gaging station, exceeds 300 mgd (465 cfs), the city may, in making any diversions into the Shandaken tunnel, make diversions of any amount or no diversions as it determines proper and may open and close the Shandaken tunnel at such rates as it determines proper.

(e) Prior to its commencement of any action relating to the operation of the Shandaken tunnel that is consistent with the provisions of subdivisions (a), (b), (c), and (d) of this section, the city shall notify the office of the department's regional director at New Paltz, New York. The city shall not be required to obtain any specific review or approval by the department for any action which is consistent with the provisions of subdivisions (a), (b), (c), and (d) of this section.

(f) (1) Due to the technical limitations of operating water regulating devices and measuring flows, any rate of flow stated, required or allowed pursuant to this Part relating to the Shandaken gaging station or the Shandaken tunnel intake chamber or to the opening or closing of the Shandaken tunnel shall be deemed to include a rate of flow ten

percent higher than the stated, required or allowed rate of flow where that rate is a maximum allowable rate and shall be deemed to include a rate of flow ten percent lower than the stated, required or allowed rate of flow where that rate of flow is a minimum allowable rate.

(2) The provisions of this Part shall be interpreted as reflecting the time lapses required by subdivision (c) of this section and the time required for water to pass through the Shandaken tunnel.

(3) The provisions of this Part shall not be deemed to require the city to monitor the flow in Esopus creek, as measured at the Shandaken gaging station, more than once during any twenty-four hour period or, accordingly, to adjust diversions of water into the Shandaken tunnel more than once during any twenty-four hour period; provided, the city shall so monitor such flow and make any necessary corresponding adjustment at least once during every twenty-four hour period and further provided, any such monitoring of the flow in Esopus creek shall be binding on the city with respect to compliance with the provisions of this Part until the next such monitoring is made.

(4) The provisions of this Part shall not be interpreted as requiring any adjustment of flow in the Shandaken tunnel, in response to a hydrologic event of short duration which may cause the flow maximums established by subdivision (b) of this section to be exceeded for a short duration (e.g., a summer rain storm of three hours).

(g) The city may take an action with regard to the operation of the Shandaken tunnel which does not meet the requirements stated in subdivisions (a), (b), (c), and (d) of this section provided it obtains the department's approval of such action, prior to the commencement of any such action, in accordance with this subdivision. The department may approve an action proposed pursuant to this subdivision where it finds such action is reasonable and consistent with the purposes of this Part.

(1) The city reservoir releases manager shall submit via certified mail a written proposal for such action to the department reservoir releases manager. Such proposal shall specify the dates and times of the proposed action, the amount of water to be diverted, the rate at which water is to be diverted, the duration of the action, and the purpose of the action. Such written proposal shall be received in the office of the department reservoir releases manager not less than 24 hours prior to the commencement of the first proposed action.

(2) Within 24 hours of his or her receipt of the written proposal by the city reservoir releases manager, or as soon thereafter as practical, the department reservoir releases manager shall notify the city reservoir releases manager by telephone whether the department has approved, approved with modifications or disapproved the proposed action; and in the event of an approval or approval with modifications he or she shall specify the dates and times of the authorized action, the amount of water to be diverted, the rate at which water is to be diverted, the duration of the action, and any conditions pertaining to the implementation or termination of the approved action. Provided, between the receipt of the city's written proposal and the department's telephone

transmission of its decision, the city and the department may negotiate by telephone relative to such proposal.

(3) As soon as practicable after notifying the city reservoir releases manager by telephone as provided in paragraph (2) of this subdivision, the department reservoir releases manager shall send a certified mail letter to the city reservoir releases manager stating the decision of the department with regard to the proposal involved. In the event the department has approved the city's proposal or approved it with modifications, said letter shall specify the dates and times of the authorized action, the amount of water to be diverted, the rate at which water is to be diverted, the duration of the action, and any conditions pertaining to the implementation or termination of the approved action. In the event the department has disapproved the city's proposal or approved it with modifications, said letter shall specify the reasons for such disapproval or modifications.

(4) When the city is not able to provide a written proposal to the department as specified in paragraph (1) of this subdivision at least 24 hours prior to the commencement of the first proposed action, the city reservoir releases manager shall submit a proposal for such an action by telephone to the department reservoir releases manager, which telephone request shall be made not less than 24 hours prior to the first proposed action. Such proposal shall specify all the information required for a written proposal under paragraph (1) of this subdivision. Immediately following such telephone proposal, the city reservoir releases manager shall send to the department reservoir releases manager via certified mail a written proposal stating those matters covered by the telephone proposal. Within 24 hours of his or her receipt of such a proposal by telephone, or as soon as practical thereafter, the department reservoir releases manager shall notify the city reservoir releases manager as to the department's decision regarding such proposal in the manner specified in paragraphs (2) and (3) of this subdivision. Provided, between the receipt of the city's telephone proposal and the department's telephone transmission of its decision pursuant to paragraph (2) of this subdivision, the city and the department may negotiate by telephone relative to such proposal.

(5) The telephone approval by the department provided in paragraphs (2) and (4) of this subdivision shall constitute the authorization for the city to proceed with an action approved by the department pursuant to this subdivision. No action shall be taken by the city pursuant to this subdivision until such telephone approval has been received, and any such action shall be undertaken in accordance with such telephone approval.

(6) The city reservoir releases manager and the department reservoir releases manager shall each maintain a complete and accurate log of all telephone conversations made pursuant to paragraphs (2) and (4) of this subdivision.

(7) The city reservoir releases manager and department reservoir releases manager shall provide the necessary telephone arrangements to fulfill the provisions of paragraphs (2) and (4) of this subdivision.

(8) With respect to any action proposed by the city pursuant to this section which relates to any inspection, maintenance or repair to the Schoharie reservoir, the Ashokan reservoir or the Shandaken tunnel or any appurtenant structures or facilities, the approval, approval with modifications or disapproval of the department under this section shall be made with respect to the time and duration of the proposed action and shall not be made with respect to the substantive details of the inspection, repair or maintenance activity. The department shall not unreasonably delay or hinder any inspection, maintenance or repair activity which the city wishes to undertake with regard to said facilities.

(h) Both the city reservoir releases manager and the department reservoir releases manager may specify one or more persons on their respective staffs to take all actions under this section in the place of and on behalf of such manager when such manager is not able to take such action directly. Provided, each such designation shall be in writing and shall be on file in the respective office of each manager. Provided further, any such designation shall authorize such designee to act in all respects under this section for the respective manager.

(i) The department may request the city to take an action with respect to the diversion of water from the Schoharie reservoir through the Shandaken tunnel in a manner that does or does not comply with the provisions of any or all of subdivisions (a), (b), (c) and (d) of this section for the purpose of field monitoring or testing, research, protecting the fishery or other natural resources of Esopus creek, protecting the fishery or other natural resources of Schoharie reservoir or Ashokan reservoir for the benefit of existing recreational uses of such reservoirs, or special recreational events on Esopus Creek. Such request by the department shall be sent by certified mail from the department reservoir releases manager to the city reservoir releases manager and shall be received by the city reservoir releases manager at least 24 hours prior to the first requested action. Said request by the department shall be consistent with the purposes of this Part and shall specify the dates and times of the requested action, the amount of water to be diverted, the rate at which water is to be diverted, the duration of the requested action, the specific purpose of the requested action and any conditions governing implementation and termination of the requested action. If the requested action will not occur when the Schoharie or Ashokan reservoir is spilling and will not cause either of such reservoirs to spill water or to spill increased amounts of water, the city shall comply with such request; and in the event such requested action will occur when either reservoir is spilling or will cause either reservoir to spill or to spill increased amounts of water, the city shall determine whether or not to comply with such request. The city's receipt of the department's letter containing such request shall constitute authorization for the city to increase or decrease the flow of water in the Shandaken tunnel in accordance with such letter.

(j) All telephone logs and written communications made pursuant to this section shall be considered matters of public record.

6 NYCRR 670.4 Monitoring.

(a) The department reservoir releases manager shall be responsible for monitoring all actions taken pursuant to this Part on a continuous basis in order to determine whether any significant adverse environmental impacts, including but not limited to fishkill incidents, occur as a result of the operation of the Shandaken tunnel by the city pursuant to this Part. The department reservoir releases manager shall promptly investigate any such incidents which may occur and report the results of such incidents to the city reservoir releases manager.

(b) The department reservoir releases manager shall be responsible for conducting studies in order to:

(1) establish additional detailed rates for opening and closing the Shandaken tunnel when the flow in Esopus creek exceeds 300 mgd (465 cfs) as measured at the Shandaken gaging station,

(2) identify means for reducing or eliminating turbidity in Esopus creek associated with the operation of the Shandaken tunnel, and

(3) provide a technical data base for resolving such other problems and issues associated with the diversion of water through the Shandaken tunnel as may be identified. The department reservoir releases manager shall consult with the city reservoir releases manager regarding such studies.

(c) The department shall have authority, upon reasonable notice, to enter and inspect any property or premises for the purpose of investigating either actual, suspected or potential environmental degradation caused by actions which do or do not comply with the provisions of this Part, for the purpose of ascertaining whether certain actions do or do not comply with the provisions of this Part, or for the purpose of monitoring any actions which do or do not comply with the purposes of this Part.

6 NYCRR 670.5 Recreational activities.

(a) In order to assist persons wishing to undertake recreational activities on or along Esopus creek, the department reservoir releases manager shall respond to all inquiries relative to the date, duration and nature of diversions to be or being made pursuant to this Part.

(b) The department reservoir releases manager may provide for diversions pursuant to this Part for such special recreational events as he or she finds appropriate in light of the purposes of this Part and consistent with section 670.3(i) of this Part and shall respond to all inquiries relative to the date, duration and nature of any such diversions. Provided, all requests for diversions for special recreational events pursuant to this section shall be made to the department reservoir releases manager in writing not later than April 15th of any year. Further provided, the department reservoir releases manager shall not provide

pursuant to this subdivision (1) for more than one diversion during any month or (2) for more than four such diversions between May 1 and October 31, inclusively.

6 NYCRR 670.6 Records.

The city shall maintain detailed records regarding its operation of the Shandaken tunnel. Such records shall be maintained at the city field offices at the Schoharie and Ashokan reservoirs and at the office of the city reservoir releases manager. Such records shall at a minimum specify the amounts of water diverted through the Shandaken tunnel, the dates, times and duration of such diversions, the rates of the openings and closings of the Shandaken tunnel, and the amount of water contained in the Schoharie and Ashokan reservoirs at any particular time. Not later than 45 days following the end of any calendar month, the city reservoir releases manager shall provide to the department reservoir releases manager a summary of such detailed records for that calendar month. Such monthly summary shall be in sufficient detail for the department to determine whether the city's operation of the Shandaken tunnel during the preceding month complied with the provisions of this Part. The department shall have the opportunity, after reasonable notice, to inspect the city's detailed records at the office of the city reservoir releases manager or the city field offices at the Schoharie and Ashokan reservoirs.

6 NYCRR 670.7 Emergency situations.

(a) The provisions of section 670.3 of this Part shall not be applicable to any action taken by the city with regard to the operation of the Shandaken tunnel in any emergency situation where:

(1) there is a threat to the continued existence or safe operation of the Schoharie reservoir, its dam and appurtenant structures; the Shandaken tunnel and appurtenant structures; or the Ashokan reservoir and its dams and appurtenant structures; to the public health and safety; or to the maintenance of a satisfactory level of water quality in the Ashokan reservoir;

(2) such threat may not be averted by any action taken in compliance with section 670.3 of this Part; and

(3) such threat can be averted by an action of the city that is not in compliance with section 670.3 of this Part.

(b) Any action taken pursuant to this section with respect to the operation of the Shandaken tunnel shall continue only for such time as is necessary to avert the threat involved. The city reservoir releases manager shall provide immediate telephone notice to the department reservoir releases manager regarding any action taken by the city pursuant to this section. The city reservoir releases manager shall provide written notice to the department reservoir releases manager within five working days of any action taken by the city pursuant to this section, which notice shall specify the action taken and set forth the reasons for the city reservoir releases manager's decision pursuant to paragraphs (1)-(3) of subdivision (a) of this section.

6 NYCRR 670.8 Enforcement.

(a) The Attorney General, on his own initiative or at the request of the commissioner, or the corporation counsel at the request of the city, shall bring an action to restrain or enjoin any violation of any provision of this Part. The commissioner shall furnish the Attorney General or the corporation counsel with such material, evidentiary matter or proof as may be requested by either of them in connection with such action.

(b) Notwithstanding the provisions of any law, the venue of any action commenced or proceeding brought pursuant to this Part may be in the County of Albany.

6 NYCRR 670.9 Revisions.

On a periodic basis the department shall review and consider proposing amendments to this Part. Any amendments to this Part shall be made in the same manner as its initial promulgation.

A-3: NYSDEC SPDES Permit for Shandaken Tunnel Discharge



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT
Special Conditions (Part 1)

Industrial Code: **4941**
Discharge Class (CL): **01**
Toxic Class (TX): **N**
Major Drainage Basin: **13**
Sub Drainage Basin: **07**
Water Index Number: **H-171**
Compact Area: **CAT**

SPDES Number: **NY- 026 8151**
DEC Number: **3-5150-00420/00001**
Effective Date (EDP): **9/1/2006**
Expiration Date (ExDP): **8/31/2011**
Modification Dates:

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.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **New York City Department of Environmental Protection** Attention: **David Warne, Acting Deputy Commissioner**
Street: **465 Columbus Avenue**
City: **Valhalla** State: **NY** Zip Code: **10595**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Shandaken Tunnel Outlet**
Location (C,T,V): **Shandaken (T)** County: **Ulster**
Facility Address: **7148 NYS Rte. 28**
City: **Allaben** State: **NY** Zip Code: **12480**
NYTM -E: **552.61** NYTM - N: **4 662.735**
From Outfall No.: **001** at Latitude: **42 ° 06 ' 53 "** & Longitude: **74 ° 21 ' 49 "**
into receiving waters known as: **Esopus Creek** Class: **A (TS)**

and; (list other Outfalls, Receiving Waters & Water Classifications)

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in Special Conditions (Part I) and General Conditions (Part II) of this permit.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **New York City Department of Environmental Protection**
Street: **P.O. Box 358**
City: **Grahamsville** State: **NY** Zip Code: **12740**
Responsible Official or Agent: **Paul V. Rush, P.E.** Phone: **(845) 985-2275**

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:

Bureau of Water Permits
Regional Water Engineers, Regions 3 and 4
USEPA Region II - Jeff Gratz
NYSDOH
Trout Unlimited
Greene County Soil and Water Conservation District

Permit Administrator: William R. Adriance	
Address: 625 Broadway Albany NY 12233-1750	
Signature:	Date: / /

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING		
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE	
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.			
PARA-METER	EFFLUENT LIMIT	PRACTICAL QUANTITATION LIMIT (PQL)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based standards, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This PQL can be neither lowered nor raised without a modification of this permit.	Type I or Type II Action Levels are monitoring requirements, as defined in Note 2 on the following page, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: 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 MAX.: The highest allowable daily discharge. **DAILY MIN.:** The lowest allowable daily discharge.

DAILY AVG or 30 DAY ARITHMETIC MEAN (30 day 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.

7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.

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.

7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.

RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

Note 2: ACTION LEVELS:

Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards.

Due to conflicting requirements between 6 NYCRR Parts 700-706 (Water Quality Regulations) and 6NYCRR Part 670 (Reservoir Release Regulations: Schoharie Reservoir - Shandaken Tunnel - Esopus Creek), Action Levels have been established for Turbidity and Temperature in the discharge from the Shandaken Tunnel. If levels higher than the Action Levels are detected, the permittee shall reduce the flow from the Shandaken Tunnel at the maximum allowable ramping rate until either the specified Action Level is met or the flow from the Tunnel (as measured at the portal) is at the minimum flow necessary to achieve a combined flow from the Tunnel and the Esopus Creek (as measured at the upstream monitoring location) of no less than 160 MGD in accordance with Footnotes 1 and 4 on Pages 4 through 6 of this Permit.

INTERIM PERMIT LIMITS, LEVELS AND MONITORING - TURBIDITY

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING				
001	Public Water Supply	Esopus Creek	9/1/2006	Completion of Turbidity Reduction Schedule of Compliance items				
PARAMETER	EFFLUENT LIMIT		ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Daily Avg.	Daily Max.	TYPE I	TYPE II				
Turbidity, upstream	Monitor	Monitor			NTU	Continuous	Recorder	1,2,3
Turbidity, portal	Monitor	Monitor			NTU	Continuous	Recorder	1,2,3
Turbidity, shutdown		100			NTU	Continuous	Recorder	2,3
Turbidity Increase, June-October			15		NTU	Daily	Calculated	1,2,3
Turbidity Increase, November-May			20		NTU	Daily	Calculated	1,2,3

FINAL PERMIT LIMITS, LEVELS AND MONITORING - TURBIDITY

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING				
001	Public Water Supply	Esopus Creek	9/1/2006	8/31/2011				
PARAMETER	EFFLUENT LIMIT		ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Daily Avg.	Daily Max.	TYPE I	TYPE II				
Turbidity, upstream	Monitor	Monitor			NTU	Continuous	Recorder	3
Turbidity, portal	Monitor	Monitor			NTU	Continuous	Recorder	1,2,3
Turbidity, Increase		15			NTU	Daily	Calculated	1,2,3
Turbidity, shutdown		100			NTU	Continuous	Recorder	2,3

FINAL PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING			
001	Public Water Supply	Esopus Creek	9/1/2006	8/31/2011			
PARAMETER	EFFLUENT LIMIT			UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Daily Avg.	Daily Max.	Daily Min.				
Flow, June-October, Esopus Creek, downstream		300		MGD	Daily	Calculated	4
Flow, minimum, Esopus Creek, downstream			160	MGD	Daily	Calculated	4
Phosphorus, as P	Monitor	Monitor		kg/day	Weekly	Grab	
Phosphorus, as P, 12 month rolling average	8962			kg/yr	Monthly	Calculated	5
Solids, Settleable	Monitor	Monitor		ml/l	Weekly	Grab	
Solids, Total Suspended	Monitor	Monitor		mg/l	Weekly	Grab	
Temperature, May-September		70		deg F	Continuous	Recorder	1,2
Temperature, October-April	Monitor	Monitor		deg F	Continuous	Recorder	2
Cold Water Volume, Schoharie Reservoir		Monitor		cfs-days	Annual	Estimate	6

Footnotes: see pages 4 through 6 of this Permit

FOOTNOTES:

- 1.. During low stream flow conditions in the Esopus Creek, the quantity of water releases from the Schoharie Reservoir via the Shandaken Tunnel shall take precedence over the water quality aspects of this discharge. Whenever the discharge from the Shandaken Tunnel is being reduced in accordance with the maximum ramping rates, or the sum of the daily average flow measured at the Allaben monitoring station and the daily average discharge from the Shandaken Tunnel portal is less than 176 MGD (110% of the minimum stream flow limit), this discharge is exempt from the temperature and turbidity increase limits listed above. The permittee shall note the dates of such exemptions in a summary attachment to their monthly Discharge Monitoring Report.

2. Temperature and Turbidity Exemptions:

The discharge is exempt from the temperature and turbidity increase limits and action levels when:

- A. NYCDEP, with concurrence from the Department, determines that additional resources are reasonably necessary for reservoir balancing, for refill of the Ashokan Reservoir, for proper water supply management, or in the case of drought watch, warnings or emergencies;
- B. Any action in regard to the operation of the Shandaken Tunnel is directed by this Department, including those diversions provided for special recreational events on the Esopus Creek which have been approved by the Department;
- C. The permittee takes an emergency action in regard to the operation of the Shandaken Tunnel in accordance with 6NYCRR Part 670.7;
- D. NYCDEP, with concurrence from the Department, makes releases consistent with 6NYCRR Part 670 from the Shandaken Tunnel for the purpose of field monitoring or testing, research, protecting the fishery or other natural resources of the Esopus Creek, protecting the fishery or other natural resources of Schoharie reservoir or Ashokan reservoir;
- E. Performing work that is required under the compliance schedules in this permit or otherwise approved by this Department, if such work directly causes a discharge in excess of those action levels or limits which is not reasonably preventable;
- F. NYCDEP, with concurrence from the Department, makes releases to prevent spilling of the Schoharie Reservoir when the unfilled storage capacity of the Schoharie reservoir is less than five billion gallons and the unfilled storage capacity of Ashokan reservoir is more than five billion gallons.

The discharge is exempt from the Turbidity, Shutdown limit when:

- G. NYCDEP, with concurrence from the Department, determines that additional resources are reasonably necessary in the case of drought watches, warnings or emergencies;
- H. Any action in regard to the operation of the Shandaken Tunnel is directed by this Department, including those diversions provided for special recreational events on the Esopus Creek which have been approved by the Department;
- I. The permittee takes an emergency action in regard to the operation of the Shandaken Tunnel in accordance with 6NYCRR Part 670.7;
- J. NYCDEP, with concurrence from the Department, makes releases to prevent spilling of the Schoharie Reservoir when the unfilled storage capacity of the Schoharie reservoir is less than five billion gallons and the unfilled storage capacity of Ashokan reservoir is more than five billion gallons.

These exemptions shall be in effect until the drought watch, warning or emergency is lifted, or when the action, event, or release triggering the exemption has ceased. The permittee shall notify the Department in writing at the addresses listed on Page 14 of this Permit of the onset and expected duration (if known) of such events within 72 hours, and summarize these events on its monthly Discharge Monitoring Report. The permittee shall make all reasonable efforts to be in compliance with the subject permit limit during these events.

FOOTNOTES (continued):

3. Turbidity Monitoring:

A. The permittee shall conduct turbidity reduction measures in accordance with the Turbidity Reduction Schedule of Compliance on page 8 of this Permit. The permittee shall comply with the interim Turbidity Action Levels shown during this period. The permittee shall comply with the final Turbidity Effluent Limits at the conclusion of this period.

B. The permittee shall monitor the turbidity at the Esopus Creek upstream monitoring station as defined in the Schedule of Compliance. The daily measurement shall be determined by using the calculated daily average of the hourly turbidity measurements taken at the upstream monitoring location and subtracting this measurement from calculated daily average of the hourly turbidity measurements taken at Outfall 001. The resultant increase in turbidity shall not exceed the prescribed Action Levels or Limit for Turbidity Increase. This limit is established pursuant to 40 CFR Part 122.44(d)(1)(vi)(B) and based upon factors and circumstances unique to the Shandaken Tunnel, and as such does not define "substantial visible contrast" per 6NYCRR Part 703.2 and should not be construed to establish a statewide numeric limit for the parameters of Turbidity or Turbidity Increase.

C. The reported Daily Maximum Turbidity measurement shall be determined by calculating the average of the hourly turbidity measurements over the course of a 24 hour period. The Daily Maximum Turbidity reported on the Discharge Monitoring Report shall be the highest of the daily measurements taken during that month. The reported Daily Average Turbidity measurement shall be determined by taking the sum of the Daily Maximum Turbidity measurements for that month and dividing this sum by the number of days in which the discharge was sampled for that month.

D. The permittee is exempt from continuous turbidity monitoring whenever the continuous turbidity monitoring equipment is nonfunctional due to events beyond the permittee's control. During these periods, turbidity measurements shall be collected manually on a daily basis. The permittee is exempt from continuous turbidity monitoring whenever the Esopus Creek freezes or conditions at or near the monitoring location are unsafe due to natural occurrences (i.e., flood or storm conditions).

E. The permittee shall be exempt from the Turbidity Increase action levels and limits when the surface of the Esopus Creek is frozen upstream from the Shandaken Tunnel outlet. In cases where the upstream gage is not working but the creek is not frozen, turbidity measurements shall be collected manually on a daily basis.

F. At no time shall the turbidity of the discharge from the Shandaken Tunnel exceed 100 NTU. Should the turbidity of the discharge exceed 100 NTU, the permittee shall shut down the discharge from the Tunnel in accordance with the maximum allowable ramping rate.

4. The Flow limits shall regulate the discharge from the Tunnel as follows:

A. For the minimum stream flow limit, the permittee shall subtract the streamflow at the Allaben upstream monitoring station from the 160 MGD minimum stream flow limit. The discharge from the Shandaken Tunnel portal, in millions of gallons per day, shall be no less than the determined volumetric flow rate. The combined in stream flow shall not be less than 160 MGD as a daily mean. This minimum flow limit shall not apply when the Ashokan reservoir is spilling. Minimum flows deviating from these limits may be permitted in accordance with Part 670. Every effort should be made to assure that minimum combined flows do not drop below an instantaneous calculation of 100 MGD (+/- 10 MGD).

B. For the maximum flow limit, the permittee shall subtract the streamflow at the Allaben upstream monitoring station from the 300 MGD maximum stream flow limit. The discharge from the Shandaken Tunnel portal, in millions of gallons per day, shall be no greater than the determined volumetric flow rate. The combined in stream flow may be greater than 300 MGD as a daily mean, and the maximum flow limit shall not apply, when the unfilled storage capacity of the Schoharie reservoir is less than five billion gallons and the unfilled storage capacity of Ashokan reservoir is more than five billion gallons.

C. When weather or other circumstances beyond the control of the permittee make it impossible to measure the streamflow at the Allaben monitoring station, the permittee shall estimate the upstream flow in the Esopus Creek by calculating a prorated flow based on the calculated inflow to the Neversink Reservoir and a comparison of the relative drainage areas.

D. Whenever the flow at the Allaben monitoring station meets or exceeds 300 MGD, the permittee is exempt from the 300 MGD maximum stream flow limit.

E. The City is exempt from the minimum stream flow limit whenever any action in regard to the operation of the Shandaken Tunnel as directed by this Department would cause the City to violate this limit.

FOOTNOTES (continued):

4. F. The City is exempt from the maximum stream flow limit whenever the permittee takes an emergency action in regard to the operation of the Shandaken Tunnel in accordance with 6NYCRR Part 670.7.
5. The Phosphorus, as P, 12 month rolling average limit shall be calculated by adding the daily average Phosphorus loadings, in kg/day, for the subject month to the daily average Phosphorus loadings for each of the preceding eleven months. Compliance with this limit shall be recalculated each month.
6. The permittee shall estimate the volume of cold water within the Schoharie reservoir within 7 days of June 15 of each year, in CFS-days. This estimate shall be determined by developing a thermal profile from water temperature data collected at every one-half meter of water depth until the elevation where the 62 degF (16.7 degC) temperature is found, and every three (3) meters of water depth thereafter. The 62 degF (16.7 degC) temperature elevation should then be used to determine the volume of cold water available, by reference to a table of capacity versus reservoir elevation. The permittee shall then use that information to develop a Schoharie Reservoir Releases Plan for the period from July 1-September 15. The Releases Plan shall be developed with the goal of limiting the use of the cold water supply as much as possible while still maintaining an adequate supply of water for drinking purposes and coldwater habitat releases to Esopus Creek in accordance with the flow limits and requirements in Footnote 4. The Plan shall be developed consistent with good water supply and natural resource protection practices and shall be subject to the review, approval and revision by the Department. The thermal profile, storage data calculations, and Releases Plan shall be sent to DEC so that it is received by June 30 of each year. The permittee shall make all reasonable efforts to ensure that the Schoharie Reservoir is full on June 1 of each year and shall follow the Releases Plan as much as practicable. The permittee shall notify the Department's Releases Manager as soon as the permittee becomes aware of a need to deviate from the Releases Plan. The Department may, with consideration of water supply and habitat need, direct the permittee to halt its deviations from the Releases Plan at any time.
7. The exemptions listed in Footnotes 1-4 above shall be revisited upon completion of the Schedule of Compliance activities and reviewed with respect to need and applicability.

SCHEDULE OF COMPLIANCE - MONITORING AND REPORTING

a) The permittee shall comply with the following schedule.

Action Code	Outfall Number(s)	Compliance Action	Due Date
	N/A	Upstream Monitoring Location: The permittee shall construct an upstream monitoring station to measure upstream turbidity samples. The station shall be located such that the measurements are representative of the turbidity within the Esopus Creek as close as practical to, but prior to admixture with, the discharge of the Shandaken Tunnel.	1/1/2007
	N/A	Progress Reports: The City shall, consistent with 6 NYCRR § 750-1.14(b), submit detailed periodic progress reports on the status of all requirements set forth in this schedule of compliance.	6/1/2007 and at each 9 month interval thereafter
	001	Annual Monitoring Data Summary: The permittee shall submit an annual summary of Outfall 001 monitoring data, in electronic spreadsheet format, to the Bureau of Water Permits, 625 Broadway, Albany NY 12233-3505.	9/1/2007 and annually thereafter
	N/A	Public Participation: The permittee shall hold semiannual public meetings to discuss the progress of the turbidity reduction projects to be undertaken, gather public input on improvements in stream quality, and identify management efforts that may be undertaken by volunteers and other concerned groups and individuals.	3/1/2007 and every 6 months thereafter

The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

- b) The permittee shall submit a written notice of compliance or 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 such compliance or non-compliance notification 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. A description or any factors which tend to explain or mitigate the 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 NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, **to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505**, and the Greene County Soil and Water Conservation District, 907 County Office Building, Cairo NY 12413 unless otherwise specified in this permit or in writing by the Department.

SCHEDULE OF COMPLIANCE - TURBIDITY REDUCTION PROGRAM

The permittee shall develop a program to reduce the effects of storm water runoff and other activities on turbidity through land, storm water, and stream control initiatives within the Schoharie Reservoir Basin. The goal of this program shall be to reduce to the extent practical, the impacts of current and future development on turbidity within the basin.

a) The permittee shall comply with the following schedule.

Action Code	Outfall Number(s)	Compliance Action	Due Date
	NA	The Permittee shall develop a program, which may be administered by the Catskill Watershed Corp., consisting of the creation and funding of a Program Fund in the amount of \$500,000. The fund will be distributed to municipalities within the Schoharie Watershed to fund generic environmental impact statements to address the environmental (in particular, turbidity) and infrastructure impacts from reasonably foreseeable future development. The purpose of these studies is to identify the impacts (i.e., environmental and infrastructure) from reasonably foreseeable future developments and the mitigation measures necessary to address such impacts. The funds will be allocated pursuant to one funding round and request for proposals. The funds shall be allocated based upon: (1) the quality of the proposal; (2) the applicant's demonstrated need; and (3) the area of the applicant municipality within the Schoharie watershed. Funds may be expended on planning only for areas within the Schoharie Watershed. Contracts for these projects shall be issued to municipalities within 15 months of the effective date of the permit.	12/1/2006
	NA	Submit an approvable turbidity reduction report evaluating the potential benefits of the heightened or more expansive implementation, within the Schoharie Reservoir basin, of program activities established under the 1997 New York City Watershed Memorandum of Agreement and the 2002 FAD. This report will include an evaluation of the potential benefits of increased or focused funding and implementation of whole farm, forestry, willing seller land acquisition, stream restoration, storm water retrofit, stream buffer and conservation easement programs. The report will include alternative proposals for a focused willing buyer-willing seller land acquisition and conservation easement program.	9/1/2007
	NA	Propose an implementation schedule, with specific milestones and goals, to implement the approved actions that were evaluated in the turbidity reduction report above.	1/1/2008
	NA	Commence implementation of heightened program activities in accordance with milestones and schedule approved by the Department.	9/1/2008

The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

b) The permittee shall submit a written notice of compliance or 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 such compliance or non-compliance notification 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. A description or any factors which tend to explain or mitigate the 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 NYSDEC Regional Water Engineer

at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, **the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505**, and the Greene County Soil and Water Conservation District, 907 County Office Building, Cairo NY 12413, unless otherwise specified in this permit or in writing by the Department.

SCHEDULE OF COMPLIANCE - TURBIDITY REDUCTION MEASURES

A) The permittee shall develop a program consisting of structural and nonstructural measures to reduce the turbidity in the Shandaken Tunnel and maximize the volume of cold water available for discharge to the Esopus Creek. The goals of this program shall be to **protect the water supply, fishery, and recreational uses of the Esopus Creek through:**

1. Achieving consistent compliance with the turbidity limits listed on page 3 of this Permit; and
2. Providing adequate cold water volume to assure that the discharge from the Shandaken Tunnel does not exceed the water quality based effluent limit of 70 degF during the months of May through September.

The program shall include the following measures:

1. Structural Modifications:

The permittee shall identify and implement any short and long term structural measures which will achieve the above goals in accordance with the Schedule of Compliance below. These measures shall include, but are not limited to, a multi level intake structure, turbidity curtain and any alternatives identified and implemented in accordance with the **Comprehensive Analysis of Potential Alternatives at Schoharie Reservoir** that will be developed by the permittee and approved by the EPA in fulfillment of requirements contained in the November 2002 FAD. These measures shall also be reviewed and approved by the Department consistent with 6NYCRR § 750-1.2(a)(8).

2. Nonstructural Programs:

A. Filtration Avoidance Determination Schedule: The Permittee shall continue the Stream Management Program as detailed in Section 4.5 of the November 2002 FAD as approved by EPA. The DEP may continue contracts as previously developed to fulfill this requirement.

B. Stream Restoration Program: The Permittee shall continue a program to implement stream restoration programs to repair streams and streambanks that are in need of restoration based on identified addition of suspended sediment (and turbidity) to the Schoharie Reservoir. In addition to the stream restoration projects identified above under "A. Filtration Avoidance Determination Schedule", the Permittee shall repair a minimum of 5,000 linear feet of stream in the Schoharie Basin within seven years of the effective date of the permit. Plans for all stream repair shall be approved by the Department. The repair work shall include a minimum of two stream restoration projects. This work is above and beyond any requirement of the 2002 FAD.

C. Local Implementation Program: The Permittee shall provide at least \$2 million in funding, for local implementation of stream management plan recommendations, as contained in the Stream Management Plans currently developed and in the process of being developed for the entire Schoharie Reservoir basin. The Permittee shall conduct projects and/or establish contract(s) with one or more local entities to implement this local program. The Permittee shall begin implementation within 36 months of either completion of the Stream Management Plans for the Schoharie Basin, or 9/1/2006, whichever is later. The Permittee, in consultation with the Project Advisory Committee for each Stream Management Plan and the appropriate county Soil and Water Conservation District(s), shall recommend projects to be implemented based on the goals of this program. The permittee's recommendations shall be subject to the Department's review and approval.

D. Other considerations and measures: The Permittee may identify and implement any other short or long term nonstructural measures not identified above that will assist in meeting the goals of this program. All measures to be considered shall be consistent, to the extent possible, with recommendations developed in the Stream Management Plans for tributaries of the Schoharie Reservoir.

Continued on following page

SCHEDULE OF COMPLIANCE - TURBIDITY REDUCTION MEASURES (continued)

The permittee shall comply with the following schedule.

Action Code	Outfall Number(s)	Compliance Action	Due Date
	001	Submit an approvable report detailing the short and long term structural modifications to be performed as outlined in Item 1. above. The report shall include an investigation of alternatives, projected turbidity reductions and increases in available cold water volume, and recommended actions to be taken along with a schedule for implementation.	3/1/2008
	001	Submit an approvable report detailing the actions to be taken with respect to each of the measures in Item 2. above, as well as any other avenues to be investigated that will achieve the goals of turbidity reduction and cold water storage within the Schoharie Reservoir. The report shall include an investigation of alternatives, projected turbidity reductions and increases in available cold water volume, and recommended actions to be taken along with a schedule for implementation.	3/1/2008
	001	Begin implementation of identified structural alternatives in Item 1. above as approved by the Department.	Effective Date of Approval +2 months
	001	Begin implementation of identified nonstructural alternatives in Item 2. above as approved by the Department.	Within 36 months of completion of Schoharie Basin SMP
	001	Complete implementation of identified structural alternatives and achieve compliance with final effluent turbidity requirements listed on page 4 of this Permit.	9/1/2013

The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

- b) The permittee shall submit a written notice of compliance or 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 such compliance or non-compliance notification 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. A description or any factors which tend to explain or mitigate the 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 NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, **the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505**, and the Greene County Soil and Water Conservation District, 907 County Office Building, Cairo NY 12413, unless otherwise specified in this permit or in writing by the Department.

EDP: 9/1/2006

DISCHARGE NOTIFICATION REQUIREMENTS

- (a) Except as provided in (c), (f) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.
- (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) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of three years.

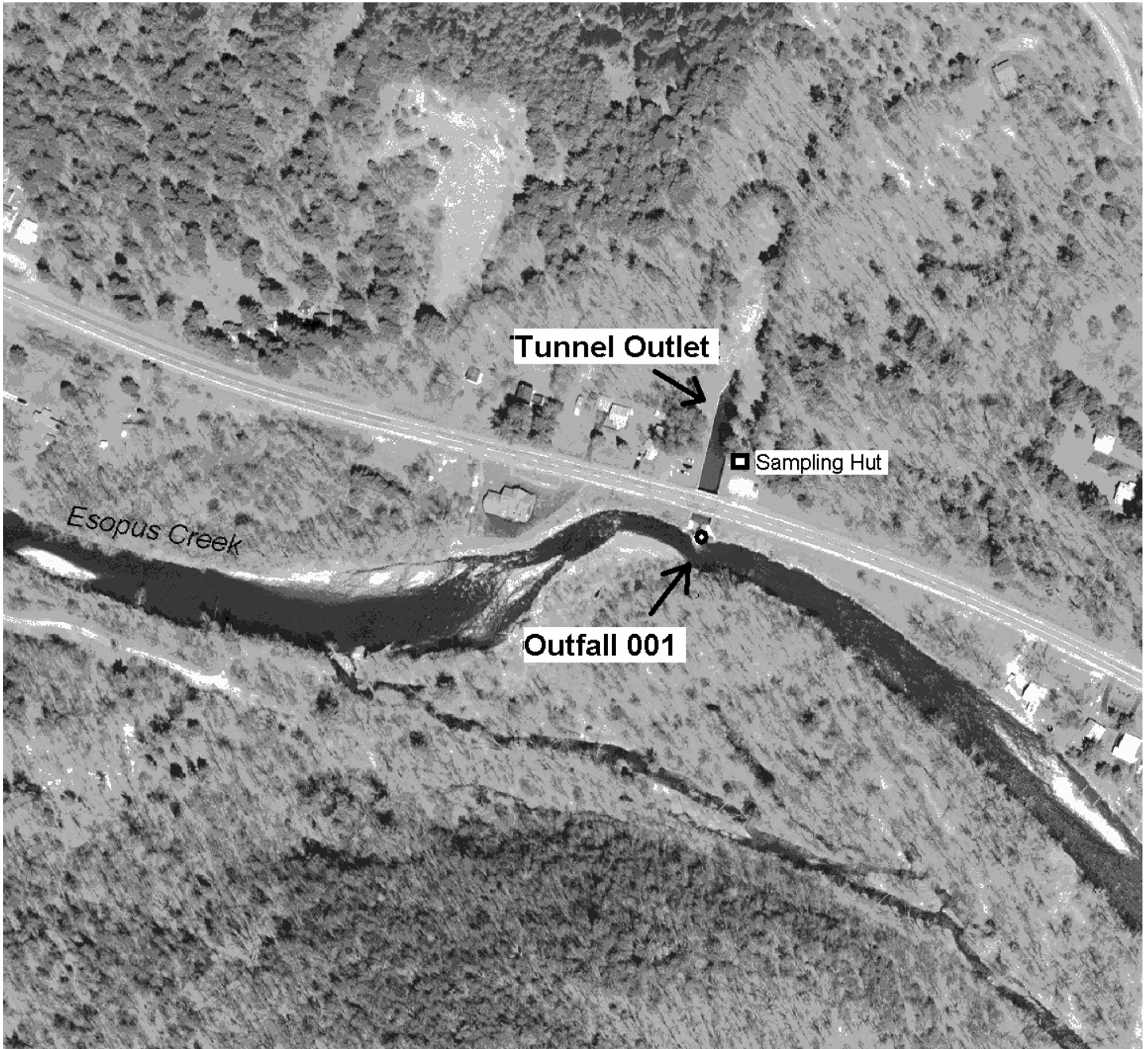
(continued)

DISCHARGE NOTIFICATION REQUIREMENTS (continued)

- (f) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a) of the ECL, but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.
- (g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h):
 - (i) such sign would be inconsistent with any other state or federal statute;
 - (ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;
 - (iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;
 - (iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or
 - (v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.
- (h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, Central Office, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.
- (i) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

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:



Sampling Point: At South Portal discharge point of tunnel prior to admixture with the Esopus Creek.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.
- b) The monitoring information required by this permit shall be summarized, signed and retained for a period of three years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

(if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

(if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

(if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
 Regional Water Engineer and/or County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water
Bureau of Watershed Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer
100 Hillside Avenue, Suite 1W
White Plains, NY 10603-2860

Phone: (914) 428-2505

Send an **additional copy** of each DMR page to:

- c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.
- d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.
- f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two 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 sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	001
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Source(s) of Wastewater	Water Supply - Discharge from Shandaken Tunnel
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	N/A

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent		Type	
	Avg/Max	95% DM	Avg/Max	95%/99%							conc.	mass		
WET TESTING					NA					Recommended?		NO		
Flow, June-October, downstream, MGD	Average		Maximum		300		Daily Max	NA	6 NYCRR Part 670					T
Flow, minimum, downstream, MGD					160		Daily Min	NA	6 NYCRR Part 670					T
Phosphorus, as P, kg/yr						Monitor	DA/DM		BPJ			8962		T/WQ
Phosphorus, 12 mo. rolling avg., kg/d			8962	95% DA		8,962	12 mo RA		BPJ (see Notes 1 and 3)					T
Solids, Settleable, ml/l					Monitor		DA/DM		BPJ					T
Solids, Total Suspended, mg/l					Monitor		DA/DM		BPJ					T
Turbidity, upstream, NTU					Monitor		DA/DM		BPJ					T
Turbidity, June-October, NTU	10.3/85	28.5			Monitor		DA/DM		BPJ					T
Turbidity, November-May, NTU	13.1/300	34.0			Monitor		DA/DM		BPJ					T
Turbidity difference, June-Oct., NTU	7.5				15		Action Level		BPJ (see Notes 2 and 3)					T
Turbidity difference, Nov.-May, NTU	14.7				20		Action Level		BPJ (see Notes 2 and 3)					T
Turbidity, Shutdown					100		DM		BPJ (see Notes 2 and 3)					
Turbidity	13.8/300	17.5/39.8			Monitor		DA/DM		BPJ (see Notes 2 and 3)					
Turbidity difference					15		DM		BPJ (see Notes 2 and 3)					
Temperature, May-September					70		DM		6 NYCRR Part 704 (see Notes 3 and 4)					
Temperature, November-May, deg F					Monitor		DA/DM		BPJ					T

Notes: See Page 3 of this Fact Sheet.

Note 1: The Phosphorus limit is based upon a statistical analysis of data from the Shandaken tunnel outlet (monitoring station SRR2) from the January 1987 - December 2002 period. The action level/TMDL is set at the 95th percentile Daily Average nonparametric calculation on a 12 month rolling average basis, as submitted by NYCDEP to this Department on October 11, 2005. Neither the Ashokan nor the Schoharie Watersheds are impaired for phosphorus at the time of this Fact Sheet. Algae blooms are not a water quality issue within these watersheds at this time. The allocation of 8,962 kg/yr to this discharge will not impact the current available capacity level (8,026 kg/yr) as that term is defined in the Phase II TMDL.

Note 2: These action levels and limits are established pursuant to 40 CFR Part 122.44(d)(1)(vi)(B) and based upon factors and circumstances unique to the Shandaken Tunnel, and as such do not define "substantial visible contrast" per 6NYCRR Part 703.2 and should not be construed to establish a statewide numeric limit for the parameters of Turbidity or Turbidity Increase.

Interim Action Levels:

The interim Turbidity action levels are based upon a statistical analysis of data from the Shandaken tunnel outlet (monitoring station SRR2) from the November 2000 - November 2003 period to be representative of the most recent conditions at the Tunnel. The Turbidity Increase action levels are based upon a statistical analysis of the turbidity difference between upstream monitoring station E5 and the Shandaken tunnel outlet (monitoring station SRR2) and the permit writer's BPJ. The Turbidity, Shutdown limit is based upon the permit writer's BPJ and discussions with the Division of Fish and Wildlife which indicated that long term exposure to this level of turbidity may adversely impact the fishery.

Final Effluent Limits:

The final Turbidity and Turbidity Increase effluent limits are based upon a statistical analysis of data from the Shandaken tunnel outlet (monitoring station SRR2) from the January 2001 -December 2003 period, input from the Division of Fish and Wildlife and the permit writer's BPJ.

- Note 3: a. The effluent limits, monitoring requirements, and compliance measures listed in this permit shall be re-evaluated as the nonstructural and structural measures required in the Schedules of Compliance are implemented. Re-evaluation shall occur on five year intervals beginning at ten years from the effective date of this Permit.
- b. The nonstructural measures listed on page 9 of this Permit are an ongoing program that is necessary to meet the requirements of this Permit. The nonstructural measures shall be re-evaluated on a five year basis to assess progress made in reducing turbidity, the need for further turbidity reductions, and the need for additional data and analysis.

Note 4: The Temperature limit is based on 6 NYCRR Part 704. As there is no addition of heat of artificial origin, the temperature increase requirements of Part 704.2(b)(2) do not apply to this discharge.

(4) Additional Issues:

Water Quality Based Effluent Limits (WQBELs):

New York State water quality regulations (for surface waters) are implemented by applying the Total Maximum Daily Load (TMDL) process to watersheds, drainage basins or waterbody segments on a pollutant specific basis. The analysis determines if there is a “reasonable potential” that the discharge of a pollutant will result in exceedance of ambient water quality criteria (AWQC). If there is a reasonable potential for an exceedance of AWQC, the TMDL is used to establish waste load allocations for point sources and load allocations for nonpoint sources of the pollutant. For point sources, the waste load allocations are translated to WQBELs for inclusion in SPDES permits. Reference - TOGS 1.3.1, USEPA Guidance for Water Quality - Based Decisions: The TMDL Process, 40 CFR 130 and the Clean Water Act 303(d).

The following table has been completed only for those parameters for which WQBELs were determined to be necessary.

Parameter	Phosphorus				
Amount to be Allocated (TMDL)	10,781 kg/yr				
Number of Sources	6				
Allocation to this Permit	8,962 kg/yr				

Statistics:

The statistical methods utilized are consistent with TOGS 1.2.1 and the USEPA, Office of Water, Technical Support Document For Water Quality-based Toxics Control, March 1991, Appendix E. Generally based on lognormal analysis. If other data distributions such as normal or delta-lognormal are utilized it is noted below. Statistical calculations were not performed for parameters with insufficient data. Generally, ten or more data points are needed to calculate percentiles. Two or more data points are necessary to calculate an average and a maximum. Non-detects were included in the statistical calculations at the reported detection limit unless otherwise noted.

Monitoring data collected during the following time period was used to calculate statistics: November 2000 - December 2003

This data was taken from the following source(s): Monitoring stations E5, E6, and SRR2.

Internal Waste Stream Monitoring:

40 CFR 122.45(h)(1) allows the permit authority to monitor and limit parameters at internal locations when controlling them solely at the final outfall is impractical or infeasible. Dilution of a process wastewater with large volumes of cooling water and/or storm water is one example of when the use of an internal monitoring point is justified. Monitoring at the following internal outfalls is necessary for the reasons specified: NA

WET Testing:

Testing is required, in accordance with TOGS 1.3.2, for the following reasons:NA

Indicator Parameters:

In accordance with 40 CFR 122.44(e)(2), The permit writer has determined that effective treatment and/or acceptable performance for specific parameters is indicated by one or more other parameters which are limited and therefore a decision has been made to not limit or monitor these specific parameters. This judgement is based on the similarity between this and the regulated parameter(s) and historical data where available. The use of indicator parameters is not appropriate for WQBELs. Following is a list of the affected parameters:NA

Schedule of Compliance: The schedule of compliance contains several items intended to reduce the turbidity and better control the temperature of the discharge from the Shandaken Tunnel to the Esopus Creek, including short and long term studies of structural and nonstructural measures and stream restoration projects.

(5) Summary of Proposed Permit Changes:

Compared to the previous draft permit, the following significant changes are proposed -

1. Turbidity: Final effluent limits for daily average and daily maximum turbidity have been changed to "monitor," as the water quality regulations regarding turbidity are in terms of substantial visible contrast rather than absolute turbidity. The footnotes for Turbidity have been revised and clarified. Additional exemptions for void/void, emergency operations, reservoir balancing, and recreational releases were included.
2. Phosphorus: The 12 month rolling average Phosphorus effluent limit has been revised based upon analysis of the existing data using the appropriate 12 month rolling average calculation for purposes of consistency.
3. Temperature: The temperature action level has been removed in lieu of the Reservoir Releases Plan (Footnote 6), based upon discussions with the Division of Fish and Wildlife.
4. Flow: Ramping provisions for the opening/closing of the Tunnel are now included by reference. An additional exemption for emergency operation of the Tunnel has been included.
5. Compliance schedule: The nonstructural compliance schedule has been revised based upon discussions and agreements with NYCDEP and the Coalition of Watershed Towns.

(6) Explanatory Notes:

Please note that some of these terms are not applicable to every fact sheet.

AL -	Action level calculated in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs). See the permit for a complete definition.
AVG or Av -	Average. The arithmetic mean.
AWQC -	Ambient water quality criteria for the receiving water. The applicable standard, guidance value or estimated value in accordance with TOGS 1.1.1, TOGS 1.3.1 and 6NYCRR 700-705.
Basis -	The technical analysis, internal guidance, regulation and/or law upon which an effluent limit or monitoring requirement is proposed.
BAT -	Best Available Technology Economically Achievable in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
BCT -	Best Conventional Control Technology in accordance with TOGS 1.3.4, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
BPJ -	Best Professional Judgement in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 122 and 125, 6NYCRR 754.1, ECL 17-0811 and the Clean Water Act.
BPT -	Best Practicable Control Technology in accordance with TOGS 1.2.1, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
Conc. -	Concentration in units of mg/l, ug/l or ng/l.
Design Flow -	Treatment system design capacity as noted in an approved engineering report.
Final -	Final permit period requirements. A level of performance that must be achieved according to a schedule specified in either the permit or a consent order.
g/d -	Grams per day discharged.
GW -	Groundwater effluent limitation developed in accordance with TOGS 1.2.1 (nonPOTWs), TOGS 1.3.3 (POTWs), TOGS 1.1.2 and 6NYCRR 703.
Ind -	Indicated parameter. See definition in section (4).
Interim -	Interim permit period requirements. A level of performance that must be achieved while improvements are being implemented in order to achieve final permit period requirements.
lbs/d or #/d -	Pounds per day discharged.
Mass -	Mass discharge in units of #/d or g/d discharge.
Max or Mx -	The maximum value.
MGD -	Million gallons per day.
mg/l -	Milligrams per liter.
Dilution/Mixing -	Used to determine dilution available in receiving waters. For lakes, estuaries and slowly flowing rivers and streams, mixing zone dilution is generally assumed to be 10:1 unless data is available to indicate otherwise.
Model -	Calibrated water quality model applied in accordance with TOGS 1.3.1.
Mon -	Monitor only.
NA -	The characteristics of this parameter and the reported discharge levels do not justify routine monitoring or a limit. Also indicates "not applicable".
ng/l -	Nanograms per liter. 1000 ng/l = 1 ug/l = 0.001 mg/l.
PQL -	The DEC published or site specific practical quantitation limit; the concentration in wastewater at which analytical results are thought to be accurate to within approximately plus or minus thirty percent.
R -	"Rolled Over", i.e. the specific requirement in this permit is equivalent to the previous permit. R(T) is roll over of a technology based requirement and R(WQ) is roll over of a WQBEL.
Range -	The discharge is limited to a range of effluent values, e.g. a pH limit of (6.0-9.0) SU.
RREL -	EPA's Risk Reduction Engineering Laboratory treatability database.
T -	Technology based effluent limit or requirement.
TOGS -	Technical and Operational Guidance Series. Internal guidance to permit drafters used by the NYSDEC Division of Water to aid in permit drafting. Copies of these guidance documents may be obtained from the internet at http://www.dec.state.ny.us/website/dow/togs/index.htm .
ug/l -	Micrograms per liter. 1000 ug/l = 1 mg/l.
WET-	Whole Effluent Toxicity (testing). See TOGS 1.3.2.
WQ -	Water quality.
WQBEL -	Water quality-based effluent limit. See information in section (4).
7Q10 -	The minimum average 7 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving aquatic health based AWQC.
30Q10 -	The minimum average 30 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving human health based AWQC.
95% -	The 95th percent confidence interval for the historical effluent data used to draft the permit.
99% -	The 99th percent confidence interval for the historical effluent data used to draft the permit.
133 -	Secondary treatment requirements in accordance with TOGS 1.3.3, 40 CFR 133, 6NYCRR 754, ECL 17-0509 and the Clean Water Act.
+ -	These parameters represent scans. Detections vary among the compounds which are included in the scans. The listed value represent the maximum detected level of any compound in the scan.