



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

LAJUANA S. WILCHER
SECRETARY

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

DIVISION OF WATER

14 REILLY ROAD

FRANKFORT, KENTUCKY 40601-1190

www.kentucky.gov

SEP 30 2004

H. J. Schardein, Executive Director
Louisville and Jefferson County
Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203

Re: Floyds Fork Wastewater Treatment
Plant
KPDES No.: KY0102784
Jefferson County, Kentucky

Dear Mr. Schardein:

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.

Your facility is being issued a permit that is shorter than the normal five-year term in order to synchronize permit issuance by watershed. Implementation of watershed permitting began in the year 2001 and your targeted permit issuance is based upon your location in the watershed basin.

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.

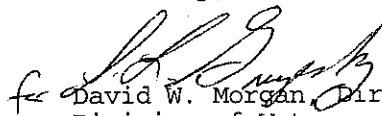
Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470 and any regulations promulgated thereto. Any person aggrieved by the issuance of a permit final decision may demand a hearing, pursuant to KRS 224.10-420(2) within 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.

Mr. H. J. Schardein
Floyds Fork Wastewater Treatment Plant/KY0102784
Page Two

If you have any questions regarding the KPDES decision, please contact Courtney Seitz, Inventory and Data Management Section, KPDES Branch, at (502) 564-2225, extension 465.

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: U.S. EPA Region IV
Louisville Regional Office
Division of Water Files



COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT, KY 40601

FACT SHEET

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

KPDES No.: KY0102784 Permit Writer: Daymond Talley Date: July 2, 2004
AI No.: 2158

1. **SYNOPSIS OF APPLICATION**

- a. Name and Address of Applicant
Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203
- b. Description of Applicant's Operation
Engaged in collection, treatment, and disposal of wastewater.
- c. Production Capacity of Facility
3.25 Floyds Fork Wastewater Treatment Plant
1100 Blue Heron Drive
Louisville, Jefferson County, Kentucky
- d. Description of Existing Pollution Abatement Facilities
Treatment consists of screening, grit removal, three (3) concentric oxidation ditches, secondary clarification, rapid sand filtration, ultra-violet disinfection, and post aeration. Solids handling consists of sludge holding with transfer to Morris Forman for further processing and landfill disposal.
- e. Permitting Action
This is a reissuance of a permit for a municipality.

2. **RECEIVING WATER**

- a. Name/Mile Point - Floyds Fork/37
- b. Stream Segment Use Classification - Warmwater Aquatic Habitat, Primary/Secondary Contact Recreation, and Domestic Water Supply. Floyds Fork is a 303(d) listed stream, as it fails to meet the warmwater aquatic habitat use designation. The stream has organic enrichment and low dissolved oxygen content. A U.S. EPA approved TMDL (total maximum daily load) analysis has been done for this stream segment. This calls for the elimination of the numerous package wastewater treatment plant discharges in this area of Floyds Fork. This regional facility, will eliminate these package plants. This regional facility will have lower effluent limits and phosphorus removal and is expected to improve existing water quality conditions.
- c. Stream Low Flow Condition - 0.0 cfs

3. **REPORTED DISCHARGE & PROPOSED LIMITS**

See Attachment



4. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

Biochemical Oxygen Demand (5-day), Total Suspended Solids, Fecal Coliform, and pH
The effluent limitations for the above permit parameters are consistent with 401 KAR 5:045, pursuant to KRS 224.70-100, 224.70-110.

Ammonia Nitrogen, Dissolved Oxygen, and Chronic Toxicity
The effluent limitations for the above permit parameters are consistent with 401 KAR 5:031, pursuant to KRS 224.70-100, 224.70-110.

Total Phosphorus
The monitoring and effluent limitations requirements for the above permit parameter are consistent with 401 KAR 5:031.

Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and Hardness as Calcium Carbonate
The monitoring requirements for the above permit parameters are consistent with 401 KAR 5:031.

Sludge Management
Requirements will be imposed, as applicable, governing the disposal of sewage sludge in accordance with 40 CFR Part 503 and 401 KAR Chapter 45.

Antidegradation:

The conditions of 401 KAR 5:029, Section 1(1) have been satisfied by this permit action. A review under Section 1(2), (3), and (4) is not applicable.

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

Permittee will comply with effluent limitations by the effective date of the permit.

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

None.

7. **PERMIT DURATION**

Expires March 31, 2008. This expiration date will place the facility in the correct 5-year cycle as per the Kentucky Watershed Management Framework. In this instance, the permit is scheduled for reissuance in April 2008 for the Salt/Licking Basin Management Unit.

8. **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.

9. **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.

10. **CONTACT**

For further information contact the individual identified on the Public Notice or the Permit Writer - Daymond Talley at (502) 564-2225, extension 456.

11. 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).

REPORTED DISCHARGE AND PROPOSED LIMITS - Municipal

Serial Number 001

Effluent Characteristics

	Reported Discharge			Proposed Limits		COMMENTS
	<u>Average Annual Value</u>	<u>Lowest Monthly Value</u>	<u>Highest Monthly Value</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	
Flow, MGD	0.85	0.42	2.49	Design Flow = 3.25 mgd		
CBOD ₅ , mg/l	1.3	1.0	4.0	10	15	NR - Not Reported
TSS, mg/l	1.9	1.0	10	30	45	
Fecal Coliform, N/100 ml	NR	NR	22	200	400	
Ammonia (as N), mg/l	0.246	0.07	1.09	2	3	Summer Winter
Dissolved Oxygen, mg/l	9.1	7.2	12.2	5	7.5	
pH, standard units	NR	7.2	8.7	7	Minimum	
Total Phosphorus, mg/l	0.75 annual average from 2001 to 2004			6.0 - 9.0		
Biomonitoring, Chronic toxicity units (TU _c)	<1.0	NR	NR	1.0	1.5	

See PART IV, Pages IV-1 and IV-2

Biomonitoring values based on reporting period from April 2001 through March 2004.

ATTACHMENT -- STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM'95)

SSTWAM'95 OUTPUT FILE

INPUT DATA :

Permit Number: R30102784
Facility Name: MD-Floyds Rock
Receiving Water: Floyds Rock
Requested by: Raymond Talley
Date Entered: 7/1/2004
User Name: Raymond Talley

QT = 3.25 MGD
QJ = 0 MGD
QHINC = 0 MGD
QHIC = 0.81 MGD
QH2C = 8385 MGD
QH2C = 39281 MGD
HT = 245 mg/l as CaCO3
HU = 130 mg/l as CaCO3
ZID = 1 dilutions
M = 0.33333
ACR = 0.1
HQ = NO

CALCULATION METHODOLOGY :

AQUATIC LIFE - CHEMICAL SPECIFIC

ACUTE: IF NO ZONE OF INITIAL DILUTION (ZID) GIVEN, THEN ACUTE CRITERIA APPLIES AT END OF PIPE (EOP), $CI=CI_A$
IF ZID IS GIVEN THEN $CI=(CI_A-CU)/(ZID)$

CHRONIC: MIXING ZONE / COMPLETE MIX
 $CI=(CI_C[(QT+M)(QJ)-CU(M)(QJ)]/QT)$

HUMAN HEALTH - CHEMICAL SPECIFIC

FISH ONLY: MIXING ZONE / COMPLETE MIX
CRITICAL: $CI=(CI_HL[(QT+M)(QHIC)]-CU(M)(QHIC))/QT$
NON-CRITICAL: $CI=(CI_HL[(QT+M)(QHIC)]-CU(M)(QHIC))/QT$

FISH & WATER: COMPLETE MIX, APPLICABLE AT POINT OF WITHDRAWAL
CRITICAL: $CI=(CI_H2[(QT+M)(QH2C)]-CU(QH2C))/QT$
NON-CRITICAL: $CI=(CI_H2[(QT+M)(QH2C)]-CU(QH2C))/QT$

AQUATIC LIFE - WASTE EFFLUENT

ACUTE: IF NO ZID GIVEN, THEN ACUTE CRITERIA APPLIES AT EOP, $CI=CI_A$, IN ACUTE TOXICITY UNITS
IF ZID IS GIVEN, THEN $CI=(CI_A-CU)/(ZID)$

CHRONIC: MIXING ZONE / COMPLETE MIX
 CI , IN CHRONIC TOXICITY UNITS = $(CI_C[(QT+M)(QJ)-CU(M)(QJ)]/QT)$
 CI , IN ACUTE TOXICITY UNITS = $(CI$, IN CHRONIC TOXICITY UNITS) (ACR)

DEFINITIONS :

ACR= ACUTE TO CHRONIC RATIO
CI_A= ACUTE DOWNSTREAM CONCENTRATION (CRITERIA) FOR AQUATIC LIFE
CI_C= CHRONIC DOWNSTREAM CONCENTRATION (CRITERIA) FOR AQUATIC LIFE
CI_HL= DOWNSTREAM CONCENTRATION (CRITERIA) FOR HUMAN HEALTH FISH CONSUMPTION ONLY
CI_H2= DOWNSTREAM CONCENTRATION (CRITERIA) FOR HUMAN HEALTH FISH AND WATER CONSUMPTION
CI= END OF PIPE OUTPUT LIMIT
CU= CONCENTRATION UPSTREAM (BACKGROUND CONCENTRATION)
EOP= END OF PIPE
HM= HARMONIC MEAN STREAM FLOW
HT= EFFLUENT HARDNESS
HU= STREAM HARDNESS
MGD= MILLION GALLONS PER DAY
M= MIXING ZONE FACTOR
QT= TOTAL EFFLUENT FLOW
QHIC= STREAM FLOW (MGD) FOR HUMAN HEALTH, FISH CONSUMPTION, CRITICAL, AT POINT OF DISCHARGE
QHINC= STREAM FLOW (MGD) FOR HUMAN HEALTH, FISH CONSUMPTION, NON-CRITICAL, AT POINT OF DISCHARGE
QH2C= STREAM FLOW (MGD) FOR HUMAN HEALTH, FISH & WATER CONSUMPTION, CRITICAL, AT POINT OF WITHDRAWAL
QH2C= STREAM FLOW (MGD) FOR HUMAN HEALTH, FISH & WATER CONSUMPTION, NON-CRITICAL, AT POINT OF WITHDRAWAL
QJ= STREAM FLOW (MGD) FOR WATER QUALITY AT POINT OF DISCHARGE
TU= ACUTE TOXICITY UNITS
TU= CHRONIC TOXICITY UNITS
mg/l= MICROGRAMS PER LITER
ZID= ZONE OF INITIAL DILUTION FACTOR
HQ= HIGH QUALITY INFLUENT
CSP ON HARDNESS FOR METALS = 400 mg/l CaCO3

ATTACHMENT -- STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM'95)

Chemical Specific Parameter	Carcinogen	Criteria / Standards, ug/l				Output (CI), ug/l				Final Limits				Reported Discharge Level ug/l	
		Aquatic Life		Human Health		Aquatic Life		Human Health		Water Quality, ug/l		Justification			
		Background Conc. ug/l	Acute CTA	Chronic CDC	Fish Only CHL	Fish & H2O CH2	Acute RCP	Chronic Mix Zone	Fish Only Mix Zone	Fish & H2O Complete Mix	Average	Maximum	Average		Maximum
9 Arsenic, Total Recoverable	Y	0.0000	NA	50.0000	NA	NA	NA	NA	NA	50.0000	NA	CHRONIC	NA	0.0000	
25 Cadmium, Total Recoverable	N	0.0000	12.4090	4.975809	NA	5.0000	12.4090	4.975809	NA	12905.0000	12.4090	CHRONIC	ACUTE	0.0000	
28 Chloride	N	0.0000	1200000	600000	NA	250000	1200000	600000	NA	645250000	600000	CHRONIC	ACUTE	0.0000	
43 Chromium, Total Recoverable	N	0.0000	NA	NA	NA	100.0000	NA	NA	NA	258100	258100	NA	FISH & H2O	NA	
45 Chromium VI	N	0.0000	16.0000	11.0000	NA	NA	16.0000	11.0000	NA	11.0000	16.0000	CHRONIC	ACUTE	0.0000	
49 Copper, Total Recoverable	N	0.0000	32.5665	20.0620	NA	1000.0000	32.5665	20.0620	NA	2581000	20.0620	CHRONIC	ACUTE	0.0000	
50 Cyanide, Free	N	0.0000	22.0000	5.2000	220000	200.0000	22.0000	5.2000	220000	515200	5.2000	CHRONIC	ACUTE	0.0000	
102 Iron, Total Recoverable	N	0.0000	4000.0000	1000.0000	NA	NA	4000.0000	1000.0000	NA	NA	1000.0000	4000.0000	CHRONIC	ACUTE	0.0000
104 Lead, Total Recoverable	N	0.0000	255.4691	9.955267	NA	15.0000	255.4691	9.955267	NA	38715.0000	9.955267	CHRONIC	ACUTE	0.0000	
107 Mercury, Total Recoverable	N	0.0000	1.7000	0.9100	5.1000E-02	5.0000E-02	1.7000	0.9100	5.1000E-02	129.0500	5.1000E-02	FISH ONLY	ACUTE	0.0000	
113 Nickel, Total Recoverable	N	0.0000	1001.3100	111.3262	4600.0000	100.0000	1001.3100	111.3262	4600.0000	258100	111.3262	CHRONIC	ACUTE	0.0000	
136 Selenis, Total	N	0.0000	NA	NA	5.0000	NA	NA	NA	5.0000	NA	NA	FISH ONLY	NA	0.0000	
141 Selenium, Total Recoverable	N	0.0000	20.0000	5.0000	NA	50.0000	20.0000	5.0000	NA	129050	5.0000	CHRONIC	ACUTE	0.0000	
142 Silver, Total Recoverable	N	0.0000	18.9568	NA	NA	50.0000	18.9568	NA	NA	129050	18.9568	ACUTE	ACUTE	0.0000	
165 Zinc, Total Recoverable	N	0.0000	256.0099	256.0099	69000.0000	5000.0000	256.0099	256.0099	69000.0000	12905000	256.0099	CHRONIC	ACUTE	0.0000	

REPORT OF ALL CALCULATIONS

Chemical Specific Parameter	Carcinogen	Criteria / Standards, ug/l				Output (CI), ug/l				Final Limits				Reported Discharge Level ug/l	
		Aquatic Life		Human Health		Aquatic Life		Human Health		Water Quality, ug/l		Justification			
		Background Conc. ug/l	Acute CTA	Chronic CDC	Fish Only CHL	Fish & H2O CH2	Acute RCP	Chronic Mix Zone	Fish Only Mix Zone	Fish & H2O Complete Mix	Average	Maximum	Average		Maximum
Whole Effluent															
1 Acute Toxicity Units (TUa)	NA	0	0.3	NA	NA	NA	1.0000	0.1000	NA	NA	1.0000	1.0000	CHRONIC	ACUTE	NA
2 Chronic Toxicity Units (TUC)	NA	0	NA	1	NA	NA	NA	1.0000	NA	NA	1.0000	NA	CHRONIC	NA	NA

ATTACHMENT - REASONABLE POTENTIAL ANALYSIS

A reasonable potential analysis is a determination by the Division of Water of whether effluent limitations, monitoring only or no requirements are imposed for a particular parameter on a specific permit. To perform the analysis the values reported on either the permit application or a summarization of the discharge monitoring data are divided by the expected effluent limit generated using SSTWAM95 and converted to a percentage for each pollutant. That percentage is then compared to the following criteria:

Percentage	Requirement
Less than 70%	None
Greater than 70% but less than 90%	Monitoring Only Required
Greater than 90%	Limit Required

In all cases, the Division of Water still may exercise its Best Professional Judgment in the implementation of the results, i.e. should insufficient data points exist to make a reasonable determination that a limit should be applied, then DOW may require additional monitoring to insure the appropriate requirement is imposed. This may take the form of additional monitoring requested during the development of the permit or may be required as part of the final permit.

The following table illustrates the results of the reasonable potential analysis performed on this facility.

Chemical Specific Parameter	Limits, mg/l		Reported Values, mg/l		Percentage		Effluent Limitations	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Arsenic, Total Recoverable	0.05	N/A	NA	N/A	NA	N/A	None	None
Cadmium, Total Recoverable	0.004976	0.012409	<0.001	<0.001	25.00%	8.10%	None	None
Chloride	600	1200	N/A	N/A	N/A	N/A	None	None
Chromium, Total Recoverable	258.1	N/A	N/A	N/A	N/A	N/A	None	None
Chromium VI	0.011	0.016	N/A	N/A	N/A	N/A	None	None
Copper, Total Recoverable	0.02062	0.032567	0.0067	0.015	32.49%	46.06%	None	None
Cyanide, Free (Amenable)	0.0052	0.022000	N/A	N/A	N/A	N/A	None	None
Iron, Total Recoverable	1.00000	4.00000	N/A	N/A	N/A	N/A	None	None
Lead, Total Recoverable	0.009956	0.25547	<0.0056	<0.006	56.25%	2.35%	None	None
Mercury, Total Recoverable	0.000051	0.001700	N/A	N/A	N/A	N/A	None	None
Nickel, Total Recoverable	0.111326	1.00131	N/A	N/A	N/A	N/A	None	None
Phenols, Total	N/A	N/A	N/A	N/A	N/A	N/A	None	None
Phosphorus, Total	N/A	N/A	N/A	N/A	N/A	N/A	None	None
Selenium, Total Recoverable	N/A	0.020000	N/A	N/A	N/A	N/A	None	None
Silver, Total Recoverable	0.018957	0.018957	N/A	N/A	N/A	N/A	None	None
Zinc, Total Recoverable	0.256010	0.256010	0.042	0.159	16.41%	62.11%	None	None

N/A = Not Applicable



Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)



■ Treatment Plant ▲ Discharge Point

FISHERVILLE, KY

NW/4 TAYLORSVILLE 15' QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

FLOYD'S FORK

CAPACITY 3.250 MGD

LATITUDE			LONGTITUDE		
DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS
38	13	34	85	28	09

Louisville and Jefferson County Metropolitan Sewer District - West Maintenance
700 West Liberty Street Louisville, Kentucky 40203-1911 502-540-6000 www.msdlouky.org

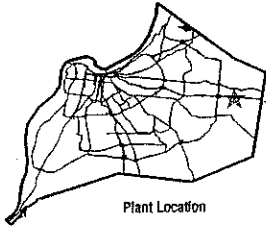
PLOT DATE:
08/07/03



Scale: 1" = 100'

FLOYDS FORK WASTEWATER TREATMENT PLANT

1100 Heron Rd
Louisville Kentucky 40245



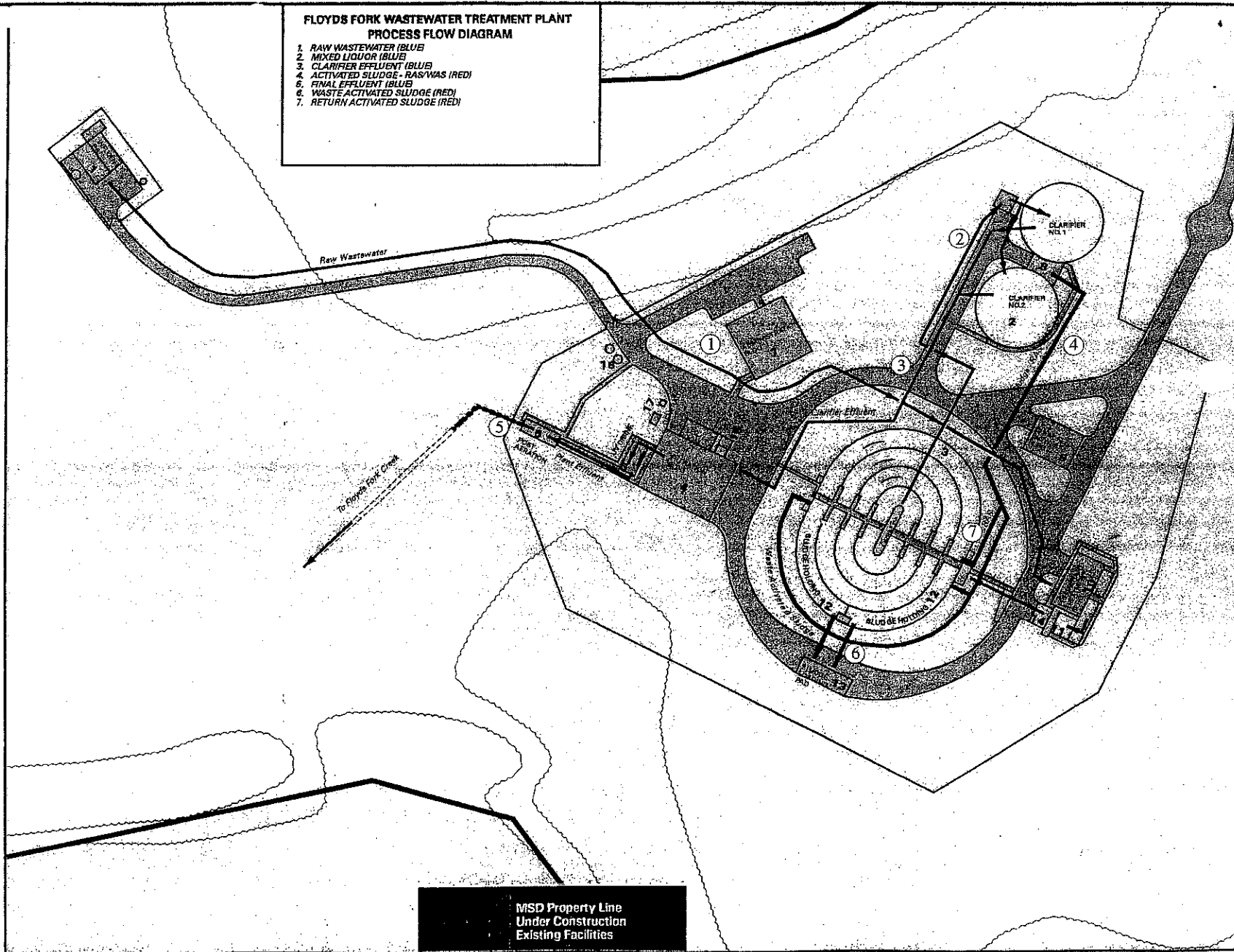
Plant Location

FLOYDS FORK WASTEWATER TREATMENT PLANT BUILDINGS AND TANKAGE PLAN

- 1 Influent Raw Wastewater Pump Station
- 2 Clarifiers
- 3 Oxidation Ditch
- 4 Filtration Building
- 5 UV Disinfection
- 6 Post Aeration
- 7 Administration Building
- 8 RAS/WAS Pump Station
- 9 Chemical Feed/Blower Building
- 10 Preliminary Treatment Building
- 11 Grit Basin
- 12 Sludge Holding Basin
- 13 Sludge Truck Loading Station
- 14 Grit Pump Building
- 15 Chlorine Room
- 16 Plant Drain P.S.
- 17 Generator

FLOYDS FORK WASTEWATER TREATMENT PLANT PROCESS FLOW DIAGRAM

1. RAW WASTEWATER (BLUE)
2. MIXED LIQUOR (BLUE)
3. CLARIFIER EFFLUENT (BLUE)
4. ACTIVATED SLUDGE - RAS/WAS (RED)
5. FINAL EFFLUENT (BLUE)
6. WASTE ACTIVATED SLUDGE (RED)
7. RETURN ACTIVATED SLUDGE (RED)



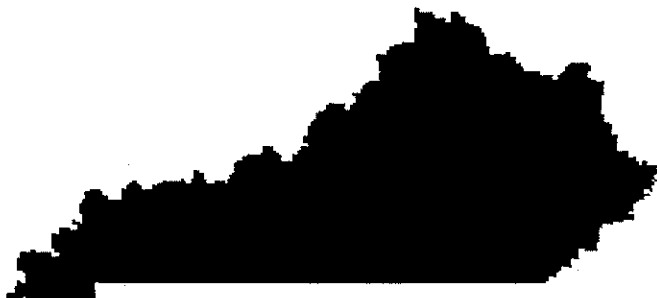
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COUNTY METROPOLITAN SEWER DISTRICT (MSD)
and LOUISVILLE WATER COMPANY (LWC)
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MISD Property Line
Under Construction
Existing Facilities

KPLES



KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0102784

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203

is authorized to discharge from a facility located at

Floyds Fork Wastewater Treatment Plant
1100 Blue Heron Drive
Louisville, Jefferson County, Kentucky

to receiving waters named

Floyds Fork - Mile point 37


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 3 pages, Part II 2 pages, Part III 1 page, and Part IV 2 pages.

This permit shall become effective on **NOV 1 2004**

This permit and the authorization to discharge shall expire at midnight, March 31, 2008.

SEP 30 2004

Date Signed



David W. Morgan, Director
Division of Water

Lloyd R. Cress
Commissioner

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

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

Printed on Recycled Paper

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:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>		
	lbs/day		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Sampling Location</u>
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>			
Flow, Design (3.25 mgd)	N/A	N/A	Report	Report ¹	Continuous	N/A	Influent and Effluent
Biochemical Oxygen Demand (5-day), Carbonaceous	271	407	10 mg/l	15 mg/l	3/Week	Composite	Influent & Effluent
Total Suspended Solids	813	1220	30 mg/l	45 mg/l	3/Week	Composite	Influent & Effluent
Fecal Coliform Bacteria, N/100	N/A	N/A	200	400	3/Week	Grab	Effluent
Ammonia (as N)	54 136	81 203	2 mg/l* 5 mg/l**	3 mg/l* 7.5 mg/l**	3/Week	Composite	Influent & Effluent
Dissolved Oxygen shall not be less than 7 mg/l					3/Week	Grab	Effluent
Total Phosphorus (as P)	N/A	N/A	1.0 mg/l	1.5 mg/l	3/Week	Composite	Effluent
Biomonitoring shall not exceed 1.0 chronic toxicity unit(s)				See PART IV, Pages IV-1 and IV-2			Effluent
Additional Parameters				See PART I, Page I-2			Effluent

In addition to the specified limits, the monthly average effluent CBOD₅ and suspended solids concentration 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.

* Effective May 1 - October 31
** Effective November 1 - April 30
1 Daily maximum limitation

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:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>		
	lbs/day		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Sampling Location</u>
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>			
Lead, Total Recoverable	N/A	N/A	Report	Report	Quarterly*	Composite	Effluent
Cadmium, Total Recoverable	N/A	N/A	Report	Report	Quarterly*	Composite	Effluent
Copper, Total Recoverable	N/A	N/A	Report	Report	Quarterly*	Composite	Effluent
Zinc, Total Recoverable	N/A	N/A	Report	Report	Quarterly*	Composite	Effluent
Hardness as Calcium Carbonate (CaCO ₃)	N/A	N/A	Report	Report	Quarterly*	Composite	Effluent

* Monitoring shall be done in conjunction with biomonitoring. Frequency shall increase to monthly if the facility is in a TRE.

B. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with all requirements 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.

SPECIAL POTW REQUIREMENTS

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

1. Sludge Disposal

Sewage sludge disposal requirements will be done in accordance with 40 CFR 503 and 401 KAR Chapter 45.

2. Industrial Pretreatment Standards

- a. The permittee shall provide annual reports to the Permit Issuing Authority listing industrial users of the system and identifying any problems caused by these users. Yearly reports are due no later than December 31 of each year, unless otherwise specified by the permitting authority.
- b. The permittee may be required to develop a local pretreatment program to enforce the requirement of applicable industrial discharges to meet the Federal Categorical Standards of 40 CFR Part 403, and other requirements pursuant to state regulation 401 KAR 5:057, Section 6.

3. 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 (BOD₅, 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.

PART III

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each month must be reported on a preprinted Discharge Monitoring Report (DMR) Form which will be mailed to you. Each month's completed DMR 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 month for which monitoring results were obtained.

Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, Kentucky 40222-5084
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 the series of tests described below within 30 days of the effective date of this permit to evaluate wastewater toxicity of the discharge from Outfall 001. If the permittee is using a more sensitive species, the initial four (4) tests shall be conducted using both test species as indicated below to provide confirmation of previously identified most sensitive test organism.

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 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 young/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 IC₂₅ (inhibition concentration) for reproduction or growth is less than 100% effluent. The average reproduction for *Ceriodaphnia* shall be calculated by dividing the total number of live *Ceriodaphnia* young in each concentration by the total number of organisms used to initiate that concentration; the average growth for the fathead minnows shall be calculated by dividing the total weight of surviving minnow larvae in each replicate by the total number of organisms used to initiate that replicate.
- B. Tests shall be conducted quarterly or at a frequency to be determined by the permitting authority.

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 iced during collection and maintained at 4°C until used.

After the first four (4) tests with both species, the permittee may request a determination be made by the Division whether one (1) or both organisms will be used for subsequent routine monitoring tests.

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. Test results shall be submitted to the Division of Water with the next regularly scheduled discharge monitoring report.

3. Chronic Toxicity

- A. 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 either of the options listed below. The Division must be notified of the option selected within five (5) days of the failure of this second test.

1) Accelerated Testing

Complete four (4) tests within 90 days of selection of this option to evaluate the frequency and degree of toxicity. The results of the two (2) tests specified in Section 3.A 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 non-compliance with the chronic limit (≥ 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 Division reserves the right to require a TRE in situations of recurring toxicity.

2) Toxicity Reduction Evaluation (TRE)

If it is determined that a TRE is required, a plan and implementation schedule must be submitted to the Division within 30 days of notification. The TRE shall include appropriate measures such as in-plant controls, additional wastewater treatment, or changes in the operation of the wastewater discharge to meet permit conditions. The TRE protocol shall follow that outlined in the most recent edition of EPA's guidance for conducting TREs.

- B. If a violation of the toxicity limit occurs, different or more stringent monitoring requirements may be imposed in lieu of the normal requirements of this permit for whatever period of time is specified by the Division of Water. The Division reserves the right to require additional testing or a TRE in situations of recurring toxicity.

4. 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 (Third Edition), EPA-600-4-91-002, or the most recent edition of this publication.