



ERNE FLETCHER  
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
14 REILLY ROAD  
FRANKFORT, KENTUCKY 40601-1190  
www.kentucky.gov

TERESA J. HILL  
SECRETARY

August 16, 2007

Jeff Eger, General Manager  
Sanitation District No. 1  
1045 Eaton Drive  
Fort Wright, Kentucky 41017

Re: Eastern Regional Wastewater Treatment Plant  
KPDES No.: KY0105031  
Campbell County, Kentucky

Dear Mr. Eger:

Enclosed is the Kentucky Pollutant Discharge Elimination System (KPDES) permit for the above-referenced facility. This action constitutes a final permit issuance under 401 KAR 5:075, pursuant to KRS 224.16-050.

This permit will become effective on the date indicated in the attached permit provided that no request for adjudication is granted. All provisions of the permit will be effective and enforceable in accordance with 401 KAR 5:075, unless stayed by the Hearing Officer under Sections 11 and 13.

Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470 and any regulations promulgated thereto. Any person aggrieved by the issuance of a permit final decision may demand a hearing, pursuant to KRS 224.10-420(2), within thirty (30) days from the date of the issuance of this letter. Two (2) copies of request for hearing should be submitted in writing to the Environmental and Public Protection Cabinet, Office of Administrative Hearings, 35-36 Fountain Place, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Environmental and Public Protection Cabinet, Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

If you have any questions regarding the KPDES decision, please contact Barry Elmore, Municipal Permit Section, KPDES Branch, at (502) 564-8158, extension 459.

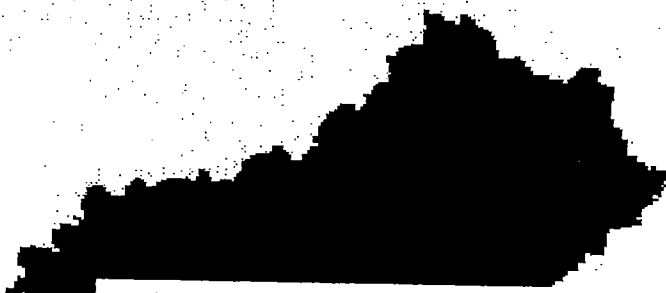
Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,

David W. Morgan, Director  
Division of Water

DWM:NG:ng  
Enclosure  
c: Division of Water Files

# KPDES



## KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

# PERMIT

PERMIT NO.: KY0105031  
AI NO.: 523

### AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Sanitation District No. 1  
1045 Eaton Drive  
Fort Wright, Kentucky 41017

is authorized to discharge from a facility located at

Eastern Regional WWTP  
KY Highway 10  
Alexandria, Campbell County, Kentucky

to receiving waters named

Brush Creek at mile point 1.6

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, and IV hereof. The permit consists of this cover sheet, and Part I 5 pages, Part II 9 pages, Part III 1 page, and Part IV 3 pages.

This permit became effective on July 1, 2004.

This permit modification shall become effective on September 14, 2007.

This permit and the authorization to discharge shall expire at midnight, April 30, 2008.

A handwritten signature in black ink, appearing to read "D. W. Morgan".

August 16, 2007  
Date Signed

\_\_\_\_\_  
David W. Morgan, Director  
Division of Water

Cheryl A. Taylor  
Commissioner

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Division of Water, Frankfort Office Park, 14 Reilly Road, Frankfort, Kentucky 40601

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001, Municipal Discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS		
	lbs/day	Maximum Weekly Avg.	Monthly Avg.	Other Units(Specify)	Measurement Frequency	Sample Type	Sampling Location
Flow, Design (4.0 mgd)	N/A	N/A	Report	Report <sup>1</sup>	Continuous	Continuous	Influent & Effluent
Biochemical Oxygen Demand (5-day), Carbonaceous	499	767	15 mg/l	23 mg/l	3/week	Composite	Influent & Effluent
Total Suspended Solids	1001	1501	30 mg/l	45 mg/l	3/week	Composite	Influent & Effluent
<i>Escherichia Coli</i> , N/100	N/A	N/A	130 <sup>2</sup>	240 <sup>2</sup>	3/week	Grab	Effluent
Ammonia (as N)	Summer Winter	201 499	4.0 mg/l 10.0 mg/l	6.0 mg/l 15.0 mg/l	3/week	Composite	Influent & Effluent
Dissolved Oxygen shall not be less than 7 mg/l							
Total Residual Chlorine (TRC) Chloride	N/A N/A	N/A N/A	0.011 mg/l 600 mg/l	0.019 mg/l <sup>1</sup> 1200 mg/l <sup>1</sup>	3/week 3/week 3/week	Grab Grab Composite	Effluent Effluent Influent & Effluent
Total Phosphorus (as P) Summer Winter	N/A N/A	N/A N/A	1.0 mg/l 2.0 mg/l	Report Report	1/week 1/week	Composite Composite	Effluent Effluent
Total Kjeldahl Nitrogen (TKN)	N/A	N/A	Report	Report	1/week	Composite	Effluent
Chronic Toxicity (TU <sub>c</sub> )	N/A	N/A	N/A	1.00 <sup>1</sup>	1/month	Composite	Effluent

In addition to the specified limits, the monthly average effluent for CBOD<sub>5</sub> and suspended solids shall not exceed 15% of the respective monthly average influent concentration (85% removal). The pH of the effluent shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored three times per week by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts. The effluent shall not cause a visible sheen on the receiving water.

Summer is May 1 through October 31.  
Winter is November 1 through April 30.

<sup>1</sup>Daily maximum limitation

<sup>2</sup>Geometric mean

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUATION)

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001, Municipal Discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS		
	lbs/day		mg/l	Measurement Frequency	Sample Type	Sampling Location
	Monthly Avg.	Daily Max.	Monthly Avg.			
Lead, Total Recoverable	N/A	N/A	Report	1/month*	Composite	Effluent
Cadmium, Total Recoverable	N/A	N/A	Report	1/month*	Composite	Effluent
Copper, Total Recoverable	N/A	N/A	Report	1/month*	Composite	Effluent
Zinc, Total Recoverable	N/A	N/A	Report	1/month*	Composite	Effluent
Hardness as Calcium Carbonate (CaCO <sub>3</sub> )	N/A	N/A	Report	1/month*	Composite	Effluent

\* Monitoring shall be done in conjunction with biomonitoring.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUATION)

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to administer a pretreatment program pursuant to Outfall Designator 001P.

The permittee shall monitor the influent and effluent as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS		
	Monthly Avg.	Daily Max.	mg/l	Measurement Frequency	Sample Type	Sampling Location
Arsenic, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Cadmium, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Chloride	Report	Report		1/Year	Composite	Influent & Effluent
Chromium, Hexavalent	Report	Report		1/Year	Composite	Influent & Effluent
Chromium, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Copper, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Cyanide, Free (Amenable)	Report	Report		1/Year	Composite	Influent & Effluent
Iron, Total Recoverable	Report	Report		1/Year	Grab	Influent & Effluent
Lead, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Mercury, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Nickel, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Oil & Grease	Report	Report		1/Year	Grab	Influent & Effluent
Phenols, Total	Report	Report		1/Year	Grab	Influent & Effluent
Phosphorus (as P)	Report	Report		1/Year	Composite	Influent & Effluent
Selenium, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Silver, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent
Zinc, Total Recoverable	Report	Report		1/Year	Composite	Influent & Effluent

Mercury sampling and testing shall be done by EPA method number 1631.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUATION)

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to administer a pretreatment program pursuant to Outfall Designator 001P.

The permittee shall monitor the sludge as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	mg/kg or other	Daily	Measurement	Sample	Sampling
	Monthly	Max.	Frequency	Type	Location
	Avg.				
Arsenic, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Cadmium, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Chromium, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Copper, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Lead, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Mercury, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Molybdenum, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Nickel, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Phosphorus, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Selenium, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Silver, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
Zinc, Total Dry Weight	Report	Report	1/Year	Grab	Sludge
pH, standard units	Report*	Report**	1/Year	Grab	Sludge
Solids, Total Dry Weight, metric tons	Report	Report	1/Year	Grab	Sludge
Solids, Total, percent	Report***	Report	1/Year	Grab	Sludge
Sludge Disposed of by Incineration, MT/Y	Report****	Report	1/Year	Grab	Sludge
Sludge Disposed of by Landfill, MT/Y	Report****	Report	1/Year	Grab	Sludge
Sludge Disposed of by Other Method, MT/Y	Report****	Report	1/Year	Grab	Sludge

\* Instantaneous Minimum  
\*\* Instantaneous Maximum  
\*\*\* Annual Average  
\*\*\*\* Annual Total  
MT/Y Metric Tons Per Year

B. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with all requirements on the effective date of this permit.

The notification requirements identified in Part II, page II-5 shall be implemented on the effective date of this permit.

### STANDARD CONDITIONS FOR KPDES PERMIT

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this permit.

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

Per 401 KAR 5:065, the requirements of Section 1 are expressly stated below:

(1) Duty to Comply.

(a) General requirement. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of KRS Chapter 224, among which shall be the following remedies: enforcement action, permit revocation, revocation and reissuance, or modification; or denial of a permit renewal application.

(b) Specific duties.

1. The permittee shall comply with effluent standards or prohibitions established under 40 CFR Part 129 as of July 1, 2001, as adopted without change, within the time provided in the federal regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

2. Any person who violates a permit condition as set forth in the KPDES administrative regulations shall be subject to penalties under KRS 224.99-010(1) and (4).

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit as required in 401 KAR 5:060, Section 1.

(3) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

(4) Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also shall include adequate laboratory controls, and appropriate quality assurance procedures. This provision shall require the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only if the operation is necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. The permit may be modified, revoked and reissued, or revoked for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance, shall not stay any permit condition.

(7) Property rights. This permit shall not convey any property rights of any kind, or any exclusive privilege.



- (8) Duty to provide information. The permittee shall furnish to the cabinet, within a reasonable time, any information which the cabinet may request to determine whether cause exists for modifying, revoking and reissuing, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the cabinet, upon request, copies of records required to be kept by this permit.
- (9) Inspection and entry. The permittee shall allow the cabinet, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records pertinent to the KPDES program are or may be kept;
  - (b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of this permit;
  - (c) Inspect at reasonable times any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under this permit; and
  - (d) Sample or monitor at reasonable times, for the purposes of assuring KPDES program compliance or as otherwise authorized by KRS Chapter 224, any substances or parameters at any location.
- (10) Monitoring and records.
- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the cabinet at any time.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The individuals who performed the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The individual who performed the analyses;
    - 5. The analytical techniques or methods used; and
    - 6. The results of the analyses.
  - (d) Monitoring shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.
  - (e) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be subject to penalties under KRS 224.99-010(4).
- (11) Signatory requirement. All applications, reports, or information submitted to the cabinet shall be signed and certified as indicated in 401 KAR 5:060, Section 9. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties under KRS 224.99-010(4).
- (12) Reporting requirements.
- (a) Planned changes. The permittee shall give notice to the cabinet as soon as possible of any planned physical alteration or additions to the permitted facility. Notice shall be required only if:
    - 1. The alteration or addition to a permitted facility may meet one (1) of the criteria for determining whether a facility is a new source in 401 KAR 5:080, Section 5; or
    - 2. The alteration of addition could significantly change the nature of increase the quantity of pollutants discharged. This notification only applies to pollutants which are subject either to effluent limitations in the permit, or to notification requirements under 401 KAR 5:080, Section 5.

(b) Anticipated noncompliance. The permittee shall give advance notice to the cabinet of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. The permit shall not be transferable to any person except after notice to the cabinet. The cabinet may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate other requirements as may be necessary under KRS Chapter 224.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified in the permit. Monitoring results shall be reported as follows:

1. Monitoring results shall be reported on a Discharge Monitoring Report (DMR).

2. 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 the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the cabinet in the permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

(f) Twenty-four (24) hour reporting. The permittee shall follow the provisions of 401 KAR 5:015 and shall orally report any noncompliance which may endanger health or the environment, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. This report shall be in addition to and not in lieu of any other reporting requirement applicable to the noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The cabinet may waive the written report on a case-by-case basis if the oral report has been received within twenty-four (24) hours. The following shall be included as events which shall be reported within twenty-four (24) hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit, as indicated in subsection (13) of this section.

2. Any upset which exceeds any effluent limitation in the permit.

3. Violations of a maximum daily discharge limitation for any of the pollutants listed by the cabinet in the permit to be reported within twenty-four (24) hours, as indicated in 401 KAR 5:065, Section 2(7).

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this subsection, when monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this subsection.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant fact in a permit application, or submitted incorrect information in a permit application or in any report to the cabinet, it shall promptly submit these facts or information.

(13) Occurrence of a bypass.

(a) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. This type of bypass shall not be subject to the provisions of paragraphs (b) and (c) of this subsection.

(b) Notice.

1. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 1.

2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in subsection (12)(f) of this section, twenty-four (24) hour notice. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 4.

(c) Prohibition of a bypass.

1. Bypassing shall be prohibited, and the cabinet may take enforcement action against a permittee for bypass, unless:

a. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition shall not be satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph (b) of this subsection.

2. The cabinet may approve an anticipated bypass, after considering its adverse effects, if the cabinet determines that it will meet the three (3) conditions listed in subparagraph 1a, b, and c of this paragraph.

(14) Occurrence of an upset.

(a) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of paragraph (b) of this subsection are met.

(b) Conditions necessary for a demonstration of an upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the causes of the upset;

2. The permitted facility was at the time being properly operated;

3. The permittee submitted notice of an upset as required in subsection (12)(f) of this section; and

4. The permittee complied with any remedial measures required under subsection (4) of this section.

(c) Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset shall have the burden of proof.

(15) Additional conditions applicable to specified categories of KPDES permits. The following conditions, in addition to others set forth in this administrative regulation, shall apply to all KPDES permits within the categories specified below:

(a) Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under subsections (12), (13), and (14) of this section, any existing manufacturing, commercial, mining, and silvicultural discharger shall notify the cabinet as soon as it knows or has reason to know:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

a. 100 micrograms per liter (100 µg/l);

b. 200 micrograms per liter (200 µg/l) for acrolein and acrylonitrile; 500 micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one (1) milligram per liter (1 mg/l) for antimony;

c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7);

d. The level established by the cabinet in accordance with 401 KAR 5:065, Section 2(6).

2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- a. 500 micrograms per liter (500 µg/l);
- b. One (1) milligram per liter (1 mg/l) for antimony;
- c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7); or
- d. The level established by the cabinet in accordance with 401 KAR 5:065, Section 2(6).

(b) POTWs.

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

### **SPECIAL REQUIREMENTS**

#### **Domestic Water Supply Requirement**

In order to protect the viability of the downstream drinking water sources the permittee shall develop and implement notification procedures whereby occurrences of partially treated discharges are communicated by the most expeditious manner to the downstream water supplies and the Ohio River Valley Water Sanitation Commission (ORSANCO). These procedures shall detail the methods which will be utilized to notify the impacted water supplier and ORSANCO that such an event has occurred and shall include the names, telephone numbers, and e-mail addresses of the contacts with the subject water supply, ORSANCO, and those responsible persons representing the permittee.

### **SPECIAL POTW REQUIREMENTS**

NOTE: The following requirements apply only to Publicly-Owned Treatment Works.

#### SLUDGE DISPOSAL

Sludge shall be disposed of in accordance with 40 CFR Part 503 and 401 KAR 45.

#### PROHIBITIVE DISCHARGES

Under no circumstances shall the permittee allow discharge of the following into the system:

- A. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW);
- B. Pollutants which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
- C. Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers, or other interference with operation of the POTW;
- D. Any pollutant, including oxygen demanding pollutants (BOD<sub>5</sub>, etc.), released in a discharge at such a volume or strength as to cause interference in the POTW;
- E. Heat in amounts, which will inhibit biological activity in the POTW, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104° F (40° C);
- F. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;
- G. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and,
- H. Any trucked or hauled waste, except at discharge points designated by the POTW.

PRETREATMENT

A. Program Requirements

1. The permittee shall be responsible for the performance of all pretreatment requirements contained in 401 KAR 5:057, Section 6, and pursuant to 40 CFR Part 403, and shall be subject to enforcement actions, penalties, fines, and other remedies by the state, as provided in the Clean Water Act (hereafter the "Act"). The permittee shall implement and enforce its approved POTW pretreatment program. The permittee's approved POTW pretreatment program is hereby made an enforceable condition of this permit. The state may initiate enforcement action against a POTW and against an industrial user for noncompliance with applicable standards and requirements as provided in KRS 224.16-050(1), 224.70-110, and 224.73-120, and pursuant to the Act.
2. The permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Act. The permittee shall cause industrial users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
3. The permittee shall perform the pretreatment functions as required in 401 KAR 5:057, Section 6 and 40 CFR Part 403 including, but not limited to:
  - a. Implement the necessary legal authorities as provided in 401 KAR 5:057, Section 6(4)(a). This includes, among other things, the authority to:
    - (1) Deny or condition new or increased contributions of pollutants or changes in the nature of pollutants (401 KAR 5:057, Section 6(4)(a)(1));
    - (2) Require compliance with applicable pretreatment standards (401 KAR 5:057, Section 6(4)(a)(2));
    - (3) Control through permit to ensure compliance (401 KAR 5:057, Section 6(4)(a)(3));
    - (4) Require the development of compliance schedules and submission of reports (401 KAR 5:057, Section 6(4)(a)(4));
    - (5) Carry out inspection, surveillance, and monitoring procedures (401 KAR 5:057, Section 6(4)(a)(5));
    - (6) Obtain remedies for noncompliance by industrial users (401 KAR 5:057, Section 6(4)(a)(6)).
  - b. Implement the programmatic functions as provided in 401 KAR 5:057, Section 6(4)(b). This includes:
    - (1) An industrial waste survey (401 KAR 5:057, Section 6(4)(b)(1 and 2));
    - (2) Notification of appropriate federal, state and/or local standards or limitations (401 KAR 5:057, Section 6(4)(b)(3));
    - (3) Receipt and analysis of self-monitoring reports and other notices, (401 KAR 5:057, Section 6(4)(b)(4));
    - (4) POTW compliance sampling and analysis (401 KAR 5:057, Section 6(4)(b)(5));
    - (5) Noncompliance investigations and enforcement (401 KAR 5:057, Section 6(4)(b)(6));
    - (6) Public participation (401 KAR 5:057, Section 6(4)(b)(7)).
  - c. Provide the required funding, equipment, and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3) and 403.9(b)(4).

4. The permittee shall adopt and enforce local limits that will protect the treatment works against interference, pass-through, and sludge contamination. Local limits shall be revised as necessary by the permittee as provided in 40 CFR 122.21 and CFR 403.5.

B. Semi-Annual Reporting

1. The permittee shall submit semi-annually a pretreatment report to the state. The report due on March 1st shall describe the permittee's pretreatment program activities over the previous year and shall cover the period January through December. The report due on September 1st shall describe the permittee's pretreatment program activities over the previous six (6) months and shall cover the period January through June. In the event that the permittee is not in compliance with any conditions or requirements of this permit, then the permittee shall also include the reasons for noncompliance and state how and when the permittee shall comply with such conditions and requirements. Each report shall contain, but not be limited to, the following information:
  - a. Analytical results of the POTW's influent, effluent, and sludge (including sludge from lagoons) annually, by the 28th of January, for those pollutants identified under Section 307(a) of the Act which are known or suspected to be discharged by industrial users, and for any nonpriority pollutants which the permittee believes may be causing or contributing to interference, pass-through, or adversely impacting sludge quality. The report shall include all pollutants identified on KPDES Discharge Monitoring Report (DMR) for pretreatment influent, effluent, and sludge scan. The frequency of analysis shall not exceed twelve months.
  - b. A discussion of upset, interference, or pass-through incidents, if any, at the POTW treatment plant which the permittee knows or suspects were caused by industrial users of the POTW system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible.
  - c. The cumulative number of industrial users that the permittee has notified regarding baseline monitoring reports and the cumulative number of industrial user responses.
  - d. An updated list of the permittee's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards and which set(s) of standards are applicable. The permittee shall characterize the compliance status of each industrial user by employing the following descriptions:
    - (1) In compliance with baseline monitoring report requirements (where applicable);
    - (2) Consistently achieving compliance;
    - (3) Inconsistently achieving compliance;
    - (4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
    - (5) On a compliance schedule to achieve compliance (include the date final compliance is required);
    - (6) Not achieving compliance and not on a compliance schedule;
    - (7) The permittee does not know the industrial user's compliance status (with explanation).

- e. A summary of the inspection and sampling activities conducted by the permittee during the past six (6) months to gather information and data regarding industrial users. The summary shall include:
    - (1) The names of industrial users subject to surveillance by the permittee and an indication of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
    - (2) The conclusions or results from the inspection or sampling of each industrial user.
  - f. A summary of the compliance and enforcement activities during the past six (6) months, the summary shall include the names of the industrial users affected by the following actions:
    - (1) Warning letter or notices of violation;
    - (2) Administrative orders;
    - (3) Civil actions;
    - (4) Criminal actions;
    - (5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
    - (6) Restriction of flow to the POTW; or
    - (7) Disconnection from discharge to the POTW.
  - g. A description of any significant changes in operating the pretreatment program which differ from the information in the permittee's approved pretreatment program including, but not limited to changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority or enforcement policy; funding mechanisms; resource requirements; or staffing levels.
  - h. A summary of the semi-annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
  - i. A summary of public participation activities to involve and inform the public. This shall include a copy of the annual publication of significant violations, if such publication was needed to comply with 40 CFR 403.8(f)(2)(vii).
  - j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.
  - k. Any other information deemed as pertinent by the state in effectively administering an approved pretreatment program.
2. A signed copy of this report shall be submitted by the due dates to the state at the address shown below:

Kentucky Department for Environmental Protection  
Division of Water, KPDES Branch  
14 Reilly Road, Frankfort Office Park  
Frankfort, Kentucky 40601



**PART III**

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water  
Frankfort Regional Office  
643 Teton Trail  
Frankfort, Kentucky 40601  
ATTN: Supervisor

Environmental & Public Protection Cabinet  
Dept. for Environmental Protection  
Division of Water/KPDES Branch  
14 Reilly Road, Frankfort Office Park  
Frankfort, Kentucky 40601

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:080 and KRS 224, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

**PART IV**  
**CHRONIC CONCERNS**  
**Biomonitoring**

In accordance with PART I of this permit, the permittee shall initiate, within 30 days of the effective date of this permit, or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 001.

1. Test Requirements

- A. The permittee shall perform one (1) short-term fathead minnow (Pimephales promelas) growth test and one (1) short-term daphnid (Ceriodaphnia sp.) life-cycle test. Tests shall be conducted with appropriate replicates of 100% effluent, a control and a minimum of four (4) evenly spaced effluent concentrations. If the permit limit is less than 100% effluent and greater than or equal to 75% effluent, then one (1) concentration should be 100%. If the permit limit is less than 75% effluent, the permit limit concentration shall be bracketed with two (2) concentrations above and two (2) concentrations below. The selection of the effluent concentrations is subject to revision by the Division. Controls shall be tested concurrently with effluent testing using a synthetic water. The analysis will be deemed reasonable and good only if the minimum control requirements are met (i.e. >80% survival; 60% adults with 3 broods and 15 or more young/surviving female for the Ceriodaphnia test; an average 0.25 mg weight for the minnow growth test). Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period (i.e. monthly or quarterly). Noncompliance with the toxicity limit will be demonstrated if the IC<sub>25</sub> (inhibition concentration) for reproduction or growth is less than 100% effluent.
- B. Tests shall be conducted on both species at the frequency specified in PART I of this permit.

A minimum of three (3) twenty-four hour composite samples will be collected at a frequency of one (1) sample every other day, or at a frequency to be determined by the permitting authority. For example, the first sample would be used for test initiation, day 1, and for test solution renewal on day 2. The second sample would be used for test solution renewal on days 3 and 4. The third sample would be used for test solution renewal on days 5, 6, and 7. The lapsed time from collection of the last aliquot of the composite and its first use for test initiation, or for test solution renewal shall not exceed 36 hours. Composite samples shall be refrigerated during collection and maintained at 6°C until used.

If after at least six (6) tests, it can be determined that Ceriodaphnia or the Fathead minnow is more sensitive, a request for testing of only that organism can be made to the Division. Upon approval, that organism can be chosen as representative and all subsequent tests can be conducted on only that organism.

2. Reporting Requirements

Results of all tests conducted with any organism shall be reported according to the most recent format provided by the Division of Water (Appendix 10 of 'Methods for Culturing and Conducting Toxicity Tests with *Pimephales promelas* and *Ceriodaphnia dubia* (Fifth Edition)' KDOW, January 2002). Test results shall be submitted to the Division of Water with the next regularly scheduled discharge monitoring report.

3. Chronic Toxicity

If noncompliance with the toxicity limit occurs ( $IC_{25}$  for reproduction or growth is less than 100% effluent), the permittee must conduct a second test within 15 days of the first failure. This test will be used in evaluating the persistence of the toxic event and the possible need for a toxicity reduction evaluation (TRE).

If the second test demonstrates noncompliance with the toxicity limit, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four (4) additional tests within 90 days of failure of the second test to evaluate the frequency and degree of toxicity. The results of the two (2) tests specified above and of the four (4) additional tests will be used for purposes of this evaluation.

If results from two (2) of any six (6) tests show a significant noncompliance with the chronic limit ( $\geq 1.2$  times the  $TU_c$ ), or results from four (4) of any six (6) tests show chronic toxicity (as defined in 1.A), a Toxicity Reduction Evaluation (TRE) will be required.

The permittee shall provide written notification, within five (5) days of the completion of accelerated testing to the Division of Water, that toxicity persisted and that a TRE would be initiated or that toxicity did not persist and the normal testing would resume.

Should toxicity not prove persistent during the accelerated testing, but reoccur within 12 months of the initial failure at a level  $\geq 1.2$  time the  $TU_c$ , then a TRE shall be initiated without further accelerated testing.

4. Toxicity Reduction Evaluation (TRE)

Having determined the effluent to be toxic, the permittee shall develop and implement an acceptable plan for the identification and treatability of the toxicant(s) within 90 days of completion of accelerated testing. The plan shall be developed in accordance with EPA guidance provided in the following EPA publications and submitted for DEP review and comment:

Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program. March 27, 2001.

Toxicity Reduction Evaluation Guidance For Municipal Wastewater Treatment Plants. August 1999.

Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. February 1991.

Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures. February 1989.

Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures. February 1989.

Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs). March 1989.

Abstracts of Toxicity Reduction Evaluations. March 1989.

The plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE will establish an implementation schedule not to exceed 24 months for completion of these activities. The implementation schedule shall include monthly progress reports and a final report.

Upon the completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and the actions to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions including an implementation schedule not to exceed 180 days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the conclusion of the TRE, the permittee will notify, within five (5) days, the Division of Water and take appropriate actions to implement the solution within 180 days of determination.

5. Test Methods

All test organisms, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Fourth Edition), EPA-821-R-02-013, or the most recent edition of this publication.



ERNE FLETCHER  
GOVERNOR

**ENVIRONMENTAL AND PUBLIC PROTECTION CABINET**

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

DIVISION OF WATER

14 REILLY ROAD

FRANKFORT, KENTUCKY 40601-1190

www.kentucky.gov

TERESA J. HILL  
SECRETARY

**FACT SHEET**

**KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM  
PERMIT TO DISCHARGE TREATED WASTEWATER  
INTO WATERS OF THE COMMONWEALTH**

KPDES No.: KY0105031  
AI No.: 523

Permit Writer: Barry Elmore

Date: August 16, 2007

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

Sanitation District No. 1  
1045 Eaton Drive  
Fort Wright, Kentucky 41017

b. Facility Location

Eastern Regional WWTP  
KY Highway 10  
Alexandria, Campbell County, Kentucky

c. Description of Applicant's Operation

Engaged in collection, treatment, and disposal of municipal wastewater.

d. Production Capacity

4.0 MGD

e. Description of Existing Pollution Abatement Facilities

Treatment consists of mechanical screenings, grit removal, raw sewage pumping, flow equalization, oxidation ditches (in parallel), final clarifiers (in parallel), ultraviolet light disinfection, post aeration, RAS/WAS pump station, scum pump station, short-term aerated sludge holding, gravity belt thickener/belt filter press, and non-potable water pumping system. The oxidation ditches will contain anaerobic and anoxic selector basins for the purpose of biological phosphorus removal. Waste sludge is pumped from the RAS/WAS pump station to the aerated sludge holding basins for short-term holding. Waste sludge is dewatered by belt filter press. Final sludge disposal is at the Walton Landfill.

jm

f. Permitting Action

This is a major modification of a major KPDES permit for a sanitation district with an existing discharge permit. This modification is to relocate the previously permitted outfall which was not constructed.

This modification permitting action reopens, as per 401 KAR 5:075, Section 2(3)(a), only the permit condition(s) to be modified. All other aspects of the existing permit remain in effect for the duration of the permit.

2. RECEIVING WATER

a. Name/Mile Point

Brush Creek at mile point 1.6, approximately two hundred feet upstream of the existing Alexandria WWTP (KY0023485) outfall.

b. Stream Segment Categorization:

Brush Creek at the point of discharge is categorized as Impaired.

c. Stream Segment Use Classification

Warmwater Aquatic Habitat, Primary/Secondary Contact Recreation, and Domestic Water Supply

The 2004 303(d) List of Waters for Kentucky lists Brush Creek of Twelve Mile Creek as impaired for nonsupport of aquatic life, and for non-support of swimming. The causes of impairment are Organic Enrichment/Low DO, and pathogens. The existing Alexandria Wastewater Treatment Plant is the suspected primary source of these pollutants. Overloading of the Alexandria plant has been the most significant factor contributing to these impairments. Replacement of the Alexandria plant with the increased capacity of the East Regional Waste Water Treatment plant is anticipated to contribute to the restoration of stream uses. This permit specifically includes phosphorus limitations addressing Organic Enrichment, and the pathogen limits for this outfall are consistent with water quality based limitations. A properly operating wastewater treatment plant should neither cause nor contribute to impairment.

d. Stream Low Flow Conditions

The low flow 7Q10 for this stream at the point of discharge is 0.0 cfs.

The harmonic mean flow for this stream at the point of discharge is 0.0 cfs.

The low flow 7Q10 at the nearest downstream drinking water intake (Cincinnati Greater Water Works Richard Miller Plant) is 10,600 cfs, and is on the Ohio River at Kentucky River Mile Index mile point 518.8 (USCOE 462.8). There are essentially three intakes at this point: The Greater Cincinnati Water Works Richard Miller Plant intake, the Northern Kentucky Water District-Fort Thomas intake at mile point 518.7 (USCOE 462.9) and the Northern Kentucky Water District-Newport intake at mile point 517.8 (USCOE 463.8).

The harmonic mean flow at the nearest downstream drinking water intake is 45,300 cfs.

### 3A. REPORTED DISCHARGE AND PROPOSED LIMITS - Municipal Effluent

Serial Number 001

Effluent Characteristics	Reported Discharge <sup>1</sup>			Proposed Limits		COMMENTS
	Average Annual Value	Lowest Monthly Average	Highest Monthly Average	Monthly Average	Maximum Weekly Average	
Flow, MGD (Design Flow = 4.0 MGD)	NA	NA	NA	Report	Report <sup>3</sup>	401 KAR 5:005
CBOD <sub>5</sub> , mg/l	NA	NA	NA	15	23	401 KAR 5:065
TSS, mg/l	NA	NA	NA	30	45	401 KAR 5:031
Fecal Coliform, (N/100 ml)	NA	NA	NA	NA	NA	401 KAR 5:045
Escherichia Coli (N/100 ml)	NA	NA	NA	130 <sup>2</sup>	240 <sup>2</sup>	401 KAR 5:045
Ammonia (as N), mg/l Summer Winter	NA	NA	NA	4.0 10.0	6.0 15.0	401 KAR 5:031
Chloride, mg/l	NA	NA	NA	600	1200 <sup>3</sup>	401 KAR 5:045
Dissolved Oxygen, mg/l	NA	NA	NA	Not less than 7 mg/l		401 KAR 5:031
pH, standard units	NA	NA	NA	6.0 - 9.0		401 KAR 5:045
Total Residual Chlorine, mg/l	NA	NA	NA	0.011	0.019 <sup>3</sup>	401 KAR 5:031
Total Phosphorus, mg/l Summer Winter	NA NA	NA NA	NA NA	1.0 2.0	Report Report	401 KAR 5:065
TKN (as mg/l N)	NA	NA	NA	Report	Report	401 KAR 5:065
Total Recoverable Cadmium (mg/l)	NA	NA	NA	Report	Report	401 KAR 5:065
Total Recoverable Copper (mg/l)	NA	NA	NA	Report	Report	401 KAR 5:065
Total Recoverable Lead (mg/l)	NA	NA	NA	Report	Report	401 KAR 5:065
Total Recoverable Zinc (mg/l)	NA	NA	NA	Report	Report	401 KAR 5:065
Hardness (as mg/l CaCO <sub>3</sub> )	NA	NA	NA	Report	Report	401 KAR 5:065
Chronic Toxicity, TU <sub>C</sub>	NA	NA	NA <sup>3</sup>	NA	1.00 <sup>3</sup>	401 KAR 5:031

<sup>1</sup>This is a new facility with no prior reported discharge values.

<sup>2</sup>Geometric Mean

<sup>3</sup>Daily Max

Summer: May 1 - October 31

Winter: November 1 - April 30

NA-Not Applicable, this is a new facility with no prior reporting.

3B. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 001-Municipal Wastewater Effluent

b. Effluent Characteristics

Flow (MGD)

CBOD<sub>5</sub>

Escherichia Coli

pH

Ammonia Nitrogen

Total Recoverable Cadmium

Total Recoverable Lead

Hardness

Total Suspended Solids

Dissolved Oxygen

Total Phosphorus (as P)

Total Kjeldahl Nitrogen (TKN)

Total Recoverable Copper

Total Recoverable Zinc

Chronic Toxicity

c. Pertinent Factors

This sanitation district has an approved pretreatment program.

No Total Maximum Daily Load (TMDL) has been approved for Brush Creek of Twelve Mile Creek.

This permit contains a technology based limit for the reduction of phosphorus.

d. Monitoring Requirements

The monitoring frequency, location, and method of measurement for all parameters within this permit are consistent with 401 KAR 5:065 Section 2 (8).

Flow monitoring shall be conducted continuously by recorder.

The influent and the effluent shall be monitored three times per week by 24-hour composite sampling for the following pollutants: Carbonaceous Biochemical Oxygen Demand (5-day), Total Suspended Solids, and Ammonia Nitrogen.

The effluent shall be monitored three times per week by grab sample for the following pollutants: Escherichia Coli, pH, and Dissolved Oxygen.

Total Phosphorus shall be monitored once per week by 24-hour composite sample.

Total Kjeldahl Nitrogen (TKN) shall be monitored once per week by 24-hour composite sample.

Chronic Toxicity shall be monitored monthly by a minimum of three (3) 24-hour composite samples collected every other day.

The following pollutants shall be monitored monthly by 24-hour composite sample: Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and Hardness, concurrent with whole effluent toxicity testing.



e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Escherichia Coli and Fecal Coliform Bacteria

The limits for *Escherichia Coli* are consistent with the requirements of 401 KAR 5:031, Section 7, 401 KAR 5:045 Section 4 and 401 KAR 5:080, Section 1(2)(c) 2. The removal of Fecal Coliform Bacteria is consistent with the requirements of 401 KAR 5:080, Section 1 (2) (c)2. Although Fecal Coliform Bacteria has been used as an indicator of fecal contamination, it does contain other species that are not necessarily fecal in origin. EPA recommends *Escherichia Coli*, which is specific to fecal material from warm-blooded animals, as the best indicator of health risk from contact with recreational waters. Therefore, it is the "Best Professional Judgment "BPJ" of the Division of Water that *Escherichia Coli* replace Fecal Coliform Bacteria on this permit.

Carbonaceous Biochemical Oxygen Demand (5-day), Ammonia Nitrogen, and Dissolved Oxygen,

The effluent limitations for the above permit parameters are consistent with 401 KAR 5:031 Section 4 and 401 KAR 5:045 Sections 3 and 5.

Total Suspended Solids

The effluent limitation for the above permit parameter is consistent with 401 KAR 5:045 Section 3.

Chloride

The effluent limitation for the above permit parameter is consistent with 401 KAR 5:031.

Total Residual Chlorine (TRC)

The effluent limitation for the above permit parameter is consistent with 401 KAR 5:031.

Chronic Toxicity

The effluent limitation for the above parameter is consistent with 401 KAR 5:029 Section 4 and 401 KAR 5:031 Section 4.

Total Phosphorus

The effluent limitations for the above permit parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8) and 401 KAR 5:080, Section 1(2)(c)2. The effluent limit for phosphorus shall become effective with the effective date of this permit.

Total Kjeldahl Nitrogen

The monitoring requirements for the above permit parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8)

Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Zinc, Total Recoverable Lead, and Hardness as Calcium Carbonate

The monitoring requirements for the above permit parameter are consistent with 401 KAR 5:065 Section 2 (8).

#### 4A. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall Number 001P - Wastewater Treatment Plant (Pretreatment Requirements)

<u>Effluent Characteristics</u>	<u>Reported Discharge</u>		<u>Proposed Limits</u>		<u>Applicable Water Quality Criteria and/or Effluent Guidelines</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	
Total Recoverable Arsenic (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Cadmium (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Chloride (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Hexavalent Chromium (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Chromium (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Copper (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Free Cyanide (Amenable) (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Iron (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Lead (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Mercury (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Nickel (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Oil & Grease (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Phenols (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Phosphorus (as mg/l P)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Selenium (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Silver (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Recoverable Zinc (mg/l)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6

The abbreviation N/A means Not Applicable. This is a new facility with no prior pretreatment data.

4B. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall Number 001P - Wastewater Treatment Plant (Pretreatment Requirements)

b. Effluent Characteristics

Total Recoverable Cadmium	Total Recoverable Copper
Total Recoverable Lead	Total Recoverable Zinc
Chronic Toxicity	Total Recoverable Arsenic
Chloride	Hexavalent Chromium
Total Recoverable Chromium	
Free Cyanide (Amenable to Chlorination)	
Total Recoverable Iron	Total Recoverable Mercury
Total Recoverable Nickel	Oil & Grease
Total Phenols	Total Recoverable Selenium
Total Recoverable Silver	

c. Pertinent Factors

This sanitation district has an approved pretreatment program.

d. Monitoring Requirements

Influent and effluent 24-hour composites samples shall be collected annually for the following pollutants: Total Recoverable Arsenic, Total Recoverable Cadmium, Chloride, Hexavalent Chromium, Total Recoverable Chromium, Total Recoverable Copper, Total Recoverable Iron, Total Recoverable Lead, Total Recoverable Nickel, Total Recoverable Molybdenum, Total Phosphorus (as P), Total Recoverable Selenium, Total Recoverable Silver, and Total Recoverable Zinc.

Influent and effluent grab samples shall be collected annually for the following pollutants: Free Cyanide (Amenable to Chlorination), Total Recoverable Mercury, Oil & Grease, pH, and Total Phenols.

e. Justification of Limits

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Total Recoverable Arsenic, Total Recoverable Cadmium, Chloride, Hexavalent Chromium, Total Recoverable Chromium, Total Recoverable Copper, Free Cyanide (Amenable to Chlorination), Total Recoverable Iron, Total Recoverable Lead, Total Recoverable Mercury, Total Recoverable Nickel, Molybdenum, Oil & Grease, pH, Total Phenols, Total Phosphorus (as P), Total Recoverable Selenium, Total Recoverable Silver, Total Recoverable Zinc, Percent Total Sludge Solids, and Annual Amount of Sludge Disposed

The monitoring requirements for the above permit parameters are applicable to municipal wastewater treatment plants that have pretreatment programs, as per 401 KAR 5:057, Section 6. Monitoring requirements are applicable for the municipal plant influent, effluent, and sludge in order to monitor potential interference, pass-through, or adverse impact on sludge quality.

## 5A. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall Number 001P - Wastewater Treatment Plant (Pretreatment Sludge Requirements)

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Arsenic, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Cadmium, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Chromium, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Copper, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Lead, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Mercury, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Molybdenum, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Nickel, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
pH (standard units)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Total Phosphorus (as mg/l P)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Selenium, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Silver, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Zinc, Total Dry Weight (mg/kg)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Solids, Total Dry Weight (MT/Y)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Solids, Total (percent)	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
Sludge Disposal Method (MT/Y)					
By Incineration	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
By Landfill	N/A	N/A	Report	Report	401 KAR 5:057, Section 6
By Other Method	N/A	N/A	Report	Report	401 KAR 5:057, Section 6

The abbreviation N/A means Not Applicable. This is a new facility with no prior sludge data.  
 The abbreviation MT/Y means metric tons per year.

5B. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall Number 001P - Wastewater Treatment Plant (Pretreatment Sludge Requirements)

b. Sludge Characteristics

Cadmium, Total Dry Weight	Arsenic, Total Dry Weight
Chromium, Total Dry Weight	Copper, Total Dry Weight
Lead, Total Dry Weight	Mercury, Total Dry Weight
Molybdenum, Total Dry Weight	Nickel, Total Dry Weight
pH	Total Phosphorus
Selenium, Total Dry Weight	Silver, Total Dry Weight
Zinc, Total Dry Weight	Solids, Total Dry Weight
Solids, Total (percent)	Sludge Disposal Method

c. Pertinent Factors

This sanitation district has an approved pretreatment program.

d. Monitoring Requirements

The sludge shall be monitored annually by grab sample for the following pollutants: Cadmium, Total Dry Weight, Arsenic, Total Dry Weight, Chromium, Total Dry Weight, Copper, Total Dry Weight, Lead, Total Dry Weight, Mercury, Total Dry Weight, Molybdenum, Total Dry Weight, Nickel, Total Dry Weight, pH, Total Phosphorus, Selenium, Total Dry Weight, Silver, Total Dry Weight, Zinc, Total Dry Weight, Solids, Total Dry Weight, Solids, Total (percent), and Sludge Disposal Method

e. Justification of Sludge Monitoring

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Cadmium, Total Dry Weight, Arsenic, Total Dry Weight, Chromium, Total Dry Weight, Copper, Total Dry Weight, Lead, Total Dry Weight, Mercury, Total Dry Weight, Molybdenum, Total Dry Weight, Nickel, Total Dry Weight, pH, Total Phosphorus, Selenium, Total Dry Weight, Silver, Total Dry Weight, Zinc, Total Dry Weight, Solids, Total Dry Weight, Solids, Total (percent), and Sludge Disposal Method.

The monitoring requirements for the above permit parameters are applicable to municipal wastewater treatment plants that have pretreatment programs, as per 401 KAR 5:057, Section 6. Monitoring requirements are applicable for the municipal plant influent, effluent, and sludge in order to monitor potential interference, pass-through, or adverse impact on sludge quality.

6A. **ANTIDEGRADATION FOR KENTUCKY**

The conditions of 401 KAR 5:029, Section 1 have been satisfied by this permit action. In 2005 the Sanitation District No. 1 of Northern Kentucky submitted a revised facility plan developed in accordance with the 401 KAR 5:006. This process included the performance of an alternatives analysis and socioeconomic demonstration by the regional planning authority. Additionally, public comment was solicited during the development process of the draft facility plan. On August 28, 2006 the Division of Water approved the proposed facility plan. Therefore, pursuant to the requirements of 401 KAR 5:030, Section 1(3)(b)5 the permittee has demonstrated compliance with these requirements of the antidegradation implementation procedures specified in 401 KAR 5:030.

6B. **ANTIDEGRADATION FOR AFFECTED STATES**

The need to allow this permit pursuant to the antidegradation policy of Kentucky and other affected states has been demonstrated by the regional facility plans approved on November 1, 2002 and August 28, 2006. Through the planning process, as more fully documented in the plans, the cabinet has found that this permit as written is necessary based on technical, social, and economic criteria found in the plans, and, through the planning alternatives analysis, that there are no better alternatives to this discharge.

7. **PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS**

The permittee will comply with all effluent limitations by the effective date of this permit.

8. **PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

**Sludge Management**

Special POTW requirements apply for all Publicly-Owned Treatment Works.

Sludge shall be disposed of in accordance with 40 CFR Part 503 and 401 KAR 45.

The permittee shall not allow prohibited discharges into the system.

This sanitation district has an approved pretreatment program. The permittee shall be responsible for the performance of all pretreatment requirements contained in 401 KAR 5:057, Section 6 and pursuant to 40 CFR Part 403.

**Domestic Water Supply Requirement**

In order to protect the viability of the downstream drinking water sources the permittee shall develop and implement notification procedures whereby occurrences of partially treated discharges are communicated by the most expeditious manner to the downstream water supplies and the Ohio River Valley Water Sanitation Commission (ORSANCO). These procedures shall detail the methods which will be utilized to notify the impacted water supplier and ORSANCO that such an event has occurred and shall include the names, telephone numbers, and e-mail addresses of the contacts with the subject water supply, ORSANCO, and those responsible persons representing the permittee.

9. **PERMIT DURATION**

This permit expires April 30, 2008.

10. **PERMIT INFORMATION**

The application, draft permit, fact sheet, public notice, comments received, and additional information is available from the Division of Water at 14 Reilly Road, Frankfort Office Park, Frankfort, Kentucky 40601.

11. **REFERENCES AND CITED DOCUMENTS**

All material and documents referenced or cited in this fact sheet are a part of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

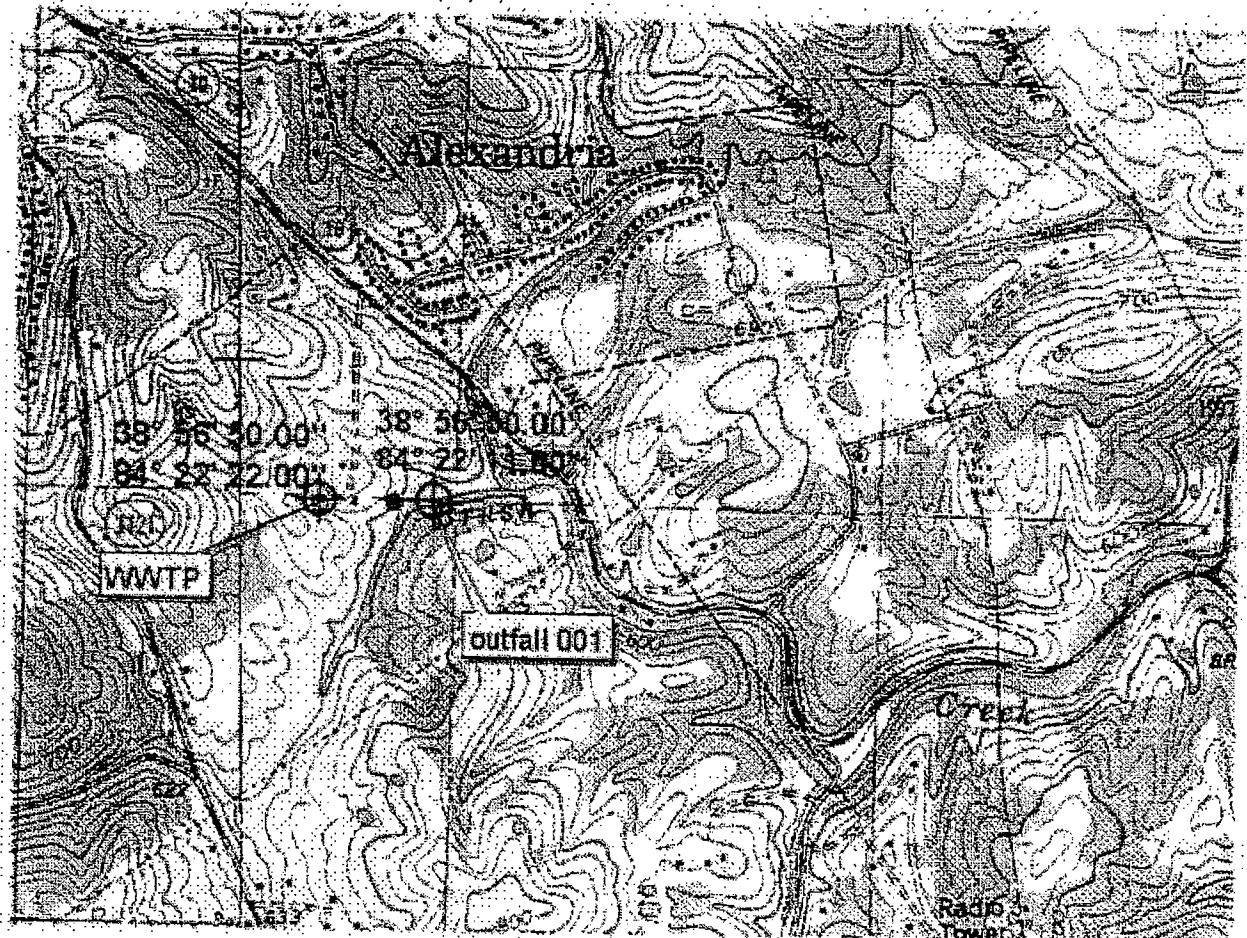
12. **CONTACT**

For further information on the draft permit or comment process, contact the individual identified on the Public Notice or the Permit Writer - Barry Elmore at (502) 564-2225, extension 459, or email [barry.elmore@ky.gov](mailto:barry.elmore@ky.gov).

13. **PUBLIC NOTICE INFORMATION**

Please refer to the attached Public Notice for details regarding the procedures for a final decision, deadline for comments and other information required by 401 KAR 5:075, Section 4(2)(e).

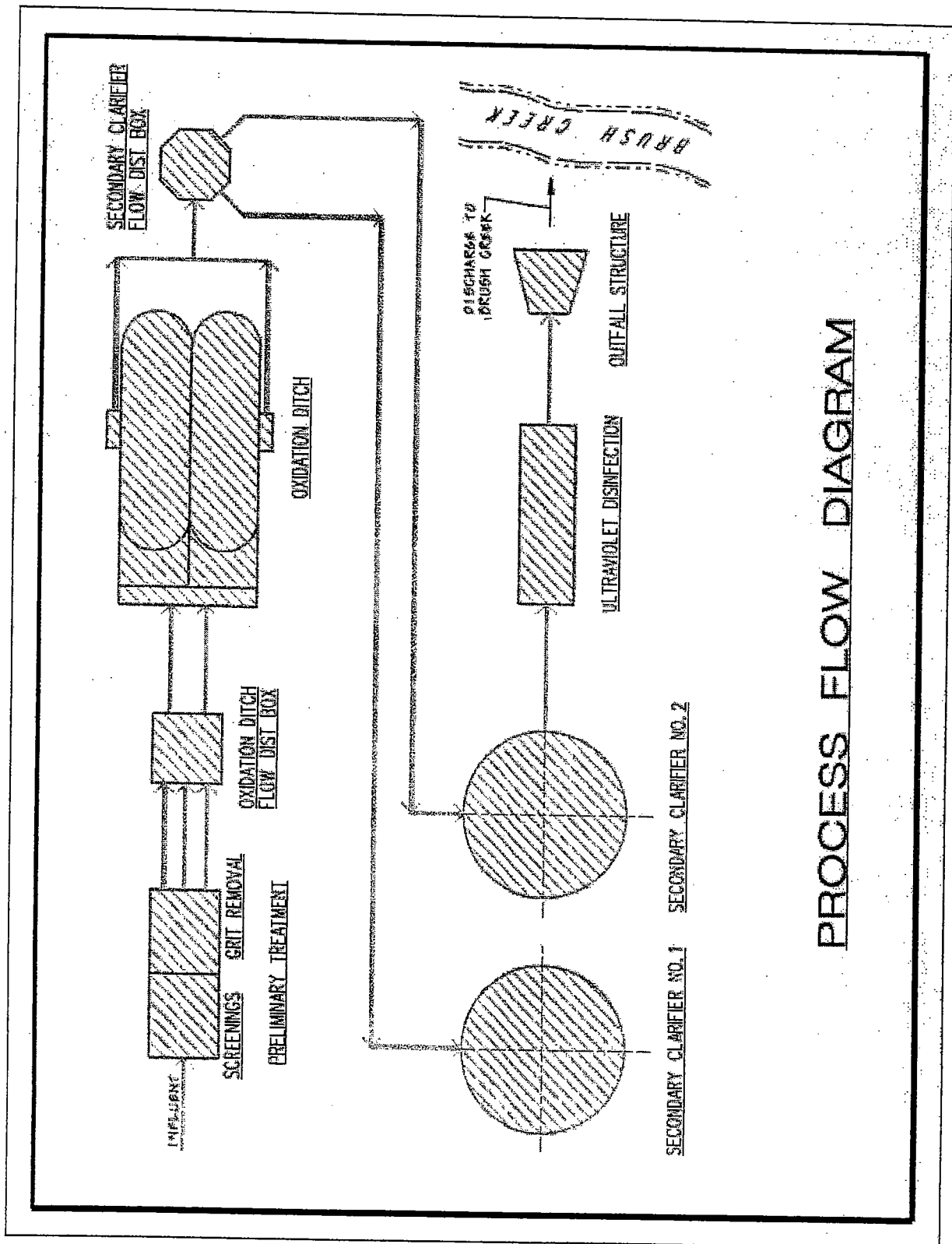
## Eastern Regional WWTP



- KPDES Outfall
- KPDES Facility
- Active
- General
- Inactive







PROCESS FLOW DIAGRAM

Permit Writer	Barry Elmore
Date Entered	8/29/2006
Facility Name	SD1 East Regional WWTP
KPDES Number	KY0105031
Outfall Number	001
Case Number	0
Status:	
Is this an existing facility – Enter “E”	
Is this an existing facility with an increase in pollutant load – Enter “I”	
Is this a new facility – Enter “N”	
Is this a regional facility with an approved up-to-date 201 plan – Enter “R”	
Has the permittee made a successful alternatives analysis/socioeconomic demonstration – Enter “A”	R
Receiving Water Name	Brush Creek
Discharge Mile Point	1.6
Public Water Supply Name	GCWW – Richard Miller Treatment Plant
Intake Water Name	Ohio River
Intake Mile Point	518.7
Total Effluent Flow (Q <sub>T</sub> )	4 MGD
Receiving Water 7Q10 (Q <sub>RW7Q10</sub> )	0 cfs
Receiving Water Harmonic Mean (Q <sub>RWHM</sub> )	0 cfs
Receiving Water pH	7.5
Receiving Water Temperature	20.00 °C
Intake Water 7Q10 (Q <sub>IW7Q10</sub> )	10600 cfs
Intake Water Harmonic Mean (Q <sub>IWHM</sub> )	45300 cfs
Effluent Hardness	150 (as mg/l CaCO <sub>3</sub> )
Receiving Water Hardness	150 (as mg/l CaCO <sub>3</sub> )
Zone of Initial Dilution (ZID)	1
Mixing Zone (MZ)	0.333
Acute to Chronic Ratio (ACR)	0.1
Impaired	Yes
Permittee agrees to accept no mixing zone for bioaccumulative or persistent pollutants prior to 09/08/2014	Yes

### Calculation Methodology

#### Definitions

Acute to Chronic Ratio	ACR	Total Effluent Flow	Q <sub>T</sub>
Aquatic Life Acute Criteria	C <sub>A</sub>	Receiving Water 7Q10	Q <sub>RW7Q10</sub>
Aquatic Life Chronic Criteria	C <sub>C</sub>	Receiving Water Harmonic Mean	Q <sub>RWHM</sub>
Human Health Criteria - Fish Only	C <sub>HHFO</sub>	Intake Water 7Q10	Q <sub>IW7Q10</sub>
Human Health Criteria - Fish & Water	C <sub>HHFW</sub>	Intake Water Harmonic Mean	Q <sub>IWHM</sub>
End of Pipe Effluent Limit	C <sub>T</sub>	Zone of Initial Dilution	ZID
Instream Background Concentration	C <sub>U</sub>	Mixing Zone	MZ
Toxicity Units - Acute	TU <sub>a</sub>	Toxicity Units - Chronic	TU <sub>c</sub>
Effluent Hardness	H <sub>T</sub>	Receiving Water Hardness	H <sub>RW</sub>

### Aquatic Life - Chemical Specific

**Acute**NO ZID given  $C_T = C_A$ ZID given  $C_T = (C_A - C_U) \times (ZID)$ **Chronic Mixing Zone / Complete Mix**

$$C_T = \{C_C[Q_T + (MZ)(Q_{RW7Q10})] - [C_U(MZ)(Q_{RW7Q10})]\} / Q_T$$

**Human Health - Chemical Specific****Fish Only: Mixing Zone / Complete Mix**

Carcinogen / Non-Carcinogen

$$C_T = \{C_{HHFO}[Q_T + (MZ)(Q_{RWHM})] - C_U(MZ)(Q_{RWHM})\} / Q_T$$

**Fish & Water Only: Mixing Zone / Applicable at point of withdrawal**

Carcinogen

$$C_T = \{C_{HHFW}[Q_T + (Q_{IWHM})] - C_U(Q_{IWHM})\} / Q_T$$

Non-Carcinogen

$$C_T = \{C_{HHFW}[Q_T + (Q_{IW7Q10})] - C_U(Q_{IW7Q10})\} / Q_T$$

**Aquatic Life - Whole Effluent Toxicity****Acute (Units TU<sub>a</sub>)**NO ZID given  $C_T = C_A$ ZID given  $C_T = (C_A - C_U) \times (ZID)$ **Chronic Mixing Zone / Complete Mix (Units TU<sub>c</sub>)**

$$C_T = \{C_C[Q_T + (MZ)(Q_{RW7Q10})] - [C_U(MZ)(Q_{RW7Q10})]\} / Q_T$$

Conversion of TU<sub>c</sub> to TU<sub>a</sub>:  $TU_c \times ACR = TU_a$ **Metal Aquatic Criteria****Pollutant**

Total Recoverable Cadmium

Chromium III

Total Recoverable Copper

Total Recoverable Lead

Total Recoverable Nickel

Total Recoverable Silver

Total Recoverable Zinc

**Acute Criteria**

$$e^{(1.0166 (\ln \text{Hardness}) - 3.924)}$$

$$e^{(0.8190 (\ln \text{Hardness}) + 3.7256)}$$

$$e^{(0.9422 (\ln \text{Hardness}) - 1.700)}$$

$$e^{(1.273 (\ln \text{Hardness}) - 1.460)}$$

$$e^{(0.8460 (\ln \text{Hardness}) + 2.255)}$$

$$e^{(1.72 (\ln \text{Hardness}) - 6.59)}$$

$$e^{(0.8473 (\ln \text{Hardness}) + 0.884)}$$

**Chronic Criteria**

$$e^{(0.7409 (\ln \text{Hardness}) - 4.719)}$$

$$e^{(0.8190 (\ln \text{Hardness}) + 0.6848)}$$

$$e^{(0.8545 (\ln \text{Hardness}) - 1.702)}$$

$$e^{(1.273 (\ln \text{Hardness}) - 4.705)}$$

$$e^{(0.8460 (\ln \text{Hardness}) + 0.0584)}$$

$$e^{(0.8473 (\ln \text{Hardness}) + 0.884)}$$

**Hardness (as mg/l CaCO<sub>3</sub>)**

Zone Initial Dilution (ZID)

Mixing Zone

$$H_{RW} + [H_T + H_{RW}] / ZID$$

$$[(Q_{RW7Q10})(MZ)(H_{RW}) + (Q_T)(H_T)] / [(Q_{RW7Q10})(MZ) + (Q_T)]$$

**Total Ammonia Criteria**

Chronic - applies state wide - unionized criteria of 0.05 mg/l

$$[0.05 * (1 + 10^{(pKa - pH)})] / 1.2$$

$$pKa = (0.0902 + (2730 / (273.1 + T)))$$

T = Temperature °C

Acute - applies to the Ohio River (ORSANCO Criteria)

$$[0.411 / (1 + 10^{(7.204 - pH)})] + [58.4 / (1 + 10^{(pH - 7.204)})]$$

**Bioaccumulative or Persistent**

For new facilities after September 8, 2004 mixing zones shall not be granted for bioaccumulative or persistent pollutants of concern.

Mixing zones for bioaccumulative or persistent pollutants of concern assigned prior to September 8, 2004 shall expire no later than September 8, 2014, unless the permittee agrees to expiration of the mixing zone prior to that date.

Therefore, the application of the more stringent criteria of Human Health Fish & Water Consumption, Human Health Fish Only Consumption, and Aquatic Life Chronic shall apply as end-of-pipe effluent limitations.

### **Antidegradation**

If a new facility or an existing facility that will have a pollutant load increase, the effluent limits are halved unless the receiving stream is impaired or the permittee has demonstrated a negative socioeconomic or cost benefit analysis.

### **Reasonable Potential Analysis**

In establishing water quality based effluent conditions the Division of Water must determine if the pollutant concentrations in the discharge will cause, have the reasonable potential to cause, or contribute to an excursion of any water standard. The process by which the Division of Water makes this determination is known as a Reasonable Potential Analysis.

A Reasonable Potential Analysis is performed by first calculating the expected effluent limitations for those pollutants with water quality criteria. The calculated limits are then compared to the concentrations reported on the KPDES permit application and/or a summarization of the values reported on the Discharge Monitoring Report (DMRs) submitted during the term of the permit. This comparison is made by dividing the reported value by the calculated effluent limitation and converting to a percentage. The following criteria are used in determining how the pollutant will be addressed in the permit.

### **New Permits or New Pollutants on Permit Renewals**

If the reported concentration is less than 70% of the calculated effluent limit then no monitoring or limitations will be required.

If the reported concentration is equal to or greater than 70% but less than 90% of the calculated effluent limit then monitoring will be required.

If the reported concentration is equal to or greater than 90% and the number of analysis reported on the KPDES permit application is less than 12 then monitoring will be required.

If the reported concentration is equal to or greater than 90% and the number of analysis reported on the KPDES permit application is equal to or greater than 12 then an effluent limitation will be required.

### **Permit Renewals - Existing Pollutants**

<u>Parameter</u>	<u>CAS Number</u>	<u>Carcinogenicity</u>	<u>Bioaccumulative or Persistent</u>	<u>Effluent Limitations</u>			<u>Justification</u>	<u>Units</u>	<u>Maximum</u>	<u>Justification</u>	<u>Units</u>	<u>Maximum</u>	<u>Justification</u>
				<u>Average</u>	<u>Units</u>	<u>Justification</u>							
Chloride	16887006	No	No	600.0000	mg/l	Chronic		mg/l	1200.0000		mg/l		Acute
Total Recoverable Iron	7439896	No	No	1.0000	mg/l	Chronic		mg/l	4.0000		mg/l		Acute
Total Recoverable Arsenic	7440382	Yes	No	0.1500	mg/l	Chronic		mg/l	0.3400		mg/l		Acute
Total Recoverable Cadmium	7440439	No	No	0.0004	mg/l	Chronic		mg/l	0.0032		mg/l		Acute
Total Recoverable Chromium	7440439	No	No	171.2900	mg/l	Human Health Fish & Water		mg/l	N/A		mg/l		NA
Total Recoverable Copper	7440508	No	No	0.0132	mg/l	Chronic		mg/l	0.0205		mg/l		Acute
Total Recoverable Lead	7439921	No	No	0.0053	mg/l	Chronic		mg/l	0.1368		mg/l		Acute
Total Recoverable Mercury	7439976	No	Yes	5.1000E-05	mg/l	Human Health Fish Only		mg/l	0.0017		mg/l		Acute
Total Recoverable Nickel	7440020	No	No	0.0735	mg/l	Chronic		mg/l	0.6612		mg/l		Acute
Total Recoverable Selenium	7782492	No	No	0.0050	mg/l	Chronic		mg/l	0.0200		mg/l		Acute
Total Recoverable Silver	7440224	No	No	N/A	mg/l	Human Health Fish & Water		mg/l	0.0076		mg/l		Acute
Total Recoverable Zinc	7440666	No	No	0.1689	mg/l	Chronic		mg/l	0.1689		mg/l		Acute
Free Cyanide	57125	No	No	0.0052	mg/l	Chronic		mg/l	0.0220		mg/l		Acute
Chromium (VI)	18540299	Yes	No	0.0110	mg/l	Chronic		mg/l	0.0160		mg/l		Acute

Hardness

Metal limitations are developed using the mixed hardness of the effluent and receiving waters

<u>Type of Test</u>	<u>Toxicity</u>		
	<u>Maximum</u>	<u>Units</u>	<u>Justification</u>
Chronic	1.00	TUc	Chronic
			Percent Effluent 100.00%