Industrial Fact Sheet

Facility: New York City Economic Development Corporation
NYC EDC Willets Point Redevelopment Site
Queens, New York
Groundwater from temporary Construction Dewatering

Summary of Proposed Permit:
SPDES permit is required for the discharge of treated groundwater generated from temporary construction dewatering during construction at NYCEDC Willets Point Redevelopment Site in Queens, New York. Dewatering activities are needed during the installation of both storm and sanitary sewers. The treated construction dewatering water will be discharged to Flushing Bay through the NYCDEP outfall BB-602.

Treatment Plant Description
The treatment systems will be composed of a Settling tank, Oil/Water Separator, Bag Filters and Carbon Adsorption Unit.

Outfall and Receiving Water Information

Saline Surface Water Classifications

Class I - The best usages of Class I waters are secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival.

The facility will maintain the following outfalls:

Outfall No.	Design Flow Rate (MGD)	Latitude	Longitude	Receiving Water	Water Class	Water Index Number
001	0.144 MGD	40° 41' 32"	74° 00' 55"	Flushing Bay	I	(MW.2.5) ER-LI-12

303 (d) Impaired Waterbody Information:
The Clean Water Act Section 303 (d) list identifies waters that do not support appropriate uses and that require development of a Total Maximum Daily Load (TMDL) or other restoration strategy. According to the Final New York State 2008 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy dated May 26, 2008, the portion of Newtown Creek within New York State has been listed under "Multiple Segment/Categorical Impaired Waterbody Segments (fish consumption)." These water segments might be addressed in the future by a waterbody specific TMDL or a pollutant/source specific TMDL or other strategy to attain water quality standards.

Waterbody Segment/Class	Year Listed	Cause/ Pollutant	Suspected Source	High Priority Waters	TMDL Status	Applicable WLA
(MW2.5)ER-LI-12	2002	Dissolved Oxygen, Nutrients, Priority Organics(PCBs)	Combined Sewer Overflow, Storm Sewers,Urban Runoff, etc.			

Effluent Limitations
The NYSDEC followed the Clean Water Act, state and federal regulations, and the Division of Waters Technical and Operational Guidance Series documents for developing the effluent limits. In general, the Clean Water Act requires that the effluent limits for a particular pollutant are the more stringent of either the technology-based or water quality-based limits. A technology-based effluent limit requires a minimum level of treatment for industrial point sources based on currently available treatment technologies. A water quality-based effluent limit (WQBEL) is designed to ensure that the water quality standards of receiving waters are being met. Water Quality-Based Effluent Limits have been used in the draft permit.

Monitoring Requirements
Section 308 of the Clean Water Act and federal regulations 40 CFR 122.44(i) 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 for reporting results on Discharge Monitoring Reports (DMRs) to NYSDEC.

The draft permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance. For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1.

Other Permit Conditions

Special Conditions
Monthly Reports

Other Legal Requirements

Discharge Notification Act
In accordance with Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters. The permittee is also required to provide a public repository for DMRs as required by the SPDES permit.

Antidegradation Policy
New York State implements the antidegradation portion of the CWA based upon two documents:

1. Organization and Delegation Memorandum #85-40, entitled "Water Quality Antidegradation Policy," signed by the Commissioner of NYSDEC, dated September 9, 1985.

2. TOGS 1.3.9, entitled "Implementation of the NYSDEC Antidegration Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985)."

A SPDES permit cannot be issued that would result in the water quality criteria being violated. The draft permit for the facility contains effluent limits which ensure that the existing beneficial uses of the Newtown Creek and East River will be maintained.

Appendix A

Basis for Effluent Limitations

Statutory and Regulatory Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permit. The NYSDEC evaluates discharges with respect to these sections of the CWA and the relevant SPDES regulations to determine which conditions to include in the draft permit.

In general, the permit writer does a statistical analysis of the monitoring data provided in permittee-submitted discharge monitoring reports (DMRs). Pollutant screening data as required in the Request for Information is also reviewed to determine the presence of additional contaminants that should be considered for inclusion in the permit. The permit writer determines the technology-based limits that must be incorporated into the permit in accordance with federal and state rules, regulations, and technical guidance. The Department then evaluates the water quality expected to result from these controls to determine if any exceedances of water quality standards in the receiving water would result. If there is a reasonable potential for exceedances to occur, water quality-based limits must be included in the permit. The draft permit limits reflect whichever requirements, technology or water quality, are more stringent. The proposed limits are located on Page[s] 3-6 of the draft permit. This Appendix describes the technology-based and water quality-based evaluation for the facility.

Technology-Based Evaluation

Section 301(b) and 402 of the CWA require technology-based controls on effluents. This section of the Clean Water Act requires that, by March 31, 1989, all permits contain effluent limitations which: (1) control toxic pollutants and non-conventional pollutants through the use of "best available technology economically achievable" (BAT), and (2) represent "best conventional pollutant control technology" (BCT) for conventional pollutants. In no case may BCT or BAT be less stringent than "best practical control technology currently available" (BPT), which is the minimum level of control required by Section 301(b)(1)(A) of the Clean Water Act. After March 31, 1989, all permits for new sources are required to contain effluent limitations for all categories of point sources which control toxic pollutants through the use of best available demonstrated technology (BADT). BADT is specifically applied through New Source Performance Standards (NSPS).

Non-categoricals

For certain industrial sectors, Effluent Guidelines have not been promulgated by USEPA. In other instances, facilities that are subject to federal regulations may have substances in their discharges that are not explicitly limited by the regulations. To determine if these substances require technology-based effluent limits, the permit writer must apply Best Professional Judgment (BPJ). The authority for BPJ is contained in Section 402(a)(1) of the CWA, which authorizes the Department to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of the Act." The NPDES regulations in 40

CFR 125.3 state that permits developed on a case-by-case basis under Section 402(a)(1) of the CWA must consider:

1. Reviewing Effluent Guidelines for sectors with similar pollutants,
2. Reviewing limitations developed at similar facilities, and
3. Any unique factors relating to the applicant.

Water Quality-Based Evaluation
In addition to the technology-based limits previously discussed, the NYSDEC evaluated the discharge to determine compliance with Section 301(b)(1)(C) of the Clean Water Act. This section requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977.

The regulations in 40 CFR 122.44(d)(1) implement Section 301(b)(1)(C) of the Clean Water Act. These regulations require that SPDES permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The limits must be stringent enough to ensure that water quality standards are met and must be consistent with any available wasteload allocation (WLA).

Water Quality Criteria
Water quality regulations detailed in 6 NYCRR Parts 700-706 and ambient water quality standards and guidance values specified in TOGS 1.1.1 were applied to the facility's discharge. Specific application of the regulations and standards is detailed in Table **[X]** of this Appendix.

Reasonable Potential Evaluation
Reasonable potential analysis is the process for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above New York State water quality criteria for toxic pollutants. When conducting a reasonable potential analysis for each pollutant of concern, factors such as receiving water classification and corresponding water quality criteria and guidance values, pollutant concentration in the effluent, dilution available in the receiving water, background concentrations and additional upstream and downstream dischargers containing the pollutant of concern are used to quantify the receiving water quality. If the expected concentration of the pollutant of concern in the receiving water exceeds the ambient water quality criteria or guidance value then there is reasonable potential that the discharge may cause or contribute to a violation of the water quality standard, and a water quality-based effluent limit or load allocation for the pollutant is required. Calculations performed specifically for the effluent of this facility can be found at the end of this Appendix.

Procedure for Deriving Water Quality-Based Effluent Limits (WQBELs)
The TMDL process is a water quality based approach to implementing water quality standards. It is applied to an entire watershed or drainage basin whenever possible, but may also be applied to waterbody segments with individual or multiple pollutant sources. The TMDL analysis is carried out separately for each pollutant. It allows for the consideration of all sources of the pollutant including point sources, non-point sources, atmospheric deposition and natural

background. Dependant on the complexity of the issue and the amount of data available, the analysis can be relatively simple such as a desk-top, mass-balance calculation or it can be exacting and detailed by using complex, multidimensional water quality models. The TMDL process serves a dual function in the permit development process. It provides the basis for the reasonable potential analysis. If the reasonable potential analysis indicates that the pollutant of concern has the potential to cause or contribute to an excursion of water quality standards, the TMDL process is then used to determine the WQBELs for all sources of the pollutant to assure compliance with the standards.

Pollutant-Specific Analysis

This section outlines the basis for each of the effluent limitations of outfall number 001 in the SPDES draft permit.

pH, Oil and Grease and Total Suspended Solids (TSS):
The effluent limits for pH (6.0 to 9.0), Oil and Grease (15 mg/l) and TSS (50mg/l) parameters are based on Best Available Technology (BAT)/Best Professional Judgment (BPJ).

Mercury and PCBs:
Monitoring for Mercury and PCBs has been included in this draft permit due to the possible presence of these pollutants. Consequently, the permit includes the following requirements:

> **Mercury:** An action level of 50 ng/l is included in this permit. This action level is achievable by current wastewater treatment technology.
>
> **PCBs:** An action level of 200 ng/l per aroclor is includes in this draft permit. This is the Practical Quantitation Limit of the EPA approved analytical method.

For all other parameters Action Levels have been used for effluent limits.

Appendix B

Individual Outfall Data Summaries and Permit Limit Development

Existing Effluent Quality and Technology Based Effluent Limits (TBEL)
Technology Based Effluent Limit (TBEL) is set based upon an evaluation of Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), Best Practicable Technology Currently Available (BPT), and Best Professional Judgment (BPJ). BPJ limits may be set using any reasonable method that takes into consideration the criteria set forth in 40 CFR 125.3.

For the Existing Effluent Quality, the statistical methods utilized are 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. Statistical calculations were not performed for parameters with insufficient data. Generally, ten or more data points are needed to calculate percentiles (See TOGS 1.2.1 Appendix D). Two or more data points are necessary to calculate an average and a maximum. Non-detects were excluded in the statistical calculations.

Water Quality Based Effluent Limits (WQBEL)
Ambient Water Quality Criteria (AWQC) and guidance values specified in "Water Quality Regulations" New York State Codes, Rules and Regulations Title 6, Chapter X, Parts 700-705 and TOGS 1.1.1 were applied to the following pollutants identified in the facilities discharge. Water Quality Based Effluent Limits (WQBEL's) were calculated by applying the TMDL process for each pollutant.

AL = Action Level

TABLE 1

Outfall # | 001(STRM OF-003)

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, WQ or AL)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate, units =	Average		Maximum					NA						
pH (su)	Minimum		Maximum				Range			6.0-9.0				WQ
TSS								50 mg/l	BPJ, TOGS 1.2.1					T
Oil & Grease								15 mg/l	BPJ,TOGS1.2.1					T
Tetrachloroethene								0.026mg/l	AL - TOGS 1.2.1					AL
Benzene								0.10mg/l	AL - TOGS 1.2.1					AL
Toluene								0.10mg/l	AL - TOGS 1.2.1					AL
Xylenes								0.10mg/l	AL - TOGS 1.2.1					AL
Ethylbenzene								0.10mg/l	AL - TOGS 1.2.1					AL
PCBs per Aroclor								200 ng/l	BAT					AL
Chromium								50ug/l	AL - TOGS 1.2.1					AL
Copper, Total								61ug/l	AL - TOGS 1.2.1					AL
Lead, Total								204ug/l	AL - TOGS 1.2.1					AL
Mercury								50 ng/l	BAT					AL
Antimony								63ug/l	AL - TOGS 1.2.1					AL
Cadmium								77ug/l	AL - TOGS 1.2.1					AL
Nickel, Total								74ug/l	AL - TOGS 1.2.1					AL
Beryllium								11ug/l	AL - TOGS 1.2.1					AL
Selenium								50ug/l	AL - TOGS 1.2.1					AL
Silver								50ug/l	AL - TOGS 1.2.1					AL
Thallium								20ug/l	AL - TOGS 1.2.1					AL
Zinc, Total								66ug/l	AL - TOGS 1.2.1					AL