
EXHIBIT 01

NOTICE OF VIOLATION (HEACOCK PUMP STATION)

RECEIVED
LOWER MAKEFIELD TWP
2017 APR -7 AM 10: 50

April 4, 2017

NOTICE OF VIOLATION

Mr. Richard K. Watson
Sewer Administrator
Lower Makefield Township
Sewer Authority
1100 Edgewood Road
Yardley, PA 19067

Re: Clean Water/Operations/General/Sewage
Haycock Pump Station Force Main Break
Lower Makefield Township
Montgomery County

Dear Mr. Watson:

On March 20, 2017, the Department of Environmental Protection (DEP) investigated the report of a force main break on the Haycock Pump Station's 12-inch force main. Sewage from the break flowed onto the ground and into the Unnamed Tributary to Brock Creek, a water of the Commonwealth. A discharge of sewage without authorization by a permit issued by DEP constitutes a violation of Sections 201 and 202 of the Clean Streams Law, the Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1 - 691.1001 (Clean Streams Law). Such violations also constitute unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611, and are subject to the enforcement provisions of Section 605 of the Clean Streams Law, 35 P.S. § 691.605 which includes the assessment of civil penalties.

We request that you submit a report to this office within **30 days** of the date of this letter, describing the cause of noncompliance and the steps that have been or will be taken to prevent recurrence of the violation along with a correction schedule.

This Notice of Violation is neither an order nor any other final action of DEP. It neither imposes nor waives any enforcement action available to DEP under any of its statutes. If DEP determines that an enforcement action is appropriate, you will be notified of the action.

Mr. Richard K. Watson

- 2 -

April 4, 2017

If you have any questions, please call me at 484.250.5134.

Sincerely,



Bernard Krasnisky
Water Quality Specialist
Clean Water

cc: Mr. Bauer
Compliance and Monitoring
Lower Makefield Township
File
Re (GJE17CLW094-13)

Ebert Engineering, Inc.

Water and Wastewater Engineering

April 20, 2017

Mr. Bernard Krasnisky
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

Subject: Heacock Pump Station Force Main - Notice of Violation
Re: Supplemental Response
EE, Inc. No.: 068-029

Dear Mr. Krasnisky,

Lower Makefield Township recieved a copy of your April 4, 2017 Notice of Violation (NOV) concerning the force main break on the Heacock Pump Station force main that occurred on March 20, 2017. Lower Makefield Township has requested that Ebert Engineering, Inc. (EE, Inc.) prepare a supplemental response to the NOV as EE, Inc. witnessed the repair of the force main break as well as performed an evaluation of the cause of the break.

The Heacock Road Pump Station force main has broken two times within the last few months and a third break occurred within the last year. The three breaks in the force main are very close together and are adjacent to the existing active rail road where the rail road tracks crosses Stony Road. When the force main break occurred on March 20, 2017 the Lower Makefield Township Sewer Administrator (Kelley Watson), immediately informed the PA DEP and then called EE, Inc. to have an inspector witness the repair of the force main. Due to the fact that this was the second recent break of the force main in the same general area (within sight of each other), EE, Inc. sent out an engineer to evaluate the situation as well as perform inspection services on the repair of the force main.

EE, Inc. informed the Lower Makefield Sewer Authority Board members of the situation and the findings of EE, Inc.'s evaluation at the Authority board meeting on March 23, 2017. EE, Inc. also presented its evaluation and recommendations to the Lower Makefield Township Board of Supervisors at their April 5, 2017 Township Supervisors Board Meeting.

The Notice of Violation requested that that Lower Makefield Township and its Sewer Administrator submit a report within thirty (30) days that addresses the following three items:

- Cause of the Non Compliance
- Steps that will be taken to prevent a reoccurrence
- Correction Schedule

The above three items are specifically addressed in the following sections:

Heacock Force Main - Supplemental Response

April 20, 2017

Page 2 of 3

CAUSE OF NON COMPLIANCE

EE, Inc. performed a field evaluation on the cause of the break as well as performed an review of the design plans of the force main. It was determined that there were three factors that lead to the force main breaking three times in the same general area.

The first factor is that force main in this section was constructed out of SDR 26 PVC pipe. SDR 26 PVC pipe is now mainly utilized for the installation of gravity sanitary sewers. It was previously allowed for force mains that operate under low pressures but is no longer utilized for any force main applications.

This second factor is that the force main was installed adjacent to an active rail road. The impacts of forces from the rail road traffic over a period of time weaken the pipe material and this is why the railroad requires the use of a heavy wall ductile iron pipe for all force mains located within their right of way.

The third factor was that there was little to no stone bedding around the force main in the location of the first two breaks. This caused an weak point in the force main. The last break of the force main the pipe was however found to encased in stone. This indicates that that pipe was breaking at its weakest locations first.

It is noted that the section immediately prior to the locations where the breaks are occurring is constructed out of ductile iron pipe because it is in the right of way of the rail road tracks (Conrail Easement). The section where the three breaks occurred the force main alignment was moved outside of the right of way of the rail road but adjacent to the to the railroad right of way for approximately 1,574 linear feet and utilized PVC pipe. The force main alignment then moves back into the right of way of the rail road right of way after this section and is again constructed using ductile iron pipe.

It is believed that the combination of the type of pipe material used combined with not being properly bedded and then having the influence of the rail traffic close to the pipe is what is causing the failure of the force main in this section. The force main was installed in 1995 and is now twenty two (22) years old. If we only had one or two of these issues the force main would most likely be fine.

STEPS THAT WILL BE TAKEN TO PREVENT A REOCCURRENCE

At the April 5, 2017 Lower Makefield Township Board of Supervisors meeting, EE, Inc. presented this evaluation to the Board of Supervisors. EE, Inc. also made the recommendation that the section of the force main that was constructed utilizing SDR 26 PVC pipe as the force main material be replaced as soon as possible. The Lower Makefield Township Board of Supervisors authorized the design and bidding of the replacement of this section of the force main at the meeting.

Heacock Force Main - Supplemental Response

April 20, 2017

Page 3 of 3

Fortunately, the Heacock Road Pump Station has the ability to still utilize the old force main to the Neshaminy Interceptor in an emergency. This will allow us to divert the flows while this section of the force main is under construction. The length of the force main that should be replaced with ductile iron pipe is approximately 1,574 linear feet and it is located outside of the roads in an existing easement. This will make the entire section of the force main that is adjacent or in the right of way of the rail road all ductile iron pipe.

The estimated construction cost is approximately \$250,000.00.

CORRECTION SCHEDULE

The proposed schedule for the design and construction of the replacement to this force main is as follows:

- | | |
|---|-----------------------------|
| • Survey (Already Authorized) | May1 - 12, 2017 |
| • Preparation of Existing Features Plan | May 15 -19, 2017 |
| • Design of Replacement Force Main | May 22 - June 2, 2017 |
| • Preparation of Bid Documents | June 5 - 15, 2017 |
| • Authorization to Bid | June 22, 2017 |
| • Public Bidding | June 26 - July 13, 2017 |
| • Award Contract | July 27, 2017 |
| • Construction | August 1 - October 13, 2017 |
| • Force Main Replaced and Operational | October 15, 2017 |

Should you have any questions concerning this matter or require any additional information, please feel free to contact Lower Makefield Township or myself.

Very truly yours,



Frederick E. Ebert. P.E.
President

CC: Terry Fedorchak, Township Manager
Barbara Kirk, Esq., Authority Solicitor
Kelley Watson, LMT Sewer Administrator
Greg Hucklebridge, LMT Public Works Director