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August 7, 2009

Bureau of Waterways Engineering

717-772-5957

Louis F. Smith, Jr., Manager
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

RE: Meeting Follow-up and Additional Alternatives
Hershey Mill Dam
East Goshen Township, Chester County
DEP File No. D15-125

Dear Mr. Smith:

This letter is intended to serve as a summary of the meeting held at the dam on the morning of August 6, 2009. This meeting was held to discuss the Department's requirements for bringing this dam into compliance, to further discuss the alternatives that were developed by the Township's engineers and to examine the potential for any additional alternatives.

The Department's position concerning the downstream hazard potential of the existing dam and the requirements for it to be rehabilitated, modified, or removed has not changed as a result of this meeting. Due to the location of a public thoroughfare immediately downstream of the dam; the height of the dam; the storage volume of the dam, particularly during a large runoff event; and the potential flood wave that could sweep across this roadway should the dam fail, the Department considers the Hazard Potential Classification of this dam to be Category, 2 Non-High. "Category 2" refers to the potential for damage to private or public property and short duration public inconvenience caused by overtopping and possible damage to the public thoroughfare in the event of a dam failure. "Non-High" refers to the lack of habitable structures located where a failure would directly impact them. However, loss of life could occur if a vehicle was traveling on the public thoroughfare downstream of the dam when the dam fails.

The dam cannot remain in its current condition and requires significant repairs or rehabilitation. We, however, understand and appreciate that this dam is significantly important to the historical background of the community. The Dam Safety and Encroachments Act and the Department's Chapter 105 Regulations do not waive any regulatory requirements for historical structures when public safety is at risk. When it is determined that there may be an impact on historic values, the regulations allow for the Department to consult with the applicant or dam owner for ways to reduce the adverse impact.

During our August 6 meeting, two additional alternatives were identified and discussed that will reduce the adverse impact to the historical structure over the alternatives referenced in our July 20, 2009 letter. Below is a brief description of the two new alternatives:

1. A new dam could be constructed just upstream and in direct contact with the existing one. This new dam would most likely be comprised of either a reinforced concrete gravity wall or a composite sheet pile and concrete wall. This wall would then serve as the dam structure and the existing embankment would stay as-is to preserve the historical appearance. It is noted that the existing dam may be washed away when the new dam overtops with water just as it may be washed away in its current condition. Again, for the most part, this alternative would allow the existing dam to remain unchanged and retain its current appearance.
2. The existing dam could be reduced in height, and thus its storage volume. This reduction in height and storage volume will greatly reduce potential impacts downstream in the event of failure and will allow the Department to reclassify the dam's downstream hazard potential from "C-2, Non-High" to "C-3." As discussed, the top of the dam to the left side (looking downstream) of the spillway for approximately 60 feet, and the invert of the primary spillway would be lowered by about six feet. This alternative would reduce the storage capacity of the impoundment, but it would preserve a portion of the existing embankment to the left of the spillway and the area at the right abutment. Also, this alternative would maintain the waterfall appearance when viewed from downstream, just at a smaller scale. Completion of this alternative would also require an unknown amount of silt and sediment removal and impoundment stabilization. It appears that only two trees will need to be removed to accomplish this alternative.

These two additional alternatives in conjunction with the comments in our July 20, 2009 letter should provide the Township with several alternatives for addressing public safety concerns at this dam. We appreciate the Township's cooperation and look forward to working with you. Should you have any questions concerning this letter or the dam, please contact me at the above number.

Sincerely,



Richard A. Reisinger, P.E.
Chief
Delaware Watershed Section
Division of Dam Safety

cc: Sen. Andrew Dinniman
Rep. Barbara McIlvaine Smith
Albert J. Giannantonio, P.E., P.L.S., Yerkes Associates, Inc.
Richard E. Horvath, P.E., Gannett Fleming, Inc.