



USACE Dam Safety Facts for Bernville Levee (28 Apr 2016)

U.S. ARMY CORPS OF ENGINEERS

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Project Location and Description: The Bernville Levee, which is an appurtenant structure to Blue Marsh Dam, was designed and built by the U.S. Army Corps of Engineers (USACE) and completed in 1978. USACE operates the Bernville Levee for flood damage reduction.



The main components of the project are an earthen levee, which serves as the main water barrier; and an interior drainage system, which discharges storm water and flows to provide drainage during high reservoir or major flood events. The earthen levee is 4,852 feet long, 32 feet high, and the levee crest is 10 feet wide. The elevation of the levee crest is 319.8 feet ¹ for the majority of the levee; however, a short reach at the upstream end is at a crest elevation of 321.3 feet ¹. The interior drainage system consists of a pumping station, a ponding area behind the main levee and the drainage structures and culverts. The Bernville Levee is located approximately 8.7 river miles upstream from Blue Marsh Dam. The Bernville Levee is part of the Bernville Protective Works, which also includes a flanking levee and two detention dams. The system provides protection to the Borough of Bernville.

Benefits associated with the Bernville Levee: The Bernville Levee is a flood control project; however, there are no records of flood damages prevented to determine potential lost benefits.

Risks associated with all dams and levees: Dams and levees reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. A fully-functioning dam or levee could be overtopped when a rare, large flood occurs, or a dam or levee could breach because of a deficiency, both of which pose risk of property damage and life loss. This means there will always be flood risk that has to be managed. To manage these risks USACE has a routine program that inspects and monitors its dams and their appurtenant structures regularly. USACE implements short and long term actions, on a prioritized basis, when unacceptable risks are found at any of its dams or their appurtenant structures.

Risk associated with the Bernville Levee: Based upon the most recent risk assessment of the Bernville Levee in 2014, USACE considers this structure to be a moderate risk structure among its more than 700 dams and appurtenant structures because of the risk associated with the potential for overtopping of the levee under extreme conditions. USACE plans to implement interim risk reduction measures and/or long term risk reduction measures to reduce this risk.

What residents should know: Dams and levees do not eliminate all flood risk so it is important that residents within the interior area of the levee are aware of the potential consequences should the levee breach, not perform as intended, or become overtopped. The moderate risk in Bernville, Pennsylvania, warrants increased efforts on the part of USACE, local emergency management officials and residents to heighten awareness of the potential flood risk associated with the levee.

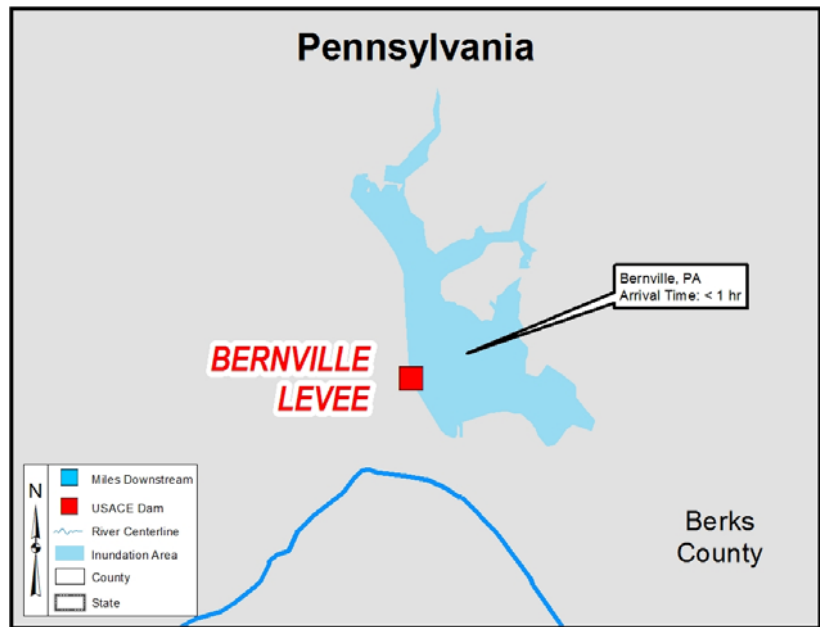
¹ North American Vertical Datum of 1988 (or NAVD88)

FOR PUBLIC RELEASE

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The primary areas impacted should the levee breach or become overtopped during a rare flood event are shown in the map. Advanced warning of problems and events plays a major role in protecting life and property. See the map for a general indication of flooding with a rare flood event and breach or overtopping.

Public Awareness: Levees are designed to protect communities from large amounts of water during a high water or rare flood event and this means there will always be flood risk that has to be managed (see facts below).



Map inundation area displayed is a rare flood event and breach or overtopping. Map Disclaimer: Actual areas flooded and flood arrival times will depend on specific flooding and failure conditions and may differ from the areas shown on the map.

Recommendations for Residents	Bernville Levee Facts
<ul style="list-style-type: none"> • Living with flood risk reduction infrastructure comes with risk—know your risk. • Living with flood risk reduction infrastructure is a shared responsibility—know your role. • Know your risk, know your role and take action to reduce your risk. • Listen for and follow instructions from local emergency management officials. • Strongly consider purchasing flood insurance. • Contact your elected local, county and state officials to make sound flood risk management decisions in your area. 	<p>Estimated consequences with rare flood event and breach:</p> <ul style="list-style-type: none"> • Population at risk: ~62 • Structures at risk: 170 • Land and property at risk: \$705,000 <p>Estimated consequences with rare flood event and no breach:</p> <ul style="list-style-type: none"> • Population at risk: 0 • Structures at risk: 0 • Land and property at risk: \$0 <p>Damages prevented to date: No data available National Inventory of Dams # PA00921-S001</p>

Residents should listen to and follow instructions from local authorities. For more information, please contact the USACE Philadelphia District Public Affairs Office at 215-656-6500 or the District Emergency Management Office at (215) 656-6756.

For additional information about dam safety and living with dams, please visit <http://www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx> and http://www.damsafety.org/media/Documents/DownloadableDocuments/LivingWithDams_ASDSO2012.pdf

For additional information about levee safety and living with levees, please visit <http://content.asce.org/files/pdf/SoYouLiveBehindLevee.pdf>