RYAN A. BIZZARRO, CHAIRMAN

116 MAIN CAPITOL BUILDING P.O. BOX 202003 HARRISBURG, PA 17120-2003 (717) 772-2297



HOUSE OF REPRESENTATIVES

HOUSE MAJORITY POLICY COMMITTEE

PAHOUSE.COM/POLICY POLICY@PAHOUSE.NET

COMMONWEALTH of PENNSYLVANIA

House Democratic Policy Committee Hearing

Flood Risk and Mitigation

Tuesday, April 29, 2025 | 10:00 a.m.

Representative Jacklyn Rusnock

0PENING REMARKS 10:00 a.m.

Rep. Jacklyn Rusnock, D-Berks

PANEL ONE 10:05 a.m.

Jim Bobeck, Township Manager *Muhlenberg Township*

Don Pottinger, Township Manager Lower Alsace Township

Ken Bonkonski, Head of Facilities *Antietam School District*

Q & A with Legislators

PANEL TW0 10:40 a.m.

Hunter Ahrens, Borough Manager Borough of Mt. Penn

Derek Bainbridge, Superintendent *Schlouch Incorporated*

Luigi Candelorio, Owner Monte Lauro European Gourmet

Q & A with Legislators

Turn page over \rightarrow

RYAN A. BIZZARRO, CHAIRMAN

116 MAIN CAPITOL BUILDING P.O. BOX 202003 HARRISBURG, PA 17120-2003 (717) 772-2297



HOUSE MAJORITY POLICY COMMITTEE

PAHOUSE.COM/POLICY POLICY@PAHOUSE.NET

HOUSE OF REPRESENTATIVES COMMONWEALTH of PENNSYLVANIA

PANEL THREE 11:15 a.m.

Jill Whitcomb, Deputy Secretary for Water Programs *Pennsylvania Department of Environmental Protection*

Dean Druckenmiller, District Executive Berks County Conservation District

Pamela Stevens, Civil Engineering Department Manager *Systems Design Engineering, Inc.*

Q & A with Legislators

Testimony of Deputy Secretary Jill Whitcomb Office of Water Programs Department of Environmental Protection House Democratic Policy Committee Tuesday, April 29, 2025

Good morning, Chairman Bizzarro, Representative Rusnock, and members of the House Democratic Policy Committee. On behalf of the Department of Environmental Protection (Department), thank you for the opportunity to provide information about stream maintenance and flood mitigation strategies.

Pennsylvania has 86,000 miles of streams and rivers and a population of more than 13 million people. We are a water-rich state, with more miles of streams and rivers than any other state aside from Alaska. Unfortunately, those water resources also come with an infamous history of flooding. Following devastating dam collapses in Johnstown in 1889 and Austin, Potter County in 1911, Pennsylvania enacted the first dam safety legislation in America in 1913, providing for the regulation of dams and other water obstructions. The current law, Pennsylvania's Dam Safety and Encroachments Act (Act 325 of 1978), stems from the 1977 Johnstown flood disaster in which heavy rains caused flooding and dam failures that led to the deaths of 85 people.

Under the Dam Safety and Encroachments Act, the Department is empowered to regulate dams and reservoirs in Pennsylvania in order to protect people and property; oversee the planning, construction, operation and maintenance of dams and reservoirs to ensure that safety measures are incorporated whenever possible; and protect the natural resources, environmental rights and values secured by the Pennsylvania Constitution and conserve the water quality, natural flow and capacity of our streams and rivers.

The Water Obstructions and Encroachments Program handles multiple regulatory duties and obligations, including implementing 25 Pa. Code Chapter 105 regulations. Water obstructions and encroachments include activities such as bridges, stream channel work, and utilities which are located within, along, or across streams, wetlands, floodways, or bodies of water.

Stream maintenance is an important matter that DEP is thoughtfully examining. This work can be conducted through environmentally sound and responsible means in order to ensure that the effect of the completed maintenance reduces the likelihood of future problems. DEP is actively working on permitting options that would allow us to be more responsive to pre-flood stream maintenance work and post flooding to address continuous maintenance work.

Proposed actions that do not require Department notification, pre-approval, or permits include but are not limited to: removing non-native, manmade material such as litter and construction debris from the stream, banks, and riparian areas; removing woody debris from the stream; cleaning out culverts; removing gravel and flood debris from around bridges and culverts according to standards and conditions; planting trees and other plants on streambanks and in riparian areas; adopting or implementing stormwater management ordinances and best management practices; and crossing the stream to access property immediately after a flood emergency if conditions are safe.

Proposed actions that require permits from the Department and potentially by the US Army Corps of Engineers or other agencies if the flow of the stream is redirected by reshaping gravel bars, gravel is moved to the streambank, streambanks are armored with impervious materials, a stream is moved or relocated, streams are dredged or dammed, or a new bridge or culvert is being removed or constructed.

Changes in environmental and climate patterns have led to extended periods of drought with short periods of intense and heavy rainfall resulting in flash flooding. Droughts and floods are two extremes in the same cycle and are not mutually exclusive. A recent example was on August 2024 where Tropical Storm Debby made landfall, impacting many along the East Coast and in Pennsylvania. In November 2024, Pennsylvania declared drought conditions in 35 counties, with 33 counties in Drought Watch and two counties under Drought Warning. In addition, long periods of drought can exacerbate the local impact of flooding, with one reason being that soil becomes dry and compacted, unable to absorb and infiltrate intense rainfall leading to increased runoff. Existing infrastructure is also being challenged as they are only designed to withstand certain storm events.

It is imperative that we work together to ensure communities are prepared for these extreme weather events and are resilient to the extent possible. Following flood emergencies, Department staff are activated to participate in flood recovery efforts, primarily by issuing emergency permits for in-stream work and coordinating with other agencies, such as the Pennsylvania Emergency Management Agency.

The Department has several programs that provide technical and financial assistance to communities and individuals related to flooding, stream restoration, stream maintenance, and proactive planning and implementation.

The Department's Flood Protection Program has provided structural solutions to river flooding in flood prone Pennsylvania communities for nearly 80 years. More than 140 flood protection projects have been constructed and the program continues to design and construct new and rehabilitation projects based on available resources. The program also partners with the US Army Corps of Engineers to inspect all flood protection systems annually.

The Department's Stream Improvement Program provides assistance by designing and constructing small projects that would restore stream channels damaged by high water or flooding events and to stabilize streambanks affected by erosion at sites where there are imminent threats to the structural integrity of homes, businesses, and industries. The Stream Improvement Program also partners with the US Department of Agriculture Emergency Watershed Protection (EWP) program. The Stream Improvement Program provides state funds, as resources allow, to offset the 25% local cost-share required by the EWP program.

The Department's Growing Greener Grants Program has funded more than 2,800 grants totaling more than \$420 million statewide since 1999, including construction of agricultural and urban best management practices; planning, design and technical assistance; and education and outreach. Growing Greener investments have been used to complete 50 stream restoration-type projects implemented statewide. The Department partners with the Pennsylvania Fish and Boat Commission on projects where stream restoration is occurring alongside fish habitat improvements in and around trout stocking areas. The Department has also employed regional Watershed Managers and provided funding to all 66 Conservation Districts to employ Watershed Specialists, who provide direct on-the-ground assistance to individuals, communities, and watershed organizations.

Finally, the Department's Act 167 Stormwater Management Grants Program has been revitalized with funding from the Clean Streams Fund, enacted in FY2022 and with more than \$2.4 million in annual dedicated funding beginning in FY2024.

The Department is authorized to administer these grants to municipalities and counties and provide reimbursement up to 75% of the allowable costs associated with the preparation or update of an Act 167 Plan, and for the administration, enforcement, and implementation costs incurred by the county or municipalities. As funds are available, municipalities located within counties with current and approved Act 167 Plans may request annual reimbursement for eligible expenses incurred. Submission of a grant application is not necessary for municipalities to obtain reimbursement for eligible expenses.

In conclusion, the Department has a long history of implementing laws and regulations to ensure public safety as well as conserving our water resources. Multiple technical and financial assistance programs are available and stream maintenance is allowable under most circumstances. We value our partnerships with the conservation districts and other state and federal agencies, including the Pennsylvania Fish and Boat Commission, US Army Corps of Engineers, and the US Department of Agriculture.

Thank you for your interest on this matter, I am happy to answer any questions you have.



Conserving Natural Resources for Our Future

April 25, 2025 Flood Risk Testimony

My name is Dean Druckenmiller, the District Executive for the Berks County Conservation District in Berks County. Thank you for the opportunity to provide written testimony on the risks of flooding. The Berks County Conservation District (the "District") is tasked with protecting our County's natural resources, specifically conserving soil and water quality.

Our District is delegated by the PA Department of Environmental Protection to review construction stormwater permits required under Title 25, Chapter 102 Erosion and Sediment Control regulations which are associated with the Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) program.

You may ask what does stormwater have to do with flooding? For the most part, stormwater is the root cause to most flooding issues we are experiencing in Pennsylvania, if not around the Country. As a result of an ever-increasing population that creates more impervious surface area combined with what appears to be a changing climate that is causing an increased frequency and intensity of storms to our region, thus the increase in stormwater runoff and flooding risks are congruent.

With each construction stormwater permit, a Post Construction Stormwater Plan (PCSM) is required. This PCSM plan is to outline how runoff from that development project will be handled to mitigate the effects of rapid stormwater runoff. These PCSM plans are being prepared using runoff calculations that many not be applicable to the higher storm intensity and frequency that is becoming more common. As a result, the best management practices used to control stormwater runoff may be under designed and not able to handle the volume of water runoff.

In 2018 when Pennsylvania saw a record rainfall that was 151% above normal which is about a 21.5" departure from normal, our District office received a high volume of complaints about flooding issues. Even today our office continues to receive complaints of flooding affecting Berks County property owners even after "normal" rainfalls.

So, what can be done to reduce stormwater runoff and impact of flooding events? Because of the rapid growth in population and increased impervious cover, there should be a multi-pronged and wholistic approach to reducing stormwater runoff. Concepts such as the following:

1) Enhancing stormwater control drainage systems and installing systems in areas that are absent of any of those systems with an emphasis on infiltration where possible.



- 2) Restoring Natural Areas to promote water infiltration and groundwater recharge,
- 3) Improved land use planning by implementing flood resistant practices such as green infrastructure (i.e. rain gardens) and low impact development concepts,
- 4) Community Education and Outreach efforts to help inform residents on flood risks, preparedness measures and response to flood events.

The "million dollar" question is how to fund the items listed above. The creation of the PA Clean Streams fund is an excellent start and great foundation to reducing stormwater runoff and improving water quality in Pennsylvania. Additional funding (i.e. PennVest) dedicated to these types of infrastructure projects could be beneficial to improve water quality and reduce stormwater runoff.

Federal funding assistance for the EPA's Municipal Separate Storm Sewer System (MS4) would also be advantageous in reducing stormwater runoff, sediment transport into our waterways and assist municipalities in meeting their MS4 permit requirements. To date, there are no funds associated with that mandate from the federal government.

With those thoughts, I want to thank the House Democratic Policy Committee, and Representatives Bizzaro and Rusnock for this opportunity and consideration of this testimony provided that discusses the topic of flooding in our local communities.

Yours in Conservation,

Dean Denlemble

Dean Druckenmiller, District Executive





House Democratic Policy Hearing on Flooding – April 29, 2025

Pamela J. Stevens, P.E. and Troy A. Spayd, P.E. Testimony Systems Design Engineering, Inc. (SDE) Employees Muhlenberg Township, Maidencreek Township, and Maidencreek Authority Engineers

Both Pamela and Troy have been involved in the Civil Engineering side of the industry for well over 60 years combined and have assisted multiple clients in responding to emergency events including flooding. Troy is currently applying for the transfer of his California Certified Floodplain Manager to Pennsylvania and is well versed in the nuances of the Floodplain Ordinances across multiple jurisdictions and FEMA Regions.

Shortly after the July 9, 2023 Event, SDE used StreamStats, the rainfall data, and the durations that were reported to analyze the scale of the event. SDE concluded that the Event equated to well over the 0.2% (500-Year) Storm as calculated in the StreamStats portal. Overall, in comparing the FEMA NFIP Maps to the limits of the flooding during the July 9, 2023 Event, the floodwaters did remain in the general area of the 1.0% (100-Year) Floodplain mapping; however, due to the volume of the floodwater, there were several areas where the roads became the stream bed, which in turn caused other infrastructure problems. Of note, in both Townships, residential property owners were significantly impacted, but no property was identified or classified as a Level of Substantial or Repetitive Damage.

During the Event, Maidencreek Township's Wastewater Treatment Plant was inundated when the Floodwaters overtopped the Berm. The Floodplain adjacent to the WWTP is identified as a Zone A. The Maidencreek Authority Board authorized SDE to re-evaluate the elevation of the Berm surrounding the Wastewater Treatment Plant and to increase the elevation of the Berm to be above the elevation of the July 9, 2023 Event along with a freeboard.

After the Event, the Commissioners for Muhlenberg Township requested of SDE to prepare a Report outlining the Findings, Recommendations, and Mitigations for the Commissioners consideration. The Township continues to request SDE's assistance with Flood Mitigation Grants for the restoration of Laurel Run Creek carrying capacity. It is our recommendation that the State continue to provide Grants for both municipalities, authorities, and property owners to mitigate the impacts from future flooding.

SDE was also tasked shortly after the Event with preparing emergency stream clearing, streambank stabilization, and bridge cleaning permits that were processed very quickly through PA DEP for both Muhlenberg Township and Maidencreek Township. It is our recommendation that PA DEP and the local Conservation Districts post streamlined procedures and points of contact on their websites to expedite the completion and submission of Emergency Permits, as we foresee there will be a future need for these emergency restoration and stabilization permits.

1032 James Drive, Leesport, PA 19533 • P: 610.916.8500 • F: 610.916.8501

We recommend PEMA and FEMA should work together to model more of the Zone A's in Pennsylvania to provide new studies and mapping for Zone A's become Zone AE's. Assisting property owners in the protection of their lives and property as well as the protection of their downstream neighbors, communities, and natural resources is paramount.

Of significance, the Municipalities held public meetings to inform the residents of the governing bodies' responsibility. Unfortunately, since most of the flooding impacts were on private property, there was little the municipal officials could do except to give them guidance and direct them to the available resources. Muhlenberg Township Commissioner's and Senator Judy Schwenk held a Roundtable which SDE representatives did attend, and felt the outcome from the Roundtable discussion was very beneficial.

During these meetings and in conversation with many involved, there were two key matters however, that became evident after Storm Event that are important to mention: 1) The property owners who had portions or all of their property in the Floodplains and Floodways did not necessarily have the right insurance to cover the damages from the Event, and 2) The properties consistently had items, including sheds, vehicles, trailers and RVs, stored in the Floodplain and Floodway that added to the amount of debris that caused capacity issues, especially at the bridges and pipe culverts. Until an event such as the July 9, 2023 Event occurred, in general people don't realize the downstream damage these floating items can have in the communities, and to the natural resources.

We are hopeful that the property owners that were affected were proactive and have avoided storing items in the Floodplains and Floodways, have engaged a plumber for the installation of backflow preventors on their building sewers, relocated the utilities in their basements such as the water heater, laundry facilities, and furnace to be above the Base Flood Elevation, placed stored items to be above the floor level, installed sump pumps, sealed basement windows and basement doors, and discussed insurance options with their Insurance Agent. For Commercial Businesses' have implemented flood proofing measures, which for one large Business in Muhlenberg, SDE assisted in the research for floodproofing and mitigation measures and options.

In conclusion, Floodplain Mitigation Grant Funding should continue to be provided to municipalities, authorities, institutions, and private property owners to assist in the protection of natural resources, especially the Waters of the Commonwealth. Arrange Agency Website flood related updates and information to be easily available to municipalities and the general public. Continuing Education for property owners, insurance agents and municipal officials is equally critical to keep the potential impacts of flooding in the forefront of everyone's mind as we anticipate with Climate Change that Events such as the July 9, 2023 Event regrettably are going to happen more frequently.

Respectfully submitted, SYSTEMS DESIGN ENGINEERING, INC. Pamela J. Stevens, P.E. and Troy A. Spayd, P.E.



ENVIRONMENTAL HEARING TESTIMONY

Muhlenburg Township April 29, 2025

For Representative Joe Webster (PA 150) Offered by: Crystal Gilchrist, AICP Retired 35 Evansburg Road. Collegeville, PA 19426 (484) 200-8263

Perkiomen Mapping and Flood Mitigation Plan – An Update

Thank you for this opportunity to share our efforts to address flooding in the Perkiomen watershed.

Brief History:

The Perkiomen Creek is the largest watershed in the Schuylkill River network and, as such, provides source water to numerous communities downstream including Norristown and Philadelphia, as well as the Aqua PA network. In addition, numerous community and private wells draw from the groundwater within the watershed's communities. Protecting water quality and availability to the Perkiomen watershed communities is vital to the economic health and overall well-being of residents and businesses in southeastern PA.



Figure 1: The Perkiomen Creek watershed includes substantial portions of Montgomery, Bucks, Berks and Lehigh counties in southeastern PA. There are 55 municipalities covering 362 square miles and five major tributaries.



In September 2021, Hurricane Ida devastated communities from Louisiana to Maine. As Ida crossed Pennsylvania, more than 10 inches of rain fell in a matter of hours. Massive flooding followed, As the rain stopped, the creeks continued to rise exceeding the flood stage elevations by more than 15 feet. Representative Webster observed a full sycamore tree, from crown to roots wash past in the blink of an eye, emphasizing the immense power of this magnitude of moving water. He immediately began working to secure funds for some type of flood mitigation planning for his community.



Figure 2: Hurricane Ida far surpassed flood stage pushing more than 70,000 cubic feet per second past the USGU gage at Graterford. That equates to more than 2100 tons of water per second.

Current Status:

By early 2023, Representative Webster had secured a million dollar grant to map the areas that are at greatest risk of flood damage in the Perkiomen Creek watershed and identify mitigation actions that could be taken to reduce future flooding events. We have been working steadily with Montgomery County and the other 3 counties (Berks, Lehigh & Bucks) that comprise the watershed and are currently coming to the end of that study effort. We will be clarifying what types of mitigation actions are needed and how they can be implemented. Using the H&H modeling tool, PCSWMM, we have collected data from across the 362 square mile watershed and identified the first 20 critical flooding sites. It is critical to note that these sites occur throughout the watershed, often in upstream

Figure 3: Data was collected from municipal sources as well as from existing and ongoing studies in the four -county region. The data was analyzed using the PCSWMM H&H model and criteria that ranked the sites according to topographic features, the level of impervious surfaces, and population density to determine the first 20 sites deemed most in jeopardy of suffering severe flood damage.

communities. This situation is not uncommon throughout Pennsylvania due to our rugged topography.

N

212

NGFIELD

21 1 1 LONGSW HAYCOCK ï HEREFORI EAST ROCKH UPPER AR Ò, TOWN RPEA FREDERICK DOYLESTO NEW BRITA New Britain Sul केल व Cha LOWER FREDERIC ARRINGTON TFIEL 663 OTTSGROVI LOWER POTTSGROVE ERY 463 SWYNED ERKIOME CESTE NORRITON EAST PPER DUBLIN 3 4 WHITEMARSH Basemap credits: Esri, NASA, NGA, USGS, Esri, CGIAR, USGS, PSU Office of Physical Plant, Bucks County, PA, data pa gox, New Jersey Office of GIS, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS EPA, NPS, USDA, USFWS Legend Perkiomen Watershed Flood Hazard Study 🗖 🔟 Map Quadrants ding Prob **Draft Total Score** County Boundaries Score: Total Perkiomen Watershed 0 10-13 Overview • 14 - 16 0 17 - 18 Each flooding problem area is assigned a total score that is the sum of its six criteria scores. 0 19-20 0 21-22 • 23 - 26 HRG JANT DRAFT 2025-02-11

SALISBUR

UPPER MACUNGIE

LOWER MACUNGIE

309 378

UPPER SAUCO

We also found that it is likely that developments that occurred during the last half of the 20th century, when stormwater regulations were new and being constantly revised, may

have the most opportunities to retrofit and upgrade stormwater conveyance systems, and the most need for stormwater absorbing green spaces. Large areas of the watershed were developed through that period with conveyance systems meant to quickly convey stormwater off roads and parking lots and directly into streams and creeks. We have learned a lot since the Clean Water Act was passed in 1972 and these older systems are probably not helping control stormwater as originally anticipated.



Figure 4: Developments that occurred during the last half of the 20th Century did not have to meet today's stringent stormwater management and infiltration regulations, therefore, many older communities have ineffective or malfunctioning stormwater conveyance systems that often make flooding and stream degradations worse. Opportunities to improve stormwater management in these communities are great.

We also have learned that the NE United States, including PA, are likely to experience significant increases in total rainfall in the coming years.



Figure 5: A changing climate will bring more annual rainfall to the northeast United States. Much of this will come in the form of large, severe storms interspersed with periods of lower rainfall or drought.

Future Needs:

As noted, the Perkiomen Mapping and Flood Mitigation Plan will evaluate both green and grey infrastructure needs. In terms of grey infrastructure, we know that conveyance systems constructed during the mid-20th century are now 50 years old or older. These systems were not designed for the current or anticipated amounts of rainfall that we are likely to experience and many of these systems need extensive repairs. Plus, these older systems were designed according to the older regulations that did not consider the need for infiltration of stormwater or the power of stormwater as it is discharged from a single orifice from a detention basin. These older detention basin systems increase both the volume and velocity of stormwater, to the detriment of stream health and character, and short-change our groundwater system by discharging stormwater rather than allowing it to soak into the ground and ultimately into our groundwater supplies.

In terms of green infrastructure, these spaces allow stormwater to infiltrate into the ground where it can nourish landscapes and habitats, and recharge groundwater supplies. Most development over the last few decades utilize public water and public sewer systems. Meaning that we take water from the ground or a reservoir, use it in our homes and businesses, then we discharge it through a sewer system and directly into a stream and on to the sea. We call this "water mining" and the continued mining of our groundwater puts additional stress on our water systems during periods of drought. Flooding and drought are two sides of the same coin so by addressing flooding with more green spaces, we can also help secure our groundwater supplies.

Conducting a study is only the first step in addressing the recurring flooding issues of our communities. Our study will outline numerous approaches to addressing stormwater runoff, both to reduce flooding but also to allow greater recharge of groundwater through more infiltration of stormwater. Two things are critical to accomplishing these goals: strong public support and the availability of future funding.

The Perkiomen Mapping and Flood Mitigation Plan has included a robust public outreach component, but we find that flooding is not top of mind to most folks, except during actual

5

flooding events. Also, there is a large gap in public understanding of how the overall water cycle works and affects them every day. The Perkiomen Watershed Conservancy has been a critical partner in the public outreach campaign and has substantial contacts with businesses and the public throughout the watershed but is limited by a small staff and limited funds. More funding for public education around the natural processes of our environment would help folks better understand how they can assist rather than interrupt these processes and help protect their natural surroundings.

Funding for current projects throughout the watershed is being provided by municipal efforts to address MS4 requirements or by local groups and organizations dedicated to water quality and open space. Grants are often sought to stretch local funds to accomplish larger projects. However, funding for large-scale flood mitigation projects and open space preservation are often limited in scope or difficult to utilize. State funding for and DEP recognition of multi-municipal stormwater mitigation efforts would help support the large projects that will be needed to successfully address the recurring flood losses of the Perkiomen watershed, and those of other flood-prone municipalities throughout Pennsylvania.

Summary:

We are trying to use this first 1 million dollars to identify the most critical needs and possible projects that will reduce flood impacts in the Perkiomen watershed as well as improve groundwater supplies that we all rely on. This first million dollars will mostly provide us with a long "To Do" list, projects that rebuild community stormwater conveyance systems and projects that tie more green spaces back to their natural connections with local streams and creeks. Protecting wetlands and ephemeral streams are also critical to re-establishing a more natural water cycle that slows stormwater and allows the natural capacity of soils and vegetation to absorb and clean more of our water.

Critical to our success is continued funding of vital projects as defined in the Perkiomen Mapping and Flood Mitigation Plan. There will always be high water when severe storms blow through the region, but we can do more to mitigation the damage from nuisance

6

flooding and the losses from devastating severe storms, and better protect our water supplies. All of Pennsylvania is in a similar situation and can benefit by a renewed commitment to one of our most precious resources, our water.