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

December 23, 2011

RE: TRUMBULL COUNTY
HUBBARD TOWNSHIP
ELLWOOD ENGINEERED CASTINGS
COMPLIANCE EVALUATION INSPECTION
(NPDES PERMIT NO. 3IM00002)

Mr. William Mozes
Safety & Environmental Manager
Ellwood Engineered Castings
7158 Hubbard Masury Road
Hubbard, OH 44225

Dear Mr. Mozes:

On December 7, 2011, a Compliance Evaluation Inspection (CEI) was conducted at Elwood Engineered Castings (EEC), 7158 Hubbard Masury Road, Hubbard, Ohio. Present at the inspection were Messers; Greg Barr and Jay Deluca, and you, representing Ellwood Engineered Castings; and this writer, of the Ohio EPA.

The purpose of the inspection was multi-fold:

1) To gather information necessary to renew the above referenced NPDES permit.

2) To discuss several National Pollutant Discharge Elimination System (NPDES) permit-required studies EEC has conducted, and their associated summary reports.

3) To inspect sanitary wastewater treatment plant (WWTP) improvements made since the last inspection.

4) To discuss the remaining NPDES permit Significant Non Compliant (SNC) violations EEC has; what actions will be undertaken by EEC to correct the violations; and how EEC plans on returning to continued compliance with permit limitations.

The last CEI conducted at Ellwood Engineered Castings was on November 13, 2008.

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The following items were also discussed with you during the December 7th inspection:

1) Terms and conditions of the current NPDES Permit remain effective until the new permit is renewed. The renewal application for the current NPDES permit was submitted by EEC in April 2007. The permit renewal was delayed until EEC could conduct NPDES permit Compliance Schedule-required engineering studies, and submit results of the studies to the Ohio EPA.

2) A review of your compliance with the limitations contained in your NPDES permit, as identified by our computer tracking system, indicates the following effluent Numeric violations for the time period of November 1, 2008 through November 1, 2011:

Elwood Engineered Castings
NPDES Permit No. 3IM00002
Numeric Effluent Violations
(Nov. 1, 2008 through Nov. 1, 2011)

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2009	001	Iron, Total Recoverable	30D Conc	1330	9111.	1/1/2009
January 2009	001	Iron, Total Recoverable	1D Conc	2000	9111.	1/23/2009
January 2009	001	Oil and Grease, Total	1D Conc	10	13.3	1/23/2009
February 2009	001	Iron, Total Recoverable	30D Conc	1330	7994.	2/1/2009
February 2009	001	Oil and Grease, Total	1D Conc	10	12.	2/18/2009
February 2009	001	Iron, Total Recoverable	1D Conc	2000	7994.	2/18/2009
April 2009	001	Phenolic 4AAP, Total	30D Conc	20	269.	4/1/2009
April 2009	001	Phenolic 4AAP, Total	1D Conc	30	269.	4/23/2009
May 2009	001	Phenolic 4AAP, Total	30D Conc	20	103.	5/1/2009
May 2009	001	Phenolic 4AAP, Total	1D Conc	30	103.	5/20/2009
October 2009	001	Iron, Total Recoverable	30D Conc	1330	3660.	10/1/2009
October 2009	001	Iron, Total Recoverable	1D Conc	2000	3660.	10/9/2009
November 2009	001	Iron, Total Recoverable	30D Conc	1330	1600.	11/1/2009
December 2009	001	Iron, Total Recoverable	30D Conc	1330	12200.	12/1/2009
December 2009	001	Iron, Total Recoverable	1D Conc	2000	12200.	12/8/2009
January 2010	001	Iron, Total Recoverable	30D Conc	1330	12200.	1/1/2010
January 2010	001	Oil and Grease, Total	1D Conc	10	15.	1/14/2010
January 2010	001	Iron, Total Recoverable	1D Conc	2000	12200.	1/14/2010
February 2010	001	Iron, Total Recoverable	30D Conc	1330	13700.	2/1/2010
February 2010	001	Iron, Total Recoverable	1D Conc	2000	13700.	2/22/2010
March 2010	001	Iron, Total Recoverable	30D Conc	1330	7880.	3/1/2010
March 2010	001	Iron, Total Recoverable	1D Conc	2000	7880.	3/22/2010
April 2010	001	Iron, Total Recoverable	30D Conc	1330	11900.	4/1/2010
April 2010	001	Iron, Total Recoverable	1D Conc	2000	11900.	4/8/2010
May 2010	001	Iron, Total Recoverable	30D Conc	1330	1880.	5/1/2010

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
May 2010	001	Phenolic 4AAP, Total	30D Conc	20	200.	5/1/2010
May 2010	001	Phenolic 4AAP, Total	1D Conc	30	200.	5/17/2010
June 2010	001	Iron, Total Recoverable	30D Conc	1330	4120.	6/1/2010
June 2010	001	Iron, Total Recoverable	1D Conc	2000	4120.	6/9/2010
July 2010	001	Iron, Total Recoverable	30D Conc	1330	23600.	7/1/2010
July 2010	001	Iron, Total Recoverable	1D Conc	2000	23600.	7/9/2010
August 2010	001	Phenolic 4AAP, Total	30D Conc	20	59.	8/1/2010
August 2010	001	Iron, Total Recoverable	30D Conc	1330	11900.	8/1/2010
August 2010	001	Iron, Total Recoverable	1D Conc	2000	11900.	8/21/2010
August 2010	001	Phenolic 4AAP, Total	1D Conc	30	59.	8/21/2010
September 2010	001	Iron, Total Recoverable	30D Conc	1330	3930.	9/1/2010
September 2010	001	Iron, Total Recoverable	1D Conc	2000	3930.	9/11/2010
October 2010	001	Iron, Total Recoverable	30D Conc	1330	10600.	10/1/2010
October 2010	001	Iron, Total Recoverable	1D Conc	2000	10600.	10/14/2010
November 2010	001	Iron, Total Recoverable	30D Conc	1330	9860.	11/1/2010
November 2010	001	Iron, Total Recoverable	1D Conc	2000	9860.	11/16/2010
December 2010	001	Iron, Total Recoverable	30D Conc	1330	3900.	12/1/2010
December 2010	001	Iron, Total Recoverable	1D Conc	2000	3900.	12/12/2010
March 2011	001	Phenolic 4AAP, Total	30D Conc	20	76.	3/1/2011
March 2011	001	Iron, Total Recoverable	30D Conc	1330	5490.	3/1/2011
March 2011	001	Phenolic 4AAP, Total	1D Conc	30	76.	3/4/2011
March 2011	001	Iron, Total Recoverable	1D Conc	2000	5490.	3/4/2011
April 2011	001	Iron, Total Recoverable	30D Conc	1330	1740.	4/1/2011
April 2011	001	Phenolic 4AAP, Total	30D Conc	20	35.	4/1/2011
April 2011	001	Phenolic 4AAP, Total	1D Conc	30	35.	4/25/2011
May 2011	001	Iron, Total Recoverable	30D Conc	1330	20200.	5/1/2011
May 2011	001	Iron, Total Recoverable	1D Conc	2000	20200.	5/12/2011
June 2011	001	Iron, Total Recoverable	30D Conc	1330	3570.	6/1/2011
June 2011	001	Iron, Total Recoverable	1D Conc	2000	3570.	6/7/2011
October 2011	001	Iron, Total Recoverable	30D Conc	1330	1400.	10/1/2011
October 2011	001	Phenolic 4AAP, Total	30D Conc	20	32.	10/1/2011
October 2011	001	Phenolic 4AAP, Total	1D Conc	30	32.	10/12/2011
January 2009	004	Total Suspended Solids	30D Conc	12	16.	1/1/2009
May 2009	004	Total Suspended Solids	30D Qty	0.114	.20985	5/1/2009
May 2009	004	Fecal Coliform	30D Conc	1000	3364.	5/1/2009
May 2009	004	Total Suspended Solids	30D Conc	12	24.5	5/1/2009
May 2009	004	Fecal Coliform	1D Conc	2000	3364.	5/20/2009
May 2009	004	Total Suspended Solids	1D Qty	0.17	.20985	5/20/2009
May 2009	004	Total Suspended Solids	1D Conc	18	24.5	5/20/2009
June 2009	004	Fecal Coliform	30D Conc	1000	2900.	6/1/2009
June 2009	004	Fecal Coliform	1D Conc	2000	2900.	6/29/2009
July 2009	004	Fecal Coliform	30D Conc	1000	27000.	7/1/2009

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
July 2009	004	pH	1D Conc	6.5	5.93	7/22/2009
July 2009	004	Fecal Coliform	1D Conc	2000	27000.	7/22/2009
August 2009	004	Fecal Coliform	30D Conc	1000	4090.	8/1/2009
August 2009	004	Fecal Coliform	1D Conc	2000	4090.	8/13/2009
September 2009	004	Fecal Coliform	30D Conc	1000	21000.	9/1/2009
September 2009	004	Fecal Coliform	1D Conc	2000	21000.	9/24/2009
December 2009	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	2.4	12/1/2009
December 2009	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.02316	12/1/2009
May 2010	004	Fecal Coliform	30D Conc	1000	1200.	5/1/2010
June 2010	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.03474	6/1/2010
June 2010	004	Nitrogen, Ammonia (NH3-N)	1D Qty	0.028	.03474	6/9/2010
June 2010	004	Chlorine, Total Residual	1D Conc	0.019	.07	6/9/2010
July 2010	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.03992	7/1/2010
July 2010	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	2.8	7/1/2010
July 2010	004	Chlorine, Total Residual	1D Conc	0.019	.41	7/9/2010
July 2010	004	Nitrogen, Ammonia (NH3-N)	1D Qty	0.028	.03992	7/9/2010
August 2010	004	Chlorine, Total Residual	1D Conc	0.019	.91	8/21/2010
September 2010	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	3.	9/1/2010
September 2010	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.04076	9/1/2010
September 2010	004	Chlorine, Total Residual	1D Conc	0.019	.11	9/11/2010
September 2010	004	Nitrogen, Ammonia (NH3-N)	1D Qty	0.028	.04076	9/11/2010
October 2010	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.08112	10/1/2010
October 2010	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	5.6	10/1/2010
October 2010	004	Chlorine, Total Residual	1D Conc	0.019	.06	10/5/2010
October 2010	004	Nitrogen, Ammonia (NH3-N)	1D Conc	3.0	5.6	10/14/2010
October 2010	004	Nitrogen, Ammonia (NH3-N)	1D Qty	0.028	.08112	10/14/2010
October 2010	004	Chlorine, Total Residual	1D Conc	0.019	.06	10/14/2010
October 2010	004	pH	1D Conc	6.5	6.31	10/14/2010
November 2010	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	9.1	11/1/2010
November 2010	004	Nitrogen, Ammonia (NH3-N)	1D Conc	3.0	9.1	11/14/2010
April 2011	004	Total Suspended Solids	30D Qty	0.114	.32466	4/1/2011
April 2011	004	Total Suspended Solids	1D Qty	0.17	.32466	4/18/2011
May 2011	004	Total Suspended Solids	30D Qty	0.114	.15861	5/1/2011
May 2011	004	Fecal Coliform	30D Conc	1000	1600.	5/1/2011
June 2011	004	Fecal Coliform	30D Conc	1000	6200.	6/1/2011
June 2011	004	Fecal Coliform	1D Conc	2000	6200.	6/22/2011
July 2011	004	Nitrogen, Ammonia (NH3-N)	30D Qty	0.019	.0453	7/1/2011
July 2011	004	Nitrogen, Ammonia (NH3-N)	30D Conc	2.0	2.6	7/1/2011
July 2011	004	Chlorine, Total Residual	1D Conc	0.019	1.42	7/12/2011
July 2011	004	pH	1D Conc	6.5	6.2	7/12/2011
July 2011	004	Chlorine, Total Residual	1D Conc	0.019	2.2	7/13/2011
July 2011	004	Chlorine, Total Residual	1D Conc	0.019	2.13	7/18/2011
July 2011	004	Nitrogen, Ammonia (NH3-N)	1D Qty	0.028	.0453	7/18/2011
September 2011	004	Fecal Coliform	30D Conc	1000	1962.14	9/1/2011

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
September 2011	004	Chlorine, Total Residual	1D Conc	0.019	.09	9/7/2011
September 2011	004	Fecal Coliform	1D Conc	2000	11000.	9/7/2011
October 2011	004	pH	1D Conc	6.5	6.41	10/11/2011

***NOTE: STA 001* = Discharge from 30" storm sewer at the south east end of property.
STA 004 = Discharge from sanitary WWTP, prior to co-mingling with any other wastewaters.

3) The current NPDES Permit contains a Compliance Schedule with several items that were to have met specific dates for completion (Part I,C.1a,b,c,d and Part I,C.2). Submittal of the items required by the Compliance Schedule has been made since the November 2008 meeting/inspection. The items submitted are as follows:

   a) **Part I,C,1a.** *The permittee shall conduct a detailed engineering evaluation of its existing wastewater treatment and/or storm water management systems.*

      The Detailed Engineering Evaluation of the Existing Wastewater Treatment System and Storm Water System was received February 10, 2011.

   b) **Part I,C,1b.** *The permittee shall submit an engineering report to Ohio EPA detailing the results of the evaluation; actions taken to improve compliance; recommendations for further actions and/or improvements necessary to enhance treatment performance; and a schedule for implementing all recommended actions and improvements.*

      The Detailed Engineering Evaluation of the Existing Wastewater Treatment System and Storm Water System was received February 10, 2011.

   c) **Part I,C,1c.** *The permittee shall implement all recommended actions and complete construction of any improvements necessary to achieve compliance in accordance with the schedule contained in the report…*

      Recommended actions for the Wastewater Treatment System included construction of a sludge digester, and replacement of the tablet chlorination unit with Ultra Violet (UV) disinfection.

Detail Plans for the Aerated Sludge Holding (ASH) tank were received January 19, 2011; the PTI was issued February 28, 2011; and the ASH tank has been installed and is in use.

Detail Plans for the UV unit were received March 30, 2011; the permit-to-install (PTI) was issued April 19, 2011; and the UV unit has been installed and used this past disinfection season.

d) **Part I,C,1d.** *The permittee shall submit the following documents: An updated Operation and Maintenance (O&M) manual for the Sanitary Treatment Plant (Station 3IM00002004); A Storm Water Pollution Prevention Plan.*

The updated O&M Manual for the Sanitary WWTP was received December 23, 2010, and the Storm Water Pollution Prevention Plan (SWP3) was submitted on October 28, 2010.

4) Since the installation of the ASH tank and UV disinfection unit late Summer 2011, the suspended solids and ammonia violations have been almost totally eliminated for the sewage treatment system effluent (STA 004).

5) The remaining numeric violations (for STA 001) for the 30" storm sewer are comprised of Total Recoverable Iron, and Total Phenolic 4AAP. Results of the Storm Water System analysis determined that, during storm events, increased runoff causes solids (primarily casting sand) to be transported via the storm water collection system, to the various outfalls (STA 001, 002, and 003).

   Collection of various samples along the storm water conveyance system revealed that the sites of highest iron input are at internal sampling Locations three and seven.

   It is felt the iron and phenolics are contained within the sand as a result of the casting operation. Reduction of the sand runoff into the storm sewer should reduce the iron / phenolics concentrations in the discharge from STA 001.

6) In order to abate the iron / phenolics issue, your consulting engineers recommended the implementation of Best Management Practices (BMP) to control the excess solids from entering the storm water system.

Some of the BMPs include: Cleanup of sand in several areas; Covering storage piles; Using roll-off containers with covers; Installing silt fence in drainage areas and sediment filters into drop inlets; and when possible, moving storage under roof.

Following implementation of these BMPs, additional testing will be conducted, to determine if further actions may be required.

7) As was discussed during the meeting, should the BMP efforts not prove to resolve the iron and phenolic SNC violations, additional measures will have to be under taken by EEC to try and abate the violation problem. Construction of some type of sand sediment, or iron-specific removal facilities, may be necessary.

8) The forthcoming renewed NPDES permit will have an interim and final table for outlets 001 and 004. The STA 001 effluent iron concentrations will most likely be changing, and there will be a compliance schedule in the new NPDES permit for the submittal of plans, and construction of treatment facilities, which will enable the iron and phenol limits to be met.

   The STA 004 effluent interim table will require monitoring of E coli., as well as limits for Fecal Coliform, for a period of 12 months. After 12 months, the effluent final table will have E. coli limits, and will eliminate the need for testing for Fecal Coliform.

9) The inspection of the WWTP at STA 004 revealed a new effluent pipe made of PVC was installed, replacing the old iron effluent pipe.

10) New diffusers were installed in the extended aeration tank since the last inspection.

11) The UV tank appears to be potentially subject to inflow, from the area surrounding the tank, during periods of higher precipitation. It is recommended that a diversion (concrete) berm be installed around the UV tank to prevent any excessive inflow which could potentially cause solids violations, or improper kill of bacteria due to higher solids levels in the UV tank.

Based upon data submitted to the Ohio EPA by EEC, the facility is considered to be in SNC for Total Recoverable Iron and 4AAP Phenolic (STA 001); and Ammonia Nitrogen and Total Suspended Solids (STA 004). The attached document details the parameters in SNC for the last six month period (February 2011 through July 2011). The 4AAP Phenolic SNC multiplier would be 1.2. Other limited parameters would have a multiplier of 1.4.

Please be informed that WWTPs which are in SNC with their NPDES permit effluent limits must be returned to compliance in a timely manner.

The means by which an entity in SNC is brought back into compliance, and kept in compliance, is through a Compliance and Enforcement Plan developed by the District Office with jurisdiction over that entity.

SNC is defined by the USEPA as a 40% exceedance of specific conventional pollutant limits (1.4 x parameter effluent limit), or a 20% exceedance of toxic pollutant limits (1.2 x parameter effluent limit), at a given discharge point for any two or more months, during any two consecutive quarter period reviewed.

a) Conventional pollutants include: BOD/CBOD; total suspended solids; nutrients such as nitrogen (ammonia) and phosphorus; oil & grease.
b) Toxic pollutants include: total chlorine residual; heavy metals; cyanide.

The December 7th facility inspection, and meeting to discuss the facility's NPDES permit SNC violations, shall serve as the initial step in the development and implementation of a plan to bring your facility back into compliance with your NPDES permit.

The actions EEC intends to undertake, in order to bring the facility back into compliance with its NPDES permit effluent limits, need to be determined, and submitted to this office in a written report by January 14, 2012. Included in the report should also be a schedule of implementation for the actions, as well as a prioritization of proposed projects. The schedule should also include updated status reports on a quarterly basis.

Results of the compliance meeting may require additional enforcement actions be taken by Ohio EPA should compliance not be attained.

If you have questions or comments regarding this letter, please contact this office.

Respectfully,

Charles E. Allen
Environmental Engineer
Division of Surface Water

CEA/cs