River Bluffs WWTP
Alica Alexander
1650 Des Peres Rd Ste 303

Saint Louis, MO  63131

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** River Bluffs WWTP
Alica Alexander
1650 Des Peres Rd Ste 303

Saint Louis, MO 63131

**AI Name:** River Bluffs WWTP **AI ID:** 3367 **Activity ID:** ENV20220001
**County:** Oldham
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 03/21/2022

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130 MPN/100 mL; and concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 30-day geometric avg. 248 MPN/100 mL; and concentration 7-day geometric 248 MPN/100 mL for November 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L; and concentration daily max., less than or equal to 6 mg/L. The facility reported the following: concentration monthly avg. 6.84 mg/L; and concentration daily max. 6.84 mg/L for October 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003367():

No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**

Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130 MPN/100 mL. The facility reported the following: concentration 30-day geometric avg. 222 MPN/100 mL for December 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**

The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Natalie P. Bruner
Natalie P. Bruner, Director
Date: May 6, 2022

LH WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** LH WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** LH WWTP **AI ID:** 163895 **Activity ID:** ENV20200001
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 05/14/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000163895():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

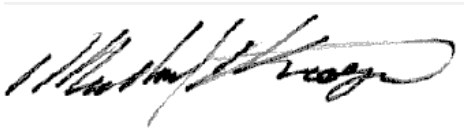
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Dissolved Oxygen. The permitted limit for Dissolved Oxygen is concentration instantaneous min., greater than or equal to 7 mg/L. The facility reported the following: concentration instantaneous min. 4 mg/L for March 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: May 29, 2020

Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY  405444382

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY 405444382

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20210002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 05/10/2021

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Residual Chlorine. The permitted limit for Total Residual Chlorine is concentration monthly avg., less than or equal to .011 mg/L; and concentration daily max., less than or equal to .019 mg/L. The facility reported the following: concentration monthly avg. .11 mg/L; and concentration daily max. .68 mg/L for February 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 7-day geometric 727 MPN/100 mL for February 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the

Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Residual Chlorine. The permitted limit for Total Residual Chlorine is concentration monthly avg., less than or equal to .011 mg/L. The facility reported the following: concentration monthly avg. less than .019 mg/L for January 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**4** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

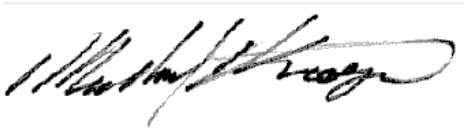
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: concentration max. weekly avg. 78 mg/L for February 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: June 2, 2021

LH WWTP
Alicia Alexander
1650 Des Peres Rd Suite 303
Des Peres, MO  63131

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

To: LH WWTP
Alicia Alexander
1650 Des Peres Rd Suite 303
**Des Peres, MO 63131**

**AI Name:** LH WWTP **AI ID:** 163895 **Activity ID:** ENV20210002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 05/10/2021

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000163895():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130 MPN/100 mL; and concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 30-day geometric avg. 426 MPN/100 mL; and concentration 7-day geometric 426 MPN/100 mL for March 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000163895():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is concentration monthly avg., less than or equal to 30 mg/L; and concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: concentration monthly avg. 51 mg/L; and concentration max. weekly avg. 51 mg/L for January 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

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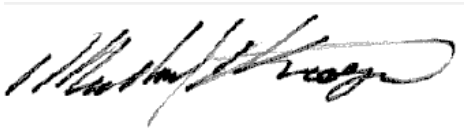
Issued By: 

Michael B. Kroeger, Assistant Director
Date: June 2, 2021

Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY  405444382

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY 405444382

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20220002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 05/09/2022

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for CBOD. The permitted limit for CBOD is concentration max. weekly avg., less than or equal to 15 mg/L. The facility reported the following: concentration max. weekly avg. 19 mg/L for March 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Natalie P. Bruner
Natalie P. Bruner, Director
Date: June 9, 2022

Persimmon Ridge Subd & WWTP
Alica Alexander
1650 Des Peres Rd Ste 303

Saint Louis, MO  63131

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Persimmon Ridge Subd & WWTP
Alica Alexander
1650 Des Peres Rd Ste 303

Saint Louis, MO 63131

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20210001
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 05/10/2021

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration monthly avg. 7.1 mg/L; and concentration daily max. 7.8 mg/L for January 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 5.9 lbs/day; and loading max. weekly avg., less than or equal to 8.9 lbs/day; and concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: loading monthly avg. 10.08 lbs/day; and loading max. weekly avg. 11.56 lbs/day; and concentration monthly avg. 15.7 mg/L; and concentration daily max. 18 mg/L for February 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**

The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

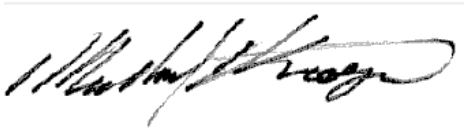
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 5.9 lbs/day; and loading max. weekly avg., less than or equal to 8.9 lbs/day; and concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: loading monthly avg. 13.26 lbs/day; and loading max. weekly avg. 13.91 lbs/day; and concentration monthly avg. 19.2 mg/L; and concentration daily max. 20.1 mg/L for March 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: July 20, 2021

Delaplain Disposal
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO  631311871

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO 631311871

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20220003
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 08/11/2022

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 7-day geometric 291 MPN/100 mL for June 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Dissolved Oxygen. The permitted limit for Dissolved Oxygen is concentration min., greater than or equal to 7 mg/L. The facility reported the following: concentration min. 6.9 mg/L for May 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Marlon A. Bascombe

Marlon Bascombe, Environmental Control Manager
Date: September 8, 2022

Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY  405444382

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY 405444382

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20210003
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/01/2021

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130 MPN/100 mL; and concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 30-day geometric avg. 236 MPN/100 mL; and concentration 7-day geometric 60000 MPN/100 mL for May 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is concentration monthly avg., less than or equal to 30 mg/L; and concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: concentration monthly avg. 124 mg/L; and concentration max. weekly avg. 471 mg/L for June 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for CBOD. The permitted limit for CBOD is concentration monthly avg., less than or equal to 10 mg/L; and concentration max. weekly avg., less than or equal to 15 mg/L. The facility reported the following: concentration monthly avg. 22 mg/L; and concentration max. weekly avg. 69 mg/L for June 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**4** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

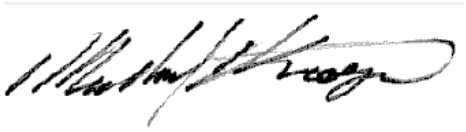
**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is concentration monthly avg., less than or equal to 30 mg/L; and concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: concentration monthly avg. 47 mg/L; and concentration max. weekly avg. 142 mg/L for May 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: September 27, 2021

Persimmon Ridge Subd & WWTP
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO  631311871

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Persimmon Ridge Subd & WWTP
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO 631311871

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20220002
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 08/11/2022

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Dissolved Oxygen. The permitted limit for Dissolved Oxygen is concentration instantaneous min., greater than or equal to 7 mg/L. The facility reported the following: concentration instantaneous min. 6.5 mg/L for May 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for CBOD. The permitted limit for CBOD is concentration monthly avg., less than or equal to 10 mg/L. The facility reported the following: concentration monthly avg. 10.5 mg/L for May 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such

waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration daily max. 7.69 mg/L for April 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**4** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 2 mg/L; and concentration daily max., less than or equal to 3 mg/L. The facility reported the following: concentration monthly avg. 5.445 mg/L; and concentration daily max. 6.28 mg/L for May 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Marlon A. Bascombe

Marlon Bascombe, Environmental Control Manager
Date: October 7, 2022

Lake Columbia WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Lake Columbia WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** Lake Columbia WWTP **AI ID:** 458 **Activity ID:** ENV20200003
**County:** Bullitt
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000000458():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

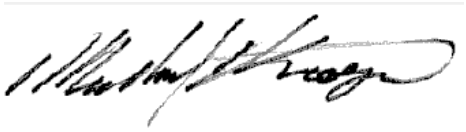
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0077674, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is loading monthly avg., less than or equal to 3 lbs/day; and loading max. weekly avg., less than or equal to 4.5 lbs/day; and concentration monthly avg., less than or equal to 30 mg/L; and concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: loading monthly avg. 20.63 lbs/day; and loading max. weekly avg. 20.63 lbs/day; and concentration monthly avg. 496 mg/L; and concentration max. weekly avg. 496 mg/L for April 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: October 15, 2020

LH WWTP
Ali Alexander
1650 Des Peres Rd Suite 303
Des Peres, MO  63131

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** LH WWTP
Ali Alexander
1650 Des Peres Rd Suite 303
**Des Peres, MO 63131**

**AI Name:** LH WWTP **AI ID:** 163895 **Activity ID:** ENV20200002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000163895():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

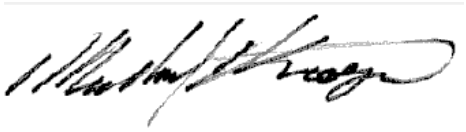
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L. The facility reported the following: concentration monthly avg. 6 mg/L for June 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: December 4, 2020

LH WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** LH WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** LH WWTP **AI ID:** 163895 **Activity ID:** ENV20200002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000163895():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L. The facility reported the following: concentration monthly avg. 6 mg/L for June 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
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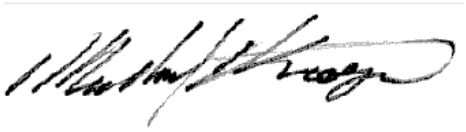
Issued By: 

Michael B. Kroeger, Assistant Director
Date: October 16, 2020

Persimmon Ridge Subd & WWTP
Josiah Cox
1650 Des Peres Rd Suite 303
Des Peres, MO  63131

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

To: Persimmon Ridge Subd & WWTP
Josiah Cox
1650 Des Peres Rd Suite 303
**Des Peres, MO 63131**

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20200003
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration monthly avg. 14.9 mg/L; and concentration daily max. 15.6 mg/L for April 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 2.4 lbs/day; and loading max. weekly avg., less than or equal to 3.6 lbs/day; and concentration monthly avg., less than or equal to 2 mg/L; and concentration daily max., less than or equal to 3 mg/L. The facility reported the following: loading monthly avg. 8.83 lbs/day; and loading max. weekly avg. 10.08 lbs/day; and concentration monthly avg. 13.8 mg/L; and concentration daily max. 15.7 mg/L for May 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

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Division of Enforcement
300 Sower Blvd
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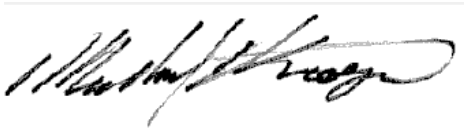
Issued By: 

Michael B. Kroeger, Assistant Director
Date: November 30, 2020

Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20200003
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration monthly avg. 14.9 mg/L; and concentration daily max. 15.6 mg/L for April 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 2.4 lbs/day; and loading max. weekly avg., less than or equal to 3.6 lbs/day; and concentration monthly avg., less than or equal to 2 mg/L; and concentration daily max., less than or equal to 3 mg/L. The facility reported the following: loading monthly avg. 8.83 lbs/day; and loading max. weekly avg. 10.08 lbs/day; and concentration monthly avg. 13.8 mg/L; and concentration daily max. 15.7 mg/L for May 2020.

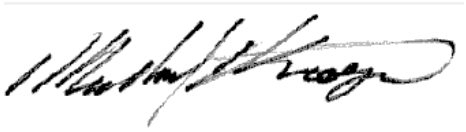
**The remedial measure(s), and date(s) to be completed by are as follows:**

The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: October 22, 2020

River Bluffs WWTP
Betsy C Helm
5501 W KY 524

Westport, KY  40077

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** River Bluffs WWTP
Betsy C Helm
5501 W KY 524

Westport, KY 40077

**AI Name:** River Bluffs WWTP **AI ID:** 3367 **Activity ID:** ENV20200001
**County:** Oldham
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L; and concentration daily max., less than or equal to 6 mg/L. The facility reported the following: concentration monthly avg. 7.5 mg/L; and concentration daily max. 7.5 mg/L for June 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L. The facility reported the following: concentration monthly avg. 4.1 mg/L for May 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

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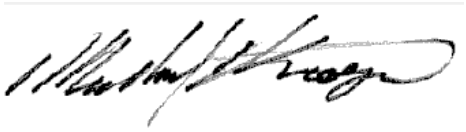
Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: October 27, 2020

River Bluffs WWTP
Betsy C Helm
5501 W KY 524

Westport, KY  40077

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** River Bluffs WWTP
Betsy C Helm
5501 W KY 524

Westport, KY 40077

**AI Name:** River Bluffs WWTP **AI ID:** 3367 **Activity ID:** ENV20200001
**County:** Oldham
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/04/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L; and concentration daily max., less than or equal to 6 mg/L. The facility reported the following: concentration monthly avg. 7.5 mg/L; and concentration daily max. 7.5 mg/L for June 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003367():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

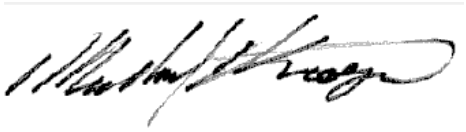
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0043150, monitoring point 001-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 4 mg/L. The facility reported the following: concentration monthly avg. 4.1 mg/L for May 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Assistant Director
Date: October 27, 2020

Delaplain Disposal
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO  631311871

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Mandy Sappington
1630 Des Peres Rd Ste 140

Saint Louis, MO 631311871

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20220004
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 11/17/2022

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for CBOD. The permitted limit for CBOD is concentration max. weekly avg., less than or equal to 15 mg/L. The facility reported the following: concentration max. weekly avg. 22 mg/L for September 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 7-day geometric 2420 MPN/100 mL for September 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such

waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is concentration max. weekly avg., less than or equal to 45 mg/L. The facility reported the following: concentration max. weekly avg. 54 mg/L for September 2022.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Marlon A. Bascombe

Marlon Bascombe, Environmental Control Manager
Date: December 14, 2022

Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY  405444382

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Delaplain Disposal
Ms. Marie Jacobs
PO Box 4382

Lexington, KY 405444382

**AI Name:** Delaplain Disposal **AI ID:** 3901 **Activity ID:** ENV20210004
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 12/02/2021

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003901():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 401 KAR 5:065, Section 2(1), which cites to 40 CFR 122.41(a), by failing to comply with the terms and conditions of KPDES Permit No. KY0079049, monitoring point 001-1, for CBOD. The permitted limit for CBOD is concentration max. weekly avg., less than or equal to 15 mg/L. The facility reported the following: concentration max. weekly avg. 18 mg/L for August 2021.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: Natalie P. Bruner
Natalie P. Bruner, Environmental Control Manager
Date: December 17, 2021

Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20190001
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/27/2019

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130 MPN/100 mL; and concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 30-day geometric avg. 198 MPN/100 mL; and concentration 7-day geometric 330 MPN/100 mL for November 2018.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration monthly avg. 10.6 mg/L; and concentration daily max. 10.8 mg/L for March 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for CBOD. The permitted limit for CBOD is loading monthly avg., less than or equal to 11.8 lbs/day; and concentration monthly avg., less than or equal to 10 mg/L. The facility reported the following: loading monthly avg. 12.68 lbs/day; and concentration monthly avg. 13 mg/L for December 2018.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**4** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: concentration monthly avg. 5.2 mg/L; and concentration daily max. 10.2 mg/L for January 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**5** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Residual Chlorine. The permitted limit for Total Residual Chlorine is concentration monthly avg., less than or equal to .011 mg/L; and concentration daily max., less than or equal to .019 mg/L. The facility reported the following: concentration monthly avg. 1.19 mg/L; and concentration daily max. 1.49 mg/L for March 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**6** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the

Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for CBOD. The permitted limit for CBOD is concentration monthly avg., less than or equal to 10 mg/L. The facility reported the following: concentration monthly avg. 12 mg/L for April 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**7** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 5.9 lbs/day; and loading max. weekly avg., less than or equal to 8.9 lbs/day; and concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: loading monthly avg. 10.53 lbs/day; and loading max. weekly avg. 21.05 lbs/day; and concentration monthly avg. 13.5 mg/L; and concentration daily max. 13.5 mg/L for February 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**8** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

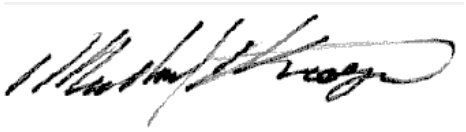
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is loading monthly avg., less than or equal to 5.9 lbs/day; and concentration monthly avg., less than or equal to 5 mg/L; and concentration daily max., less than or equal to 7.5 mg/L. The facility reported the following: loading monthly avg. 6.222 lbs/day; and concentration monthly avg. 6.4 mg/L; and concentration daily max. 7.7 mg/L for December 2018.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Director
Date: December 19, 2019

Longview Country Club
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Longview Country Club
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** Longview Country Club **AI ID:** 8083 **Activity ID:** ENV20190002
**County:** Scott
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 09/27/2019

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000008083():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 7-day geometric 659 MPN/100 mL for January 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000008083():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Dissolved Oxygen. The permitted limit for Dissolved Oxygen is concentration instantaneous min., greater than or equal to 7 mg/L. The facility reported the following: concentration instantaneous min. 6.8 mg/L for May 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**3** Violation Description for Subject Item AIOO0000008083():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such

waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for Total Suspended Solids. The permitted limit for Total Suspended Solids is loading weekly avg., less than or equal to 37.5 lbs/day. The facility reported the following: loading weekly avg. 39.19 lbs/day for February 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**4** Violation Description for Subject Item AIOO0000008083():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for CBOD. The permitted limit for CBOD is loading weekly avg., less than or equal to 37.53 lbs/day; and concentration weekly avg., less than or equal to 45 mg/L. The facility reported the following: loading weekly avg. 70.97 lbs/day; and concentration weekly avg. 67 mg/L for February 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**5** Violation Description for Subject Item AIOO0000008083():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

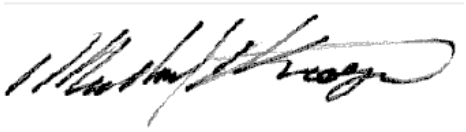
**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0081591, monitoring point 001-1, for E. Coli. The permitted limit for E. Coli is concentration 7-day geometric, less than or equal to 240 MPN/100 mL. The facility reported the following: concentration 7-day geometric 870 MPN/100 mL for March 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

Violations of the above cited statute(s) and/or regulation(s) are subject to a civil penalty per day per violation. Violations carry civil penalties of up to $25,000 per day per violation depending on the statutes/regulations violated. In addition, violations may be concurrently enjoined. Compliance with remedial measures and their deadlines does not provide exemption from liability for violations during the period of remediation, nor prevent additional remedial measures from being required.

If you have questions or need further information, write or call the undersigned:

Department for Environmental Protection
Division of Enforcement
300 Sower Blvd
Frankfort, KY 40601
502-782-6859 (8:00 AM – 4:30 PM)

Issued By: 

Michael B. Kroeger, Director
Date: December 19, 2019

Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO  63074

**COMMONWEALTH OF KENTUCKY**
**ENERGY and ENVIRONMENT CABINET**
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**
**Division of Enforcement**

# NOTICE OF VIOLATION

**To:** Persimmon Ridge Subd & WWTP
Josiah Cox
500 Northwest Plaza Dr Ste 500

Saint Ann, MO 63074

**AI Name:** Persimmon Ridge Subd & WWTP **AI ID:** 3955 **Activity ID:** ENV20200001
**County:** Shelby
**Enforcement Case ID:**
**Date(s) Violation(s) Observed:** 02/28/2020

This is to advise that you are in violation of the provisions cited below:

**1** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for E. Coli. The permitted limit for E. Coli is concentration 30-day geometric avg., less than or equal to 130; and concentration 7-day geometric, less than or equal to 240. The facility reported the following: concentration 30-day geometric avg. 335 MPN/100 mL; and concentration 7-day geometric 568 MPN/100 mL for December 2019.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

**2** Violation Description for Subject Item AIOO0000003955():
No person shall, directly or indirectly, throw, drain, run or otherwise discharge into any of the waters of the Commonwealth, or cause, permit or suffer to be thrown, drained, run or otherwise discharged into such waters any pollutant, or any substance that shall cause or contribute to the pollution of the waters of the Commonwealth in contravention of the standards adopted by the cabinet or in contravention of any of the rules, regulations, permits, or orders of the cabinet or in contravention of any of the provisions of this chapter. [KRS 224.70-110]

**Description of Non Compliance:**
Failing to comply with 40 CFR 122.41(a), as adopted by 401 KAR 5:065, Section 2(1), by failing to comply with the terms and conditions of KPDES Permit No. KY0090956, monitoring point 002-1, for Total Ammonia Nitrogen (as N). The permitted limit for Total Ammonia Nitrogen (as N) is concentration monthly avg., less than or equal to 5. The facility reported the following: concentration monthly avg. 6.5 mg/L for January 2020.

**The remedial measure(s), and date(s) to be completed by are as follows:**
The permittee shall comply with the terms and conditions of the KPDES Permit. [KRS 224.70-110]

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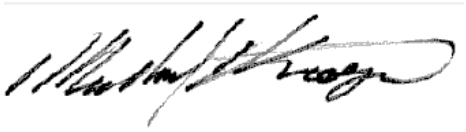
Issued By: 

Michael B. Kroeger, Assistant Director
Date: May 11, 2020

# Delaplain Wastewater Facility Improvements - KY0079049
# Design Considerations – Construction Permit Application
# Date: February 28, 2022

## Introduction

The purpose of this document is to specifically address the criteria used for the design of various improvements to the Delaplain Wastewater Treatment Facility, and to describe pertinent information required in Section IV - "Design Considerations" of the Construction Permit Application for said improvements.

## Design Criteria

The process flow diagram for the proposed improvements is included in Section A of the appendix to this specific document.

Raw sewage will enter the facility directly from the gravity collection system to the existing aeration basin. The existing pre-equalization tank will be used for chlorine disinfection and post-equalization. Two new submersible centrifugal pumps will be added to the post-equalization tank to feed the new tertiary filter system. The system will be able to meet the pumping requirements with any pump out of service.

To supplement the existing extended aeration plant, three IFAS cages (detailed on sheet P4) will be placed in the existing tank to remove approximately 70% of the influent BOD. Two additional blowers will be added to the process to provide enough oxygen for the IFAS addition, and post-aeration for the post-equalization tank. Sixteen 3/4" flex cap diffusers will be added to the post-equalization tank to assist the plant in meeting its 7.0 mg/L effluent Dissolved Oxygen minimum concentration. The two existing blowers will continue to be utilized for the existing processes.

A new cloth media type tertiary filtration system will be added downstream from the post-equalization tank to further reduce TSS (and indirectly BOD and NH3-N) prior to effluent release. Aluminum Sulfate will be dosed upstream from the filter to assist in solids removal as well as Sulfur Dioxide for dechlorination. The filter is chlorine resistant.

Based on the level of redundancy in the design, we believe the plant qualifies for classification as Grade A Reliability. A transfer switch will be installed that allows the use of a backup generator which will provide sufficient power for the entire facility including the blowers, allowing continuous use of all treatment processes.

A summary of the design criteria used for unit process sizing is included in Section B of the Appendix including IFAS calculations. Each process was designed in accordance with the 2014 version of Ten State Standards for Wastewater Facilities and 401 KAR 5:005.

## Site Location

A site plan can be found in the plan documents which clearly shows the site boundaries and the position of the site in reference to those boundaries.

# Appendix

Section A - Process Flow Diagram

Section B - Summary of Design Criteria

1351 Jefferson St., Suite 301
Washington, MO 63090

636-432-5029

# Section A – Process Flow Diagram

1351 Jefferson St., Suite 301
Washington, MO 63090

636-432-5029

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

# DESIGN CRITERIA:

PLANT INFLUENT FLOW

$Q_{ADF}$= 240,000 GPD
$Q_{PDF}$= 720,000 GPD
$Q_{PHF}$= 1,200,000 GPD

BOD= 225 MG/L
TSS= 225 MG/L
TKN= 40 MG/L

MBBR INFLUENT FLOW

$Q_{ADF}$= 240,000 GPD
$Q_{PDF}$= 720,000 GPD
$Q_{PHF}$= 1,200,000 GPD

EFFLUENT PARAMETERS

CBOD: 10 MG/L
TSS: 30 MG/L
DISSOLVED OXYGEN: 7 MG/L
E. COLI: 200 MPN/100 ML
NH3: 2 MG/L

MBBR (CAGES)

NO. OF MBBRS = 3
DIMENSIONS: 6'x6'x15'
TOTAL VOLUME = 12,118 GALLONS
INF. BOD = 225 MG/L , 675.9 LBS/D
EFF. BOD TARGET = 68 MG/L, 203 LBS/DAY
HRT @ ADF = 1.21 HRS
MEDIA SURFACE RQD. = 13,486 $M^2$
MEDIA VOLUME RQD. (W/650 $M^2/M^3$ MEDIA) = 733 CF
MEDIA FILL % = 51 %
SCFM RQD. = 310 SCFM

ALUMINUM SULFATE FEED PROCESS

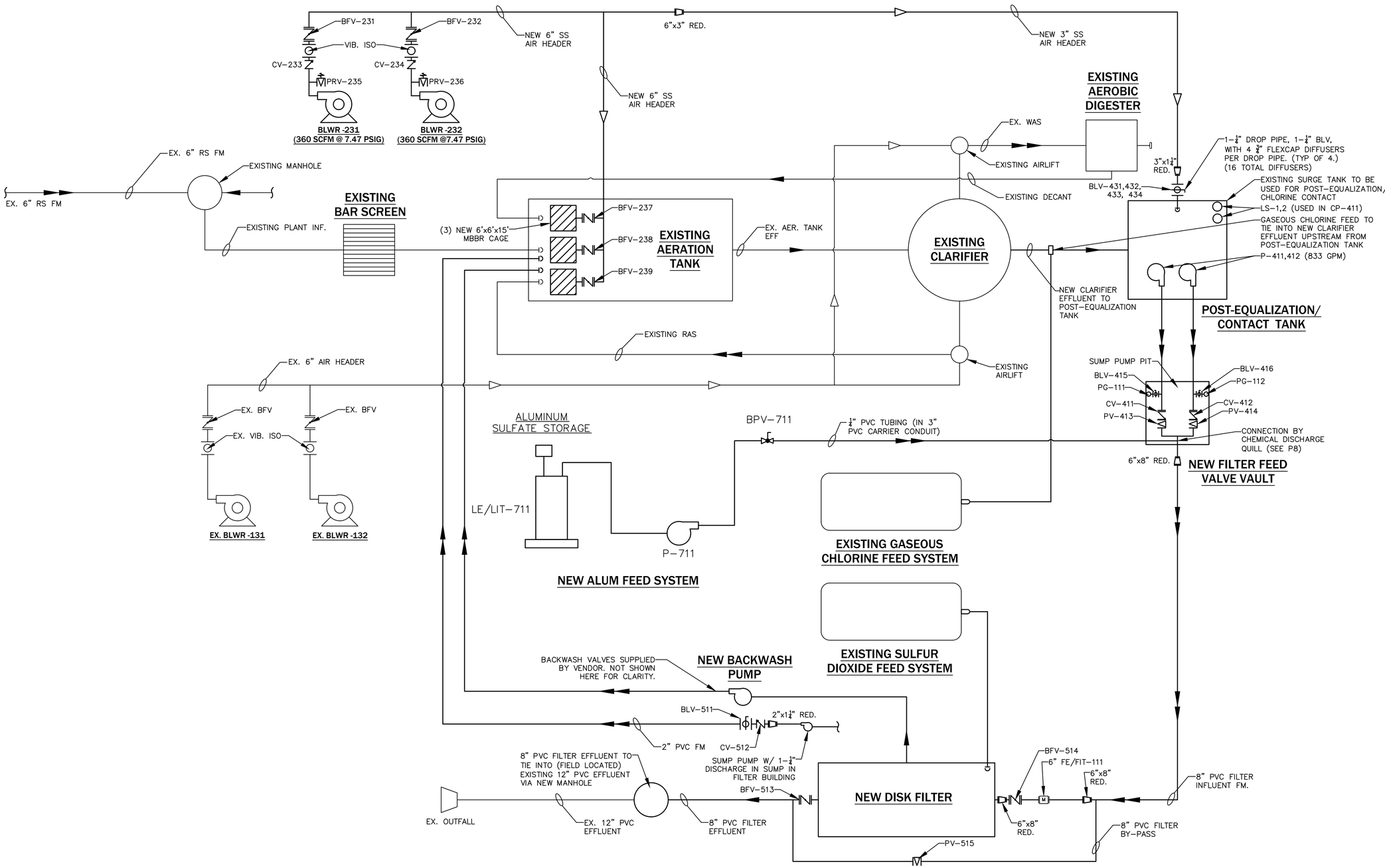
DOSAGE: 50 MG/L
DENSITY: 11.14 LB/GAL
AVERAGE FEED PUMPING RATE: 18.3 GPD
MAXIMUM FEED PUMPING RATE: 27.5 GPD

POST-EQUALIZATION PUMPS

P-411,412:
MODEL: ZOELLER 841 GRINDER PUMP
TDH: 23'
GPM: 833 GPM

CCT/POST-AERATION *

VOLUME: 25,000 GAL.
HRT @ PHF (EQUALIZAED): 30 MIN
THE TANK WILL HAVE 15 3/8" FLEXCAP DIFFUSERS TO ACHIEVE COMPLETE MIXING TO PROVIDE EFFECTIVE CONTACT TIME FOR DISINFECTION
AIR FLOW RATE: 15 SCFM/1,000 CF
SCFM PROVIDED: 50 SCFM




| BY | DATE | REVISION |
|---|---|---|
| A | 2/23/2022 | PERMIT SET |


21 DESIGN GROUP INC.
1351 Jefferson, Suite 301
Washington, MO 63090
mail@21designgroup.net
P: 636-432-3029


PROCESS FLOW DIAGRAM

DELAPLAIN DISPOSAL WWTF
W YUSEN DRIVE
SCOTT, KENTUCKY

ENGINEERING CERTIFICATE OF AUTHORITY NO. 4804
ENGINEERING LICENSE:
BENJAMIN J. KUENZEL, PE33718

STATE OF KENTUCKY · BENJAMIN J. KUENZEL · 33718 · LICENSED PROFESSIONAL ENGINEER

| | |
|---|---|
| SEAL DATE: | 2/23/2022 |
| DRAWN BY: | KAR |
| PROJ NUMBER: | 542-21 |
| DATE: | 2/23/2022 |
| DRAWING NO: | P1 |

# Section B – Summary of Design Criteria

1351 Jefferson St., Suite 301
Washington, MO 63090

636-432-5029

MBBR Design Criteria
Delaplain
February 8, 2022

| | | | |
|---|---|---|---|
| | **Plant Influent Characteristics** | | |
| 1 | Annual Average Daily Flow | 240,000 | gpd |
| 2 | Maximum Monthly Average Daily Flow | 360,000 | gpd |
| 3 | Peak Daily Flow | 720,000 | gpd |
| 4 | Peak Hourly Flow (w/out Equalization) | 1,200,000 | gpd |
| 5 | Influent BOD | 225 | mg/L |
| 6 | Influent BOD | 675.5 | lbs/day |
| 7 | Influent TSS | 225 | mg/L |
| 8 | Influent TSS | 675.5 | lbs/day |
| 9 | Influent NH3-N | 35 | mg/L |
| 10 | Influent NH3-N | 105.1 | lbs/day |
| 11 | Influent TKN | 40 | mg/L |
| 12 | Influent TKN | 120.1 | lbs/day |
| 13 | Influent pH | 7 | |
| 14 | Water Temperature | 12 | deg-C |
| | **Roughing MBBR Influent Characteristics** | | |
| 15 | Annual Average Daily Flow | 240,000 | gpd |
| 16 | Maximum Monthly Average Daily Flow | 360,000 | gpd |
| 17 | Peak Daily Flow (w/Equalization) | 720,000 | gpd |
| 18 | Peak Hourly Flow (w/Equalization) | 1,200,000 | gpd |
| 19 | Influent BOD | 225 | mg/L |
| 20 | Influent BOD | 675.9 | lbs/day |
| 21 | Influent TSS | 225 | mg/L |
| 22 | Influent NH3-N | 35 | mg/L |
| 23 | Influent TKN | 40 | mg/L |
| 24 | Design Influent TKN | 40 | mg/L |
| 25 | Influent pH | 7 | |
| 26 | MBBR Effluent Water Temperature | 10 | deg-C |
| | **Roughing MBBR Sizing Summary** | | |
| 27 | No. of Tanks Cages Proposed | 3 | |
| 28 | Length of Each | 6.0 | ft |
| 29 | Width of Each | 6.0 | ft |
| 30 | Side Water Depth of Each | 15.0 | ft |
| 31 | Tank Height of Each | 16.5 | ft |
| 32 | Volume of Each | 4,039 | gallons |
| 33 | Volume Total | 12,118 | gallons |
| 34 | Hydraulic Retention Time at Annual Average Flow | 1.21 | hours |
| 35 | Hydraulic Retention Time at Maximum Monthly Average Flow | 0.81 | hours |
| 36 | Hydraulic Retention Time at Peak Daily Flow | 0.24 | hours |
| 37 | Total Media Surface Area Requirement | 13,486 | $m^2$ |
| 38 | Total Media Surface Area Proposed | 15,207 | $m^2$ |

| | | | |
|---|---|---|---|
| | **MBBR Aeration** | **Stage 1** | |
| 39 | Target BOD Effluent (70% Removal) | 68 | mg/L |
| 40 | AOR (lbs/day) | 520 | lbs/day |
| 41 | Assumed Diffuser Subm. at AWL (ft.) | 14.25 | ft |
| 42 | Elevation (ft.) | 880 | ft |
| 43 | Alpha | 0.70 | |
| 44 | Beta | 0.9 | |
| 45 | Target DO Residual (MBBR Process) (mg/L) | 3.0 | mg/L |
| 46 | SOR (lbs/day) | 1,226 | lbs/day |
| 47 | Target Diffuser Efficiency/ft. Submergence | 1.1 | % |
| 48 | **Airflow Required for MBBR Aeration (scfm)** | **310** | **scfm** |
| 49 | Airflow per 1,000 scfm | 192 | scfm/1,000 cf |
| 50 | No. of Blowers | 2 | (Shared) |
| 51 | Type of Blower | Centrifugal | |
| 52 | Discharge Pressure | 7.47 | psig |
| | **Extended Aeration** | | |
| 53 | Target BOD Effluent | 5 | mg/L |
| 54 | Target NH3-N Effluent | 1.5 | mg/L |
| 55 | AOR (lbs/day) | 714 | lbs/day |
| 56 | Assumed Diffuser Subm. at AWL (ft.) | 14.25 | ft |
| 57 | Elevation (ft.) | 880 | ft |
| 58 | Alpha | 0.70 | |
| 59 | Beta | 0.9 | |
| 60 | Target DO Residual (Ex. Aeration Process) (mg/L) | 2.00 | mg/L |
| 61 | SOR (lbs/day) | 1,464 | lbs/day |
| 62 | Target Diffuser Efficiency/ft. Submergence | 1.10 | % |
| 63 | **Airflow Required for Extended Aeration (scfm)** | **371** | **scfm** |
| 64 | No. of Blowers | 2 | (Shared) |
| 65 | Type of Blower | Centrifugal | |
| 66 | Discharge Pressure | 7.47 | psig |
| | **Blower Requirement Summary** | | |
| 67 | Airflow Required for MBBR Aeration (scfm) | 310 | scfm |
| 68 | Airflow Required for Extended Aeration (scfm) | 371 | scfm |
| 69 | **Airflow Required for RAS/WAS Airlifts (scfm)** | **60** | **scfm** |
| 70 | **Airflow Required for Post-Aeration (scfm)** | **50** | **scfm** |
| 71 | **Total SCFM Required** | **791** | **scfm** |
| 72 | Assumed Overall Efficiency | 0.65 | |
| 73 | Estimated BHP Required (Total): | 38.5 | bhp |
| 74 | Existing NPHP | 50 | bhp |
| 75 | No. of Existing Blowers | 2 | (Shared) |
| 76 | Type of Blower | Centrifugal | |
| 77 | Discharge Pressure | 7.47 | psig |

| | | | |
|---|---|---|---|
| | **Existing Tank Sizing Summary** | | |
| 78 | Aeration Zone | | |
| 79 | Zone Surface Area | 2765.0 | sf |
| 80 | Zone Max Depth | 15.0 | ft |
| 81 | Zone Volume | 310,233 | gal |
| 82 | HRT at Max Month Daily Flow | 20.68 | hr |
| 83 | HRT at Peak Hourly Flow | 6.20 | hr |
| 82 | Post-Equalization/Chlorine Contact | | |
| 83 | Zone Surface Area | 732.0 | sf |
| 84 | Zone Max Depth | 15.0 | ft |
| 85 | Zone Max Volume | 82,130 | gal |
| 86 | Zone Min Depth (For Chlorine Disinfection) | 4.6 | ft |
| 87 | Zone Min Volume (For Chlorine Disinfection) | 25,000 | gal |
| 88 | Max Depth HRT at Max Month Daily Flow | 5.5 | hr |
| 89 | Max Depth HRT at Peak Hourly Flow | 98.6 | min |
| 90 | Min Depth HRT at Max Month Daily Flow | 1.7 | hr |
| 91 | Min Depth HRT at Peak Hourly Flow | 30.0 | min |
| 92 | Airflow Required for Post-Aeration | 15.0 | scfm/1,000 cf |
| 93 | Total SCFM Required for Post-Aeration | 50.1 | scfm |
| | **Aluminum Sulfate Dosing** | | |
| 94 | Coagulant | Aluminum Sulfate | |
| 95 | Dosage | 50.0 | mg/L |
| 96 | Polymer Density | 11.14 | lb/gal |
| 97 | Percent Solution | 49.0% | |
| 98 | Average Polymer Feed Pumping Rate: | 18.3 | gpd |
| 99 | Maximum Polymer Feed Pumping Rate: | 27.5 | gpd |
| 100 | Feed Pump Type | Peristaltic | |
| 101 | 275-Gal Container Storage at Average Conditions | 15.0 | days |
| 102 | 275-Gal Container Storage at Maximum Conditions | 10.0 | days |
| | **Mini Disk Filter** | | |
| 103 | Filter Model | 10 Disk AquaDisk | |
| 104 | Max Flow Rating | 1.0 | MGD |
| 105 | Filter Surface Area | 130.0 | sf |
| 106 | Surface Area Loading Rate at Peak Pumping Rate | 6.42 | gpm/sf |
| 107 | Effluent TSS Target | 10.0 | mg/L |
| 108 | Filter Size | 10.0 | microns |
| 109 | Backwash Pump Model | Gorman Rupp 12B20-B | |
| 110 | Backwash Flow | 130.0 | gpm |
| 111 | Backwash Pump TDH | 12.0 | ft |
| | **Effluent Parameters** | | |
| 109 | Effluent SBOD (Design Target) | 5 | mg/L |
| 110 | Effluent SBOD (Design Target) | 15.0 | lbs/day |
| 111 | Effluent NH3-N | 1.5 | mg/L |
| 112 | Effluent NH3-N | 4.5 | lbs/day |
| 113 | Effluent TSS | 30 | mg/L |
| 114 | Effluent TSS | 90.1 | lbs/day |
| 115 | E. Coli | 130/240 | mpn/100 mL |

# The Development of the Moving Bed Biofilm Process – From Idea to Commercial Product

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**Abstract**
The development of a new biofilm reactor for wastewater treatment, the Kaldnes moving bed biofilm reactor is described. Examples of results from different applications of this reactor (carbonaceous removal, nitrification and nitrogen removal), when used on municipal wastewater, are discussed. It is demonstrated that use of the reactor results in very compact treatment plants when combined with various biosludge separation methods.

**Keywords :** Wastewater, biological treatment, biofilm reactor

## INTRODUCTION AND HISTORY

The development of the "moving bed biofilm process" is an example of fruitful co-operation between university (Norwegian University of Science and Technology – NTNU) and industry (the Norwegian company Kaldnes Miljøteknologi A/S – KMT). In this paper the process is explained and examples of results obtained with the process as viewed from the Norwegian perspective will be given. KMT is now owned by Anglian Water in UK and Anglian Water has brought the development further, still in close co-operation with the water treatment research group at NTNU/SINTEF.

Norway has a very short history in wastewater treatment. Effectively it started around 1970, even though there were some plants built earlier by foreigners. The Ministry of Environment was instituted in 1972 and the State Pollution Control Agency in 1973. That same year courses in wastewater treatment on an advanced level were given for the first time at NTNU. The major challenge for Norway at the time, was to prevent eutrophication in the lakes and the fjords by phosphate removal from wastewater. It was soon realised that chemical treatment was very favourable in the Norwegian wastewater, both with respect to efficiency and cost, and chemical treatment became the favoured treatment method for most of the larger plants while biological/chemical treatment dominated among the smaller ones. Amongst the latter, biofilm processes, especially based on rotating biological contactors (RBC's), were used in a large number of plants.

The combination of a biofilm process directly followed by chemical treatment resulted in compact plants with good efficiency, both with respect to phosphorous, organic matter and suspended matter, the three parameters that normally had to be complied with. When, in the late eighties, one started to talk about extended removal of oxygen consuming matter as well as nitrogen, it was only natural that the experiences from the smaller plants based on biofilm processes and chemical treatment were focused also for the larger plants. Wastewater treatment plants in Norway are normally covered, either by industrial-like buildings or placed inside a rock cavern (most commonly used for the larger plants). This makes compactness of the plants an important issue, both from an investment (less rock blasting) and an operation (less heating and ventilation) point of view.

As a consequence of this situation, the university research group focused on biofilm processes in combination with chemical treatment. When several mechanical failures were reported among the RBC-plants, the research group started to work on aerated, submerged fixed biofilters (Rusten and Ødegaard, 1986) and some plants were built. One difficulty with these plants was to distribute the air evenly over the biofilter in order to ensure good oxygen transfer and avoid clogging.

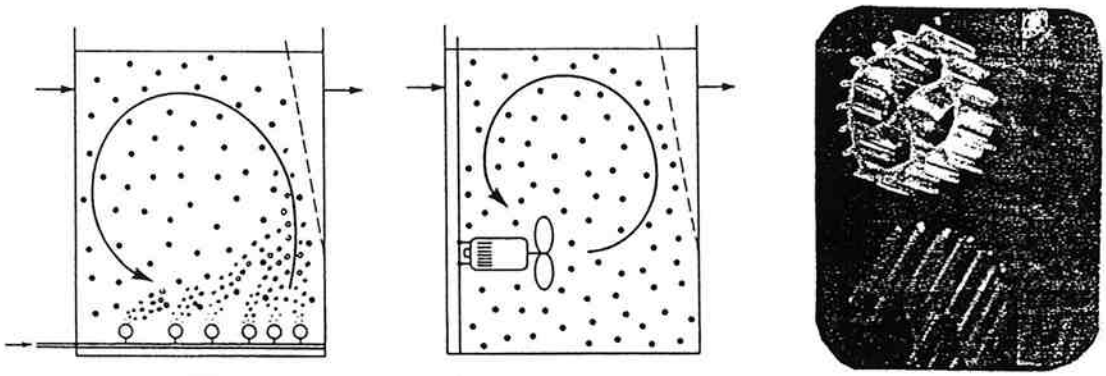
Experiments were started, therefore, with a reactor in which the biofilm carrier was suspended in the reactor and moving caused by the agitation set up by the aeration. At this stage, the university research group was contacted by a Norwegian company (Kaldnes) that was in a process of changing from ship-building to other business areas, among them environmental technology. From the research group point of view this was a very welcome opportunity for having our research funded and we embarked on a development project in co-operation with the Norwegian Research Council (NFR) and Kaldnes. The company Kaldnes Miljøteknologi A/S (KMT) was founded on the basis of the process that was developed – the moving bed biofilm process - that was patented by KMT (Eur. pat. no. 0575314, US pat. no. 5,458,779).

This was at the time (1988/89) when agreements were made amongst the North Sea states to reduce nitrogen discharges to North Sea coastal waters. As a consequence a Norwegian research programme, financed by NFR and the Norwegian State Pollution Control Agency (SFT), was initiated. The funding institutions supported the idea that the experimental research of the programme was to be focused around the proposed moving bed process, and chemical treatment. The development of the moving bed biofilm process had a considerable national support, therefore, both from the research funding bodies (NFR), the authorities (SFT), the industry (KMT) and the research institutions (NTNU/SINTEF).

At the present time there are 60 treatment plants in operation or under construction based on this process in 16 different countries all over the world. They are used for many different purposes for municipal as well as industrial wastewater treatment, like organic matter removal, nitrification and nitrogen removal. In this paper we shall focus on the municipal applications.

## DESCRIPTION OF THE MOVING BED BIOFILM REACTOR (MBBR)

The idea behind the moving bed biofilm process was to adopt the best from both the activated sludge process and the biofilter processes without including the worst. The aerated moving bed biofilm reactor utilises, as the activated sludge process, the whole volume of an open tank. It is a biofilm process, however, because the biomass is growing on carriers that move freely in the reactor volume and that are kept within the reactor volume by a sieve arrangement at the reactor outlet. Since no sludge recirculation takes place, only the surplus biomass has to be separated - as in other biofilm processes- a considerable advantage over the activated sludge process. The reactor may be used for aerobic, anoxic or anaerobic processes, see Figure 1.



a. Aerobic reactor b. Anoxic reactor c. The biofilm carrier

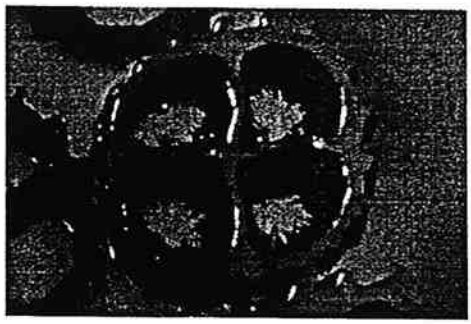
Fig. 1. The principle of the moving bed biofilm reactor and the shape of the biofilm carrier

In aerobic processes biofilm carrier movement is caused by the agitation set up by the air, while in anoxic and anaerobic processes a mixer (normally a horizontal shaft mounted banana mixer) keeps the carriers moving. In the aerobic reactors a special coarse bubble aeration system has been developed. The carriers are kept within the reactor by an outlet sieve. Most of the plants are designed with vertically mounted, rectangular sieves, but in some later plants cylindrically shaped sieves, vertically or horizontally mounted, have been tried out. The biofilm carrier (K1) is made of high density polyethylene (density 0,95 g/cm$^3$) and shaped as a small cylinder with a cross on the inside of the cylinder and "fins" on the outside. The cylinder has a length of 7 mm, and a diameter of 10 mm (not including fins) (see Figure 1c ). Lately one has been experimenting with a larger carrier (K2) of similar shape (length and diameter about 15 mm), intended for use in plants with coarse inlet sieves.

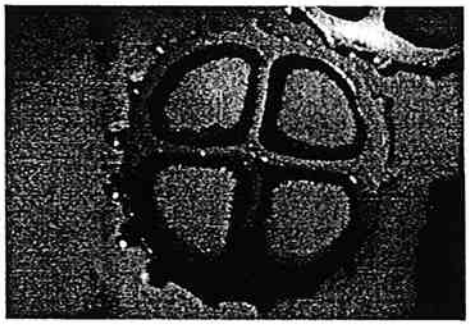
One of the important advantages of the reactor is that the filling of carrier in the reactor may be subject to preferences. The standard filling degree is 67 %, resulting in a specific effective, carrier surface area of 335 m$^2$/m$^3$ using the K1 carrier. In order to be able to move the carrier suspension freely it is recommended that filling degrees should be below 70 % (corresponding to 350 m$^2$/m$^3$). One may, however, use as much as needed below this, which is convenient, especially when upgrading plants – for instance from activated sludge to moving bed reactors.

As in every biofilm process, diffusion of compounds in to and out of the biofilm plays a key role. Because of the importance of diffusion, the thickness of the effective biofilm (the depth of the biofilm to which the substrates have penetrated) is significant. Since this depth of full substrate penetration is normally less than 100 μm, the ideal biofilm in the moving bed process is thin and evenly distributed over the surface of the carrier. In order to obtain this, the turbulence in the reactor is of importance, both in order to transport the substrates to the biofilm and to maintain a low thickness of the biofilm by shearing forces. Various investigations have shown that the typical biomass concentration when calculated on reactor volume, is in the order of 3-4 kg SS/$m^3$, about the same as in activated sludge reactors. Since the volumetric removal rate is several times higher in the moving bed process, this can only mean that the biomass of this process is much more viable.

In cases where the turbulence has been too low, shearing of the biofilm has been inadequate and more biomass than wanted may establish itself in voids of the carrier, thus restricting free passage of water and substrates to the biofilm (see Figure 2 a). When the turbulence is adequate (either caused by aeration or mixing), the biofilm is thin and smoothly covering the inside area of the cylindrical carrier (see Figure 2 b).



a. Thick, fluffy biomass (not preferred)



b. Thin dense biofilm (preferred)

Fig. 2 Examples of biofilm growths on KMT biofilm carriers

As demonstrated in Figure 2, much less biomass is growing on the outside of the carriers than on the inside. This is probably caused by the erosion taking place when carriers are colliding. In order to improve growth on the outside, the carriers are fitted with longitudinal fins on the outside of the carrier cylinder, resulting in some, however, moderate growth on the outside. Because of this phenomenon, the effective carrier area is calculated to be only about 70 % of the total area.

The rate expression normally used in biofilm processes is based on biofilm carrier area ($g/m^2d$). Because of some uncertainty with respect to how much of the available carrier area that is in fact covered by biofilm and because of easy rate comparison with other biofilters, the volumetric rates ($g/m^3_{\text{reactor volume}}d$) have often been used for the moving bed process.

## THE MOVING BED BIOFILM PROCESSES

The process has been used for many different applications. It was developed at the time when nitrogen removal was in focus and most of the scientific data has been gathered from this application. Later, however, organic matter removal has been more focused, including high-rate pre-treatment for upgrading of activated sludge plants. At the time research is being conducted in order to evaluate the process for biological phosphate removal. The process has been used both for municipal wastewater and industrial wastewater (mainly foodstuff industries and pulp and paper industries). Here we shall focus on municipal wastewater.

In Figure 3 some common flow diagrams for different applications are presented and we shall use these diagrams as the basis for discussing results and experiences with the process so far. Pre-settling is normally used as pre-treatment before the moving bed process primarily to avoid clogging of the bio-reactor sieves. Pre-settling is not a prerequisite, however, but very often useful because it adds flexibility, for instance by allowing pre-coagulation. As mentioned above a new larger carrier is now being introduced allowing larger bio-reactor sieve openings and no pre-settling tank.

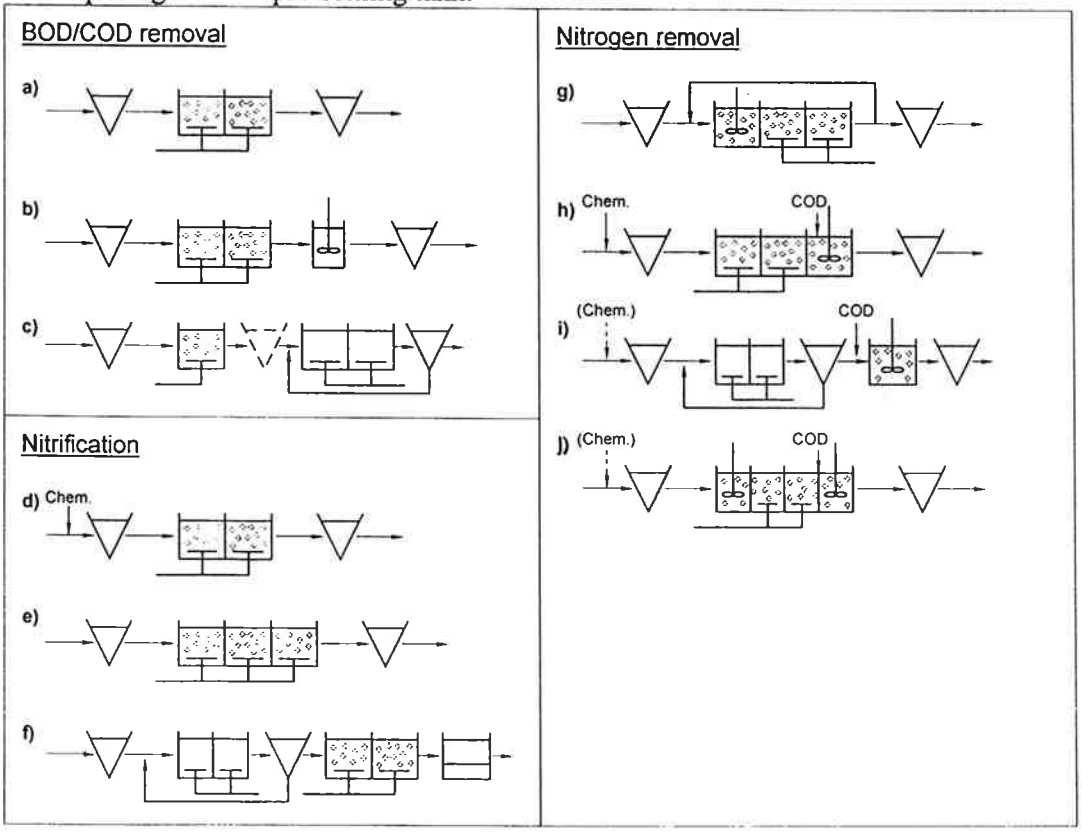



Fig. 3 Typical moving bed biofilm process flow diagrams for different applications

## SECONDARY TREATMENT

**BOD/COD removal only (see Figure 3a)**

For secondary treatment only, the process has normally been designed for a volumetric loading of 4-5 kg $BOD_7/m^3d$ at 67 % carrier filling (335 $m^2/m^3$) and 15°C. This is corresponding to a loading based on area of 12-15 g $BOD_7/m^2d$, which is in the same range for which RBC-processes have been designed for the same purpose. In Scandinavia we do not have many of these plants since phosphate removal is always required. We have, however, evaluated the process for high-rate BOD/COD-removal.

Because of the compactness of the process, the residence time in KMT-reactors for carbonaceous matter removal will be quite low (30-90 minutes) depending on the organic load and the strength of the wastewater. Biodegradable, soluble organic matter is quickly degraded. Particulate organic matter is partly caught by the irregularities of the attached biomass, hydrolysed and degraded, and partly it passes more or less unchanged through the reactor. In order to evaluate degradation of organic matter independent of the biomass separation step, one may look at the removal rate of soluble COD. This does not, however, give the true picture since biodegradable, soluble organic matter is produced in the process by hydrolysis. An alternative is to evaluate the so-called "obtainable" removal rate, meaning the removal rate of total COD at 100 % biomass separation. Figure 4 shows results from an evaluation of these relationships over a broad range of organic loadings related to effective surface area.

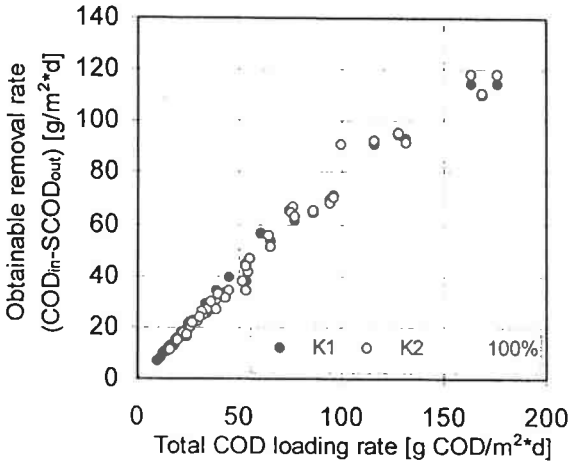



Fig 4a. Soluble COD removal rate versus soluble COD loading rate

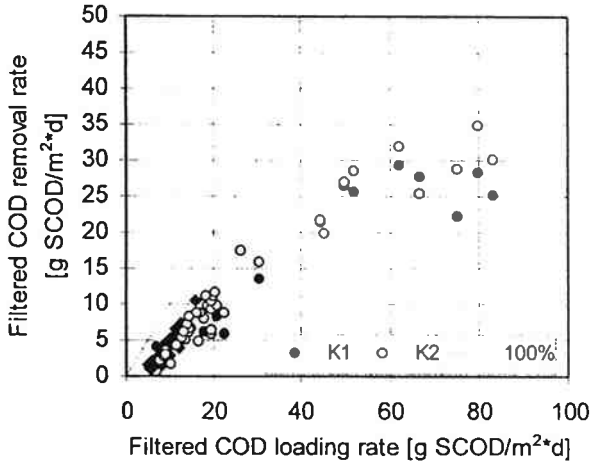



Fig 4b "Obtainable" COD removal rate versus total COD loading rate

It is demonstrated that the normally used design load (around 20 g $COD/m^2d$) is conservative, and that a much higher design load may be used when an efficient biomass separation method is employed. In highly loaded plants, clarification of the biomass does, however, represent a problem.

The key to solving this problem is biomass flocculation, for instance by adding coagulants (metal salts or cationic polymers) or by using the solids contact process proposed by Norris et al (1982). Research on this is currently being performed.

**BOD/COD removal in combination with P-removal (see Figure 3b)**
In Scandinavian plants, where phosphate removal is required, chemicals are normally added to the water just after it has left the moving bed reactor and ahead of the flocculation/step (see Figure 3b). This ensures good particle separation. Treatment results from 1996 and 1997 are given in Table 1. In this period the organic loading rate has varied in the range of 2-15 g $BOD_7/m^2d$ with typical values around 3-5 g $BOD_7/m^2d$ in the Steinsholt plant while the Eidsfoss plant has been very low loaded, typically in the range of 1-2 g $BOD_7/m^2d$.

**Table 1 Treatment results from two Norwegian plants for organic matter and P-removal**

| Parameter | Steinsholt treatment plant | | | Eidsfoss treatment plant | | |
|---|---|---|---|---|---|---|
| | In, mg/l | Out, mg/l | % removal | In, mg/l | Out, mg/l | % removal |
| BOD – ave | 398 | 10 | 97,4 | 77[1] (LOC) | 6,3[1] (LOC) | 91,8[1] (LOC) |
| max | 1720 | 38 | 99,7 | 182 | 9,8 | 94,4 |
| min | 120 | 5 | 93,5 | 32 | 4,2 | 83,6 |
| COD – ave | 833 | 46 | 94,4 | - | - | - |
| max | 2760 | 130 | 98,4 | | | |
| min | 190 | 30 | 83,2 | | | |
| Tot P – ave | 7,1 | 0,30 | 95,8 | 9,8 | 0,17 | 98,2 |
| max | 12,0 | 0,72 | 98,8 | 27,5 | 0,94 | 99,8 |
| min | 4,0 | 0,12 | 92.6 | 4,4 | 0,03 | 88,3 |
| SS - ave | - | 21 | - | - | 11 | - |
| max | | 30 | | | 27 | |
| min | | 8 | | | 5 | |

[1] These values are based on soluble organic carbon (LOC)

**High-rate pre-treatment for upgrading of activated sludge plants (see Figure 3c)**
The very high COD removal rates that can be obtained at high loading rates, demonstrated in Figure 4, indicate that the process may be of special interest for high rate treatment plants. For instance it may be used as the first carbonaceous removal step in a two-step process with activated sludge for upgrading purposes. In such a case, the moving bed reactor may be placed directly in front of the activated sludge plant without any intermediate step, or it may include a separation step after the moving bed reactor (see Figure 3c).

The benefit of having an intermediate separation step is that the sludge production in the moving bed process will not influence (reduce) the sludge age of the activated sludge process. The benefit of not having an intermediate separation step, in addition to avoiding investment costs for this step, is that the separation properties of the activated sludge may be improved. An example of this application is the MBBR-solids contact process used at the Western and Moa Point plant in Wellington, New Zealand. Results from pilot testing are shown in Figure 6.

On a biomass basis the organic load on the MBBR was 2,2 kg $BOD_5$/kg TS*d at both loading situations, but the carrier filling was lower in Figure b. Thus it is demonstrated that the organic load per biofilm surface in the MBBR was the most important parameter.

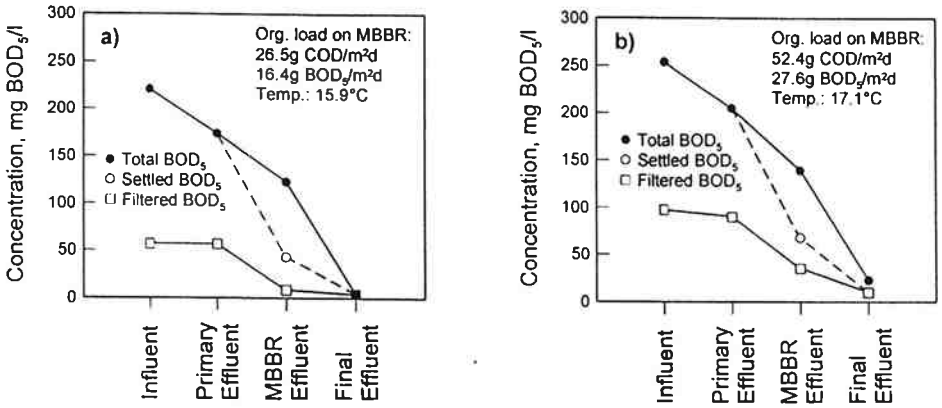



Fig 6 Treatment results from pilot testing of the MBBR solids-contact process with (a) a medium high and a (b) high organic load on the MBBR (Rusten et al, 1996)

## NITRIFICATION

The moving bed biofilm process has very favourably been used for nitrification (Hem et al, 1994, Ødegaard et al, 1994 and Rusten et al, 1995a), with either chemical coagulation or biological carbonaceous removal as pre-treatment. Three factors, the load of organic matter, the ammonium concentration and the oxygen concentration primarily determine the nitrification rate. The influence of these parameters is schematically shown in Figure 7.

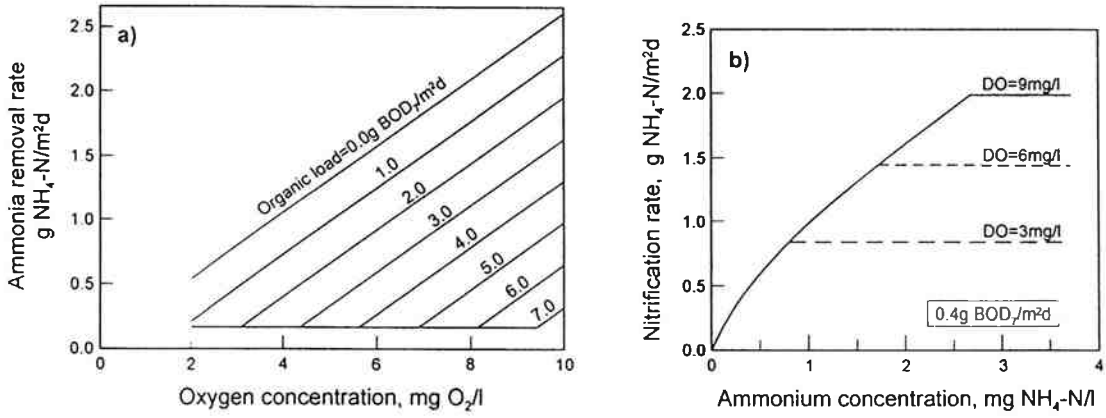


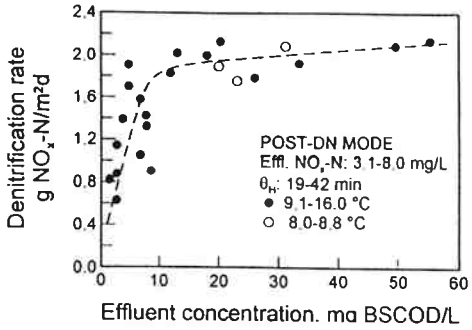

Fig. 7 Influence of $BOD_7$, oxygen and ammonium on nitrification rate

Figure 7a demonstrates that the organic load is a key factor and should be as low as possible. At loading over about 4 g $BOD_7/m^2d$, high oxygen concentrations (> 6 mg $O_2$/l) is required in order for nitrification to take place. As shown in Figure 7b, the ammonium concentration is only limiting the nitrification rate at low ammonium concentrations (< 3 mg $NH_4$-N/l). Far more important is the influence of oxygen concentration that may limit the nitrification rate even at high oxygen concentrations. It is experienced (Ødegaard et al, 1994) that oxygen levels above 2-3 mg $O_2$/l is needed in order to be able to nitrify at all, and that the nitrification rate is close to linearly dependent upon the oxygen concentration, up to more than 10 mg $O_2$/l. As long as the ammonium concentration is higher than 3-4 mg $NH_4$-N/l, the oxygen concentration and the organic load primarily govern the nitrification rate.

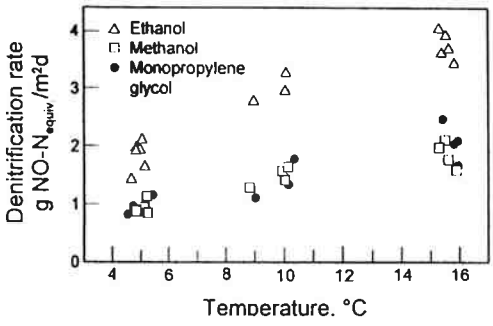
Three different flow schemes are given in Figure 3d.and f. In Figure 3e nitrification takes place directly after organic matter removal without any intermediate separation step. In contrast to an activated sludge system, the heterotrophs will dominate in the start of the process (first reactor) and the nitrifiers in the end of the process (last reactor). This makes it possible to optimise each of the processes independent of the other. In Figure 3d is shown a process scheme frequently used in Scandinavia, where coagulation is used as pre-treatment, removing phosphate as well as particulate and colloidal organic matter. In this case the load of particles (biomass) on the nitrifying reactors will be less than in the process of Figure 3e resulting in higher nitrification rates. In Figure 3f is shown a system where the nitrification reactors are placed after a conventional activated sludge plant ensuring that no biodegradable organic matter is limiting the nitrification rate of the KMT reactor. The sludge production in the nitrifying step will be so low, that in many instances, biomass separation will not be needed. In plants with a stringent effluent standard, direct filtration will be an option.

## NITROGEN REMOVAL

Nitrogen removal in moving bed biofilm plants may be achieved by several process combinations, for instance pre-denitrification (Figure 3g), post-denitrification (Figure 3h and 3i) or a combination of the two – the so-called combined denitrification process (Figure 2j). The denitrification rate may be limited by the nitrate concentration, the biodegradable organic matter concentration or by the oxygen concentration (or rather the presence of oxygen). At $NO_3$-N concentrations above about 3 mg $NO_3$-N/l, the denitrification removal rate will be completely governed by the type and availability of easily biodegradable carbon source. If oxygen is supplied to the reactor with the inlet water or recirculated water, biodegradable organic matter will be consumed for oxygen respiration and thus reduce the available amount for denitrification. The limitations connected to the pre-denitrification process (Figure 3g) are that oxygen-rich water from the nitrification step will have to be returned to the pre-denitrification step. The raw water carbon source is very often not sufficient, and the denitrification rate in pre-denitrification systems will normally be limited by the carbon source availability and consequently be rather low. In post-denitrification systems, one has to add carbon source and since this will be easily biodegradable, a very high denitrification rate may be expected. Examples are given in Figure 8.




a. DN-rate versus biodegradable, soluble COD concentration (Rusten et al, 1995a)




b. DN-rates versus temperature with different carbon sources (Rusten et al, 1996b)

Fig. 8 Examples of denitrification rates determined in pilot plant reactors

The post-denitrification mode has several advantages over the pre-denitrification mode. It may lead to considerably lower total bioreactor volumes (40-50 %) and it gives much better process control. The major drawback with the post-denitrification process, is the need for carbon source addition. In order to minimise the use of carbon source, the flow scheme of Figure 3j - combined denitrification - has been preferred in several Norwegian plants. The combination process offers greater flexibility with respect to operation of the plant. In periods when the organic load is high or the water is very cold, one may reduce the organic load by using pre-coagulation. The organic matter in the coagulated wastewater will partly consist of low molecular weight, easily biodegradable organic matter (20-40 mg BSCOD/l), that has the capacity to denitrify a certain amount of nitrate (4-8 mg/l). This is brought to the pre-denitrification step by a moderate recirculation flow (0,25-0,5 times Q) thus minimising oxygen recirculation. The rest of the nitrate is removed in the post-DN step where the measured effluent nitrate concentration controls the carbon source addition.

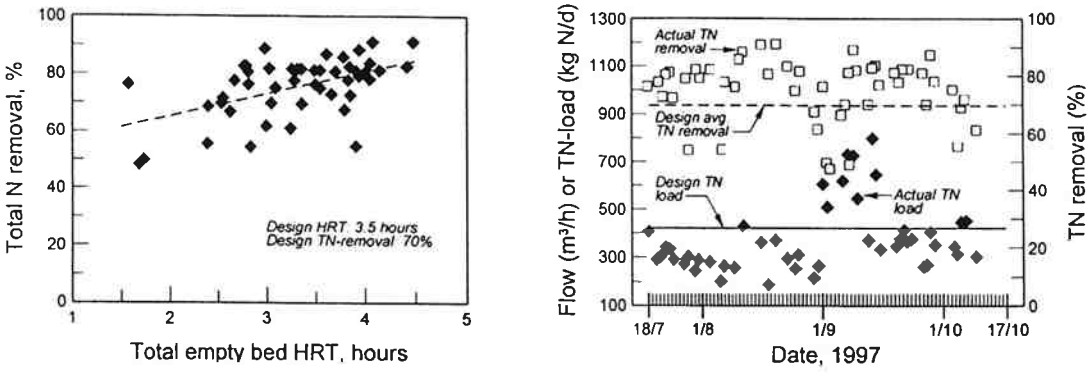
In Table 1 are shown results from the Lillehammer treatment plant in Norway. At maximum design load this plant is supposed to operate with pre-coagulation. At the present loading situation, pre-coagulation is not needed, however. As a test procedure, only one of the two trains was operated this summer resulting in loadings close to or above the design load.

**Table 1 Tot N removal at Lillehammer treatment plant at design load (July-Oct 97)**
(Plant operated in post-denitrification mode without pre-coagulation)

| | Bioreactor residence time (hrs) | Influent Tot N conc. Mg N/l | Effluent Tot N conc. mg N/l | Removal % | Ethanol consumpt. kg /kg $N_{rem}$ | Temp-erature °C |
|---|---|---|---|---|---|---|
| Average | 3,3 | 27 | 6,0 | 76 | 1,48 (3,1)[1] | 13,7 |
| Minimum | 1,6 | 16 | 2,9 | 48 | 0,55 (1,2)[1] | 11,6 |
| Maximun | 4,5 | 48 | 12,7 | 91 | 2,58 (5,4)[1] | 15,7 |

[1] kg COD/kg $N_{removed}$

In Figure 9a is the total N removal efficiency for each day in the period plotted versus total bioreactor residence time. The day to day removal of total N is shown in Figure 9b, together with actual flow, actual total N load and the corresponding design values.




a. Treatment efficiency versus total bioreactor time (based on empty reactor)

b. Day to day removal efficiency of tot N residence at actual load compared to design load

Fig 9 Treatment results from the Lillehammer treatment plant at and above design load, when operated in the post-denitrification mode without pre-coagulation

In Table 2 are shown treatment results from the same plant, now operated as in combined denitrification mode without pre-coagulation and at only 60 % of the design load but at very low temperatures. The results from the Lillehammer plant demonstrate the great flexibility of the combination process, making this a very favourable alternative in wastewater situations frequently encountered in Scandinavia, with great variations in temperature and wastewater characteristics (e.g. availability of easily biodegradable carbon source).

**Table 2 Treatment results from the Lillehammer plant when operated in the combination-DN mode at very low temperatures.**

| | Temp-erature, °C | Average influent inorg. N conc. mg N/l | Average effluent inorg. N conc. mg N/l | Removal inorg. N % | Fraction of denitrification in pre-DN, % |
|---|---|---|---|---|---|
| Average | 6,3 | 17,2 | 3,1 | 92,0 | 16 |
| Minimum | 6,0 | 16,1 | 2,2 | 74,5 | 15 |
| Maximum | 6,5 | 17,7 | 4,1 | 87,6 | 17 |

## DESIGN VALUES

Table 3 gives typical design values for the different processes. Each case has to be evaluated based on local circumstances and the data in Table 3 are given for illustration purposes only.

**Table 3. Typical design values for KMT reactors at 15 °C**

| Purpose | Treatment ambition % removal | Design loading rate, $g/m^2d$ | Design loading rate $kg/m^3d$ at 67 % fill |
|---|---|---|---|
| **BOD-removal** | | | |
| High-rate | 75-80 ($BOD_7$) | 25 ($BOD_7$) | 8 ($BOD_7$) |
| Normal rate | 85-90 ($BOD_7$) | 15 ($BOD_7$) | 5 ($BOD_7$) |
| Low rate | 90-95 ($BOD_7$) | 7,5 ($BOD_7$) | 2,5 ($BOD_7$) |
| **Nitrification ($O_2$>5 mg/l)** | | | |
| BOD-removal stage[1] | 90-95 ($BOD_7$) | 6,0 ($BOD_7$) | 2,0 ($BOD_7$) |
| $NH_4$-N > 3 mg/l | 90 ($NH_4$-N) | 1,00 ($NH_4$-N) | 0,35 ($NH_4$-N) |
| $NH_4$-N < 3 mg/l | 90 ($NH_4$-N) | 0,45 ($NH_4$-N) | 0,15 ($NH_4$-N) |
| **Denitrification** | | | |
| Pre-DN (C/N>4)[2] | 70 ($NO_3$-N) | 0,90 ($NO_3$-N) | 0,30 ($NO_3$-N) |
| Post-DN (C/N>3)[2] | 90 ($NO_3$-N) | 2,00 ($NO_3$-N) | 0,70 ($NO_3$-N) |

[1] $O_2$> 3mg /l [2] g $BOD_7$/g $NO_3$-$N_{equiv}$

## CONCLUSIONS

The development of the Kaldnes moving bed biofilm process is an excellent example of fruitful co-operation between university and industry. The reactor has been developed from idea to a well-established process in the market within a time span of 10 years. In this paper, it has been demonstrated that the moving bed process has proven its usefulness for many applications in municipal wastewater treatment (carbonaceous removal, nitrification and nitrogen removal). The design values given result in very compact treatment plants.

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Rusten, B., McCoy, M., Proctor, R. and Siljudalen, J.G. (1996a) The innovative moving bed biofilm reactor-solids contact reaeration process for secondary treatment of municipal wastewater. Proc. WEFTEC '96, Dallas Texas, Oct 1996

Rusten, B., Wien, A. and Skjefstad, J. (1996b) Spent aircraft deicing fluid as external carbon source for denitrification of municipal wastewater: From waste problem to beneficial use. 51. Purdue Industrial Waste Conference Proc., Ann Arbor Press, Inc. Chelsea, Michigan 48118

Ødegaard, H., Rusten, B., Westrum, T. (1994) A new moving bed biofilm reactor - Applications and results". Wat.Sci.Tech. Vol. 29, No 10-11, pp 157-165

COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET
DIVISION OF ENFORCEMENT
CASE NO. DOW 20-3-0002

IN RE: River Bluffs Inc.
River Bluffs Wastewater Treatment Plant
13121 Creekview Road
Prospect, KY 40059
AI No. 3367
Activity ID No. ERF20200001

**AGREED ORDER**

* * * * * * * * * * * *

WHEREAS, the parties to this Agreed Order, the Energy and Environment Cabinet (hereinafter "Cabinet") and Bluegrass Water Utility Operating Company, LLC (hereinafter "BWUOC") state:

**STATEMENTS OF FACT**

1. The Cabinet is charged with the statutory duty of enforcing KRS Chapter 224 and the regulations promulgated pursuant thereto.

2. BWUOC is an active Kentucky Limited Liability Company in good standing that owns and operates utilities and whose principal address according to the Kentucky Secretary of State, is 1650 Des Peres Road, Suite 303, St. Louis, Missouri 63131.

3. River Bluffs Wastewater Treatment Plant (hereinafter "River Bluffs WWTP" or "facility"), is located at 13121 Creekview Road, Prospect, Kentucky 40059. The facility has a design capacity of 0.066 million gallons per day and discharges to an unnamed tributary of Pond Creek.

4. River Bluffs WWTP is currently owned and operated by River Bluffs, Inc. The facility's discharges are permitted under Kentucky Pollutant Discharge Elimination Systems

(hereinafter "KPDES") permit number KY0043150, issued by the Cabinet's Division of Water (hereinafter "DOW"). The facility's KPDES permit expires on December 31, 2024.

5. River Bluffs, Inc. is an active for-profit Kentucky corporation in good standing, according to the Kentucky Secretary of State.

6. BWUOC has indicated to the Cabinet that it plans to acquire River Bluffs WWTP, provided it receives from the Kentucky Public Service Commission ("Commission") all approvals required to make the acquisition. If the Commission approves the acquisition, BWUOC plans to assume ownership and operation of River Bluffs WWTP on or around March 31, 2020.

7. BWUOC has contracted with a third-party firm to produce an engineering memorandum detailing the status of and repairs needed at River Bluffs WWTP (Exhibit A). This report was submitted to the Cabinet on or about January 2, 2020.

8. If it receives all required Commission approvals, BWUOC has indicated to the Cabinet that it plans to make substantial repairs and/or upgrades to the facility to address the deficiencies noted in Exhibit A.

**NOW THEREFORE,** in the interest of providing corrective actions to River Bluffs WWTP, the parties hereby consent to the entry of this Agreed Order and agree as follows:

## REMEDIAL MEASURES

9. BWUOC shall notify the Cabinet in writing that it has assumed ownership and operation of River Bluffs WWTP within fifteen (15) days of acquiring the facility.

10. Within fifteen (15) days of assuming ownership and operation of the facility, BWUOC shall submit a "Change in Ownership Certification" to the Cabinet.

11. At all times, commencing with assuming ownership of the facility, BWUOC shall provide for proper operation and maintenance of the facility in accordance with 401 KAR 5:065

Section 2(1).

12. Following the initial ninety (90) days of its operation of the facility, BWUOC shall submit to the Cabinet for review and acceptance, a written Corrective Action Plan (hereinafter "CAP") to bring the facility into compliance with its KPDES permit and correct the deficiencies noted in Exhibit A. The CAP shall include, but not be limited to, an identification of actions BWUOC shall implement to ensure compliance that includes; proper operation and maintenance to its sewage treatment system, collection system, and disinfection unit. The CAP shall also include a list of all actions necessary to ensure the completion of upgrades to its facility including a list of completion dates for each action. Include in the CAP a final compliance date for completion of all remedial measures listed;

A. Upon review of the CAP, the Cabinet may, in whole or in part, (1) accept or (2) decline and provide comments to BWUOC identifying the deficiencies. Upon receipt of Cabinet comments, BWUOC shall have ninety (90) days to revise and resubmit the CAP for review and acceptance. Upon resubmittal, the Cabinet may, in whole or in part, (1) accept or (2) disapprove and provide comments to BWUOC identifying the deficiencies. Upon such resubmittal, if the CAP is disapproved, the Cabinet may deem BWUOC to be out of compliance with this Agreed Order for failure to timely submit the CAP. The parties to this Agreed Order may also agree in writing to further extend the period in which BWUOC and the Cabinet accept a revised and resubmitted CAP.

B. BWUOC may request an amendment of the accepted CAP by writing the Director of the Division of Enforcement at 300 Sower Blvd., Frankfort,

Kentucky 40601 and stating the reasons for the request. If granted, the amended CAP shall not affect any provision of this Agreed Order unless expressly provided in the amended CAP. This does not require an amendment request pursuant to paragraph 20 of this Agreed Order.

C. Upon Cabinet acceptance of all or any part of the CAP, the amended CAP or any accepted part thereof (provided that the accepted part is not dependent upon implementation of any part not yet accepted), shall be deemed incorporated into this Agreed Order as an enforceable requirement of this Agreed Order. This does not require an amendment request pursuant to paragraph 20 of this Agreed Order.

13. So long as BWUOC is in compliance with the terms and conditions of this Agreed Order, the Cabinet's Division of Enforcement agrees to hold any formal enforcement action for numeric permit parameter violations for the KPDES permit described in paragraph 4, in abeyance. Should BWUOC fail to comply with the terms and conditions of this Agreed Order, the Cabinet may seek formal enforcement action that would have otherwise been held in abeyance.

14. By the final compliance date in the accepted CAP, BWUOC shall be in full compliance with its KPDES permit.

15. All submittals required by the terms of this Agreed Order shall be submitted to: Division of Enforcement, Attention: Director, 300 Sower Blvd., Frankfort, Kentucky, 40601.

## MISCELLANEOUS PROVISIONS

16. This Agreed Order shall be of no force and effect unless BWUOC assumes ownership and operations of River Bluffs WWTP.

17. This Agreed Order addresses only the items described above. Other than the matters agreed to by entry of this Agreed Order, nothing contained herein shall be construed to waive or to limit any remedy or cause of action by the Cabinet based on statutes or regulations under its jurisdiction and BWUOC reserves its defenses thereto. The Cabinet expressly reserves its right at any time to issue administrative orders and to take any other action it deems necessary that is not inconsistent with this Agreed Order, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and BWUOC reserves its defenses thereto.

18. This Agreed Order shall not prevent the Cabinet from issuing, reissuing, renewing, modifying, revoking, suspending, denying, terminating, or reopening any permit to BWUOC. BWUOC reserves its defenses thereto, except that BWUOC shall not use this Agreed Order as a defense.

19. BWUOC waives its right to any hearing on the matters admitted herein. However, failure by BWUOC to comply strictly with any or all of the terms of this Agreed Order shall be grounds for the Cabinet to seek enforcement of this Agreed Order in Franklin Circuit Court and to pursue any other appropriate administrative or judicial action under KRS Chapter 224 and the regulations promulgated pursuant thereto.

20. The Agreed Order may not be amended except by a written order of the Cabinet's Secretary or a designee thereof. BWUOC may request an amendment by writing the Director of the Division of Enforcement at 300 Sower Blvd., Frankfort, Kentucky 40601, and stating the reasons for the request. If granted, the amended Agreed Order shall not affect any provision of this Agreed Order unless expressly provided in the amended Agreed Order.

21. The Cabinet does not, by its consent to the entry of this Agreed Order, warrant or aver in any manner that BWUOC's complete compliance with this Agreed Order will result in compliance with the provisions of KRS Chapter 224 and the regulations promulgated pursuant thereto. Notwithstanding the Cabinet's review and approval of any plans formulated pursuant to this Agreed Order, BWUOC shall remain solely responsible for compliance with the terms of KRS Chapter 224 and the regulations promulgated thereto, this Agreed Order, and any permit and compliance schedule requirements.

22. BWUOC shall give notice of this Agreed Order to any purchaser, lessee or successor in interest prior to the transfer of ownership and/or operation of any part of the facility occurring prior to termination of this Agreed Order, shall notify the Cabinet that such notice has been given, and shall follow all statutory requirements for a transfer.

23. This Agreed Order applies specifically and exclusively to the unique facilities referenced herein and is inapplicable to any other facility.

24. Compliance with this Agreed Order is not conditional on the receipt of any federal, state, or local funds.

25. This Agreed Order shall be of no force and effect unless and until it is entered by the Secretary or a designee thereof as evidenced by his or her signature thereon. If this Agreed Order contains any date by which BWUOC is to take any action or cease any activity, and the Secretary enters the Agreed Order after that date, then BWUOC is nonetheless obligated to have taken the action or ceased the activity by the date contained in this Agreed Order.

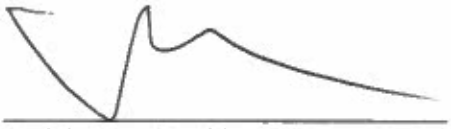
## TERMINATION

26. This Agreed Order shall terminate upon BWUOC's completion of all requirements described in this Agreed Order. BWUOC may submit written notice to the Cabinet when it believes

all requirements have been performed. The Cabinet shall notify BWUOC in writing whether it concurs that all requirements of this Agreed Order have been completed. The Cabinet reserves its right to enforce this Agreed Order, and BWUOC reserves its right to file a petition for hearing pursuant to KRS 224.10-420(2) contesting the Cabinet's determination.

**CASE NO. DOW 20-3-0002**

**AGREED TO BY:**



Josiah Cox, President
Bluegrass Water Utility Operating Company, LLC

3-26-2020
Date

**APPROVAL RECOMMENDED BY:**

Michael B. Kroeger, Director Asst. Dir.
Division of Enforcement

4/1/2020
Date

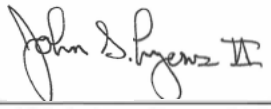
Elizabeth U. Natter, Executive Director
Office of General Counsel

August 10, 2020
Date

## ORDER

Wherefore, the foregoing Agreed Order is entered as the final Order of the Energy and Environment Cabinet this 12th day of November, 2020.

ENERGY AND ENVIRONMENT CABINET



FOR

REBECCA W. GOODMAN, SECRETARY of the ENERGY AND ENVIRONMENT CABINET

**CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the foregoing **AGREED ORDER** was mailed, postage prepaid, to the following this 12th day of November, 2020.

Bluegrass Water Utility Operating Company, LLC
Attn: Jacob Freeman
1650 Des Peres Road, Suite 303
St. Louis, MO 63131

And ~~hand~~ ~~delivered~~ ~~messenger~~ to:

Michael B. Kroeger, Director
Division of Enforcement
300 Sower Blvd.
Frankfort, Kentucky 40601

Elizabeth U. Natter, Executive Director
Office of General Counsel
Energy and Environment Cabinet
300 Sower Blvd.
Frankfort, Kentucky 40601

Dana Lowe
DOCKET COORDINATOR

Distribution:
DOW
FBT
S&H
BGD

# Exhibit A

River Bluff (Wastewater) – KY0043150
Engineering Memorandum
Date: October 5, 2019

## Wastewater Treatment Facility Understanding

The River Bluff wastewater treatment facility is located in River Bluff, KY approximately 10 miles northeast of Louisville and serves 180 customers which is approximately 540 people. During our visit to the plant, various site components were showing signs of failure and aging. The plant has had multiple effluent violations in the recent past, however most of them are not much higher than their respective limits.

The plant is an activated sludge system with grinding, activated sludge, chlorine disinfection, and dichlorination. The metal tanks holding the wastewater treatment components are showing various signs of aging, and all of them are developing severe amounts of rust. All the control panels on site seem to be in declining condition and will need electrical inspections to ensure they meet all safety requirements. Most will probably need to be either repaired or replaced. The system currently has two blowers installed, and both need to be inspected and either replaced or repaired if necessary. There is an influent lift station. An inspection should be completed after acquisition to determine shape of pumps as well as if they are the properly installed. The return, skimmer, influent, and effluent lines appear to be PVC. Some of the older returns are still in place but appear to have corroded to a level that would deem them inoperable. An inspection of each line should be completed upon startup and replaced as needed.

The facility's influent pipe appears to be laying across the chainlink fence and held down by the 3 strand barb wire. This is not a typical installation. The pipe should be properly buried to avoid freezing, sun damage of the PVC, and to protect the system from vandalism.

This facility is utilizing chlorine disinfection. If the amount of chemicals is properly controlled, it can continue to be a viable disinfection treatment system. However, if chemical usage and costs continue to rise, the owner may need to consider ultraviolet disinfection. This should be considered after operational control is assumed and an evaluation on true cost of chemicals. Additionally, not everyone is properly trained to use chlorine gas and this should be evaluated for safety reasons of future operations.

The estimated flow is about 66,000 gallons according to the effluent discharge permit. In evaluating the number of customers connected, I would anticipate existing flow being around 30,000 to 35,000 gpd. If the facility was constructed consistent with the capacity listed on the permit, the system should have excess capacity. Before selecting the blower and or pump replacements, a hydraulic analysis should be completed to select the proper equipment for the application.

It is evident that operations are struggling to maintain the plant. No remote monitoring is in place at the site which makes it difficult for the operators to know when the facility is failing. We recommend a mission remote monitoring system which will give information such as pump failure, blower failure, and high-level alarms. A generator quick connect should also be added to the plant to provide electricity during power outages which would ensure the plant can run 24/7.

A review was performed of EPAs ECHO compliance website which lists prior violations issued to the system. According to the ECHO report, it has multiple effluent violations in recent history, however, none of them are major, and the plant is doing a reasonable job of treating wastewater.

In the future, after operational control is taken by Central States Water Resources, I recommend pulling aerations and diffusers for an inspection. If an annual inspection program is put in place, diffuser replacement can be drastically reduced and overall system performance improved. Due to the low quality of preventative maintenance performed on the site equipment, it is estimated that many of the air diffusers will be needing a replacement.

Improvements: Due to the extent of the failure to maintain the systems by the previous owners, I recommend the improvements be staged. The first phase of improvements should include the inspection and replacement of blowers/service filters as needed, lift station pump inspection and repair/replacement, installation of Mission monitoring/generator quick connect/flow meter, inspection and replacement/repair of control panels, and inspection and replacement of diffusers that have failed. After a period of operation and facilities evaluations regarding capacity and permit limits, a second phase will be put into action to either expand or replace the current treatment facility in its entirety.

## Wastewater Collection System Understanding

No mapping was provided for this collection system. While minimum flow equalization was observed at the facility, further evaluation of the collection will be necessary to minimize the amount of I and I entering the system. If this is minimally controlled, it will be difficult for the wastewater systems to meet limits.

Since no flow monitoring is installed, flow monitoring should be considered using a magnetic flow meter to evaluate whether I and I is currently a problem.

The system does have two lift stations. This lift station have been poorly maintained. Pumps should be pulled and inspected. A safety inspection should be completed on the control panels to ensure reliability.

With no current utility mapping available, the system should be evaluated to create mapping and develop a GIS site for future maintenance. System mapping at the fingertips of the operators will enhance the level of service and timing of responses to emergency and customer issues.

Improvements Required: Inspection lift stations for quality, performance and safety. Perform smoke testing, evaluate system and create GIS mapping for future maintenance needs.

**APPENDIX**

Treatment Tanks are rusting and have gone unmaintained

Influent PVC line is fastened to the top of the fence and should be properly buried.

Lift station control panels appear to be poorly wired and are a safety concern.

COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET
DIVISION OF ENFORCEMENT
CASE NO. DOW 21-3-0028

IN RE: Delaplain Disposal Company
Delaplain Disposal WWTP
249 West Yusen Drive.
Georgetown, KY 40324
AI No. 3901
Activity ID No. ERF20210001

**AGREED ORDER**

* * * * * * * * * * * *

WHEREAS, the parties to this Agreed Order, the Energy and Environment Cabinet (hereinafter "Cabinet") and Bluegrass Water Utility Operating Company, LLC (hereinafter "BWUOC") state:

**STATEMENTS OF FACT**

1. The Cabinet is charged with the statutory duty of enforcing KRS Chapter 224 and the regulations promulgated pursuant thereto.

2. BWUOC is an active Kentucky Limited Liability Company in good standing that owns and operates utilities and whose principal address according to the Kentucky Secretary of State, is 1650 Des Peres Road, Suite 303, St. Louis, Missouri 63131.

3. Delaplain Disposal Wastewater Treatment Plant (hereinafter "Delaplain," "Delaplain WWTP" or "facility"), is located at 249 West Yusen Drive, Georgetown, Kentucky 40324. The facility has a design capacity of 0.24 million gallons per day and discharges to an unnamed tributary of Dry Run.

4. Delaplain WWTP is currently owned and operated by Delaplain Disposal Company. The facility's discharges are permitted under Kentucky Pollutant Discharge Elimination

Systems (hereinafter "KPDES") permit number KY0079049, issued by the Cabinet's Division of Water (hereinafter "DOW"). The facility's KPDES permit expires on January 31, 2026.

5. Delaplain Disposal Company is an active for-profit Kentucky corporation in good standing, according to the Kentucky Secretary of State.

6. BWUOC has indicated to the Cabinet that it plans to acquire Delaplain WWTP, provided it receives from the Kentucky Public Service Commission ("Commission") all approvals required to make the acquisition. If the Commission approves the acquisition, BWUOC plans to assume ownership and operation of Delaplain WWTP on or around March 1, 2021.

7. BWUOC has contracted with a third-party firm to produce an engineering memorandum detailing the status of and repairs needed at Delaplain WWTP (Exhibit A). This report was submitted to the Cabinet on or about January 26, 2021.

8. If it receives all required Commission approvals, BWUOC has indicated to the Cabinet that it plans to make substantial repairs and/or upgrades to the facility to address the deficiencies noted in Exhibit A.

**NOW THEREFORE,** in the interest of providing corrective actions to Delaplain WWTP, the parties hereby consent to the entry of this Agreed Order and agree as follows:

## REMEDIAL MEASURES

9. BWUOC shall notify the Cabinet in writing that it has assumed ownership and operation of Delaplain WWTP within fifteen (15) days of acquiring the facility.

10. Within fifteen (15) days of assuming ownership and operation of the facility, BWUOC shall submit a "Change in Ownership Certification" to the Cabinet.

11. At all times, commencing with assuming ownership of the facility, BWUOC shall provide for proper operation and maintenance of the facility in accordance with 401 KAR 5:065

Section 2(1).

12. Within thirty (30) days of execution of this Agreed Order, BWUOC shall submit to the Cabinet for review and acceptance, a written Corrective Action Plan (hereinafter "CAP") to bring the facility into compliance with its KPDES permit and correct the deficiencies noted in Exhibit A. The CAP shall include, but not be limited to, an identification of actions BWUOC shall implement to ensure compliance that includes; proper operation and maintenance to its sewage treatment system, collection system, and disinfection unit. The CAP shall also include a list of all actions necessary to ensure the completion of upgrades to its facility including a list of completion dates for each action. Include in the CAP a final compliance date for completion of all remedial measures listed;

A. Upon review of the CAP, the Cabinet may, in whole or in part, (1) accept or (2) decline and provide comments to BWUOC identifying the deficiencies. Upon receipt of Cabinet comments, BWUOC shall have ninety (90) days to revise and resubmit the CAP for review and acceptance. Upon resubmittal, the Cabinet may, in whole or in part, (1) accept or (2) disapprove and provide comments to BWUOC identifying the deficiencies. Upon such resubmittal, if the CAP is disapproved, the Cabinet may deem BWUOC to be out of compliance with this Agreed Order for failure to timely submit the CAP. The parties to this Agreed Order may also agree in writing to further extend the period in which BWUOC and the Cabinet accept a revised and resubmitted CAP.

B. BWUOC may request an amendment of the accepted CAP by writing the Director of the Division of Enforcement at 300 Sower Blvd., Frankfort,

Kentucky 40601 and stating the reasons for the request. If granted, the amended CAP shall not affect any provision of this Agreed Order unless expressly provided in the amended CAP. This does not require an amendment request pursuant to paragraph 20 of this Agreed Order.

C. Upon Cabinet acceptance of all or any part of the CAP, the amended CAP or any accepted part thereof (provided that the accepted part is not dependent upon implementation of any part not yet accepted), shall be deemed incorporated into this Agreed Order as an enforceable requirement of this Agreed Order. This does not require an amendment request pursuant to paragraph 20 of this Agreed Order.

13. So long as BWUOC is in compliance with the terms and conditions of this Agreed Order, the Cabinet's Division of Enforcement agrees to hold any formal enforcement action for numeric permit parameter violations for the KPDES permit described in paragraph 4, in abeyance. Should BWUOC fail to comply with the terms and conditions of this Agreed Order, the Cabinet may seek formal enforcement action that would have otherwise been held in abeyance.

14. By the final compliance date in the accepted CAP, BWUOC shall be in full compliance with its KPDES permit.

15. All submittals required by the terms of this Agreed Order shall be submitted to: Division of Enforcement, Attention: Director, 300 Sower Blvd., Frankfort, Kentucky, 40601.

**MISCELLANEOUS PROVISIONS**

16. This Agreed Order shall be of no force and effect unless BWUOC assumes ownership and operations of Delaplain WWTP.

17. This Agreed Order addresses only the items described above. Other than the matters agreed to by entry of this Agreed Order, nothing contained herein shall be construed to waive or to limit any remedy or cause of action by the Cabinet based on statutes or regulations under its jurisdiction and BWUOC reserves its defenses thereto. The Cabinet expressly reserves its right at any time to issue administrative orders and to take any other action it deems necessary that is not inconsistent with this Agreed Order, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and BWUOC reserves its defenses thereto.

18. This Agreed Order shall not prevent the Cabinet from issuing, reissuing, renewing, modifying, revoking, suspending, denying, terminating, or reopening any permit to BWUOC. BWUOC reserves its defenses thereto, except that BWUOC shall not use this Agreed Order as a defense.

19. BWUOC waives its right to any hearing on the matters admitted herein. However, failure by BWUOC to comply strictly with any or all of the terms of this Agreed Order shall be grounds for the Cabinet to seek enforcement of this Agreed Order in Franklin Circuit Court and to pursue any other appropriate administrative or judicial action under KRS Chapter 224 and the regulations promulgated pursuant thereto.

20. The Agreed Order may not be amended except by a written order of the Cabinet's Secretary or a designee thereof. BWUOC may request an amendment by writing the Director of the Division of Enforcement at 300 Sower Blvd., Frankfort, Kentucky 40601, and stating the reasons for the request. If granted, the amended Agreed Order shall not affect any provision of this Agreed Order unless expressly provided in the amended Agreed Order.

21. The Cabinet does not, by its consent to the entry of this Agreed Order, warrant or aver in any manner that BWUOC's complete compliance with this Agreed Order will result in compliance with the provisions of KRS Chapter 224 and the regulations promulgated pursuant thereto. Notwithstanding the Cabinet's review and approval of any plans formulated pursuant to this Agreed Order, BWUOC shall remain solely responsible for compliance with the terms of KRS Chapter 224 and the regulations promulgated thereto, this Agreed Order, and any permit and compliance schedule requirements.

22. BWUOC shall give notice of this Agreed Order to any purchaser, lessee or successor in interest prior to the transfer of ownership and/or operation of any part of the facility occurring prior to termination of this Agreed Order, shall notify the Cabinet that such notice has been given, and shall follow all statutory requirements for a transfer.

23. This Agreed Order applies specifically and exclusively to the unique facilities referenced herein and is inapplicable to any other facility.

24. Compliance with this Agreed Order is not conditional on the receipt of any federal, state, or local funds.

25. This Agreed Order shall be of no force and effect unless and until it is entered by the Secretary or a designee thereof as evidenced by his or her signature thereon. If this Agreed Order contains any date by which BWUOC is to take any action or cease any activity, and the Secretary enters the Agreed Order after that date, then BWUOC is nonetheless obligated to have taken the action or ceased the activity by the date contained in this Agreed Order.

## TERMINATION

26. This Agreed Order shall terminate upon BWUOC's completion of all requirements described in this Agreed Order. BWUOC may submit written notice to the Cabinet when it believes

all requirements have been performed. The Cabinet shall notify BWUOC in writing whether it concurs that all requirements of this Agreed Order have been completed. The Cabinet reserves its right to enforce this Agreed Order, and BWUOC reserves its right to file a petition for hearing pursuant to KRS 224.10-420(2) contesting the Cabinet's determination.

**AGREED TO BY:**

Josiah Cox (Aug 10, 2021 11:18 CDT)

Josiah Cox, President
Bluegrass Water Utility Operating Company, LLC

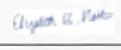
Aug 10, 2021

Date

**APPROVAL RECOMMENDED BY:**

Michael B. Kroeger, Director (Assistant)
Division of Enforcement

9/9/2021
Date



Elizabeth U. Natter, Executive Director
Office of General Counsel

9/24/2021
Date

## ORDER

Wherefore, the foregoing Agreed Order is entered as the final Order of the Energy and Environment Cabinet this 27th day of September, 2021.

ENERGY AND ENVIRONMENT CABINET

John S. Lyons, Deputy Secretary
Authorized Designee, Rebecca W. Goodman,
Secretary Energy & Environment Cabinet

**CASE NO. DOW 21-3-0028**

**CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the foregoing **AGREED ORDER** was mailed, postage prepaid, to the following this 27th day of September, 2021.

Bluegrass Water Utility Operating Company, LLC
Attn: Jacob Freeman
1650 Des Peres Road, Suite 303
St. Louis, MO 63131

And ~~mailed, messenger~~ to: Electronically mailed to:

Michael B. Kroeger, Director
Division of Enforcement
300 Sower Blvd.
Frankfort, Kentucky 40601

Elizabeth U. Natter, Executive Director
Office of General Counsel
Energy and Environment Cabinet
300 Sower Blvd.
Frankfort, Kentucky 40601

Diana Lowe
DOCKET COORDINATOR

Distribution:
DOW-email
S&H
DBG

# Exhibit A

# The Delaplain Disposal – Delaplain WWTP KY0079049
# Kentucky
# Engineering Memorandum
# Date: September 11, 2020

## Introduction

The Delaplain wastewater treatment facility is located north of Georgetown, Kentucky approximately 19 miles north of Lexington, Kentucky. This facility services 290 residences and 33 commercial or industrial contributors. The system operates under Kentucky DEP Permit number KY0079049 and Agency ID number 3901.

## Existing Flows and Loadings and Projections

The existing facility is authorized to treat up to 240,000 gpd.

According to the permit application submitted by Delaplain Disposal Co., the flow contribution is 55% commercial and 45% industrial. According to data available on EPA's Echo site and data submitted to 21 Design Group, Inc. by current ownership, the flows to the facility for 2020 are very roughly approximated below:

- Annual Average Daily Flow – 240,000 – 260,000 gpd
- **Maximum Monthly Average Daily Flow – 360,000 gpd**
- Maximum Weekly Average Daily Flow – 475,000 gpd
- Maximum Daily Average Daily Flow – 910,000 gpd
- Peak Hourly Flow – 1,200,000 gpd

**The maximum monthly average daily flow and peak flows are concerning relative to the existing rated capacity and plant size. The plant has a clarifier that is ½-1/3 of the required size at this time.** This is consistent with the current ownership's believe that I&I is a problem and flow equalization would be helpful, and it also makes some sense of the excursions in TSS (during wet weather).

The flow peaking factor for the facility is clearly significant, and because of the significant commercial contribution, it's very likely that there' significant variability and spikes in BOD, TSS and ammonia loadings. During excursions in the past, BOD levels were significantly higher than TSS levels, indicating incomplete treatment. We know that one of the original 50-hp centrifugal blowers was replaced recently (to maintain current capacity rating, not to increase aeration capacity), and it's likely that this improvement was made to address the high BOD events observed. It is unclear at this time if the improvement to blower capacity will meet demands from the flow and loading spikes, but it would seem likely that the blower capacity is inadequate based on current vs design flows.

Based on what we've seen and heard to date, the significant industrial contributor has not historically become an issue in operation or in permit compliance.

Based on discussions with current Ownership, the local region is growing rapidly, the area serviced is growing, and they anticipate growth in flows and loadings.

## Permit Limitations and Historical Compliance Performance

The plant is authorized to discharge up to 240,000 gallons per day (gpd) by the KDEP per the operating permit. As discussed above, the facility has discharged flows significantly in excess of this value a number of months this year and is likely to exceed this annual flow rate in 2020.

A summary of the existing permit limits is described below:

- BOD5 – 10/15 mg/L (Monthly average/Maximum Weekly Average)
- TSS – 30/45 mg/L
- NH3-N – 2/3 mg/L
- NH3-N – 5/7.5 mg/L
- E-Coli – 130/240 mpn/100 ml
- Total Residual Chlorine – 0.011/0.019 mg/L
- Total Phosphorus – Report Only
- Total Nitrogen – Report Only
- Dissolved Oxygen – No limit

A review was performed of EPAs Echo compliance website which lists violations of wastewater treatment plants across the country. The Delaplain wastewater treatment plant has exceeded permit limitations several times in recent months and years for Total Suspended Solids, Ammonia Nitrogen, Total Residual Chlorine, E-Coli, and CBOD5.

## Wastewater Treatment Facility Existing Conditions

The original facility included the following features:

- Two influent lines; one comes by gravity from the east side of the facility, and the other enters via forcemain from the west side of the facility.
- Comminutor to grind and remove influent solids
- Manually cleaned bar screen
- Aeration tank
- Two 50 hp centrifugal blowers used to aerate the aeration tank

- Circular clarifier with scum collection and air lift of scum to digester
- RAS/WAS box
- Surge Chamber and transfer pump to convey stored wastewater into the aeration tank
- Aerobic Digester
- Chlorine feed point and chlorine contact tanks
- Dechlorination feed point and dechlorination contact tanks
- Control panels for various subcomponents in the system including the controls for the clarifier, blowers, and surge tank transfer pumps.
- PD blower that appears to serve the aerobic

The existing facility has aged, showing the need for fresh coatings, protection from exposed wires, and spot welding repairs, but it is in relatively good working order.

The comminutor is no longer utilized, and the manual bar screen appears to result in overflows periodically from the uncleaned bar screen rack. The air pattern in the aeration tank indicates relatively turbulent mixing conditions using coarse bubble diffuser design that would likely not be improved significantly with diffuser replacement. It was unclear whether the surge tank is utilized or if the surge tank transfer pumps are in working condition. The existing gaseous chlorine and gaseous sulfur dioxide systems were in working condition according to the operators (however the chemical solution feed lines were not evident).

## Functionality of the Existing System

The functionality of the existing plant is similar to other activated sludge systems. However, this system is challenged by:

- **The system is seeing flows (and most likely loadings) significantly in excess of original capacity.** This results in the need to carry very high mixed liquor concentrations and to maintain a very healthy sludge age in a limited range or face challenges during wet weather to retain biomass. (Based on effluent results, it appears this is a real problem here).
- The existing clarifier has a 10' depth and a 25' diameter. Because the 10-State Standards require 12' deep clarifiers, this tank is not acceptable as a secondary clarifier for activated sludge systems. At the maximum 10-State Standards surface overflow rate of 1,000 gpd/sf, the 25' diameter clarifier can only handle peak flows up to about 490,000 gpd. The peak daily flow and peak hourly flows to the plant significantly exceed this flow rate at this time, so the clarifier is very undersized for use in an activated sludge application.
- There is only 1-large zone of treatment, and it's difficult to make system repairs without multiple tanks to allow the system to be taken off line.
- There are no provisions evident for using the surge tank beyond overflowing the bar screen. It is currently not convenient to use the surge tank.
- There is only 1-operating blower for the aeration tank, and because it's centrifugal and there's no modulating inlet suction valve or VFD, it's either on or off.

- It doesn't appear to include provisions for decanting supernatant from the digester (which is most likely undersized now).
- The contact time for disinfection appears to be limited.
- The current ownership believes the previous operator did not perform well; a new, effective operator has taken over recently.
- The use of gaseous chlorine and gaseous sulfur dioxide poses addition risks to operators and the neighboring community, and it's somewhat uncommon to many operators.
- Currently no remote monitoring is in place at the site. This makes it difficult for the operators to know when the facility is failing. Operational monitoring should be completed to monitor the quality of effluent, which should then be compared to the operating permit.

## Wastewater Treatment Facility Recommended Improvements

- Because the facility receives flows and loadings in excess of current capacity (by roughly 40-50%), we believe there will be a need to upgrade the system BOD, TSS and NH3-N reduction capacity. We also believe the facility faces excessive I&I, so flow equalization and an influent pump station will be helpful to reduce demands on the final clarifier.
- The failure of the original comminutor results in the need to collect significant screenings in multiple 5-gallon buckets. We recommend the addition of a mechanically cleaned screen for this application.
- The improvements proposed to integrate the above two recommendations includes the addition of a "roughing" MBBR (targeting 70% BOD reduction in a 40 minute hydraulic retention time or 10,000 gallons); the addition of equalization with 4-hours of hydraulic retention time or 60,000 gallons and an influent pump station with variable frequency drives with an influent flow meter; the addition of metal salt addition in the EQ and clarifier to improve solids capture during wet weather, and the addition of a tertiary auto-strainer for solids separation downstream of the existing clarifier.
    - Note that a variance will be required for acceptance of the secondary clarifier due to the 10' deep tank height and the high surface overflow rate.
    - This improvement is expected to reduce peak flows to the clarifier by up to 25%
    - This improvement is expected to reduce the required mixed liquor concentration by as much as 70% without requiring modifications to the existing aeration header or blowers.
    - This improvement is expected to minimize solids carry over into the clarifier during peak flow events relative to existing conditions.
- We recommend the addition of current density baffles to the side wall of the clarifier (in addition to the above described roughing MBBR and EQ tank improvements) to improve clarifier performance and to allow for regulatory acceptance of surface overflow rates in excess of the typically allowable surface overflow rates. The new roughing MBBR could be used in conjunction with the use of the new EQ tank for temporary clarification to achieve temporary treatment during installation of the current density baffles.

- The addition of a tertiary automatic straining system will add protection for the system from BOD and TSS excursions during wet weather events.
- The use of an in-line UV disinfection system will be used to achieve compliance with the disinfection requirements. (Note that the industrial contribution could impact UVT transmittance and this should be checked over a period of several samples prior to ordering equipment).
- While the above improvements should allow a good operator to significantly improve performance, the addition of an alum feed system to promote improved solids capture during wet weather events (in both the equalization tank and in the clarifier) will provide a margin of error to allow the system to achieve considerably improved permit compliance.
- There is a potential that a second clarifier will be required at some point in the future if I/I issues increase.

## Wastewater Collection System Understanding

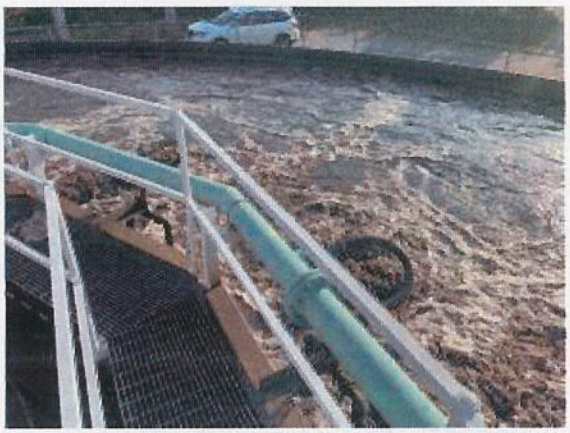
The collection system consists of gravity sewer as well as five separate lift stations. The plant has an hourly peak flow factor of almost 6:1, so I and I is considered a large issue for the collection system and should be dealt with sooner rather than later as it is negatively affecting the plants ability to meet the effluent discharge limits enforced by Kentucky. (Note however that while the 4:1 peak day: average day flow peaking factor and the 6:1 peak hour: average day ratios cause problems within this plant, they aren't large peaking factors relative to many plants. Some degree of I/I reduction can be expected, but we are not likely to achieve 2:1 or even 3:1 peaking factors with I/I reductions).

Industrial Pump Station 1 is located directly south of the wastewater facility along Interstate 75 and conveys all of the systems wastewater to the treatment plant. The wet well is outfitted with dual 20 hp non-clog pumps from Myers and has a discharge force main diameter of 6". Moonlake Pump Station 1 conveys wastewater through 4" force main across Interstate 75 directly to Industrial Park Pump Station 1 and is outfitted with dual 25 hp pumps from Myers. The station is poorly located in terms of ease of access, which will make maintenance and upgrades difficult to perform. A list of Pump Stations with specifications for each pump is located in the Appendix.

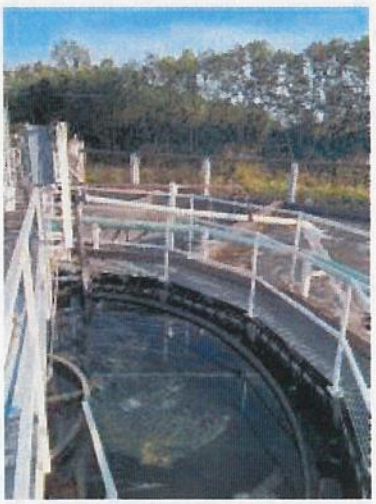
## Wastewater Collection System Recommended Improvements

- GIS shapefiles should be developed for future maintenance. System mapping at the fingertips of the operators will enhance the level of service and timing of responses to emergency and customer issues.
- Install flow monitoring, perform smoke testing, perform video inspection at selected locations, evaluate systems and create GIS based maintenance priority list to help understand and reduce the effect of I and I on the system.
- A manual transfer switch should be installed at each lift station to allow for the use of a portable generator during emergencies.

APPENDIX



Aeration Tank



Circular Clarifier

Bar Screen

Gaseous Chlorine Storage

**Industrial Pump Station 1 (INPS1)**

#1 Pump - 9/11/13: Myers 4" non-clog pump, 20 hp, 230 volt, 3 phase, 10" impeller Model #4VC200M4-23, SN 10013516

#2 Pump – 5/29/18: Myers 4" non-clog pump, 20 hp, 230volt, 3phase, w/50' cord, upper & lower T.C. seals and 10" oversized impeller SN 10554284

**Industrial Pump Station #2 (INPS2)**

#1 Pump – 12/14/12: Meyers 4VH75M4-23, 7.5 hp, 230 volt, 26 amps, 60 hertz, 3 phase, SN 00165030.
11/2018 – extensive rebuild – Clark Electric.

#2 Pump 12/28/2018: Meyers MY 4VH75M4-23,7.5 hp, 230 volt, 3 phase, 35' cord, 8" oversize impeller. SN 10582019.

**Moon Lake Pump Station #1 (ML1)**

#1 pump - 2/18/15: 4RCX2S0M2-43-35, 25 hp 3/460 volt with 35' cable. Lower TX seal, 5.88" oversized impeller. SN 10080201

#2 pump - 5/19/14: 4RCX2S0M2-43-35 25HP 3/460 volt with 35' cable. SN 10246932

**Moon Lake Pump Station #2 (ML2)**

#1 Pump - 10/2016: Myers 4V75M4-23-35 4" sewage pump 7.5 hp, 230 volt 3 phase w/standard seals and 35'cord serial 7.5" std impeller, SN10365415.

# 2 Pump - 8/2017 Myers 4V75M4-23 7 ½ hp, 3 ph, 230 volt, SN 10519205

**Riffton Meadows Pump Station (RM)**

#1 Pump – 2007: WGX30H-21-25, 3 hp, 3450 RPM, 230 volt, 1 phase, Impeller 5" SN GX304-4-25

#2 Pump - 2007: WGX30H-21-25, 3 hp, 3450 RPM, 230 volt, 1 phase, Impeller 5"

# DOW 21-3-0028 - Delaplain Disposal Company AO

Final Audit Report 2021-08-10

| | |
|---|---|
| Created: | 2021-08-09 |
| By: | Mandy Keubler (mkeubler@cswrgroup.com) |
| Status: | Signed |
| Transaction ID: | CBJCHBCAABAAgjmcUz75rg0q87iMyBXrQysNU0ZpewV3 |

## "DOW 21-3-0028 - Delaplain Disposal Company AO" History

Document created by Mandy Keubler (mkeubler@cswrgroup.com)
2021-08-09 - 9:20:50 PM GMT- IP address: 71.10.211.134

Document emailed to Josiah Cox (jcox@cswrgroup.com) for signature
2021-08-09 - 9:21:27 PM GMT

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Document e-signed by Josiah Cox (jcox@cswrgroup.com)
Signature Date: 2021-08-10 - 4:18:47 PM GMT - Time Source: server- IP address: 12.127.143.250

Agreement completed.
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# Energy and Environment Cabinet
# Department for Environmental Protection
# Division of Water
Wastewater Inspection Report

**AI ID:** 3901 **AI Type:** SANI-Wastewater Collection (2213)
**AI Name:** Delaplain Disposal
**AI Address:** 249 W Yusen Dr

**City:** Georgetown (Scott), **State:** Kentucky **Zip:** 40324
**County:** Scott **Regional Office:** Frankfort Regional Office
**Latitude:** 38.286111 **Longitude:** -84.556111
**Site Contact:**
**Title: Phone #:**
**Inspection Type:** WW CEI-Minor Non-Mun **Activity #:** CIN20210001
**Incident IDs:**
**Inspection Start Date:** January 29, 2021 **Time:** 12:30 PM **End Date:** January 29, 2021 **Time:** 01:30 PM
**Site/Permit ID:** KY0079049

**Lead DEP Investigator:** Jarod Jones
**Other DEP Investigators:**
**External Investigators:**
**Persons Interviewed:**

**General Comments:** ON 01/29/2021, KYDOW Inspector Jarod Jones conducted an inspection of the Delaplain Disposal Co. wwtp located in Georgetown, Scott Co. KY, AI #3901 that holds KPDES permit #KY0079049. The final effluent was clear and odorless. There was adequate roll and color over the aeration basin area. There was even flow over the clarifier weirs, however significant algal growth was observed on the majority of the weirs. The clarifier also had scum along the inside rails and under the skimmer arm. All components of the plant were observed to be functioning properly. The outfall was clearly marked, however some type of debris gate was laying along the far side of the creek from the effluent discharge point. There was also a slight lean to the two influent pipe supports that were within the fenced perimeter of the facility compound. Slight cracking was observed in the concrete between the entry and exit pipes of the large concrete column where the influent line corners to enter the facility perimeter. Evidence of rodents burrowing under the base of the plant was observed in at least two places. The interior coating of the plant was deteriorating in several places above the water line, with multiple rust patches and instances of coating peeling off observed both on the interior bulkheads and internal plumbing. Multiple requests for documentation were made to operator but no documents were received. The facility has been undergoing a change in ownership/management so the extended delay in providing the requested documents was attributed to this fact. A visual confirmation of the repairs made as a part of the Corrective Action Plan (CAP) for the facility was also conducted as part of the inspection.

**Overall Compliance Status:** Out of Compliance - Violations documented

## Investigation Results

**SI: AIOO3901**
**SI Description:**
**Inspector Comment:**

**Requirement:** Does the facility hold the proper KPDES permit?. [401 KAR 5:055 Section 2]
**Compliance Status:** C-No Violations observed

**Comment:** The facility holds the proper KPDES permit.

**Requirement:** Have all required permits been obtained from the Division of Water prior to the construction or modification of the facility? [401 KAR 5:005 Section 1]
**Compliance Status:** C-No Violations observed
**Comment:** Modification and/or expansion of the facility is planned as a future construction project to improve plant operation.

**Requirement:** Is the facility being operated under the supervision of a properly certified operator? [401 KAR 5:010 Section 1]
**Compliance Status:** C-No Violations observed
**Comment:** Facility is being operated under a certified operator.

**Requirement:** Is the collection system under the primary responsibility of an individual who holds an active collection system certification at the level appropriate for the size of the treatment facility receiving the waste? [401 KAR 5:010 Section 2]
**Compliance Status:** C-No Violations observed
**Comment:** The collections and treatment facility are operated by the same staff.

**Requirement:** Does the permittee retain records of all monitoring information including: the date, exact place, and time of sampling or measurements; the name of the individual who performed the sampling or measurements; the dates and times analyses were performed; the name of the individual who performed the analyses; the analytical techniques or methods used; the results of the analyses; 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 the period required by the cabinet and at a minimum of at least three (3) years from the date of the sample, measurement, report, or application? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs
**Comment:** Multiple requests for documentation were made to operator but no documents were received. The facility has been undergoing a change in ownership/management so the extended delay in providing the requested documents was attributed to this fact.

**Requirement:** Is the facility required to prepare and implement a groundwater protection plan (GPP) as specified in regulation 401 KAR 5:037? If yes, does the facility have a GPP?. [401 KAR 5:037]
**Compliance Status:** E-Not Evaluated
**Comment:**

**Requirement:** Is the permittee reporting monitoring results to the cabinet at the intervals specified in the permit? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** DMRs are being reported at the required intervals.

**Requirement:** Are the monitoring results reported to the cabinet on a Discharge Monitoring Report (DMR)? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** DMRs are being reported at the required intervals.

**Requirement:** 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, are the results of this monitoring included in the calculation and reporting of the data submitted in the DMR? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Are the calculations for all limitations which require averaging of measurements utilizing an arithmetic mean unless otherwise specified by the Cabinet in the permit? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Is the permittee in compliance for the reporting of spills, bypasses, and non-compliance according 401 KAR 5:065 Section 2(1). [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs
**Comment:** Facility has had at least one instance of an unreported overflow in the past three years.

**Requirement:** Is the permittee in compliance with immediate reporting requirements for emergency or accidental releases to the environment according to 401 KAR 5:065 Section 3(5)?. [401 KAR 5:065 Section 3(5)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs

**Comment:** Facility has had at least one instance of an unreported overflow in the past three years.

**Requirement:** Is the facility being properly operated and maintained as specified in regulation 5:065? This includes: (a) proper operation and maintenance of all facilities, systems of treatment and control, and related appurtenances which are installed or used by the permittee to achieve compliance with permit conditions;
(b) proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures; (c) this provision also requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** Plant operation was satisfactory at the time of the inspection.

**Requirement:** Are the disinfection unit(s) maintained and operated properly to allow for compliance with permit conditions? [401 KAR 5:005 Section 11]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The facility has failed to properly maintain and / or operate the disinfection unit. Facility has had DMR violations for Chlorine levels.

**Requirement:** Does the flow measuring device measure all flow received at the WWTP? For large wastewater facilities (average daily design capacity >50, 000 gpd), is flow measured by an indicating, recording, and totalizing flow measuring device? [401 KAR 5:005 Section 12]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Is a source of water provided for cleanup? If potable water is used, is a backflow preventor installed to protect the water supply? [401 KAR 5:005 Section 10(6)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Has fencing with a lockable gate been installed around the wastewater treatment plant? [401 KAR 5:005 Section 10(7)]
**Compliance Status:** C-No Violations observed
**Comment:** Facility secondary gate could use some minor repairs to increase perimeter security.

**Requirement:** Has an all-weather access road been installed to allow access to the wastewater treatment plant? Is the road adequately maintained to allow access to the facility for operation and maintenance activity? [401 KAR 5:005 Section 10(8)]
**Compliance Status:** C-No Violations observed
**Comment:** Road and site access is satisfactory.

**Requirement:** Sewage sludge. Did the facility meet the requirements governing the disposal of sewage sludge from publicly owned treatment works, in accordance with 40 CFR Part 503? [401 KAR 5:065 Section 2(4)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Is the effluent in compliance with KPDES permit limitations? Do the Discharge Monitoring Reports indicate KPDES permit violations? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The facility has failed to comply with the effluent limitations contained in the permit.

**Requirement:** Are samples taken in compliance with the monitoring requirements and taken at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters? Are the samples representative of plant flow? Are flow proportioned samples obtained when required by the KPDES permit? Are grab samples collected according to the KPDES permit requirements? Are composite samples collected and analyzed according to the KPDES permit conditions? Are samples collected according to KPDES permit requirements? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** Sampling procedures were not observed during the inspection.

**Requirement:** Are the facility sample collection procedures adequate? Are the samples collected in proper containers, preserved, and refrigerated properly? Are all samples analyzed within the allowed holding times? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** Sampling procedures were not observed during the inspection.

**Requirement:** Have samples been analyzed by a lab that has been certified according to 401 KAR 5:320? Are all field parameters collected by a lab or individual that holds a Field Only certification according to 401 KAR 5:320?. [401 KAR 5:320]
**Compliance Status:** C-No Violations observed
**Comment:** Facility contracts with a certified lab.

**Requirement:** Have pollutants entered the waters of the Commonwealth? [KRS 224.70-110]
**Compliance Status:** C-No Violations observed
**Comment:** Plant final effluent was clear and odorless at the time of the inspection.

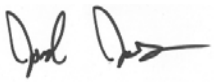
**Requirement:** Have surface waters been aesthetically or otherwise degraded? [401 KAR 10:031 Section 2]
**Compliance Status:** C-No Violations observed
**Comment:** No surface water degradation was noted during the time onsite.

**Requirement:** Is the permittee in compliance with all permit conditions? [401 KAR 5:065 Section 2]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The facility has failed to comply with the terms of the permit. Facility has had DMR violations for effluent water quality parameters.

**Documentation**

- ☒ **Photos taken**
- ☐ **Documents obtained from facility**
- ☐ **Samples taken by outside source**
- ☒ **Request for Submission of Documents**
- ☐ Record of visual determination of opacity
- ☒ **Samples taken by DEP**
- ☐ Regional office instrument readings taken
- ☐ **Other documentation**

**Inspector**:



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

June 3, 2021

Delaplain Disposal
249 W Yusen Dr
Georgetown (Scott), Kentucky 40324

RE: Delaplain Disposal A.I. 3901
Permit No.: KY0079049
Scott County, Kentucky
Activity ID: CIN20210001

To Whom It May Concern:

Attached for your information and records is a copy of the Wastewater Comprehensive Evaluation Inspection - Minor Non-Municipality (WW CEI-Minor Non-Mun) Inspection performed at Delaplain Disposal on January 29, 2021.)

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

# DOWCEI012921

Delaplain Disposal Co. WWTP

AI# 3901

Georgetown, Scott Co. KY.

Conducted 12:30-1:15 PM EST

Inspector: Jarod Jones


Delaplain
Disposal
Company
KY0079049
3901

# Energy and Environment Cabinet
# Kentucky Department for Environmental Protection
# Division of Water

**Activity:** CIN20190001 Inspection

**Lead Investigator:** Byrd, Wesley

**Agency Interest/Permit ID:** 8083

**Agency Interest Name:** Longview Country Club

**Agency Interest Address:** 3243 Frankfort Pike
Georgetown (Scott), KY, 40324

**Program:** Wastewater
**County:** Scott

**Type of Agency Interest:** REC-Arts, Entertainment, & Recreation (71)

**Agency Interest Contact:** **Title:** **Phone:**

**Purpose:** Inspection

**Inspection Type:** WW CEI-Minor Non-Mun

**Inspection Date:** 6/27/2019 **Start Time:** 10:00 AM **End Time:** 11:30 AM

**Latitude:** 38.21130100 **Longitude:** -84.65902400

**Coordinate Collection Method:** Decimal Degrees

**Incident ID(s):**

**General Comments:**
KPDES Permit No. KY0081591

On June 27th, 2019, Kentucky Division of Water Environmental Inspector Wesley Byrd conducted a KPDES comprehensive evaluation inspection at Longview Country Club, Scott County. Visual observation of the facility operation and maintenance was satisfactory. Aeration basin had an even roll, healthy color, and no odor. Clarifier was clear and skimmer appeared to be working correctly. Effluent was clear and non-odorous. Downstream observation below the outfall did not show any signs of the plant effluent affecting water quality. A review of the facility's DMRs from June 2018 to June 2019 showed excursions of the following parameters: Dissolved oxygen in May 2019, Total Suspended Solids in February 2019, E.coli in September 2018, January 2019, and March 2019, and BOD in July 2018 and February 2019. A Notice of Violation will be issued at this time for permit limit exceedences.

**Person(s) Interviewed:**

| Name | Organization |
|---|---|
| Joe Arnold | Longview Country Club |

**Status/Comments:**

| Requirement | Status | Results or Comments |
|---|---|---|
| Does the facility hold the proper KPDES permit?. [401 KAR 5:055 Section 2] | C | Facility holds KPDES Permit No. KY0081591. |

| Requirement | Status | Results or Comments |
|---|---|---|
| Have all required permits been obtained from the Division of Water prior to the construction or modification of the facility? [401 KAR 5:005 Section 1] | C | Facility holds KPDES Permit No. KY0081591. |
| Is the facility being operated under the supervision of a properly certified operator? [401 KAR 5:010 Section 1] | C | Facility is operated by Mr. Joe Arnold WWII certification number 14466 |
| Is the collection system under the primary responsibility of an individual who holds an active collection system certification at the level appropriate for the size of the treatment facility receiving the waste? [401 KAR 5:010 Section 2] | C | Mr. Arnold is also the certified for a WWII collection system. |
| Does the permittee retain records of all monitoring information including: the date, exact place, and time of sampling or measurements; the name of the individual who performed the sampling or measurements; the dates and times analyses were performed; the name of the individual who performed the analyses; the analytical techniques or methods used; the results of the analyses; 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 the period required by the cabinet and at a minimum of at least three (3) years from the date of the sample, measurement, report, or application? [401 KAR 5:065 Section 2(1)] | C | Joe Arnold maintains records as required and were available for review during the inspection. All records that were reviewed were deemed as complete with no deficiencies noted. |
| Is the facility required to prepare and implement a groundwater protection plan (GPP) as specified in regulation 401 KAR 5:037? If yes, does the facility have a GPP? [401 KAR 5:037 Section 3] | C | |
| Is the permittee reporting monitoring results to the cabinet at the intervals specified in the permit? [401 KAR 5:065 Section 2(1)] | C | Facility performs monthly sampling and submits the results through NetDMR.. |
| Are the monitoring results reported to the cabinet on a Discharge Monitoring Report (DMR)? [401 KAR 5:065 Section 2(1)] | C | Facility performs monthly sampling and submits the results through NetDMR. |
| 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, are the results of this monitoring included in the calculation and reporting of the data submitted in the DMR? [401 KAR 5:065 Section 2(1)] | C | |
| Are the calculations for all limitations which require averaging of measurements utilizing an arithmetic mean unless otherwise specified by the Cabinet in the permit? [401 KAR 5:065 Section 2(1)] | C | |

| Requirement | Status | Results or Comments |
|---|---|---|
| Is the permittee in compliance for the reporting of spills, bypasses, and non-compliance according 401 KAR 5:065 Section 2(1) | C | No reported instances on record at the time of the inspection for permit non-compliance, which may endanger health or the environment. Permittee is aware of the requirement to report all permit non-compliance, which may endanger health or the environment to the Cabinet immediately by the most rapid means available. The 24-hour emergency reporting number is (800) 928-2380. |
| Did the facility notify the Division of Water by the most rapid means available whenever, by reason of emergency or accident, a spill or discharge occurs which results in pollution of the waters of the Commonwealth? [401 KAR 5:015 Section 2] | C | No reported spill, accidents, releases, etc. on record at the time of the inspection. Permittee is aware of the requirement to report all spills, bypasses, releases, accidents, etc. to the Cabinet immediately by the most rapid means available. The 24-hour emergency reporting number is (800) 928-2380. |
| Is the facility being properly operated and maintained as specified in regulation 5:065? This includes:<br>(a) proper operation and maintenance of all facilities, systems of treatment and control, and related appurtenances which are installed or used by the permittee to achieve compliance with permit conditions;<br>(b) proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures;<br>(c) this provision also requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. [401 KAR 5:065 Section 2(1)] | C | Longview Conutry Club was visually observed in satisfactory manner. Aeration basin had an even roll, healthy color, and no odor. Clarifier was clear and skimmer appeared to be working correctly. Effluent was clear and non-odorous with no visual impacts in the receiving surface water. |
| Are the disinfection unit(s) maintained and operated properly to allow for compliance with permit conditions? [401 KAR 5:005 Section 11] | C | Facility uses gas chlorine for disinfection and sulfur dioxide for de-chlor. |
| Does the flow measuring device measure all flow received at the WWTP? For large wastewater facilities (average daily design capacity >50, 000 gpd), is flow measured by an indicating, recording, and totalizing flow measuring device? [401 KAR 5:005 Section 12] | C | Flow is measured as required and recorded. |
| Is a source of water provided for cleanup? If potable water is used, is a backflow preventor installed to protect the water supply? [401 KAR 5:005 Section 10(6)] | C | Backflow devices were observed in use at the facility. |
| Has fencing with a lockable gate been installed around the wastewater treatment plant? [401 KAR 5:005 Section 10 (7)] | C | Facility is secured by a chain link fence that is kept locked when operator is not on site. |
| Has an all-weather access road been installed to allow access to the wastewater treatment plant? Is the road adequately maintained to allow access to the facility for operation and maintenance activity? [401 KAR 5:005 Section 10(8)] | C | Access road is maintained to allow access in all weather conditions. |

| Requirement | Status | Results or Comments |
|---|---|---|
| Sewage sludge. Did the facility meet the requirements governing the disposal of sewage sludge from publicly owned treatment works, in accordance with 40 CFR Part 503? [401 KAR 5:065 Section 2(4)] | C | Sludge is wasted to a local municipality WWTP for disposal. |
| Is the effluent in compliance with KPDES permit limitations? Do the Discharge Monitoring Reports indicate KPDES permit violations? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)] | D | A review of the facility's DMRs from June 2018 through June 2019 revealed numerous parameter excursions. The facility has failed to comply with the effluent limitations contained in the permit. The Division of Enforcement is following up on the DMR violations. |
| Are samples taken in compliance with the monitoring requirements and taken at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters? Are the samples representative of plant flow? Are flow proportioned samples obtained when required by the KPDES permit? Are grab samples collected according to the KPDES permit requirements? Are composite samples collected and analyzed according to the KPDES permit conditions? Are samples collected according to KPDES permit requirements? [401 KAR 5:065 Section 2(1)] | C | Samples are pulled at the appropriate location. Samples were not being pulled at the time of inspection. All required samples are pulled and analyzed per KPDES permit requirements. |
| Are the facility sample collection procedures adequate? Are the samples collected in proper containers, preserved, and refrigerated properly? Are all samples analyzed within the allowed holding times? [401 KAR 5:065 Section 2(1)] | C | |
| Is the facility sampling in accordance with sampling requirements specified for biomonitoring in the KPDES permit conditions? [401 KAR 5:065 Section 2(1)] | C | |
| Have pollutants entered the waters of the Commonwealth? [KRS 224.70-110] | C | There was no visual sign of pollutants entering the waters of the Commonwealth at the time of the inspection. |
| Have surface waters been aesthetically or otherwise degraded? [401 KAR 10:031 Section 2] | C | There was no visual sign of degradation noted at the time of the inspection. |
| Is the permittee in compliance with all permit conditions? [401 KAR 5:065 Section 2] | D | The facility has failed to comply with the terms of the permit. A review of the facility's DMRs from June 2018 through June 2019 revealed numerous parameter excursions. The facility has failed to comply with the effluent limitations contained in the permit. The Division of Enforcement is following up on the DMR violations. |

**Investigator:** **Title:** **Date:**

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- [ ] N - N-Not Applicable
- [ ] E - E-Not Evaluated
- [ ] V - V-Out of Compliance-NOV
- [ ] C - C-No Violations observed
- [ ] I - I-No Violations obs-but impending viol trends obs

☑ D - D-Out of Compliance-Violations Documented
☐ O - O-Out of Comp-LOW non-recurrent Adm. or O&M

**Received By:** **Title:** **Date:**

**Delivery Method:**

# Energy and Environment Cabinet
# Department for Environmental Protection
# Division of Water
Wastewater Inspection Report

**AI ID:** 8083 **AI Type:** REC-Arts, Entertainment, & Recreation (71)
**AI Name:** Longview Country Club
**AI Address:** 3243 Frankfort Pike

**City:** Georgetown (Scott), **State:** Kentucky **Zip:** 40324
**County:** Scott **Regional Office:** Frankfort Regional Office
**Latitude:** 38.211301 **Longitude:** -84.659024
**Site Contact:** Joe Arnold
**Title:** Plant Manager/Operator **Phone #:** 502-370-7015
**Inspection Type:** WW CEI-Minor Non-Mun **Activity #:** CIN20210001
**Incident IDs:**
**Inspection Start Date:** November 20, 2020 **Time:** 10:15 AM **End Date:** November 20, 2020 **Time:** 12:00 PM
**Site/Permit ID:** KY0081591

**Lead DEP Investigator:** Jarod Jones
**Other DEP Investigators:**
**External Investigators:**
**Persons Interviewed:** Joe Arnold

**General Comments:** On 11/20/20 KYDOW Inspector Jarod Jones conducted an inspection of the Longview Country Club WWTP located at 3243 Frankfort Pike Georgetown, Scott Co. KY AI 8083 that holds permit KY0081591. The plant treatment component's appeared to be operating and adequately maintained. The aeration basins had good roll and color. The sludge return was discharging clear at the time of the inspection. The effluent discharge was clear and odorless. Evidence of overflow/bypass from plant was observed around the outfall area and in the confluence of the tributary and the pond below the plant outfall. A significant amount of sludge was observed in the outfall area between the WWTP effluent discharge point and the pond. The O & M log indicated that effluent discharge was cleaned out of the outfall area in at least four separate instances in 2020. It is imperative that the facility personnel continue to report any and all overflow and bypass events as they occur. Also it is critical that due diligence be continued where plant O & M is concerned in order for the facility effluent discharge to remain in compliance with the required DMR water quality parameter ranges.

**Overall Compliance Status:** Out of Compliance- Violations documented

## Investigation Results

**SI: AIOO8083**
**SI Description:**
**Inspector Comment:** The plant outfall discharges into a series of three large ponds, the lowest of which drains directly into the North Elkhorn Creek. The lowest of the three ponds was observed to be bypassing the drain on its dam completely and was discharging any overflow water directly down the spillway. There was a significant amount of algae present in the pond. A substantial amount of algae was being transported over the spillway and discharging into the UT which leads to the North Elkhorn creek

**Requirement:** Does the facility hold the proper KPDES permit?. [401 KAR 5:055 Section 2]
**Compliance Status:** C-No Violations observed
**Comment:** The facility holds the proper KPDES permit.

**Requirement:** Have all required permits been obtained from the Division of Water prior to the construction or modification of the facility? [401 KAR 5:005 Section 1]
**Compliance Status:** C-No Violations observed
**Comment:** Facility permit is current.

**Requirement:** Is the facility being operated under the supervision of a properly certified operator? [401 KAR 5:010 Section 1]
**Compliance Status:** C-No Violations observed
**Comment:** Facility is under the supervision of Operator Joseph Arnold WW license # 14466, 19953 for WW treatment and collection, respectively.

**Requirement:** Is the collection system under the primary responsibility of an individual who holds an active collection system certification at the level appropriate for the size of the treatment facility receiving the waste? [401 KAR 5:010 Section 2]
**Compliance Status:** C-No Violations observed
**Comment:** Facility is under the supervision of Operator Joseph Arnold WW license # 14466, 19953 for WW treatment and collection, respectively.

**Requirement:** Does the permittee retain records of all monitoring information including: the date, exact place, and time of sampling or measurements; the name of the individual who performed the sampling or measurements; the dates and times analyses were performed; the name of the individual who performed the analyses; the analytical techniques or methods used; the results of the analyses; 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 the period required by the cabinet and at a minimum of at least three (3) years from the date of the sample, measurement, report, or application? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** DMR's are being submitted as required. Documentation was available upon request.

**Requirement:** Is the facility required to prepare and implement a groundwater protection plan (GPP) as specified in regulation 401 KAR 5:037? If yes, does the facility have a GPP?. [401 KAR 5:037]
**Compliance Status:** E-Not Evaluated
**Comment:**

**Requirement:** Is the permittee reporting monitoring results to the cabinet at the intervals specified in the permit? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** DMR submittals are being conducted accordingly.

**Requirement:** Are the monitoring results reported to the cabinet on a Discharge Monitoring Report (DMR)? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:** DMR submittals are being conducted accordingly.

**Requirement:** 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, are the results of this monitoring included in the calculation and reporting of the data submitted in the DMR? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Are the calculations for all limitations which require averaging of measurements utilizing an arithmetic mean unless otherwise specified by the Cabinet in the permit? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Is the permittee in compliance for the reporting of spills, bypasses, and non-compliance according 401 KAR 5:065 Section 2(1). [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs
**Comment:** Plant operators have cleaned outfall area of plant due to effluent discharge including solids at least four times in 2020.

**Requirement:** Is the permittee in compliance with immediate reporting requirements for emergency or accidental releases to the environment according to 401 KAR 5:065 Section 3(5)?. [401 KAR 5:065 Section 3(5)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs

**Comment:** Inspector received an enotification for a sewer overflow on 1/12/2020 and another on 1/1/2021 for a sewer overflow.

**Requirement:** Is the facility being properly operated and maintained as specified in regulation 5:065? This includes: (a) proper operation and maintenance of all facilities, systems of treatment and control, and related appurtenances which are installed or used by the permittee to achieve compliance with permit conditions;
(b) proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures; (c) this provision also requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** I-No Violations obs-but impending viol trends obs
**Comment:** Plant has had multiple instances of bypass events in 2020 however plant operators have been actively making efforts to address issues with both the internal components, and on the external portions of the plant, since the recent transfer of ownership.

**Requirement:** Are the disinfection unit(s) maintained and operated properly to allow for compliance with permit conditions? [401 KAR 5:005 Section 11]
**Compliance Status:** C-No Violations observed
**Comment:** Effluent was clear and odorless at the time of the inspection.

**Requirement:** Does the flow measuring device measure all flow received at the WWTP? For large wastewater facilities (average daily design capacity >50, 000 gpd), is flow measured by an indicating, recording, and totalizing flow measuring device? [401 KAR 5:005 Section 12]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Is a source of water provided for cleanup? If potable water is used, is a backflow preventor installed to protect the water supply? [401 KAR 5:005 Section 10(6)]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Has fencing with a lockable gate been installed around the wastewater treatment plant? [401 KAR 5:005 Section 10(7)]
**Compliance Status:** C-No Violations observed
**Comment:** Facility perimeter was secure.

**Requirement:** Has an all-weather access road been installed to allow access to the wastewater treatment plant? Is the road adequately maintained to allow access to the facility for operation and maintenance activity? [401 KAR 5:005 Section 10(8)]
**Compliance Status:** C-No Violations observed
**Comment:** Road was adequately maintained and plant was easily accessible.

**Requirement:** Sewage sludge. Did the facility meet the requirements governing the disposal of sewage sludge from publicly owned treatment works, in accordance with 40 CFR Part 503? [401 KAR 5:065 Section 2(4)]
**Compliance Status:** C-No Violations observed
**Comment:** Facility has had sludge pumped out multiple times in 2020.

**Requirement:** Is the effluent in compliance with KPDES permit limitations? Do the Discharge Monitoring Reports indicate KPDES permit violations? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The facility has failed to comply with the effluent limitations contained in the permit. DMR parameter violations occurred during the 2020 year.

**Requirement:** Are samples taken in compliance with the monitoring requirements and taken at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters? Are the samples representative of plant flow? Are flow proportioned samples obtained when required by the KPDES permit? Are grab samples collected according to the KPDES permit requirements? Are composite samples collected and analyzed according to the KPDES permit conditions? Are samples collected according to KPDES permit requirements? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** E-Not Evaluated
**Comment:** Sampling procedures were not evaluated during the inspection.

**Requirement:** Are the facility sample collection procedures adequate? Are the samples collected in proper containers, preserved, and refrigerated properly? Are all samples analyzed within the allowed holding times? [401 KAR 5:065 Section 2(1)]
**Compliance Status:** E-Not Evaluated
**Comment:** Sampling procedures were not evaluated during the inspection.

**Requirement:** Have samples been analyzed by a lab that has been certified according to 401 KAR 5:320? Are all field parameters collected by a lab or individual that holds a Field Only certification according to 401 KAR 5:320?. [401 KAR 5:320]
**Compliance Status:** C-No Violations observed
**Comment:**

**Requirement:** Have pollutants entered the waters of the Commonwealth? [KRS 224.70-110]
**Compliance Status:** I-No Violations obs-but impending viol trends obs
**Comment:** Facility had multiple bypasses in 2020.

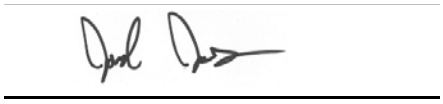
**Requirement:** Have surface waters been aesthetically or otherwise degraded? [401 KAR 10:031 Section 2]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The outfall area below the plant discharge showed visual evidence of sewage sludge. Operators need to address O&M issues that may be contributing to this situation.

**Requirement:** Is the permittee in compliance with all permit conditions? [401 KAR 5:065 Section 2]
**Compliance Status:** D-Out of Compliance-Violations Documented
**Comment:** The facility has failed to comply with the terms of the permit. Facility has a history of compliance issues. Operators are actively working to address plant operational issues.

**Documentation**

- ☒ **Photos taken**
- ☒ **Documents obtained from facility**
- ☐ **Samples taken by outside source**
- ☒ **Request for Submission of Documents**
- ☐ Record of visual determination of opacity
- ☐ **Samples taken by DEP**
- ☐ Regional office instrument readings taken
- ☐ **Other documentation**

**Inspector**:



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ANTHONY R. HATTON
COMMISSIONER

# ENERGY AND ENVIRONMENT CABINET
## DEPARTMENT FOR ENVIRONMENTAL PROTECTION

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

January 13, 2021

Bluegrass Water Utility Operating Company LLC
Longview Country Club
3243 Frankfort Pike
Georgetown (Scott), Kentucky 40324

RE: Longview Country Club AI 8083
Permit No.: KY0081591
Scott County, Kentucky
Activity ID: CIN20210001

To Whom It May Concern:

Attached for your information and records is a copy of the Minor Non-Municipal Wastewater Comprehensive Evaluation (WW CEI-Minor Non-Mun) Inspection performed at the Longview Country Club wastewater treatment facility on November 20, 2020. Please read the attached inspection report carefully, especially with regards to the comments section.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,