

May 3, 2017

EGOS0730

East Goshen Township  
Attn: Rick Smith  
1580 Paoli Pike  
West Chester, PA 19380

**RE: NOISE TESTING SERVICES  
SUNOCO PIPELINE**

Dear Rick:

We are providing this report to document the background noise assessment conducted at various properties along the proposed Sunoco pipeline installation. The assessment was performed between April 3 to 10, 2017 to document background noise levels during normal working hours.

#### **BACKGROUND**

Per the Township Code, Chapter 156 (Noise) the following is applicable to the project:

**§ 156-5 Noise disturbances prohibited.**

*No person shall unreasonably make, continue or cause to be made or continued any noise disturbance.*

***A.*** *Specific prohibitions. By way of example, but not by way of limitation, the following acts and the causing thereof are declared to be in violation of this chapter.*

***(6)*** *Construction/demolition. Operating or permitting the operation of any tools or equipment used in construction, drilling or demolition work:*

***(a)*** *Between the hours of 10:00 p.m. and 7:00 a.m. prevailing time the following day such that the sound therefrom creates a noise disturbance across a residential real property boundary or within a noise sensitive zone, except for emergency work of public service utilities or by special permit issued pursuant to § 156-7.*

***(b)*** *At any other time such that the sound level at or across a real property boundary exceeds an LEQ of 60 dBA for the daily period of operation.*

An LEQ (or LAVG) is the constant (or average) sound level over a given period of time. Since the work is expected to take place between 7 AM and 10 PM, the background LEQ will be the average noise level during this time period.

#### **SOUND MEASUREMENT METHODOLOGY**

Under the direction of our Certified Industrial Hygienist (CIH), Pennoni recorded background sound levels during projected working hours when drilling operations will take place. Sound measurements were collected using SoundProDL Sound Level Meters (SLM) and Quest2900 Sound Level Meters, which were pre-calibrated per manufacturer instructions prior to use.

Sound measurements were collected in fourteen (14) predetermined locations (see Appendix A – Sound and Vibration Reading Locations Map).

In each of the 14 locations, a "session" consisted of sound measurements collected in proximity to the projected drilling locations. The sound meters were mounted on a stationary tripod at each location, with the microphone pointing vertically. The duration of each measurement was approximately 15 hours, which allowed for the measurement to establish a LAVG/LEQ (dB).

### SOUND MEASUREMENT RESULTS

Results of sound measurements are summarized in the table below. See Appendix B for detailed sound readings by location.

Area 1	Date	Time	LAVG/LEQ (dB)	LAVG/LEQ (dB)
1 – Wellington	4/10/17	7:40 AM – 9:22 AM*	69.1	69.9
	4/10/17	9:25 AM – 1:52 PM	71.2	
	4/10/17	10:00 AM – 1:16 PM	73.9	
	4/4/17	12:57 PM – 8:21 PM	69.6	
	4/4/17	8:23 PM – 9:04 PM	65.6	
2 – Shopping Center	4/10/17	5:36 AM – 6:32 AM	73.7	71.9
	4/10/17	7:01 AM – 11:38 AM	74.5	
	4/4/17	7:24 AM – 1:02 PM	71.6	
	4/10/17	11:39 AM – 6:02 PM	74.3	
	4/4/17	1:02 PM – 6:45 PM	70.6	
	4/10/17	6:03 PM – 10:01 PM	71.4	
	4/4/17	6:45 PM – 10:14 PM	67.5	
3 – Hershey's Mill A	4/4/17	10:55 AM – 10:56 AM	71.6	72.7
	4/4/17	1:06 PM – 8:04 PM	74.4	
	4/4/17	8:05 PM – 10:18 PM	72.1	
4 – Hershey's Mill B	4/5/17	7:04 AM – 10:07 AM	64.4	55.1
	4/5/17	10:36 AM – 12:45 PM	51.4	
	4/5/17	12:47 PM – 5:05 PM	51.8	
	4/5/17	7:02 PM – 9:18 PM	52.8	
5 – Executive Center A	4/10/17	1:49 AM – 3:08 AM	72	71.0
	4/10/17	3:10 AM – 9:25 AM	71.5	
	4/10/17	9:25 AM – 1:52 PM	71.2	
	4/10/17	1:52 PM – 6:27 PM	69.2	
6 – Executive Center B	4/10/17	7:16 AM – 2:02 PM	66.9	66.3
	4/5/17	1:58 PM – 1:58 PM	51.9	
	4/5/17	1:59 PM – 7:32 PM	69.7	
	4/5/17	4:39 PM – 10:16 PM	74.1	
	4/5/17	7:33 PM – 9:47 PM	70.7	
	4/5/17	9:47 PM – 9:47 PM	64.3	
7 – New Kent A	4/10/17	6:15 AM – 7:15 AM	67.5	68.8
	4/10/17	7:22 AM – 11:56 AM	67.1	
	4/4/17	8:31 AM – 1:29 PM	71.5	
	4/10/17	11:57 AM – 1:35 PM	65.5	
	4/4/17	1:30 PM – 4:13 PM	70.4	
	4/4/17	4:14 PM – 4:44 PM	70.9	
	4/4/17	5:19 PM – 10:33 PM	68.9	
8 – New Kent B	4/4/17	8:40 AM – 1:33 PM	71.9	70.2
	4/4/17	1:35 PM – 3:50 PM	70.1	
	4/4/17	4:07 PM – 10:30 PM	68.6	
9 – Marydell A	4/10/17	6:30 AM – 6:40 AM	86.1	80.7

Area 1	Date	Time	LAVG/LEQ (dB)	LAVG/LEQ (dB)
	4/10/17	7:29 AM – 1:45 PM	84.9	
	4/5/17	10:42 AM – 1:13 PM	75.8	
	4/5/17	1:14 PM – 5:35 PM	76.9	
	4/10/17	1:46 PM – 6:57 PM	89.2	
	4/5/17	5:36 PM – 9:36 PM	74.3	
	4/10/17	6:58 PM – 10:22 PM	77.6	
10 – Bow Tree A	4/5/17	7:58 AM – 2:11 PM	68.7	68.8
	4/5/17	2:11 PM – 8:54 PM	68.9	
11 – Marydell B	4/5/17	4:36 AM – 10:23 AM	73.3	73.5
	4/5/17	10:24 AM – 12:47 PM	74.0	
	4/5/17	12:48 PM – 6:03 PM	73.1	
12 – Bow Tree B	4/5/17	8:30 AM – 2:22 PM	69.6	69.6
	4/5/17	2:23 PM – 7:50 PM	70.5	
	4/5/17	7:53 PM – 10:00 PM	68.7	
13 – Marydell C	4/3/17	11:10 AM – 4:46 PM	66.5	67.4
	4/3/17	4:48 PM – 10:01 PM	68.2	
14 – Bow Tree C	4/5/17	4:39 PM – 10:16 PM	74.1	74.1

\*Equipment clock on meter had to be reset.

**CONCLUSIONS**

Based on the results indicated above, we offer the following conclusions:

1. The average noise levels measured at each of the 14 locations were greater than 60 dBA with the exception of those collected at Hershey’s Mill B.
2. The average noise levels at Hershey’s Mill B were lower than the other locations due to the meters location in relation to the roadway. The meter was behind two residential fences and approximately 250 feet from the main roadway. Note that the original location from 7:04 AM to 10:07 AM was located along the main road and then was moved closer to the approximate drilling location.
3. The average noise levels at the remaining 13 locations were greater than 60 dBA due to primarily due to constant vehicular traffic and the proximity of our meters to the roadway.

If you have any questions concerning this report or if you require additional information, please contact us.

Sincerely,

**PENNONI ASSOCIATES INC.**

  
R. Alan Lloyd, CIH, CSP  
Associate Vice President

  
Nathan M. Cline, PE  
Township Engineer

Attachments:

- Appendix A – Sound Reading Locations
- Appendix B – Sound Reading Results

cc: Mark Miller, Director of Public Works (via e-mail)  
Mark Gordon, Director of Code Enforcement/Zoning Officer (via e-mail)