

Chairman Oxley, Representative Frank, Representative Fitzpatrick, and distinguished members of the Committee thank you for inviting me to testify today.

I am Daniel Mohn, and I am a Member of the Yardley Borough Council. I chair the Borough Council Public Works Committee, and since 2004 I have worked with residents, state and federal government, and various public agencies to explore mitigation options for borough residents.

This Committee has asked some important questions. I believe the most important issue you raise is “What steps are being taken to mitigate future flood damage by FEMA, the Commonwealth of PA and specifically Bucks County?” Specifically, I’d like to address this question in relation to Yardley Borough and other similar municipalities.

The unfortunate answer to this question is that since late 2004, when the first of three floods that have effected up to one-third of our community occurred, **not 1 dollar has been saved due to FEMA hazard mitigation programs in our municipality.** This represents not only a loss for residents of our community, but a lost opportunity for all taxpayers who fund flood recovery efforts.

But it is not for a lack of effort. Substantial efforts from local, community, state and federal officials have resulted in very little progress.

The FEMA mitigation program has not worked for us, and there are several issues that need to be addressed to make it work. Those issues, which I will address in more detail in this testimony, are:

- FEMA policy prioritizes acquisitions over elevations
- Existing grant amounts for elevation programs are inadequate
- Cost-benefit formulas do not reflect the disparity in home prices across the state.

It is also not for lack of potential savings. The top 50 NFIP payments for the 2005 flood **ONLY** in the Borough of Yardley totaled \$4.2 million (see Exhibit A). These NFIP payments ranged from \$42,700 to \$169,749. Had these homes been elevated after the first flood, at an average cost of \$125,000, the investment of \$6.2 million would have saved \$8.4 million in damages in the 2 subsequent floods. **Had grants been offered of 2 times the NFIP payments made to residents from the previous flood, with a maximum of \$80,000, an investment of \$4, would have a payback of 1 flood.**

Borough Overview

To help you better understand the effect flooding has on our town and the ways that changes to FEMA programs could help, I would like to give you a brief overview of Yardley. The community of Yardley Borough occupies .92 square mile along the Delaware River in Bucks County, Pennsylvania. There are 2,200 persons in over 1,000 households. Flooding impacts the entire town in many ways, but the most substantial damage is to two neighborhoods: “Rivermawr” and “The Flats”.

The “Rivermawr” section of the Borough is comprised of approximately 120 homes and is located between the Delaware River and the Delaware Canal State Park, north of Afton Avenue (State Route 332). These homes are susceptible to flooding events from both the canal and river. In this area, first floor flooding begins to occur at 21 feet.

The “Flatlands” section of the Borough is comprised of approximately 180 homes and is located between the Delaware River and the Delaware Canal State Park, south of Afton Avenue (State Route 332). These homes are susceptible to flooding events from mostly the canal when the river and canal meet during a flood event.

These two areas represent 30% of the Borough’s households and also are home to many businesses.

In addition, flooding from Brock Creek, which runs through the Borough and into the Delaware River, affects numerous other homes.

Borough Flood History

Flooding impacts begin at a water level of 21 feet. In the last seventy years, the river has crested at that level six times, with three of those times since September 2004. The following list of the historical major floods in the Borough gives you a timeline: (Source: The National Weather Service Web Site, Delaware River at Trenton <http://newweb.erh.noaa.gov/ahps2/crests.php?wfo=phi&gage=tren4>)

1936 - 24.43 ft
1955 - 28.60 ft
1996 – 22.20 ft
2004 - 23.39 ft
2005 – 25.33 ft
2006 – 25.09 ft

Acquisition vs. Elevation: Elevation Works

As you can see, a significant portion of our town faces the danger of flooding. The most comprehensive change that can be made to minimize that impact is a return to funding of structural elevation projects, the kind of projects that represent a real solution for us and communities like ours. Currently, FEMA’s mitigation programs prioritize acquisitions projects over all other types of projects. This one-size-fits-all approach does not suit communities like ours and leaves some communities, including Yardley, with no viable mitigation options.

Acquisition projects can never be a long term solution for Yardley and similar municipalities for the following reasons:

- We are a river community. The Delaware River and the Canal are an integral part of the history of the Borough. Plainly put, a vast majority of residents do not want to leave our community. They do recognize and respect the River, and would like to take mitigation measures that reduce future damages. The Borough

actively pursued an acquisition project, but less than 5 percent of floodplain residents in the flood area have applied.

- 30% of the Borough's tax base would be lost. Given the Borough's infrastructure requirements, removing 30% of the tax base would have a devastating effect on the financial well-being of the entire community.
- Acquisitions are the most expensive solution.
- Even when Yardley residents have expressed interest in acquisition programs, their homes do not meet the Benefit Cost Analysis (BCA) that FEMA requires. The BCA formula does not accurately account for the high cost of real estate in the Northeast and the Philadelphia region, using only single-digit adjustments for regional variances when the true variance can be as high as 300 percent.

Those are the reasons that acquisitions, currently FEMA's priority—in practice, FEMA's *only* mitigation program—are not right for Yardley and similar communities. What would work here is a focus on home elevations, because:

- Elevations are less expensive than acquisitions. The main cost of flood damage in the Borough is first floor damage. Elevating a home is on average one-third of the cost of acquiring and demolishing the home, yet provides a comparable savings by placing the first floor of a home above the floodplain.
- Not only are elevations less expensive than acquisitions, they would save FEMA and the NFIP a substantial amount of money. The average acquisition cost for grant applications was approximately \$350,000, while the average elevation cost was approximately \$120,000. Had these homes been elevated after the first flood, at an average cost of \$125,000, the investment of \$6.2 million would have saved \$8.4 million in damages in the 2 subsequent floods. Had grants been offered of 2 times the NFIP payments with a maximum of \$80,000, an investment of \$4, would have a payback of 1 flood.
- As anyone who has lived through a flood event can tell you, there is much more impact than the financial factor. The loss of one's home, irreplaceable family heirlooms, peace of mind, and life as it was known, is devastating. The family must evacuate, find an alternative living arrangement, return when the floodwaters recede to assess the damage and pick through ruined belongings. Government agencies must be contacted for help, insurance settlements must be negotiated, and contractors must be found to repair the physical damage. Children become fearful and attempts must be made to carry on as usual. Stress levels run high for months after the flood; a rainy weather forecast causes unnatural worry. By contrast, once a home has been elevated above the 100-year flood level, the family begins to recover emotionally and return to a normal life.

The savings—both financial and to peace of mind—of elevations are so great that several homeowners have already initiated the process of elevation.

The Borough believes so strongly that elevation is the best solution that we have produced a plan that would provide grants to residents in an effort to elevate a vast majority of the flood damaged homes. This plan goes into further detail than I have time to do here about the financial benefits of funding an elevation grant program, and is attached to this testimony as Exhibit B.

Increased Costs of Compliance Grants

FEMA does offer some assistance with elevation through the Increased Costs of Compliance (ICC) grants available directly to homeowners from the NFIP. These monies are available to homes that have been substantially damaged, meaning the cost to repair the home was 50% or more than the total cost of the structure. The ICC grants provide up to \$30,000 to assist in home elevations.

Many of the homeowners I mentioned earlier applied for these grants for assistance in elevating their homes. Though they began the process more than a year ago, most homeowners have yet to receive their full grant.

Though the ICC can be a valuable resource, only a small percentage of affected residents have the financial means to elevate their homes on their own, despite a strong desire to do so and clear evidence that such a project makes sense. The \$30,000 is but a small percentage of the entire cost of a home elevation, and is not adequate to enable most residents to take on the elevation of their homes.

Summary

I am here today to make one main point: home elevations are the best, most feasible, and most cost-effective solution for Yardley Borough and its residents, as well as many other communities in the County.

As I have explained, elevation is our best option because:

- it's cost-effective, given the high real-estate prices.
- people want to live in our community and it is unrealistic that any program could buy 30% of the town's properties or that we could absorb the financial and personal loss of a third of the Borough's properties.
- it WILL save taxpayers' money in the future.

However, many residents and homeowners cannot do this alone. We need the assistance of FEMA and other agencies to protect our homes and properties.

Government should support elevation

I hope I have convinced you that home elevations are the right answer for Yardley

Borough and many other municipalities. We need your support for such a strategy to be successful.

FEMA rules must be changed to allow for elevations, and the NFIP needs to provide a more realistic grant amount for ICC monies.

Conclusion

As you can see, raising homes is the best defense against another flood in Yardley Borough. It would save money and can keep people in the homes that they have worked so hard to buy and renovate. I hope we can count on your support as we pursue funding and policy options to assist residents.

Specifically, we urge you to:

- Set aside 25% of Hazard Mitigation Program funds for elevation projects only.
- Increase the amount that the NFIP pays for Increased Cost of Compliance grants from the current \$30,000 to two-times the NFIP flood payment for the most recent flood event.
- Re-evaluate the Benefit Cost Analysis to adjust the RS Means Guide's funding factor, to better reflect the large difference in home prices in different areas of the state.

Thank you again for this opportunity to testify. I am happy to answer any questions you may have.

Exhibit A

Top 50 NFIP Payments for the 2005 flood for Yardley Borough Residents

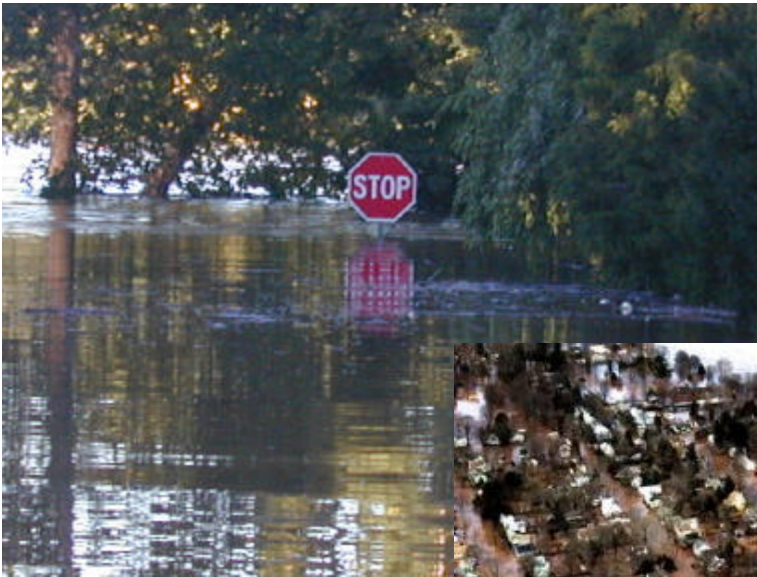
| | | | | |
|-----------|-----------|----------|----------|----------|
| \$169,745 | \$110,000 | \$91,550 | \$68,459 | \$52,710 |
| \$156,673 | \$108,059 | \$88,175 | \$67,169 | \$50,000 |
| \$131,280 | \$107,928 | \$88,140 | \$65,227 | \$48,557 |
| \$126,413 | \$107,586 | \$82,285 | \$63,980 | \$46,648 |
| \$126,067 | \$103,600 | \$81,983 | \$61,915 | \$45,571 |
| \$119,099 | \$102,527 | \$78,826 | \$60,276 | \$45,082 |
| \$118,994 | \$99,689 | \$77,285 | \$58,758 | \$44,103 |
| \$118,403 | \$99,325 | \$74,072 | \$58,656 | \$43,900 |
| \$114,233 | \$97,030 | \$73,664 | \$57,071 | \$43,571 |
| \$111,415 | \$95,000 | \$68,956 | \$56,800 | \$42,796 |

EXHIBIT B: YARDLEY BOROUGH ELEVATION PLAN



Yardley Borough, Bucks County, Pennsylvania

Home Elevation And Flood-Proofing Plan



**Rising Above
the Flood Waters...**

Revision Date: April, 2006

Home Elevation and Flood-Proofing Plan

Program Summary

The proposed program is to establish a fund for grants to Yardley Borough residents for the elevation of their homes in compliance with floodplain building requirements and/or to retrofit their homes via flood-proofing measures.

The Program establishes a partnership between residents and local, state and federal governments to share the cost of the elevations and/or flood-proofing. The program results in the reduction in future flood damage and in saving of significant amounts in financial payments.

The grant distribution will be prioritized in order to maximize future savings to local, county, state and federal governments. The grant amounts per property will be based on the National Flood Insurance Program (NFIP) payments made as a result of the April, 2005 flood and will focus on the most vulnerable homes in the Borough.

The Borough of Yardley will administer the program.

Costs

The program will require a total of \$6,695,000 as follows:

| | |
|----------------|-------------|
| Elevation | \$6,000,000 |
| Flood-proofing | \$500,000 |
| Administration | \$195,000 |

It is estimated that The Program would pay for itself after just one additional flood.

Overview of the Floodplain

The community of Yardley Borough occupies .92 square miles along the Delaware River in Bucks County, Pennsylvania. It includes 2,200 persons in over 1,000 households.

Various areas of the Borough are at risk of flooding from the Delaware River, the Delaware Canal, Brock Creek and Silver Creek.

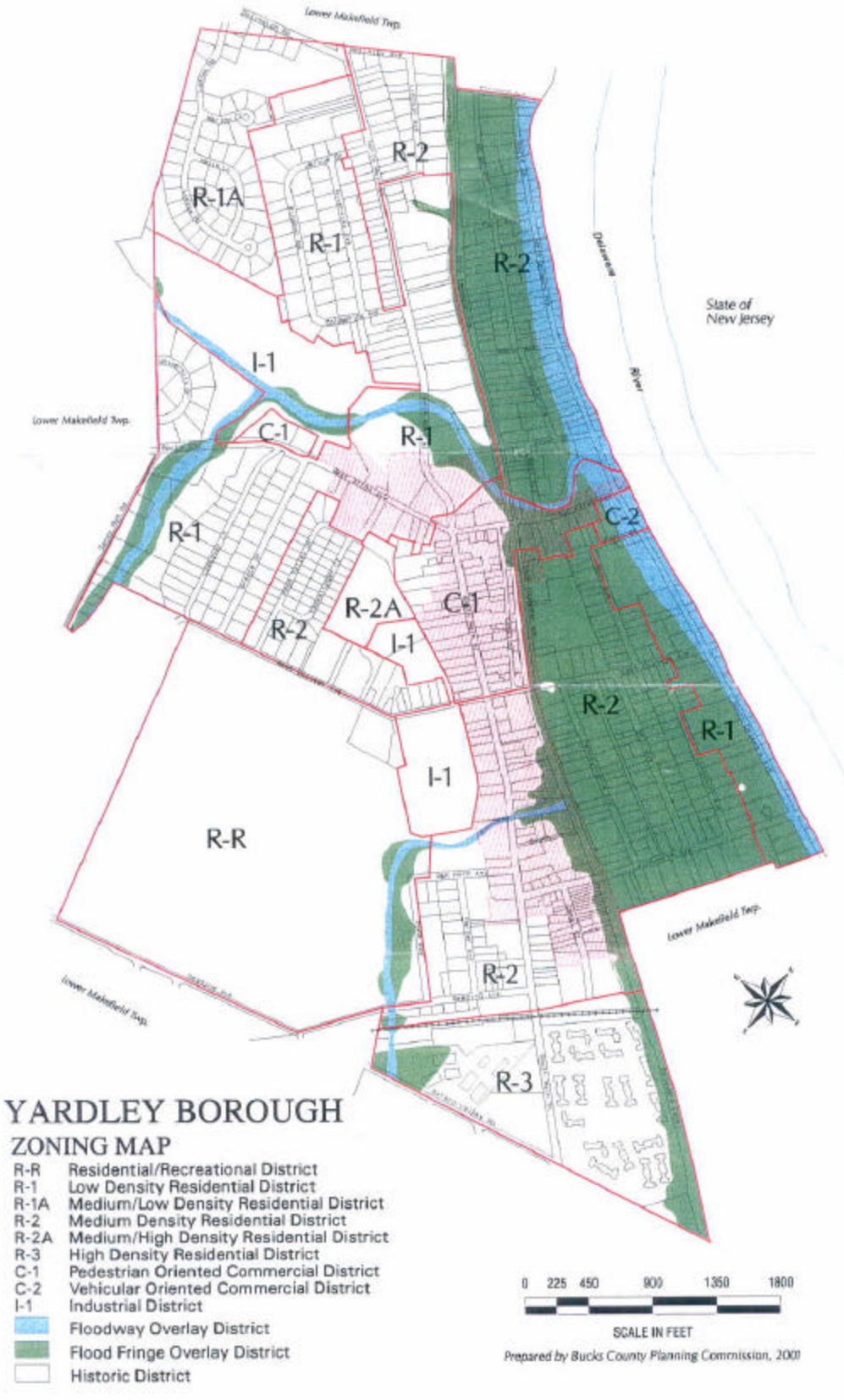
The “Rivermawr” section of the Borough is comprised of approximately 120 homes and is located between the Delaware River and the Delaware Canal State Park, north of Afton Avenue (State Route 332). These homes are susceptible to flooding events from both the canal and river. In this area, first floor flooding begins to occur at 21 feet.

The “Flatlands” section of the Borough is comprised of approximately 180 homes and is located between the Delaware River and the Delaware Canal State Park, south of Afton Avenue (State Route 332). These homes are susceptible to flooding events, first from the canal and then from the river when it rises to higher levels.

These two areas represent approximately 30% of the Borough’s households.

Several businesses are also located in the floodplain.

In addition to the River and Canal, Yardley Borough has creeks and streams at risk of flooding. Brock Creek runs through the Borough and into the Delaware River. Silver Creek flows into the Canal. These waterways contribute to flooding in the Borough.



Yardley Borough Map – Green and Blue Shaded Areas represent the Floodplain

Flood History

The following is a list of the historical major floods in Yardley Borough;

| Date | River Level |
|------|-------------|
| 1904 | 30.60 Feet |
| 1955 | 28.60 Feet |
| 1903 | 28.50 Feet |
| 2005 | 25.33 Feet |
| 1936 | 24.43 Feet |
| 2004 | 23.39 Feet |
| 1996 | 22.19 Feet |
| 1984 | 20.95 Feet |

(Source: The National Weather Service Web Site, Delaware River at Trenton
<http://newweb.erh.noaa.gov/ahps2/hydrograph.php?wfo=phi&gage=tren4&view=1,1,1,1,1,1>)

Recent Flood Economic Impact History

NFIP payments to Yardley Borough residents for the September 2004 and April 2005 flood are detailed below;

| Flood | Total Payments |
|----------------------------|----------------|
| DR-1557-PA: September 2004 | \$4,682,492.84 |
| DR-1587-PA; April 2005 | \$7,430,654.26 |

Investment in the Future

Elevating the most vulnerable homes above the 100-year flood level will provide cost savings in the future by eliminating the most costly damage to homes in a flood, water on the first floor. In Yardley, floodwater inundated homes to levels from one foot to six feet in depth.

The proposed program will provide grants for home elevations. Each grant will be determined by doubling the homeowner’s NFIP claim settlement from the April 2005 flood. No grant will exceed 75% of the total cost of elevation or \$80,000.

Each home elevation will be required to comply with the Yardley Borough Floodplain requirements, which have been approved by FEMA. These codes require homes in the floodplain to be elevated to 1.5 feet above the 100-year flood level. Such elevations will ensure that no flood damage will occur to these homes in any flood up to and including the 100-year flood.

| Program Investment Summary | | | |
|-----------------------------------|----------------------|------------------------|---------------------|
| | Average Grant | Number of Homes | Program Cost |
| Home Elevations | \$60,000 | 100 | \$6,000,000 |
| Home Flood-Proofing | \$5,000 | 100 | \$500,000 |
| Administrative | | | \$195,000 |
| Total Investment | | | \$6,695,000 |

Not all residents in the floodplain will be interested in elevation. Some will want to perform other flood-proofing measures such as moving utilities from basements to first floors, properly sealing utility entry points, and/or implementing an internal drainage system.

Of the 300 homes in the floodplain, two thirds are expected to take the opportunity for elevation or flood-proofing.

Based on the number of homes sustaining damage in the April 2005 flood, it is estimated that elevation grants will average approximately \$60,000 per home and that 100 homeowners will participate. This results in an estimated need for \$6,000,000 for elevations.

For those interested in flood-proofing and retrofitting, it is estimated that an average grant of \$5,000 per home and an additional 100 homeowners will participate. This results in an estimated \$500,000 for flood-proofing.

Finally, an additional 3% for administrative costs has been added to the program.

Future Savings

To begin to determine the long-term cost savings of this program, two examples of home elevations will be explored.

If a hypothetical house in the "Rivermawr" section, had \$30,000 in NFIP claims from the 2005 flood and the cost to elevate the home was estimated at \$80,000; under the program outlined, the property owner would be eligible for a \$60,000 grant for home elevation.

In another case, if a homeowner in the "Flatlands" received \$100,000 in an NFIP settlement, and the elevation cost was estimated at \$120,000, the Yardley Elevation and Flood-proofing Program would provide a grant of \$80,000.

\$12,113,146 in NFIP payments were made to Yardley Borough homeowners as a result of the 2004 and 2005 floods.

The total payments for the top 50 NFIP claims paid to Yardley Borough residents totaled \$4,209,251 for the April 2005 flood. It is estimated the payments for the next 50 NFIP claims totaled approximately \$2,500,000. Additionally, the total payments for the next 100 NFIP claims are estimated at \$700,000

If, as predicted, **one future flood** meets or exceeds the 2004 or 2005 amounts, the Home Elevation and Flood-Proofing Program will save local, state and federal governments over \$7,400,000.

It is estimated that the Program would pay for itself after just one additional flood.

Elevation vs. Other Options

The Borough has actively pursued other mitigation options in order to reduce future damages. In early 2005, the Borough submitted to PEMA/FEMA an Acquisition Project grant to remove over a dozen homes from the flood areas. As of February 2006, the Borough's Acquisition Project grant has not been funded. Whether or not Yardley Borough's acquisition grant is ever funded, most floodplain residents are not interested in acquisition.

Acquisition projects will never be a practical solution for Yardley Borough for the following reasons:

- We are a river community. The Delaware River and the Canal are an integral part of the history of the Borough. A vast majority of residents do not want to leave our community. They do recognize and respect the River, and would like to take mitigation measures to reduce future damages. The Borough actively pursued an acquisition project, but less than 4 percent of residents in the flood area applied.
- Acquisition is not a fiscally sound approach. 30% of the Borough's tax base would be lost in a significant acquisition project. Given the Borough's infrastructure requirements, removing 30% of the tax base would have a devastating effect on the financial well being of the community.
- Elevations are less expensive than acquisitions. The main cost of flood damage in the Borough is first floor damage. Elevating a home is on average one-third of the cost of acquiring and demolishing the home, yet provides a comparable savings by placing the first floor of a home above the 100-year flood level.

The Human Factor

As anyone who has lived through a flood event can tell you, there is much more impact than the financial factor. The loss of one's home, irreplaceable family

heirlooms, peace of mind, and life as it was known, is devastating. The family must evacuate, find an alternative living arrangement, return when the floodwaters recede to assess the damage and pick through ruined belongings. Government agencies must be contacted for help, insurance settlements must be negotiated, and contractors must be found to repair the physical damage. Children become fearful and attempts must be made to carry on as usual. Stress levels run high for months after the flood; a rainy weather forecast causes unnatural worry.

By contrast, once a home has been elevated above the 100-year flood level, the family begins to recover emotionally and return to a normal life.

Program Implementation

Yardley Borough will develop implementation plans including eligibility criteria, application process, close supervision and documentation for tracking individual project progress, fund disbursement, building permit and contractor screening. For elevations and flood proofing, the priorities for distribution of the grants will be:

| Probability | Impact |
|--------------------------|--|
| Multiple Loss Properties | Ranked by Gross NFIP Claim amounts over the last 10 years. |
| Single Loss Properties | Ranked by Gross NFIP Claim amounts over the last 10 years. |

Additionally, grants will be available retroactively to residents who have elevated their homes prior to these grants becoming available.

Next Steps

Yardley Borough is committed to helping its residents recover from recent floods and reduce financial and emotional damage from future floods while ensuring savings to local, state and federal governments. We are looking forward to the next steps in accomplishing these outcomes.