



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building

P.O. Box 8554

Harrisburg, PA 17105-8554

May 14, 2007

Bureau of Waterways Engineering

717-772-5957

Louis F. Smith Jr., Manager
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380-6199



Re: DEP File No. D15-125

Dear Mr. Smith:

On September 8, 2006, an engineer from the Department performed an inspection of the Hershey Mill Dam, located across a Ridley Creek, Goshen Township, Chester County. The purpose of this letter is to advise the Township of the Department's findings and the regulations governing the safe operation and maintenance of this dam.

The following impounding structures (dams) located on a watercourse are regulated by this agency pursuant to Section 4 of the enclosed copy of the Dam Safety and Encroachments Act, Act No. 325, and Section 105.3 of the enclosed copy of the Department's Rules and Regulations, Chapter 105, Dam Safety and Waterway Management, and would therefore require a Dam Permit from this office:

- Dams where the contributory drainage area exceeds 100 acres; or
- Dams where the greatest depth of water, measured from the upstream toe of the dam to the top of the dam, at maximum storage elevation exceeds 15 feet; or
- Dams where the impounding capacity (storage volume) at maximum storage elevation exceeds 50 acre-feet.

The Hershey Mill Dam is an earth and stone masonry dam with a maximum height of 14 feet, a crest length of approximately 600 feet, and storing approximately 18 acre-feet of water at maximum pool level. The contributory drainage to the dam is approximately 1.8 square miles (1152 acres). Therefore, the Department of Environmental Protection regulates this dam.

The Department has classified this dam as a Size Category "C" and a Hazard Potential Category "2" dam. Refer to Section 105.91 of the Department's regulations. This classification is based on the following:

- A dam having a height equal to or less than 40 feet or having a storage capacity of 1,000 acre-feet or less, is classified as a Size Category "C" dam



- The Hazard Potential Category is determined relative to the area of inundation that would be expected if the dam were to suddenly fail. Downstream data (location of dwellings, roadways, utilities, etc.) was collected and a "Dam Breach Analysis" performed. This analysis showed that the downstream Green Hill Road would be inundated in the event of a sudden dam failure. Therefore, a hazard category of "2" is assigned. Also, the analysis showed that floodwaters are not expected to affect any occupied dwellings or cause loss of life; therefore, the designation of "non-high hazard" is appropriate.

The classification for Hershey Mill Dam is "**C -2, non-high hazard**".

A review of our files finds that a permit was never issued for the dam. Pursuant to Section 105.11 of the enclosed DEP Regulations, for Dam Safety and Waterway Management, a Dam Permit is required for the continued operation and maintenance of Hershey Mill Dam. Sections 105.13, 105.14, 105.20 and 105.82 explain the information required to be submitted with the Dam Permit Application for the operation and maintenance of existing dams. Please review these sections carefully. Section 105.21(c) explains the instances where the Department may not issue a permit for the continued operation and maintenance of the dam. If during our review of the Dam Permit Application we find that a permit cannot be issued, the Township will be advised and required to make any modifications or repairs necessary to bring the dam into compliance so that a permit can be issued. If the Township are planning to make any modifications or repairs to the dam in the near future, plans and specifications for this work should be included in the Dam Permit Application. A permit for the modification, operation and maintenance can then be issued for the dam. Enclosed is a Dam Permit Application packet for use in applying for a Dam Permit. If the Township has any questions regarding the Dam Permit Application process, please contact Roger Adams, P.E., Chief - Permitting Section, at 717-772-5945.

The "C-2, Non-High Hazard" classification also requires that an Emergency Action Plan (EAP) be developed for the dam. Refer to Section 105.134 of the enclosed Regulations. An EAP has not been developed for this dam. Enclosed is a copy of the "Guidelines for Developing an Emergency Action Plan", and a sample EAP on CD. The sample EAP on the diskette simplifies preparation of the draft EAP. The sample EAP has been color coded to identify what information needs to be provided to be dam/owner specific and who needs to supply this information.

Section 2.B of the Guidelines, "Involve Your Engineer", explains the inundation map, which must be prepared by the Township's engineer. The Township and its engineer are advised that due to the location and amount of water impounded by Hershey Mill Dam, our preliminary evaluation of the potential impact of flood waters on populated areas below the dam, and the consequences of the dam's sudden failure, a field review of downstream dwellings and structures should be made by the Township's engineer in order to determine the downstream limit and potential impacts of the probable flood wave. A dam breach analysis is not needed at this time, but might be needed in the future, depending on the results of the field review of downstream conditions by the Township's engineer. We suggest that the Township's engineer contacts Michael Packard of this office at 717-772-5947 to discuss the technical needs of the field review. Please follow the directions provided and submit **two** copies of the draft EAP for our review before September 1, 2007.

The proper operation and maintenance of this dam is the Township's responsibility. To assist the Township in this endeavor, we have enclosed the Department's complimentary manual, "*Inspection, Maintenance, and Operation of Dams in Pennsylvania*." Please review this manual and pay particular attention to Section 2 – Dam Inspections, and Section 3 – Dam Maintenance. The Department will conduct periodic dam inspections and will notify the Township of our findings.

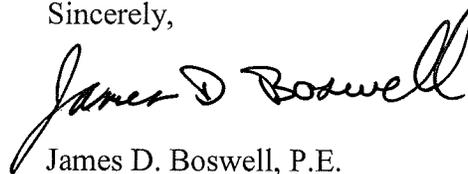
The Department has developed fact sheets to assist dam owners with various aspects regarding the proper operation and maintenance of their dam. Enclosed are the following fact sheets for the Township's review:

- Basic Nomenclature of a Dam
- Liability and Responsibilities of Dam Owners
- Burrowing Animals and Dams
- Vegetation/Erosion Control on Dams
- Dam Inspection by Owners
- Dam Safety Emergency Action Plans

If the Township no longer want this dam, it may be breached or removed by using the Department's Restoration Waiver. In order to use the Restoration Waiver, the Township's engineer should submit three copies of a breach plan with specifications to our office for review. We will do the environmental assessment for the breaching or removal. Once we have reviewed and approved the breach plans and specifications, and completed the environmental assessment, we will authorize the breaching by letter to the Township. Enclosed is a Fact Sheet about the Breaching of Dams in Pennsylvania for the Township's information. If the Township has any questions regarding the breaching and removal of this dam, please contact Mr. Jack Hill at 717-772-5988.

We realize all of this information and our requests could be confusing, and the Township may feel overwhelmed. Our primary purpose is to help the Township operate and maintain Hershey Mill Dam in a safe manner, while being in compliance with the Commonwealth's laws and regulations. We look forward to the Township's cooperation in this matter. If the Township has any questions or concerns, please contact Mr. Ronald Hamilton of my staff at 717-772-5952.

Sincerely,



James D. Boswell, P.E.
Chief
Compliance & Monitoring Section
Division of Dam Safety

Louis F. Smith Jr., Manager.
East Goshen Township

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Enclosures: Dam Safety and Encroachments Act, Act No. 325
Department's Rules and Regulations, Chapter 105
Dam Permit Application Packet
The manual "The Inspection, Maintenance and Operation of Dams in Pennsylvania"
Guidelines for Developing an Emergency Action Plan with CD
Fact Sheets:
 Basic Nomenclature of a Dam
 Liability and Responsibilities of Dam Owners
 Burrowing Animals and Dams
 Vegetation/Erosion Control on Dams
 Dam Inspection by Owners
 Dam Safety Emergency Action Plans
 Breaching of Dams in Pennsylvania