



July 3, 2019

Mr. David Stauffer, Project Manager
Chester County Department of Facilities & Parks
313 West Market Street, Suite 5402
P.O. Box 2748
West Chester, PA 19380-0991

Reference: County of Chester, Mariner East II

Subject: DEP Permit E15-862 – HDD Re-Evaluation Report, S3-0300-20 Review
Comments

Dear Mr. Stauffer:

As requested and on behalf of the County of Chester, McCormick Taylor, Inc. has reviewed the report “Horizontal Directional Drill Analysis, Park Road Crossing, PADEP Section 105 Permit No.: E15-862, PA-CH-0111.0000-RD-20 (SPLP HDD No. S3-0300-20) and offers the following comments for consideration by the County for possible inclusion in correspondence to the Pennsylvania Department of Environmental Protection.

- The Report includes a Root Cause Analysis for the 16-inch pipeline Inadvertent Returns (IRs). The Analysis characterizes the IR that occurred during the pilot phase as five gallons in volume, however, the description of this IR contained in attachment 1 (Geology and Hydrogeological Evaluation Report (GHE) – Section 3.1) indicates that although approximately five gallons of drilling fluid, cuttings, and groundwater appeared at the streambank, much more fluid was contained at the location of the IR and managed for the remainder of drilling activity. The characterization of this IR as only five gallons misrepresents the effort required to contain and clean it up, and, since the GHE (Section 4.1) concludes that IRs are likely to occur in this area during installation of the proposed line, the potential magnitude of future events.
- The Report and attachments include extensive geologic analysis indicating problematic conditions that could result in IRs, with a recommended deeper alignment than previously permitted, without providing any reasoning for the recommended depth of alignment. If the presumption is that deeper is better, why not increase the depth of cover further?
- The Report addresses potential alternative alignments as unfeasible but does not address alternative entry/exit point locations. Extending the bore further southeast would presumably allow increased depth of cover from station 2+90 to 4+40, identified as a zone of bedrock weakness with a transverse fracture trace, where the IRs occurred during installation of the 16-inch pipeline.

- The proposed revised alignment parallels the completed 16” pipeline bore. The report does not address the possible loss of drilling fluid to the parallel bore’s annular space where faults and fractures could allow flow to migrate. There is potential that this can result in unexpected IR events along the other bore’s path.
- Noting the high probability of IRs in the vicinity of the five streams, including a Chapter 93 high quality trout stocked fishery, and Wetland C43, habitat for the Federally listed threatened Bog Turtle, a site specific IR containment and cleanup plan should be required to prevent damage to these resources (Note that this wetland is not noted in Section 7 of the HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan, addressing Bog Turtles during IR response operations) . Conditions appropriate to assure protection to these resources should be included in any approval of the proposed HDD plan.
- The Best Management Practices included in the Conclusion of the report are generic. Project specific practices should be noted and employed - including specifying that monitoring reports including drilling pressures and return amounts be kept and filed with the Department; signing and sealing reports by qualified professionals; noting the frequency of reporting; specifying the pilot tool and drilling pipeline diameters; specifying the exact methods of monitoring for inadvertent returns and loss of fluid, and qualifying the specific Loss Control Materials that can be used.
- Where IRs are most likely, including entry and exit points and along known faults/traces, adjacent property owner right of entry should be obtained in advance of construction to facilitate efficient containment and cleanup of IR fluids.
- The report states that eight wells have been sampled prior to construction and commits to sampling again following construction. Timeframes for post construction sampling should be required – and additional sampling may be appropriate, since subsurface flow of drilling materials may take extended time.
- With the large number of drinking wells in the vicinity of the proposed HDD, and acknowledged problematic geology, further restriction of additives should be considered by DEP. The HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan requires PADEP approval of drilling fluid additives prior to use, but does not stipulate prior to each use. While an additive may be approved for use in a location far from drinking wells, it may not be appropriate for use where it could migrate to a water supply.



McCormick Taylor truly appreciates the opportunity to work with Chester County on this important and impactful project. Please feel free to call me or Steve Hurt if you have any questions or require additional information regarding these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sandy Martin".

Sandy Martin, P.E.
Vice President, Systems and Operations

Pc: County of Chester
John Dargay, Project Manager III
Kristen Mayock, Esq.
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