Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

November 29, 2011

RE: ELKTON WWTP
41833 STATE ROUTE 154
COMPLIANCE EVALUATION NSPECTION
NPDES PERMIT NO. 3PK00016
ELKRUN TOWNSHIP
COLUMBIANA COUNTY

Mr. Troy Graft, P.E.
Chief Engineer
Columbiana County Engineer
105 South Market Street
Lisbon, OH 44432

Dear Mr. Graft:

On November 9, 2011, this writer conducted a compliance evaluation inspection (CEI) of the Columbiana County Elkton wastewater treatment plant (WWTP) located at the above referenced address. Columbiana County was represented by Mr. Chuck Webber, operator. The WWTP was producing a typical tertiary effluent.

The following is a summary of the inspection:

1) The WWTP consists of a coarse bar screen, fine bar screen, cyclone grit chamber, orbal oxidation ditch, final settling tanks, chemical addition for phosphorus removal, sand filters, and uv disinfection. The facility also has a sludge holding tank, and sludge press.

2) At the time of the inspection, the plant had most of its treatment units online and operational. One of the grit chambers has been out of service for about a year. While it may take time to order replacement parts, a year is too long for a piece of equipment to be out of service.

3) The WWTP effluent data was reviewed from January, 2008 through October, 2011. The effluent violations for this facility are attached to this letter. The plant has performed relatively well over the three plus years reviewed. However, the phosphorus violations continue to be a problem. The violations are sporadic and consistent each year. They are sometimes high enough to place the plant in significant non-compliance. The plant staff has tried a wide variety of solutions and research to correct the problem. This situation should be evaluated and corrected. At the time of the inspection the plant was not feeding polymer because it causes problems with the sludge returns. This is one area that may help get the plant over the hump of continued and on-going compliance. Maybe the feed line could be relocated to prevent the plugging of the sludge returns.

4) The current superintendent has retired or been on medical leave since April 2011. A back-up operator one class lower may be utilized only for 30 days. A longer time period can be requested through the district office with the appropriate justification. The plant is currently a Class IV facility. Due to the stream sensitivity (Outstanding state waters based on exceptional ecological values), the complexity of the plant (tertiary treatment

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with chemical addition for phosphorus), compliance (on-going violations with phosphorus), and public health or potential environmental risks (wild and scenic river and high recreational use of the Middle Fork of Little Beaver Creek), it will be recommended that the WWTP remain a Class IV facility. An appropriate replacement must found. It would be inappropriate if the previous superintendent was signing any monthly operating reports when he was not at the facility to verify day to day operations and effluent data. The operator of record must be physically present at the plant 40 hours per week. The new operator must submit all the appropriate forms immediately to take over operations.

Please respond in writing to the above deficiencies by December 31, 2011.

Should you have any comments or questions, feel free to contact me at (330) 963-1193.

Respectfully,

Joseph E. Trocchio

Joseph E. Trocchio, P.E.
Environmental Engineer
Division of Surface Water

JET/cs

attachment

cc: Donald W. Harrison, Utilities Superintendent
Chuck Webber, Elkton WWTP

File: Public/Permit and Compliance/Columbiana County/Elkton WWTP

## COLUMBIANA COUNTY ELKTON WWTP EFFLUENT VIOLATIONS: JAN 2008 - OCT 2011

| Permit No | Reporting Period | Parameter | Limit Type | Limit | Reported Value | Violation Date |
|---|---|---|---|---|---|---|
| 3PK00016*CD | February 2008 | Nitrogen, Ammonia (NH3 | 7D Qty | 9.7 | 10.5418 | 2/1/2008 |
| 3PK00016*CD | February 2008 | Phosphorus, Total (P) | 7D Qty | 6.5 | 7.70353 | 2/1/2008 |
| 3PK00016*CD | March 2008 | Nitrogen, Ammonia (NH3 | 7D Qty | 9.7 | 13.6653 | 3/1/2008 |
| 3PK00016*CD | March 2008 | Phosphorus, Total (P) | 30D Qty | 4.3 | 4.94636 | 3/1/2008 |
| 3PK00016*CD | March 2008 | Phosphorus, Total (P) | 7D Qty | 6.5 | 10.3489 | 3/1/2008 |
| 3PK00016*CD | August 2008 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.225 | 8/1/2008 |
| 3PK00016*CD | August 2008 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.86 | 8/8/2008 |
| 3PK00016*CD | August 2008 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.61 | 8/15/2008 |
| 3PK00016*CD | September 2008 | Cyanide, Free | 30D Conc | 0.064 | .1 | 9/1/2008 |
| 3PK00016*CD | September 2008 | Cyanide, Free | 1D Conc | 0.092 | .1 | 9/3/2008 |
| 3PK00016*CD | November 2008 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.0925 | 11/1/2008 |
| 3PK00016*CD | December 2008 | Oil and Grease, Freon | 1D Conc | 10 | 10.3 | 12/17/2008 |
| 3PK00016*CD | February 2009 | Nitrogen, Ammonia (NH3 | 7D Qty | 9.7 | 15.7821 | 2/8/2009 |
| 3PK00016*CD | June 2009 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.1275 | 6/1/2009 |
| 3PK00016*CD | June 2009 | Phosphorus, Total (P) | 7D Qty | 6.5 | 7.94918 | 6/15/2009 |
| 3PK00016*CD | July 2009 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.682 | 7/1/2009 |
| 3PK00016*CD | July 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.765 | 7/1/2009 |
| 3PK00016*CD | July 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.88 | 7/8/2009 |
| 3PK00016*CD | July 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.68 | 7/22/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.8225 | 8/1/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.66 | 8/1/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 30D Qty | 4.3 | 4.98208 | 8/1/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 2.1 | 8/8/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 7D Qty | 6.5 | 6.69264 | 8/8/2009 |
| 3PK00016*CD | August 2009 | Nitrogen, Ammonia (NH3 | 7D Conc | 2.25 | 4.81333 | 8/15/2009 |
| 3PK00016*CD | August 2009 | Nitrogen, Ammonia (NH3 | 7D Qty | 9.7 | 12.3310 | 8/15/2009 |
| 3PK00016*CD | August 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 2.1 | 8/15/2009 |
| 3PK00016*CD | September 2009 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.558 | 9/1/2009 |
| 3PK00016*CD | September 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.94 | 9/1/2009 |
| 3PK00016*CD | September 2009 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.98 | 9/15/2009 |
| 3PK00016*CD | October 2009 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.17 | 10/1/2009 |
| 3PK00016*CD | January 2010 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.035 | 1/1/2010 |
| 3PK00016*CD | March 2010 | Phosphorus, Total (P) | 7D Qty | 6.5 | 6.58772 | 3/22/2010 |
| 3PK00016*CD | August 2010 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.1075 | 8/1/2010 |
| 3PK00016*CD | August 2010 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.69 | 8/15/2010 |
| 3PK00016*CD | March 2011 | Total Suspended Solids | 7D Qty | 77.7 | 100.262 | 3/1/2011 |
| 3PK00016*CD | March 2011 | Nitrogen, Ammonia (NH3 | 30D Qty | 6.5 | 7.4537 | 3/1/2011 |
| 3PK00016*CD | March 2011 | Nitrogen, Ammonia (NH3 | 7D Qty | 9.7 | 16.6264 | 3/8/2011 |
| 3PK00016*CD | May 2011 | Phosphorus, Total (P) | 30D Qty | 4.3 | 4.75954 | 5/1/2011 |
| 3PK00016*CD | May 2011 | Phosphorus, Total (P) | 7D Qty | 6.5 | 6.86978 | 5/15/2011 |
| 3PK00016*CD | August 2011 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.5275 | 8/1/2011 |
| 3PK00016*CD | August 2011 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.84 | 8/8/2011 |
| 3PK00016*CD | August 2011 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.59 | 8/22/2011 |
| 3PK00016*CD | September 2011 | Phosphorus, Total (P) | 30D Conc | 1.0 | 1.474 | 9/1/2011 |
| 3PK00016*CD | September 2011 | Phosphorus, Total (P) | 30D Qty | 4.3 | 4.31753 | 9/1/2011 |
| 3PK00016*CD | September 2011 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.51 | 9/8/2011 |
| 3PK00016*CD | September 2011 | Phosphorus, Total (P) | 7D Conc | 1.5 | 1.57 | 9/15/2011 |
| 3PK00016*CD | October 2011 | Oil and Grease, Freon | 1D Conc | 10 | 15.6 | 10/5/2011 |