

May 15, 2021

By email to: ra-eppipelines@pa.gov

Re: Public Comments on Report for HDD PA-CH-0199.0000-RD (HDD #S3-0360)

To whom it may concern:

I am writing to express my concerns over Sunoco's plans for the HDD 360 20" pipe installation, submitted to the Department of Environmental Protection for re-evaluation. I live directly across the road from the worksite on Shoen Road. I am acutely aware of what has occurred during this construction over the past four years, and have a Bachelors degree in Earth Science and Masters degree in Soil Science.

In the previous public comment period, I and others drew attention to the need for further geotechnical investigations at the downstream (Shoen Road) end of HDD 360: Buried in Sunoco's HDD Reanalysis report for this restart was a February 27, 2020 report from Rettew recommending further investigation of three areas of concern that could potentially act as preferred pathways for water flow or contribute to possible earth subsidences. These areas were marked as Areas A and B on the hillside on north side of Shoen Road, and Area C on the south lane of Shoen Road adjacent to the HDD drill site.

The documents submitted since then appear to be in response to this and they confirm the earlier areas of concern. However the concerns are not resolved in the new reports; the geotechnical borings are inadequate and inconclusive; the reports contain erroneous statements; and they fail to correct problems from and during previous drilling at HDD 360. This is detailed below.

The repeat geophysical testing conducted on October 19, 2020 confirms the existence of Areas A,B and C and the proposed 20" passes through these areas of concern.

- Rettew states "these anomalies are roughly coincident with those detected in the previous [February 2020] geophysical study" (December 9, 2020, page 4) however the ovals appear to be significantly relocated without justification. In the photo below, Figure 7B (original geophysical survey) is on left and Figure 7A (repeat geophysical survey) is on right.

- Area A in Figure 7A (on right in photo below) excludes the fracture zone to the west
- Area B in Figure 7A also excludes the gravity low to the west and fracture zone to the south
- The proposed 20" path (grey line in 7A on right side in photo below) passes just west of Area A, along the western edge of Area B and through Area C. It passes through three possible fracture zones, one uphill from and behind our neighbors' house at 109 Shoen Road, one at the bottom of the hillside on our property at 103 Shoen Road and one in between.



The borings on the hillside in the Areas of Concern A and B are insufficient and inconclusive.

- Only two borings were conducted on the hillside: S3_0360_AP_A1 in Area A and S3_0360_A1 in Area B. The borings only went to depths of 28.8 feet and 11 feet respectively. (PSI, January 11, 2021)
- Rettew's only conclusion from the borings is a vague possible explanation for the gravity anomaly in Area A (February 18, 2021 page 2).
- Having no conclusion from the boring in Area B, Rettew suggests an "elevated sand mound septic system" on the hillside "may be the source of the gravity anomaly"

(February 18, 2021 page 2). However, no such septic system exists at that location nor anywhere on the hillside, nor has one ever existed according to my neighbor Chuck Mattioni who has lived on the hillside for over thirty years and who built his home at 107 Shoen Road and the Wardles' (109 Shoen Road) downhill.

- As stated in the PSI report “The strata shown on the logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations”. Not only were there merely two borings on the hillside, they weren’t even conducted on the proposed path of the 20”. (The location of the borings is marked in light blue and the proposed 20” in grey on the figure on right side of photo above)

Contrary to Rettew’s claims, it remains unknown whether or not Area C is underlain by karst

- The two borings (360A and 360B) in Area C only went to a depth of 30 feet and 31 feet and did not hit bedrock (PSI report June 22, 2020)
- A shallow trench was excavated across Shoen Road in June 2020 to install a mitigation system for potential IR’s at the seep on the north side of the road. This trench was only a few feet deep. It did not hit bedrock.
- As noted on page 5 of the December 9, 2020 Rettew report, boring OW-1 on the HDD360 drill site in 2017 encountered karst. According to the boring logs in Attachment B of the October 2020 Reanalysis Report, this occurred at a depth of 60 feet.
- Rettew uses borings 360A and 360B and the shallow trench to claim Area C is not underlain by karst bedrock (Rettew report December 9 ,2020 page 5), however none of these reached bedrock are came anywhere close to the depth where karst was encountered at the nearby OW-1 boring.

The Rettew Reports contain several erroneous statements

- Rettew inflates the geotechnical borings in the geophysical survey area when it lists eleven “borings completed at the site to date” (February 18, 2021, table on page 1). Three of them (B6-9E, S3-0360_SB-01 and -02) are from other parts of HDD360 and one is from an entirely different HDD (S3-0350_SB-04).
- Rettew claims “the karst [encountered on the drill site in boring OW-1] does not extend to the HDD entry/exit” (February 18, 2020, page 5). However according to the [September 1, 2017 Hydrogeological Investigation](#) report, “boring [B6-4W] near the south entry/exit pit was most likely in karst as the boring went 130 feet before encountering bedrock”, and “the geological structure in this area is complex and the location of the contacts, as shown on geological mapping may lack structure” (page 2)
- Rettew further claims that karst does not extend anywhere along the HDD path (February 18, 2021, page 5) but that claim is baseless because, as previously explained,

the two borings and the trenching on Shoen road were only 30 and a few feet deep respectively and did not hit bedrock.

- Rettew revised the contact between the Ledger (karst) and Harper formations mapped by the PA Geological Survey (December 9, 2020, Appendix C), incorrectly putting the HDD entry/exit pit and Shoen Road in the Harpers Formation. As stated above, boring B6-4W confirmed that the entry/exit pit is most likely in karst and the borings and trench on Shoen road were too shallow to determine the underlying geology. The location of the contact north of the entry/exit remains uncertain.
- Rettew refers to the seep on the north side of Shoen Road as “a natural, pre-HDD seep” (December 9, 2020, page 2). It has already been well-established, including by Sunoco, that the seep is the result of Mariner East drilling activities and began in July 2017 immediately after the pilot hole was grouted.

Sunoco is proposing to HDD drill at a site that has experienced inadvertent returns of drilling mud and grout, seep formation and a subsidence feature. Geotechnical borings on Shoen Road and the hillside were insufficient to remove the concerns for more subsidence, IR's and seeps. These concerns are on four private properties and a busy township road with HVLs being transported a mere few feet underground through two pipelines (ME1 and the 12") in a High Consequence Area. The proposed 20" passes through these areas of concern.

Further work is needed to address these concerns and those previously submitted.

It is clear from the reports introduced since the October public comment period, that **the DEP must require further geotechnical borings in all three areas of concern and reports submitted to the DEP for this reevaluation. The borings need to be deep enough to be conclusive; on the 20" path; and sufficient in number.**

In addition to the geotechnical borings, concerns raised in the October public comments have yet to be addressed. From my comments alone these include:

- **The DEP must require Sunoco to submit a plan to ensure drilling the 20" will not impact the aquifer again, discharging large amounts of groundwater (over 250,000 gallons per day) into the borehole and having it hauled away as industrial waste**
- **The DEP must require Sunoco to submit a plan to better contain inadvertent returns at this site, as well as avoiding them altogether.**
- **The DEP must require Sunoco to stop the seeps their drilling activities created at Shoen Road. Extensive grouting of the 16" pipeline's annulus did not achieve this as Sunoco had previously predicted.**
- **Ensure drilling the 20" does not create seeps on other homeowners' property**

Of final note, when the owner of the West Whiteland apartment complex on the south side of Shoen Road extended its [temporary easement](#) with Sunoco for another twelve months (with the option of an additional twelve months) on September 24, 2020 (for \$900,000) it required specific amendments to Sunoco's indemnity obligations, such that Sunoco will defend and hold harmless the owner West Whiteland Apartments from all claims etc. including death, damage to neighboring property and lands, environmental contamination, clean-up of hazardous materials, etc. It specifically includes leaking of drilling fluid and investigations by the PA DEP. **These amendments are clearly in response to what has transpired at that site and on the north side of Shoen Road since Mariner East HDD construction began here in June 2017. Sunoco has submitted no plans to ensure such impacts to the environment and neighboring properties do not occur when constructing the 20".**

A public meeting on this re-evaluation is requested.

Submitted by,

Virginia Marcille-Kerslake
West Whiteland Township, Chester County

It is noted that all of the reports added to the ReEvaluation Table last week for HDD360 have a Re-issue or PG Sealed date of April 16 or 20, 2021. In all cases I have used the original date when referencing reports, except in the case of Rettew February 18, 2021 (which was revised from January 29, 2021).