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GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

FACT SHEET

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

KPDES No.: KY0029106 **Permit Writer:** Diana Davidson **Date:** September 23, 2009
AI No.: 2161

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

Louisville & Jefferson County Metropolitan Sewer District (MSD)
700 West Liberty Street
Louisville, Kentucky 40203

b. Facility Location

Hunting Creek North Water Quality Treatment Center
7300 Shadwell Lane
Louisville, Jefferson County, Kentucky

c. Description of Applicant's Operation

Residential Subdivision

d. Design Capacity

0.358 MGD

e. Description of Existing Pollution Abatement Facilities

Treatment consists of grinding, activated sludge, sedimentation, chlorine disinfection, and aerobic digestion.

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f. Permitting Action

This is a reissuance of a minor KPDES permit for a wastewater treatment plant serving a subdivision.

2. **RECEIVING WATER**

a. Name/Mile Point

Facility discharges to Harrods Creek at latitude 38 °20' 50" and longitude 85 °36' 40".

b. Stream Segment Use Classification

Pursuant to 401 KAR 10:026, Section 5, Harrods Creek carries the following classifications:

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

c. Stream Segment Categorization

Pursuant to 401 KAR 10:030, Section 1 Harrods Creek is categorized as Impaired Waters.

Harrods Creek into the Ohio River from river mile 0.0 to river mile 3.2 is listed on the Draft 2008 Integrated Report to Congress on the Condition of Water Resources 303(d) List of Surface Waters as impaired. The impaired use is to Primary Contact Recreation (Partial Support) from Fecal Coliform. The suspected sources of the pollutant are Highway/Road/Bridge Runoff (Non-construction Related); Municipal (Urbanized High Density Area); Package Plant or other Permitted Small Flow Discharges.

d. Stream Low Flow Condition

The 7-day, 10-year low flow condition of Harrods Creek is 0.0 cfs.

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3. REPORTED DISCHARGE AND PROPOSED LIMITS

Serial Number 001 – Sanitary Wastewater (Design Flow = 0.358 MGD)

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	0.246	1.872	Report	Report	401 KAR 5:065, Section 2(8)
$CBOD_5$ (mg/l)	5.40	35	10	15	401 KAR 10:031, Section 4 401 KAR 5:045, Sections 3 and 5
TSS (mg/l)	5.40	35	30	45	401 KAR 10:031, Section 4 401 KAR 5:045, Sections 2 and 3
Fecal Coliform (N/100 ml)	7.4	1900	Removing from permit		401 KAR 5:080, Section 1(2)(c)2
Escherichia Coli (N/100 ml)	NR	NR	130	240	401 KAR 10:031, Section 7 401 KAR 5:045, Section 4 401 KAR 5:080, Section 1(2)(c)2
Ammonia Nitrogen (as mg/l N)					
May 1 - October 31	0.53	6.44	2.0	3.0	401 KAR 10:031, Section 4
November 1 - April 30	0.32	2.7	5.0	7.5	401 KAR 5:045, Sections 3 and 5
Dissolved Oxygen (mg/l) (minimum)	7.4	8.0	Not less than 7.0		401 KAR 10:031, Section 4 401 KAR 5:045, Sections 3 and 5
pH (standard units)	6.8	7.2	6.0 (min)	9.0 (max)	401 KAR 10:031, Section 4 401 KAR 5:045, Section 4
Total Residual Chlorine (mg/l)	0.008	0.011	0.011	0.019	401 KAR 10:031, Section 4(k)
Total Phosphorus (mg/l)	2.45	5.58	1.0	2.0	401 KAR 5:065, Section 2(8) 401 KAR 5:080, Section 1(2)(c)2
Total Nitrogen (mg/l)	NR	NR	Report	Report	401 KAR 5:065, Section 2(8)

The data contained under the reported discharge columns is not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the previous permit.

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation NR means not reported on the Discharge Monitoring Report (DMR).
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

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4. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 001 Sanitary Wastewater (Design Flow = 0.358 MGD)

b. Effluent Characteristics

Flow, $CBOD_5$, TSS, Fecal Coliform Bacteria, *Escherichia Coli*, pH, Ammonia Nitrogen, Dissolved Oxygen, Total Residual Chlorine (TRC), Total Phosphorus, and Total Nitrogen.

c. Pertinent Factors

The Hunting North Wastewater Treatment Plant is located within the regional facility planning area of Louisville and Jefferson County Metropolitan Sewer District. Existing sewers appear to be available within one mile of the facility but the regional authority is not available for connection as defined in regulation 401 KAR 5:002, Section 1(21). This permit contains provisions requiring connection if sewers are available.

In 1990 the Division of Water conducted a water quality study of the Harrods Creek watershed. The results of that study indicated that Harrods Creek from mile point 0.0 to 3.2 was impaired for low dissolved oxygen. The study recommended that eight (8) wastewater treatment plants in or near the backwater area of Harrods Creek be eliminated. This facility's Wastewater Treatment Plant is one of those wastewater treatment plants.

The Division's Total maximum Daily Load (TMDL) for this segment of Harrods Creek (mile point 0.0 to mile point 3.2) was approved by the United States Environmental Protection Agency Region IV on April 10, 1995. The TMDL called for the elimination of these (8) wastewater treatment plants. For various reasons a number of these wastewater plants have not yet been eliminated.

The final 305(b) report for 2008 indicates that this segment (0.0 to 3.2) is impaired for fecal coliform, low dissolved oxygen, organic enrichment and nutrients.

Per the MSD amended consent degree filed on March 4, 2009, Hunting Creek North WWTP is scheduled for elimination by December 31, 2015. This is documented in the Integrated Overflow Abatement Plan, Volume 3 (Sanitary Sewer Discharge Plan).

d. Monitoring Requirements

Flow monitoring shall be conducted continuously by recorder.
$CBOD_5$, TSS, Ammonia Nitrogen, Total Phosphorus and Total Nitrogen shall be monitored once per week by 24 hour composite sampling.

Escherichia Coli, pH, Dissolved Oxygen and Total Residual Chlorine shall be monitored once per week by grab sample.

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 10:031, 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 5:080k 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.

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e. Justification of Conditions

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

$CBOD_5$, Ammonia Nitrogen, and Dissolved Oxygen
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4, and 401 KAR 5:045, Sections 3 and 5. Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Section 5 of 5:045 requires biochemically degradable wastewaters to receive treatment in excess of secondary treatment if the Cabinet determines that the receiving water would not satisfy applicable water quality standards as a result of a facility discharge or discharges from multiple facilities.

Total Suspended Solids
The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4 and 5:045, Sections 2 and 3. Section 4 of 10:031 establishes water quality criteria for the protection of Kentucky's waters. Sections 2 and 3 of 5:045 require biochemically degradable wastewaters to receive secondary treatment.

pH
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4 and 5:045, Section 4. Section 4 of 10:031 establishes water quality criteria for the protection of Kentucky's waters. Section 4 of 5:045 establishes the acceptable levels of these parameters for biochemically degradable wastewaters.

Total Residual Chlorine
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

Total Phosphorus
The limits for phosphorus are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c) 2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these pollutants.

Total Nitrogen
The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8)(a). Total Nitrogen is TKN (as N) and nitrate/nitrite (as N).

5. ANTIDEGRADATION

The conditions of 401 KAR 10:029, Section 1 have been satisfied by this permit action. Since this permit action involves reissuance of an existing permit, and does not propose an expanded discharge, a review under 401 KAR 10:030 Section 1 is not applicable.

6. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

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

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

Disposal of Non-Domestic Wastes
The pass through or non-treatment by the wastewater treatment plant of chemicals or compounds which may injure, be chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish and other aquatic life is not desirable. Materials such as acids, caustics, herbicides, household chemicals or cleansers, insecticides, lawn chemicals, non-biodegradable products, paints, pesticides, pharmaceuticals, and petroleum based products may not be treatable by the wastewater treatment plant and should not be introduced and other environmentally sound methods for disposal should be utilized. The permittee should educate users of its system that introduction of such chemicals or compounds could result in an adverse environmental impact and provide the users with alternative disposal measures. This requirement is consistent with the requirements of 401 KAR 5:065, Section 1(5) and 401 KAR 5:080, Section 1(c)(2)c.

Connection to a Regional Facility
The Division of Water considers package wastewater treatment plants treating domestic wastewaters as temporary solutions and shall be eliminated by connection to a regional wastewater treatment facility when sewers of sufficient capacity become available. "Available" is defined as being located within the planning area and within one (1.0) miles along the most feasible route of connection to sewers of sufficient capacity to carry the additional flow. This requirement to eliminate the package treatment plant serving this facility is consistent with the requirements of 401 KAR 5:005, Section 4(6) and 401 KAR 5:002, Section 1(21).

Certified Operators
Pursuant to 401 KAR 5:010, Section 1 wastewater systems shall be operated under the supervision of a certified operator who holds a Kentucky Certificate equivalent to the class of system being supervised.

Pursuant to 401 KAR 5:010, Section 3 the certified operator shall be reasonably available if not physically present while the system is operating.

Outfall Signage
The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.

PERMIT DURATION
Five (5) years. This facility is in the Salt, Licking Basin Management Unit as per the Kentucky Watershed Management Framework.

9. PERMIT INFORMATION

The application, draft permit, fact sheet, public notice, comments received, and additional information is available from the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

10. 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.

11. CONTACT

For further information on the draft permit or comment process, contact the individual identified on the Public Notice or the Permit Writer – Diana Davidson at (502) 564-8158, extension 4901, or email Diana.Davidson@ky.gov.

12. 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).

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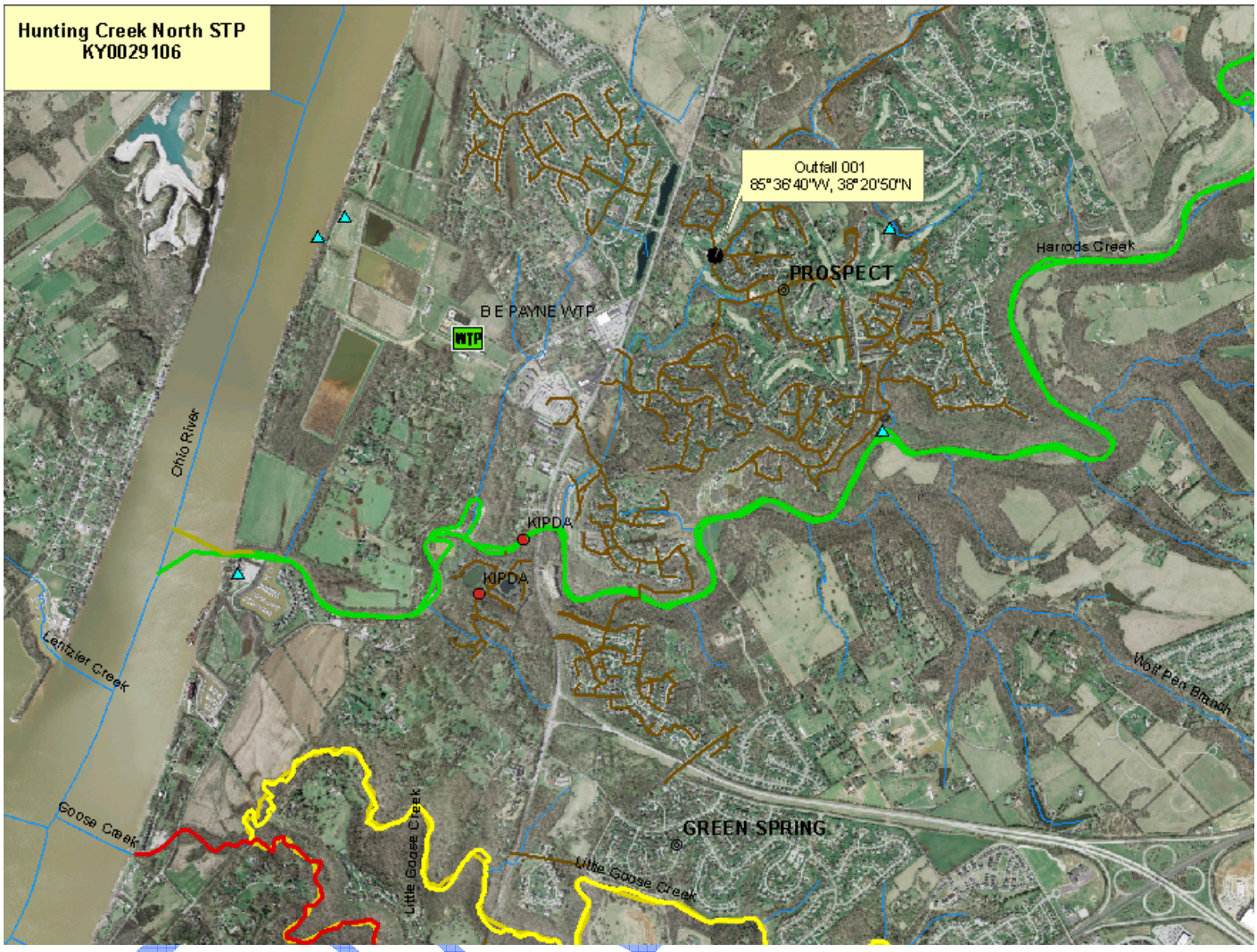
Hunting Creek North STP
KY0029106
Outfall 001
85°36'40"W, 38°20'50"N
PROSPECT
Harrods Creek
B E PAYNE WTP
WTP
Ohio River
KIPDA
KIPDA
Lentzier Creek
Wolf Pen Branch
Goose Creek
Little Goose Creek
GREEN SPRING
Little Goose Creek

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KPDES

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0029106
AI NO.: 2161

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Louisville & Jefferson County Metropolitan Sewer District (MSD)
700 West Liberty Street
Louisville, Kentucky 40203

is authorized to discharge from a facility located at

Hunting Creek North Water Quality Treatment Center
7300 Shadwell Lane
Louisville, Jefferson County, Kentucky

to receiving waters named

Harrods Creek at latitude 38 °20' 50" and longitude 85 °36' 47"

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

This permit shall become effective on.

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

Date Signed

Sandra L. Gruzesky, Director
Division of Water

PART I 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 – Sanitary Wastewater (Design Flow = 0.358 MGD)

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
$CBOD_5$ (mg/l)	30	45	10	15	1/Week	24 Hr Composite
TSS (mg/l)	90	134	30	45	1/Week	24 Hr Composite
Ammonia Nitrogen (as mg/l N)						
May 1 - October 31	6.0	9.0	2.0	3.0	1/Week	24 Hr Composite
November 1 - April 30	15	22	5.0	7.5	1/Week	24 Hr Composite
Escherichia Coli (N/100 ml)	N/A	N/A	130	240	1/Week	Grab
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than 7.0		1/Week	Grab
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	1/Week	Grab
Total Residual Chlorine (mg/l)	N/A	N/A	0.011	0.019	1/Week	Grab
Total Phosphorus (mg/l)	N/A	N/A	Report/1.0	Report/2.0	1/Week	24 Hr Composite
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	1/Week	24 Hr Composite

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation N/A means Not Applicable.
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

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PART I B - SCHEDULE OF COMPLIANCE

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

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PART II - STANDARD CONDITIONS FOR KPDES 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.

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.

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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
Louisville Regional Office
9116 Lessgate Road
Louisville, Kentucky 40222-5084
ATTN: Supervisor

Division of Water
Surface Water Permits Branch
Permit Support Section
200 Fair Oaks Lane
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 5:086, 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.

C. Disposal of Non-Domestic Wastes

The pass through or non-treatment by the wastewater treatment plant of chemicals or compounds which may injure, be chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish and other aquatic life is not desirable. Materials such as acids, caustics, herbicides, household chemicals or cleansers, insecticides, lawn chemicals, non-biodegradable products, paints, pesticides, pharmaceuticals, and petroleum based products may not be treatable by the wastewater treatment plant and should not be introduced and other environmentally sound methods for disposal should be utilized. The permittee should educate users of its system that introduction of such chemicals or compounds could result in an adverse environmental impact and provide the users with alternative disposal measures.

D. Certified Operators

This wastewater system shall be operated under the supervision of a Class II Kentucky Certified Operator who shall be reasonably available at all times. All other operators employed by the system shall hold a Kentucky Certificate or shall be in the process of obtaining a Kentucky Certificate. The certificates of each operator shall be prominently displayed on the wall of the system office.

E. Outfall Signage

The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.

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F. Connection to a Regional Facility

The Division of Water considers package wastewater treatment plants treating domestic wastewaters as temporary solutions and shall be eliminated by connection to a regional wastewater treatment facility when sewers of sufficient capacity become available. This facility is within the planning area of Louisville-Jefferson County Metropolitan Sewer District. Therefore the package treatment plant serving this facility shall be eliminated and the facility connected to the regional facility when the following conditions exist:

1. Sewers with sufficient integrity and capacity to carry the additional flow are available within one (1.0) mile of the facility (i.e. the additional flow will not result in new or expanded Sanitary Sewer Overflows or Combined Sewer Overflows); and

2. The regional facility has sufficient capacity to assimilate the additional wastewater flow and strength (i.e. the regional facility is not under a sewer sanction or tap on ban).

During the term of this permit should the Division of Water determine that the aforementioned conditions exist the permittee shall receive written notification that connection to the regional facility and elimination of the package treatment plant shall occur prior to the expiration of this permit. This permit shall not be reissued unless the permittee can demonstrate to the Division of Water that the aforementioned conditions do not exist, or that natural or man-made obstructions exist, or the cost of connection and elimination would necessitate the closing of the facility.

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