

**Flood Mitigation Assistance Grant  
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**Prepared by:  
SEDA-Council of Governments**



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## **PRELUDE**

*The information that arose from the structured outreach of information gathering processes under this grant, and summarized in this report, is of outstanding value to the residents of Pennsylvania. It should be noted that the work group sessions included in this report were held prior to the emergence of COVID-19; therefore, the impacts of the pandemic are not yet included in this document. With that being said, we anticipate that this report will become a living document and be periodically revisited and updated as new information becomes available, transforms, or becomes obsolete as it relates to floodplain management.*

*We are optimistic that PEMA, FEMA, and other responsible agencies will make it widely available to all Pennsylvanians. It is our hope and conviction that this information will encourage homeowners to more accurately assess the costs and benefits for their own situations, and in so doing will prompt more homeowners to invest in flood mitigation actions that will help protect their property, their health, and their safety from the impacts of future flooding.*

*We recommend that PEMA, FEMA, and all other agencies with responsibilities for public health, safety, and building codes should continue to expand their efforts to share information about, and publicize, the range of flood mitigation techniques that are available, including advances in techniques, materials, and processes, in order to continue to increase Pennsylvania homeowners' knowledge of the wide range of options available to them and the financial and personal safety advantages of those methods.*

*We further suggest that the estimated costs and savings created here, while highly approximate, be circulated on PEMA's various web sites and Internet materials to document the advantages of holding insurance and of modifying residences to be more resilient to flood damages. The estimates also have value in documenting how, at present, there are no financial advantages to be gained from certain mitigation measures that would in fact reduce either likelihood or dollar value, or both, of damages homeowners might expect to accrue should they be subject to flooding. That documentation may prove valuable in future considerations by Pennsylvania or Federal lawmakers, and by private insurance underwriters.*

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## **FMA 2017 – ADVANCED ASSISTANCE FOR MITIGATION**

### **INTRODUCTION**

The history of development in central Pennsylvania is intimately tied to its many rivers and creeks. These very bodies of water that once provided passages into the interior, also supplied the power for the many mills and industries that made communities sustainable. Unfortunately, the development of so many river communities came with the increased susceptibility to flooding events. Dealing with floods are a way of life for many in the region and across the country to varying degrees.

The mid-20<sup>th</sup> Century brought about the gradual decline in the industry and manufacturing sectors that the river communities were based upon. Added to this was the advent of the mandatory purchase requirement for flood insurance through the National Flood Insurance Program (NFIP) in 1968. The NFIP introduced federally backed insurance and regulated floodplains to help prevent continued flood losses. Since many communities and structures pre-date Flood Insurance Rate Maps (FIRM), the NFIP subsidized flood insurance premiums due to the unknown actual risk of Pre-FIRM properties, thereby offering affordable insurance to property owners.

For many years, the NFIP was in position of being financially sound but after experiencing an unprecedented number of claims due to storms like Hurricane Katrina and Super Storm Sandy, the NFIP's debt and financial soundness came into question. Recent changes to the NFIP are in an effort to make the program whole again, and one way this is being done is the limiting/elimination of the Pre-FIRM subsidies that homeowners had become accustomed to for decades. The result is often unaffordable insurance premiums with the inability to maintain flood insurance or afford the mandatory purchase requirement for federally backed mortgages. If this trend continues, there are numerous towns and communities along rivers and streams that will continue struggling to exist.

One of the commonly encountered obstacles with flood mitigation in the region are the uncertainties related to actual costs for a potential mitigation measure and the return on investment. For example, does the cost of elevating a home reduce insurance premiums enough to warrant the expense? Albeit, we know Natural Hazard Mitigation saves \$6 on average for every \$1 spent on Federal Mitigation grants, according to analysis by the National Institute of Building Science.

Most homeowners living in the floodplain are familiar with common mitigation techniques like structural elevations, but not the costs associated with these undertakings. If property owners have suffered through reoccurring flood events, particularly repeated events, they see the benefit to mitigation and are often somewhat interested. Unfortunately, there are several factors that prohibit owners of flood-prone structures from implementing mitigation.

Perhaps the largest hurdle is the unknown cost to effectively mitigate. Where homes are being mitigated through elevation, they are usually privately funded by owners who can afford it, or the elevation is done through federal grants. However, there can be a substantial cost differential between private and grant funded mitigation, with grants often tied to more of an expense when triggering prevailing wage requirements. As a result, it can be challenging to discuss this type of flood mitigation with homeowners if the true cost to mitigate is more of an estimate with considerable variability.

For homeowners with flood insurance, the question to mitigate or not also revolves around the resulting effect on their premiums. The average Pre-FIRM policy increase is 15-18% annually, which makes flood insurance ill-affordable for unmitigated structures. Particularly when a Pre-FIRM owner sells their home and the new buyer has a mortgage, that buyer will have to pay full actuarial rates and the premiums will no longer be subsidized. A policyholder, however, may be more willing to mitigate

their structure if they understand that undertaking flood mitigation techniques may decrease their premium, often to the extent that the savings will offset the cost of mitigation. Efforts need to be made to specifically break down common mitigation techniques and its respective cost so homeowners can make an informed decision on what to do with their structure instead of being faced with the uncertainties with costs to mitigation and what the potential return on investment may be. By understanding what the costs estimates are and what mitigation techniques afford the best return on investment, will those who own structures susceptible to flooding be more willing to make the necessary mitigations to improve flood resiliency across central Pennsylvania and beyond?



### WHY THE NEED?

Like many other areas, the river communities of central Pennsylvania face several challenges associated with mitigating structures most susceptible to flood events. Mitigation is happening, though on a much-reduced scale given the need. If provided the chance, the vast majority of homeowners living in flood-prone structures would likely mitigate but are unwilling due to the large cost. However, the cost to mitigate is not the only challenge facing the region.

Most of the structures (homes and businesses) were constructed well before the federal government became involved in providing flood insurance and the development of flood maps. Since these structures pre-dated the regulatory flood maps, they were offered subsidized flood insurance premiums due to many factors including the unknown risk to each Pre-FIRM structure. One concern is that these subsidized flood insurance policies do not address the full actuarial rates to capture the true risk of the property. With the passage of the Biggert-Waters Act in 2012, the federal government attempted to address many of the financial short-comings of the NFIP by, among other measures, eliminating subsidized rates for Pre-FIRM properties. Almost immediately, homeowners saw their NFIP premiums skyrocket to true actuarial rates from the subsidized rates. While the backlash from these ill-affordable NFIP premiums was somewhat alleviated by the passage of the Homeowner Flood Insurance Affordability Act (HFIAA) in 2014, premiums are still increasing at the rate of 15-18% per year until they reach the full actuarial rates. The HFIAA has helped minimize the financial burden placed on NFIP policy holders, but they are not aware of what the actuarial rates will increase to and it will not be easy for many homeowners to stay.

Another challenge facing mitigation across central Pennsylvania is the large number of historical structures in the region. Buildings and areas with significant historical interest can be protected and

benefit from “historical” designation through state and federal agencies. While the historical designation provides these structures some relief from any changes/modifications that would negatively impact their historical integrity, it does impact the ability to effectively mitigate flood-prone buildings. Any flood-proofing measures must not adversely affect the structure, so options are typically limited to filling in the basement or elevating mechanicals using water-proof construction materials. However, a more effective mitigation technique, like abandoning the lowest floor or full elevation, is often too intrusive to be considered feasible. As a result, areas of the region are not required to mitigate to the greatest extent due to the historical designation and local floodplain ordinances.

One final impediment to mitigation is the large number of renters and low-to-moderate (LMI) individuals who reside in the floodplain. A few communities benefit from a prosperous grouping of houses along the stream and riverbanks with homeowners who can afford the flood insurance premiums or are able to mitigate the structure. However, many of the more populated municipalities see that their most flood-prone and vulnerable structures are only affordable to renters and LMI individuals; often these structures include 20-40% of the tax base. Repeated damage from flooding has devalued many of the homes most at risk, making them either 1) more affordable to those with limited means due to extremely low property values that many others would shy away from, or 2) attractive as income properties who rent to individuals with little to no idea of the flood risk. Since renters are only able to purchase contents coverage with flood insurance policies, many are unaware of the flood risk since there is no mandatory purchase requirement for flood insurance like those with federally backed mortgages.

The consequences are then two-fold. For the homeowners with limited/fixed incomes, there is no additional money to put toward mitigation techniques. If flood insurance becomes too expensive, these homeowners may have to prioritize their expenses, which often results in them walking away from their mortgage and their property. In the case of the renters, they are likely not going to put the money into mitigating a structure they do not own. Also, this group may tend to be more transient and move often, so there is no historical knowledge of flood risk based on experiences. In the case of the landlords, they typically will not put money into mitigating that cuts into their profits, and to raise rents to do so would put them out of competition. Therefore, many of the most flood-prone structures remain unmitigated due to lack of funds or willingness to do so.

When taken all together, the above issues present quite a challenge to flood mitigation in central Pennsylvania. Unfortunately, choosing to do nothing is an option that most river communities cannot afford due to the large tax base in the regulatory floodplain. Flood events will continue, with the potential for increasing frequency and severity. Combined with the continually increasing costs of flood insurance premiums, many communities face an uncertain future. To do nothing will lead to the slow abandonment and decay of the floodplain and with many communities already built out to their limits, this means the loss of a what is often an already limited tax base. The majority of the region is based around the proximity to many rivers, creeks, and streams so mitigation is the only way to keep people in their homes and businesses while preserving the vital tax base; but we need to help bring mitigation to the homeowners and businesses.

An additional challenge to the mitigation market, as well as the NFIP flood insurance market as a whole, is the uncertainty surrounding rate determinations associated with the forthcoming rollout of Federal Emergency Management Agency’s (FEMA) Risk Rating 2.0 program. Once slated to become effective in late 2020, Risk Rating 2.0 is billed as a new approach to risk assessment that more accurately assess the true flood risk to a structure based on best practices and improved technology, has now been deferred to October 1, 2021 implementation. Whereas flood insurance premiums and rates have been based purely on flood maps and the “in” or “out” determination for decades, Risk Rating 2.0 will use better elevation data and mapping information to assess the unique risk to a structure beyond whether it is simply in or out of the designated regulatory floodplain.

The driving force behind the implementation of Risk Rating 2.0 is to reflect actual true risk for insurance rating purposes. However, current premium criteria for Pre-FIRM homes located in the Special Flood Hazard Area (SFHA) are rated equal for coverage if the structures are the same regardless of proximity to the waterway. Common knowledge would dictate that the home closest to the waterway would be at a greater risk for more frequent flooding and therefore should pay more in flood insurance as a result of that risk. This is not currently the case using the existing system, so less flood-prone Pre-FIRM homes in the SFHA are paying the same flood insurance premiums as those homes at a much greater risk. The goal of Risk Rating 2.0 is to alleviate this disparity and provide an avenue to assess flood insurance rates on a better determination of true flood risk rather than simply “in” or “out”.

## APPROACH

Attempting to analyze why homeowners of flood-prone structures are reluctant to mitigate requires a multi-phased approach. When one considers mitigation, there must be a discussion regarding what role flood insurance plays toward the long-term return on investment and what fits best for that specific structure. Conversely, if one potential objective is looking to make flood insurance more affordable, then there must be a comparison of the potential mitigation actions and how each action reduces (or has no effect) on the flood insurance premium.

In an effort to compile as much information about the relationship between mitigation techniques and flood insurance, SEDA-Council of Governments (SEDA-COG) hosted a two-day working session at the Pennsylvania State University on June 25-26, 2019. The work groups were broken into two main focus areas: 1) Flood Insurance and 2) Mitigation Techniques.

The flood insurance work group was held the first day, and consisted of members from academia, federal/state agencies, the Pennsylvania Insurance Department, and several insurance brokers familiar with both the NFIP and private flood insurance markets. The decision to lead with the flood insurance work group was based on the assumption that ultimately it would be the reduction in flood insurance premiums that would drive improved returns on investment, thereby improving the desire to mitigate.

The second day of the work session focused on mitigation techniques to develop a better understanding of the factors that go into the variability of options and costs. In addition to a couple of the same attendees as the previous day’s flood insurance discussions, the mitigation work group included the State Historic Preservation Office (SHPO), engineers and contractors who are familiar with home mitigations in the central Pennsylvania region and can speak to what works, what does not, and what they are seeing as the biggest challenges (and successes) to flood mitigation.

## **DAY ONE – FLOOD INSURANCE**

Residents in central Pennsylvania can currently choose between flood insurance policies backed by the federal government through the NFIP, or those backed by private insurers. There are benefits and caveats to both products that need to be factored into the equation when discussing mitigation options. According to the Pennsylvania Insurance Department, the number of private flood insurance policies have increased from approximately 5,200 in February 2018, to 8,950 in February 2019, to 10,800 in February 2020, (72% from 2018-2019 and 20% from 2019-2020).

### **NFIP Flood Insurance**

The NFIP is backed by the federal government and is available to anyone who wishes or is required to purchase such a policy. One benefit to the NFIP is that it will cover a structure with or without mandatory purchase requirements, regardless of its location and risk. Policies through the NFIP are available to homeowners with coverage limits of up to \$250,000 for the structure and \$100,000 for



contents. Additionally, NFIP policy premiums are relatively established regardless of the number of claims made, offering policyholders some stability.

Flood insurance policies through the NFIP also provide Increased Cost of Compliance (ICC) coverage. ICC is a benefit offered through the NFIP that allows a policyholder, whose home has been considered substantially damaged or repaired, to receive up to \$30,000 in a one-time payment to offset the costs of bringing a home into compliance with their local community's floodplain management ordinance. Compliance activities eligible for payment include elevation, floodproofing (non-residential buildings), relocation and demolition. To access ICC, the structure must have the substantial damage determination, in that the community provides documentation that the damage or repairs to a home cost 50 percent or more than the structures pre-damage market value.

Another important component and clear distinction of NFIP policies is that they allow policyholders to be eligible for mitigation grants through FEMA. While often more expensive than private flood insurance policies, the ability to apply for federal mitigation grants makes it much easier to target these policyholders for mitigation. Flood insurance through the NFIP is also positively affected by mitigation through the reduction of losses, claims, and premiums. If a flood-prone structure is properly mitigated and it is documented on an Elevation Certificate (E.C.), this E.C. can be submitted to an insurance company or FEMA for review and reduction of the policy premium. This is not the case with private insurance, which is less concerned with actual mitigation and appears to place more emphasis on risk/location relative to the SFHA.

It is important to note that any use of federal mitigation grant money will need to have a Benefit-Cost Analysis (BCA) performed to show benefit. A BCA of at least 1.0 must be calculated to demonstrate that every dollar spent toward the mitigation activity will result in at least one-dollar worth of future benefits. FEMA has compiled mitigation costs nationwide and developed a BCA waiver for elevations, acquisition, and demolition. For an elevation project, if total project costs are less than \$175,000, then no BCA is required, as the FEMA waiver may be utilized. Likewise, for any acquisition and demolition project, a BCA is not required if the total project cost is less than \$276,000. The BCA waiver is noteworthy since the home values and construction costs in the largely rural central Pennsylvania region are such that project costs for both elevation and acquisition/demolition projects often come in under the target thresholds, eliminating the additional work to determine the BCA. According to FEMA's June 2018 Fact Sheet, losses avoided by federally funded riverine flood mitigation projects, far exceed the money spent, with a 7X return on investment.

### **Private Flood Insurance**

Although flood insurance has traditionally only been available through the NFIP, today there are more options for consumers to consider. Flood insurance is available through private insurers including surplus lines insurers. When purchasing flood insurance, it is important for consumers to consider the kind of coverage they need. Private insurance can offer more options and additional coverages such as additional living expenses, but there are also some limitations consumer should understand.

In contrast to the NFIP, which will cover any structure (albeit for a price), private insurers can choose who they want to cover based on risk and are not mandated to underwrite policies if risks are too great. As a result, a private flood insurance policy might not be available to all homeowners in the floodplain. While there is known stability with NFIP policies backed by the federal government, there is some concern about what will happen to private insurance companies after a major disaster/flood event.

In the event of a major flood where there are a significant number of claims, some are concerned that a private insurer may decide to no longer offer private flood insurance leaving only the NFIP as an option for coverage. Currently, the NFIP does not qualify private flood insurance as

continuous coverage for purposes of subsidies. This could lead to higher premiums for consumers who decide to return to the NFIP. If you obtain your private flood insurance policy through a surplus lines insurer, it is important to know that the provider licensed in the state in which the insurer is based and must be authorized to sell surplus lines policies in Pennsylvania. There are benefits and risks associated with surplus lines coverage. Some mortgage lenders may be less willing to accept a surplus lines issued flood insurance policy. Speak to your lender to ensure they are willing to accept a surplus lines policy. Also, there is no Guaranty Fund protection with surplus lines insurance. The Guaranty Fund is similar to the Federal Deposit Insurance Corporation (FDIC) insurance for bank accounts. If your insurer is unable to pay your claim, the Guaranty Fund would pay it. However, the Pennsylvania Insurance Department monitors surplus lines companies to ensure their ability to pay claims.

Another consideration with private flood insurance is that while it does help homeowners who have suffered through flood damage, at this present time only a few carriers allow them access to the ICC benefits available with NFIP policies nationwide with the maximum amount available being \$30,000. Private insurance does not provide access to federal grant opportunities. While NFIP policies are often misaligned due to their higher premiums, they do provide access to federal mitigation grants like Flood Mitigation Assistance (FMA) or Pre-Disaster Mitigation (PDM) that are in part funded through the NFIP. For private flood insurance policyholders, their avenues toward mitigation are predominantly privately funded, or at most to await a Presidential disaster declaration and a determination of eligibility through the Hazard Mitigation Grant Program (HMGP). Building Resilient Infrastructure and Communities (BRIC) is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program that will support states, local communities, tribes and territories, as they undertake hazard mitigation projects reducing the risks they face from disasters and natural hazards.

Another difference between NFIP and private flood insurance is that mitigation of a flood-prone structure does not appear to decrease premiums in the private flood insurance market. It is well documented that if flood mitigation is performed in compliance with regulations and the mitigation is documented on a FEMA E.C., then the policyholder will most likely see a reduction in their NFIP insurance premiums, reduced number of claims and the reduction of property losses. With private insurance, the brokers often use a simple determination of whether a structure is “in” or “out” of the SFHA to decide if they will offer a policy and set a premium. Private insurance companies neither ask for, nor consider, an E.C. when making policy determinations in Zone A. Therefore, at the present time there is no need to consider what effects mitigation has on reducing private flood insurance policy premiums.

## **DAY 2 – MITIGATION TECHNIQUES**

The second day was opened with an overview of day one, in which we discussed that the primary unexpected finding was that the private flood insurance market does not consider mitigations in premium calculations when underwriting. The conversation then turned to discussing costs and mitigation techniques.

### **Raising Utilities/Mechanicals**

One of the most common claims during a flood event is the loss of mechanicals, such as boilers, hot water heaters, air conditioning units; etc. These losses are prevalent as most of these items are located on the lowest floor (typically the basement) or on-grade outside. Whereas many items can be moved prior to a flood, it is simply not practical to move mechanicals due to the expense and time to relocate. However, these items also tend to be more costly when they need to be replaced, especially after repetitive losses.

Raising utilities/mechanicals is simply to relocate these higher dollar items to a location and elevation that minimizes future claims. Depending on the height of the Base Flood Elevation (BFE),

mechanicals may only need to be raised a few feet but can remain in the basement/lowest floor. If the BFE is at or higher than the next highest floor, then these items are placed in an area that will accommodate them on the first floor or higher. This could be in a closet, a small addition to the upper floor, or even outside in an insulated enclosure. The cost of raising mechanicals can vary based on the level needed to reach/exceed the BFE and any associated rewiring/replumbing, but is generally less expensive when compared to other mitigation options.

The benefits of raising utilities include reducing future losses to items that are costly to replace repeatedly. Elevating utilities is also an attractive option to homes that are unable to be mitigated using other techniques, like elevations, because they have a historic designation or are attached to adjacent home (i.e. row attached homes). Additionally, if raising utilities/mechanicals is a viable option, it helps homeowners stay in their homes, thus maintaining the tax base. Unfortunately, raising utilities alone may not fully mitigate this risk if the lowest floor is below the BFE. There will be a small decrease in the flood insurance premium for the mitigation, but it will be minimal compared to other mitigation techniques. Furthermore, if the height of the raising requires the mechanicals to be placed on the first or second floors, then it will likely result in the loss of living/storage space and/or costly rewiring/replumbing.

### **Basement Infilling**

The infilling of a basement involves abandoning the lowest floor, then backfilling to the necessary height required to make the next highest floor the new lowest floor. This is an effective mitigation technique where the BFE is higher than the lowest floor, but below the next highest/first floor. After abandoning the basement and relocating utilities and mechanicals, the foundation slab is perforated to allow flood water to move freely in and out of the foundation. The basement is then backfilled with compacted soil, pea gravel, or flowable fill to the required height and capped with concrete to create an impermeable slab. The resulting area between the new slab and the next highest floor effectively becomes a crawl space provided it is properly vented to allow the passage of flood water. The next highest floor now becomes the lowest floor above the BFE.

Basement infilling, where appropriate, may be a desired option for homes whose construction make it difficult to elevate. It is also an attractive alternative for historic homes/districts in that it helps maintain the historic integrity and aesthetic character. Disturbance to the homeowner is minimal apart from losing the storage space. Once again, a major benefit is the retention of tax base through keeping the home occupiable. These ideas are in line with the federally approved standards outlined in the National Park Service's document called *Guidelines on Flood Adaptation for Rehabilitation Historic Buildings*, which covers all types of technical preservation guidance specific to historic properties at risk of flooding. A link to the document can be found at: [www.nps.gov/tps/standards/rehabilitation/flood-adaptation-guidelines.pdf](http://www.nps.gov/tps/standards/rehabilitation/flood-adaptation-guidelines.pdf).

Concerns related to basement infilling are related to the loss of storage space, not only in the basement area, but also in accommodating the elevated mechanicals on the upper floors. Care must be taken to ensure that the resulting crawlspace meets the FEMA requirements of a crawlspace. If the crawlspace is too high, it may be classified as a basement with less effect on the resulting flood insurance premium. The crawlspace must also be properly flood vented to receive credit. Finally, the techniques and type of infilling material used contribute to some variability in costs that need to be considered.

### **Abandoning the 1<sup>st</sup> Floor**

Similar to basement infilling, this mitigation technique is more effective when the BFE is located above the elevation of the first floor, regardless of if there is a basement. The lowest floor (at or near grade) is abandoned and living space is moved up to the next highest floor. The abandoned floor is

converted to open space that is compliant with all FEMA regulations, including proper flood venting and non-conversion to livable space. If a basement exists, it can be infilled in the same regard as previously mentioned.

Aside from being another mitigation technique that allows for retention of the tax base, the abandonment of the first floor is typically less expensive and disruptive to the homeowner as no elevation takes place. If allowable, additional floors can be added to the top of the structure to offset the loss of living space. While abandoning a floor may negatively impact a structure's historical designation, it would have a minimal impact on the aesthetics of a community that may be averse to pure structural elevations.

One major drawback to abandoning the first floor is the loss of living space should additional floors not be an option. Additionally, if a basement is infilled it would need to be done properly (in compliance with FEMA regulations), and the abandoned floor would need to remain open, non-living space to be in compliance.

### **Structural Elevation (Zone A, AE)**

Structural elevation as a mitigation technique is accomplished through a controlled lift by separating a home from the existing foundation and jacking the entire structure to an elevation that is at or above the BFE. The existing basement is infilled, and upon elevating to the required height using a jacking system, the home is lowered onto a support system. Common supporting systems consist of concrete masonry unit walls or piers/piles. If pier/piles are used, water can flow freely during a flood event. In the case of masonry walls, the structure is enclosed, therefore proper flood venting is required to alleviate hydrostatic pressures and to allow draining as floodwaters recede. The remaining open space below the elevated structure can be used for storage or parking but cannot be converted into livable space for credit as an uninhabitable space.

A significant benefit of structural elevation is that there is no loss of space to the owner. In many cases, the home/business is minimally altered but the owner picks up additional storage and possibly parking underneath. Furthermore, most of the high dollar items that would be adversely affected during a flood (hot water heater, air conditioning unit, electrical panels) are elevated as well, resulting in the reduction of losses. Once again tax base is retained by keeping the structure and owner in place. The structure is more marketable, and premiums are more affordable after an elevation.

In contrast to the benefits, a major drawback to structural elevations is the high cost to undertake the work privately. Proper elevations require careful consultation with an engineer, and the actual shoring and jacking of the structure is best done by experienced specialty contractors. Few owners can afford to privately fund a structural elevation. The utilization of grant funding is common for homeowners who carry NFIP, but the process is lengthy, often taking years to begin and close out. Compounded with the need to meet state and federal requirements, such as the need for bonding requirements and to use state prevailing wage rates, this makes the project much more expensive than similar work if funded privately. Another concern is the aesthetic appeal to the community; while the structure may be mitigated, some communities are reluctant to endorse widespread structural elevations due to a perceived "unnatural" look. Elevations also pose a challenge to those with limited mobility, as the need for compliant ramps can be difficult to effectively construct based on excessive height or space constriction mandated by zoning and other laws.

At the present time, the preferred most competitive grant funded mitigation technique is acquiring and demolishing a flood prone structure. Therefore, structural elevations pose a larger challenge given the current mitigation preferences for regulators. It is understandable why acquisition and demolition is the preferred method, as it eliminates both the risk to human life and the chance of

future losses; however, this approach can also result in the loss of tax base for many communities in central Pennsylvania that are currently built out and are unable to develop areas which may be outside the regulatory floodplain. While a structural elevation addresses tax base concerns, the priority placed on acquisition/demolition makes it difficult to keep grant applications for structural elevations competitive.

### **Relocation of Structure**

Relocation of a flood prone structure as a form of flood mitigation is accomplished by merely moving the structure out of the floodplain. Aside from the benefits of preserving tax base (provided the relocation is still within municipal limits), relocation can be used to mitigate historically significant structures by maintaining historic value and aesthetic integrity.

While an attractive mitigation strategy, relocation is an extremely expensive procedure that requires careful coordination and specialty contractors. Relocation also has limitations in that it requires a suitable location outside of the regulatory floodplain. Many of the affected structures in central Pennsylvania sit on postage stamp sized parcels with limited space to relocate the structure on the same parcel. Furthermore, many parcels lack the necessary elevation change to move a structure out of the floodplain and above the BFE, or they simply lack enough space outside of the regulatory floodplain. While relocation should not be ruled out as an effective mitigation strategy, the constraints of the work and lack of suitable opportunities within the region relegate relocation to a less desirable option at the present time.

### **Mitigation Reconstruction**

FEMA defines Mitigation Reconstruction as, “the construction of an improved, elevated building on the same site where an existing building and/or foundation has been partially or completely demolished or destroyed” and “is only permitted for structures outside of the regulatory floodway”.

## MITIGATION EXAMPLES

Of the many difficulties surrounding mitigation of homes, one of the most significant is the extreme variability of construction styles/techniques and foundation conditions with the predominantly Pre-FIRM construction across central Pennsylvania. Some homes may be prime candidates for elevation, but the construction or condition of the frame makes elevation more difficult and costly. Floodwater velocities and soil conditions must also be accounted for, thereby limiting some mitigation techniques to what is effective (i.e. deep piers/piles may better withstand higher velocity floodwaters and erosion scour than masonry walls with flood vents).

Due to the high degree of variability, this report has made several assumptions to help standardize the comparisons of the different mitigation techniques. To try and capture all possible scenarios would not be practical, therefore, the following assumptions were made with the hope that any variability in the real world could be founded in one of these techniques:

### **Assumptions:**

- A standard 2-story home with a basement located in the SFHA. This style is representative of many homes across central Pennsylvania.
- See structure type “Diagram 2B” (Figure 1) from the FEMA E.C. guidance
  - “All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.”
  - The bottom floor (basement or underground garage) is below ground level (grade) on all sides; most of the height of the walls is below ground level on all sides; and the door and area of egress are also below ground level on all sides.

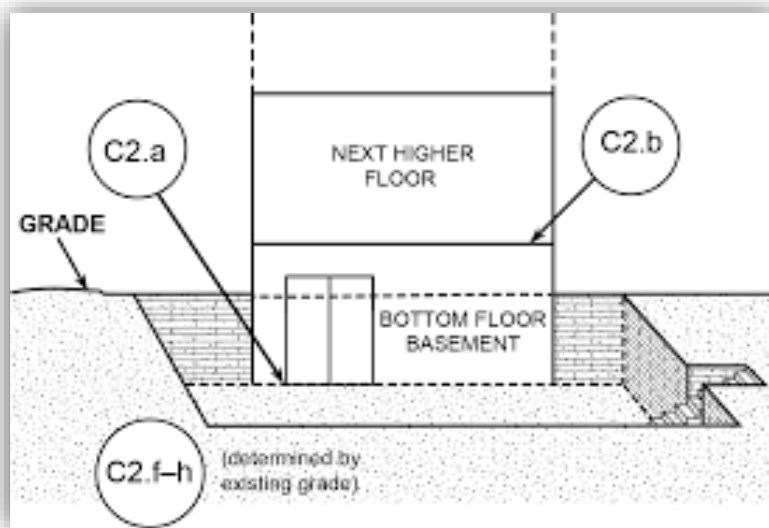


Figure 1 – Schematic of Structure Type “Diagram 2B” from FEMA Elevation Certificate

### **Technique #1: Non-Mitigation**

#### **Conditions:**

- A Pre-FIRM structure is located in Zone AE of the SFHA without an E.C., unknown elevation difference, and the municipality does not participate in the Community Rating System.

#### **Coverage\*:**

- Building Coverage \$200,000/\$2,000 deductible (1.20/1.51)
- Contents Coverage \$75,000/\$2,000 deductible (1.41/1.55)

**Mitigation Construction Cost:** None/No Mitigation.

**Cost of NFIP Policy:** Pre-FIRM subsidized; unknown elevation difference ~\$4,696

**Cost of Private Flood Insurance Policy:** Varies, however mitigation and an E.C. are not considered when calculating private insurance policy premiums.

#### **Illustration purposes only\*:**

**Premium Calculation:** Multiply Rate x \$100 coverage: Building \$2,834/Contents: \$1,128

The first \$60,000 in building is multiplied by 1.20 (\$720) and the remaining is multiplied by 1.51 (\$2,114)

The first \$25,000 in contents is multiplied by 1.41 (\$353) and the remaining is multiplied by 1.55 (\$775)

**Deductible Factor:** Building 1 x \$2,834/Contents: 1 x \$1,128

**Premium Increase or Reduction with deductible:** \$0/\$0

**Total:** \$3,962

**Add ICC:** \$56

**Subtotal:** \$4,018

**CRS:** \$0

**Add Reserve Fund Assessment (15%):** \$603

**Subtotal:** \$4,621

**Add Prohibition Surcharge:** \$0

**Add NFIAA Surcharge:** \$25

**Add Federal Policy Fee:** \$50

**Total Amount Due:** \$4,696

## **Technique #2: Raising Mechanicals/Utilities Only**

### **Conditions:**

- A Pre-FIRM structure located in Zone AE of the SFHA and the lowest floor is 4 feet below the BFE per the E.C.,
- Mechanicals require elevation to at least the next highest floor (1<sup>st</sup> floor, + 4 feet BFE) to be considered mitigated.

### **Coverage:**

- Contents Coverage \$75,000/\$2,000 deductible (1.41/1.55)

**Mitigation Construction Cost – Privately Funded:** Varies ~\$500 - ~\$15,000, depending on the need to rewire, replumb, duct work; etc.

**Mitigation Construction Cost – Federal/State Funded:** Unfunded with FEMA dollars, however, other Federal Programs (i.e. HUD/HOME) will consider funding if the house is brought up to full code compliance.

**Effect on NFIP Policy:** Total dollar amount of savings varies based on contents coverage; ~0.6 loaded rate reduction on contents only. Return on investment for NFIP premiums varies; 2 years to 30 years. Reduces the number of claims on NFIP policy and decreases “clean up or downtime” for the policyholder after an event.

**Effect on Private Flood Insurance Policy:** None; mitigation is not considered when calculating private insurance policy premiums.



### **Technique #3: Basement Infilling**

#### **Conditions:**

- A Pre-FIRM structure is located in Zone AE of the SFHA and the lowest floor is below the BFE,
- Mechanicals require elevation to at least the next highest floor (1<sup>st</sup> floor, elevation +1 BFE) to be considered mitigated,
- No enclosure/No basement/No crawlspace after basement infill,
- Located in CRS class 7 community.

#### **Coverage\*:**

- Building Coverage \$200,000/\$2,000 deductible (.76/.08) after filling in the basement
- Contents Coverage \$50,000/\$2,000 deductible (.39/.12) after filling in the basement
- Coverage prior to the technique would be similarly rated to the no mitigation example, see Technique #1.

**Mitigation Construction Cost – Privately Funded:** Varies ~\$50,000

**Mitigation Construction Cost – Federal/State Funded:** Varies ~\$90,000 - ~\$175,000

**Effect on NFIP Policy:** Regular Program, Post FIRM +1 rating after mitigation ~\$800; prior to infilling ~\$5,500

**Effect on Private Flood Insurance Policy:** None, any mitigation would be contained on an E.C. which is not considered, when calculating private insurance policy premiums.

**Illustration purposes only\*** (Post-FIRM after mitigation technique):

**Premium Calculation:** Multiply Rate x \$100 coverage: Building \$568/Contents: \$142

The first \$60,000 in building is multiplied by .76 (\$456) and the remaining is multiplied by .08 (\$112)

The first \$25,000 in contents is multiplied by .39(\$97) and the remaining is multiplied by .12 (\$30)

#### **Technique #4: Abandon the 1<sup>st</sup> Floor**

##### **Conditions:**

- Structure is Pre-FIRM located in the SFHA,
- Basement is present with lowest floor below BFE,
- The BFE is located 3 feet above the elevation of the next highest floor (1<sup>st</sup> floor),
- No additional floors will be added as part of construction,
- Mechanicals and utilities to be moved above BFE,
- Fully compliant with local floodplain ordinance (vented; etc.),
- Lowest rated floor is now the second floor.

##### **Coverage:**

- Building \$200,000
- Contents \$80,000

**Mitigation Construction Cost – Privately Funded:** Varies, ~\$40,000

**Mitigation Construction Cost – Federal/State Funded:** Varies ~\$70, 000 - ~\$100,000

**Effect on NFIP Policy:** Prior to abandonment ~\$2,900 to ~\$500 after mitigation

**Effect on Private Flood Insurance Policy:** None, any mitigation would be contained on an E.C., which is not considered when calculating private insurance policy premiums.

## **Technique #5: Elevate Structure**

### **Conditions:**

- Pre-FIRM structure is located in the SFHA (Regular Program),
- Basement is present with lowest floor below BFE,
- Elevated structure will sit on concrete masonry block walls with proper flood venting.

**Coverage\*:** Building Coverage \$200,000/\$2,000 deductible (1.20/1.51) prior to elevation  
Contents Coverage \$75,000/\$2,000 deductible (1.41/1.55) prior to elevation

**Coverage\*\*:** Building Coverage \$200,000/\$2,000 deductible (.30/.08) after elevation  
Contents Coverage \$75,000/\$2,000 deductible (.38/.12) after elevation

**Mitigation Construction Cost – Privately Funded:** Varies ~\$40,000 - ~\$80,000

**Mitigation Construction Cost – Federal/State Funded:** Varies ~\$100,000 - ~200,000 + elevation

**Effect on NFIP Policy:** Prior to elevation \$4,093, after elevation \$530 (+4 BFE)

**Effect on Private Flood Insurance Policy:** None, any mitigation would be contained on an E.C. which is not considered when calculating private insurance policy premiums.

### **Illustration purposes only\* (prior to elevation):**

**Premium Calculation:** Multiply Rate x \$100 coverage: Building \$2,834/Contents: \$1,128

The first \$60,000 in building is multiplied by 1.20 (\$720) and the remaining is multiplied by 1.51 (\$2,114)

The first \$25,000 in contents is multiplied by 1.41 (\$353) and the remaining is multiplied by 1.55 (\$775)

**Deductible Factor:** Building 1 x \$2,834/Contents: 1 x \$1,128

**Premium Increase or Reduction with deductible:** \$0/\$0

**Total:** \$3,962

**Add ICC:** \$56

**Subtotal:** \$4,018

**Add Reserve Fund Assessment (15%):** \$603

**Subtotal:** \$4,621

**Add Prohibition Surcharge:** \$0

**Add NFIAA Surcharge:** \$25

**Add Federal Policy Fee:** \$50

**Total Amount Due:** \$4,696

### **Illustration purposes only (after elevation)\*\*:**

**Premium Calculation:** Multiply Rate x \$100 coverage: Building \$292/Contents: \$155

The first \$60,000 in building is multiplied by .30 (\$180) and the remaining is multiplied by .08 (\$112)

The first \$25,000 in contents is multiplied by .38 (\$95) and the remaining is multiplied by .12 (\$60)

**Deductible Factor:** Building 1 x \$292/Contents: 1 x \$155

**Premium Increase or Reduction with deductible:** \$0/\$0

**Total:** \$447

**Add ICC:** \$8

**Subtotal:** \$455

**Add Reserve Fund Assessment (15%):** \$68

**Subtotal:** \$523

**Add Prohibition Surcharge:** \$0

**Add NFIAA Surcharge:** \$25

**Add Federal Policy Fee:** \$50

**Total Amount Due:** \$598

### **Technique #6: Relocation out of the SFHA**

#### **Conditions:**

- Pre-FIRM structure is located in Zone AE of the SFHA,
- Basement is present with lowest floor below the BFE,
- Structure will be relocated on the same parcel, but out of the SFHA,
- Assume a lateral move less than 300 feet from current location,
- No significant changes to utility connections are required (i.e. complete relocation of sewer, water electrical),
- New foundation with a full basement.

Mitigation Construction Cost – Privately Funded: varies ~\$90,000-~\$120,000

Mitigation Construction Cost – Federal/State Funded: varies ~\$175,000-~\$200,000

Effect on NFIP Policy: Preferred Risk Policy (PRP) may be purchased as the structure is no longer mandated (if collateralized) to purchase flood insurance.

Effect on Private Flood Insurance Policy: The structure will now be located outside of the SFHA and a policy would not be mandated by legislation. A PRP should be purchased as 25 percent of flood damage in Pennsylvania occurs outside of the regulatory floodplain.

## WAYS TO SAVE MONEY WITH NFIP

### **Elevation Certificate**

#### Condition:

- A Pre-FIRM primary residence located in Zone AE of the SFHA without an E.C.

#### Coverage:

- Building \$200,000
- Contents \$80,000

Purchase of E.C.: ~\$400-~\$1,500

Cost of NFIP prior to E.C.: ~\$4,140

E.C. documents for illustration purposes, includes no favorable outcome for policyholder. For example, the structures lowest floor is 6 feet below the BFE.

Result: No change to the NFIP premium, structure remains in the regular program under the Pre-FIRM construction rating as a primary residence.

Note: If the E.C. had shown the lowest floor and/or lowest adjacent grade of the structure to be 1 foot above the BFE (elevation +1) then the policyholder would benefit greatly, from a Letter of Map Amendment, if pursued, and a PRP for the cost of approximately \$476.

### **Community Rating System**

The Community Rating System (CRS) is a part of the NFIP and is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. When a community undertakes approved CRS activities (reducing flood damage to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management), they receive a designated class rating between 10-1. Residents of a participating CRS community then benefit by seeing a discount on their flood insurance premium, similar to fire insurance rating, which dependent of that community's class rating – Class 10 being no discount and Class 1 being the maximum premium discount of 45 percent.

### **Assignment of Coverage**

Policyholders can assign policies for buildings when they transfer ownership to the purchaser of the insured building. The assignment becomes effective on the date of the ownership transfer. This assignment can save thousands of dollars for the new owner and assist with the sale of the Pre-FIRM home, as the policy continues to be subsidized (with current legislation).

### **Grandfathering**

This NFIP insurance rating allows owners to lock in a previous flood zone determination from a previous FIRM with BFE's, as long as the coverage has been continuous (unless built in compliance with previous FIRM than continuous coverage is not required). Grandfathering results in savings for many years to the NFIP policyholder.

### **Preferred Risk Policy**

If a structure was previously shown on a FIRM to be located in a SFHA, it requires mandatory purchase of flood insurance if the homeowner has a federally backed mortgage. However, if a revised FIRM or Letter of Map Revision now depicts the structure to be outside of the SFHA, a PRP can be purchased for a much lower rate.

For example, a Pre-FIRM home in Zone AE with coverage of \$200,000 for building and \$80,000 for contents would pay ~\$4,140 and a PRP policy if the structure was now mapped out of the SFHA would be ~\$476. This example assumes a single family, primary residence, one floor and no basement with minimum deductibles.

### **Newly Mapped Procedures**

Properties that are newly mapped into the SFHA can be written as a PRP for the first year after a new effective FIRM, if coverage is effective within 12 months of the map change or 45 days from lender certification, and would see annual increase after the first year. This can save homeowners thousands of dollars in premiums during the first year. For example purposes – industry experts can estimate that a PRP could start at \$600 and increase to the range of \$2,200-2,300; while a standard policy is estimated to start at \$2,200 (which is on the low end). It is strongly encouraged that newly mapped procedure products are taken advantage of; however, after the first year, the policyholder should shop around to ensure that they are receiving the best pricing for the policy that suits their specific situation.

### **OTHER CONSIDERATIONS**

#### **FEMA's Benefit-Cost Analysis**

While the cost of supplies vary across the country, FEMA has responded with the calculation of a BCA for communities applying on behalf of NFIP policyholders, as applicants of grant funding must use FEMA approved methodologies to show cost effectiveness of each project posed for grant funding (see OMB Circular A-94). The calculation of BCA is based on number and dollar value of NFIP claims/losses based on return on investment. The BCA calculation focuses on many topics, and for our reporting purposes some highlighted topics included in a residential BCA are:

- Fair Market Value
- Area Square Footage
- Square Footage for:
  - Basement
  - Garage
  - Porch
  - Deck
- Replacement Cost per Square Feet
- First Floor Elevation, Base Flood Elevation, Streambed Elevation
- Discharge and Elevation

Furthermore, on July 23, 2019, FEMA released the BCA toolkit Version 6.0 to replace previous versions with some exceptions. It is imperative for FEMA grant applicants to follow FEMA's prescribed methodologies.

## Private Funded Mitigation with or without NFIP

To understand the cost of mitigation and the return of investment is critical as flood insurance premiums continue to climb. The private insurance market neither recognizes nor considers mitigation when determining premiums and as such, many privately insured policy owners will likely not undertake mitigation techniques. However, the NFIP promotes mitigation with the ICC, substantial premium savings and grant funded opportunities.

A Revolving Loan Fund (RLF) would encourage privately funded mitigation and assist policy owners with a low interest rate loan to realize savings in insurance premiums, in turn increasing the ability to sell one's home located in the SFHA. The RLF would prove beneficial for the NFIP and the private flood insurance industry while providing mortgage holders a better collateralized position; as the ability to sell the mitigated structure increases.

## Private Flood Insurance Considerations

The private insurance market currently does not consider mitigation and/or E.C.'s when determining premiums. Many options offer additional coverage to include ICC, loss of use, and higher value of personal property. While the market is not a federally backed program, it would prove beneficial for owners to shop both markets for the best price while also considering grant funding as it relates to their needs.

### NEXT STEPS

The Association of State Floodplain Managers reported in January 2020 that approximately 40 to 60 percent of small businesses do not reopen after a disaster and another 25 percent fail within one year thereafter, according to FEMA. We also know that one in four flood insurance claims occur outside of the regulatory floodplain.

To further address the need for change, the Commonwealth of Pennsylvania has initiated several House Resolutions. House Resolution (H.R.) No. 231 was adopted on June 24, 2019 and was introduced by Barrar, Sainato, Boback, DeLuca, James, Murt, Readshaw, and Moul, proposing and urging the federal government to prioritize resilient infrastructure, as there is a great need to reduce risks based on the country's economic, environmental, and social needs. H.R. No. 231 cites that \$841 billion in flood-related losses have occurred around the country since the year 2000. This Resolution also states that twenty-one federal disasters and emergencies were declared between 2000 and 2018 as a result of flooding, hurricanes, and severe storms in the state of Pennsylvania alone and has required more than \$750 million in total assistance from the United States Government, noting that flooding in the Commonwealth is the single greatest cause on property loss due to a natural disaster.

Related Pennsylvania House Resolutions worth mentioning are: H.R. 4347 – Known as the *PREPARE Act of 2019*. This bill is written to enhance the federal government's planning and preparation for extreme weather and the dissemination of best practices to respond to extreme weather to increase resilience, improve regional coordination, and mitigate the financial risk; H.R. 3779 – Known as the *Resilience Revolving Loan Fund Act of 2019*. This bill is to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to allow the FEMA Administrator to provide capitalization grants to eligible entities to establish revolving funds to provide assistance to reduce disaster risks; H.R. 3462 – Known as the *SHELTER Act*. This bill allows a tax credit to individuals and businesses for disaster mitigation expenses. The allowable amount of credit is 25 percent of the mitigation expenditures, up to \$5,000 in any taxable year.

The General Assembly of the Commonwealth of Pennsylvania amended Title 35 of the Pennsylvania Consolidated Statutes in 2014 to add a chapter (Chapter 79 – Disaster Emergency Assistance) under Act 187, stating the purpose of this chapter is to, “create a program to provide assistance to political subdivisions and municipal authorities directly affected by natural and man-made disasters. Assistance will be limited to grants for projects that do not qualify for Federal assistance to help repair damages to public facilities.” The Public Disaster Assistance Grant Program is established within PEMA to provide grants for assistance in the repair of disaster-related damage in a disaster emergency area when the damages to public facilities are beyond the financial capabilities of the political subdivision or authority in a disaster emergency area only when a Presidential disaster declaration is not covering the area. To be eligible for this grant, a political subdivision or municipal authority must suffer eligible loss which is not covered by insurance.

## CONCLUSION

The purpose of this report was to take a grassroots approach in working with industry partners, universities, the State, and others with direct, hands-on experience to identify the needs of the residents in the region, and the needs of our entire state, to identify the cost effectiveness of flood proofing. This report was crafted to provide our residents and communities with a standard set of tools to understand the wide range of mitigation techniques and the cost effectiveness of each flood proofing method, while retaining a tax base for our riverine communities. By identifying and breaking down each method, we have provided an effective description in reducing the risk for each varying situation, as each technique is not a one size fits all scenario.

We have been successful in demonstrating a dollar estimate of the costs and benefits of flood mitigation measures and techniques available for residential properties in Pennsylvania. The rationale was that those estimates are sorely needed by residents of the Central Pennsylvania region, the Commonwealth as a whole, and the entire United States in order to support rational decisions about whether property owners should undertake flood mitigation techniques, and if so which one(s). The outcome of this report reveals estimated costs and benefits remain quite broad and based on a variety of assumptions, because the costs and benefits vary substantially depending on the conditions facing individual residential properties. Nevertheless, these estimates are extremely valuable because they succeed in quantifying, while approximate, the dollar value of these particular techniques, which is information a homeowner should have if they are to make a financially rational decision about implementing flood mitigation measures. That information has been lacking to decision-makers, who have needed instead to rely on piecemeal information from the perspective of a business that is attempting to sell a product or service and may not be in a position to provide complete cost information from all perspectives.

With the findings of this report, we further recommend that an E.C. is obtained for each property. Perhaps, owners of structures located in the SFHA could be considered eligible for a tax credit from the state or federal government. Whereby securing an E.C., an owner will better understand the “risk” and take action toward mitigation, as this allows reliable calculations that verify and properly document the elevation of the property. Additionally, we encourage residents and business owners to reach out to their local Emergency Management Coordinator and local officials to further discuss local mitigation efforts as they relate to their particular municipality.

While we understand costs vary and are greatly dependent upon the structure type, location, and cost of building supplies; the estimation of these costs and insurance premium savings will positively correlate with mitigation undertakings. It is also our recommendation that the owner of every residential property in Pennsylvania should strongly consider purchasing flood insurance, whether or not the property is located in a SFHA. Many properties within SFHAs that have incurred damages have



not had insurance to compensate for their losses, and evidence from this report shows that many property owners misunderstand the extent to which emergency funding may or may not apply to them, and do not accurately estimate the likelihood with which they may experience flood damages. Similarly, owners of properties outside SFHAs are shown to incompletely understand the frequency and severity of flooding events that occur outside those SFHAs and do not accurately assess the likelihood of flood damages to their properties. This recommendation correlates with FEMA's Affordability Framework, an intent to greatly increase the number of policyholders, specifically to double the number of homeowners holding NFIP or private flood insurance policies by 2023.

# GLOSSARY

Term	Definition
<b>Assignment of Coverage</b>	Insureds may assign policies for insured buildings due to transfers of ownership.
<b>Base Flood</b>	A flood having a 1% chance of being equaled or exceeded in any given year.
<b>Base Flood Elevation (BFE)</b>	The elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. The BFE is shown on the Flood Insurance Rating Map (FIRM) for zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/A0, V1-V30 and VE.
<b>Basement</b>	Any area of the building, including any sunken room or sunken portion of a room, having its floor below ground level (subgrade) on all sides.
<b>Benefit Cost Analysis (BCA)</b>	Is the method by which the future benefits of a hazard mitigation project are determined and compared to its costs.
<b>Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12)</b>	The Biggert-Waters Flood Insurance Reform Act of 2012 is a law passed by Congress and signed by the President in 2012 that extends the National Flood Insurance Program (NFIP) for five years, while requiring significant program reform.
<b>Building</b>	<ul style="list-style-type: none"> <li>- A structure with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site; or</li> <li>- A manufactured home (a “manufactured home,” also known as a mobile home is a structure built on a permanent chassis, transported to its site in one or more sections, and affixed to a permanent foundation); or</li> <li>- A travel trailer without wheels, built on a chassis and affixed to a permanent foundation, that is regulated under the community’s floodplain management and building ordinances or laws.</li> <li>- “Building” does not mean a gas or liquid storage tank or a recreational vehicle, park trailer, or other similar vehicle, except as described above.</li> </ul>
<b>Building Resilient Infrastructure and Communities (BRIC)</b>	A new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program. BRIC is a result of amendments made to Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) by Section 1234 of the Disaster Recovery Reform Act of 2018 (DRRA). BRIC will support states, local communities, tribes and territories, as they undertake hazard mitigation projects reducing the risks they face from disasters and natural hazards with guiding program principles that support communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency. FEMA anticipates releasing a Notice of Funding Opportunity (NOFO) by the fall of 2020 (timing subject to change).
<b>Community</b>	A political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.
<b>Community Rating System (CRS)</b>	A program developed by FEMA to provide incentives for those communities in the Regular Program that have gone beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.
<b>Crawlspace</b>	An under-floor space that has its interior floor area (finished or not) no more than 5 feet below the top of the next-higher floor. Crawlspaces generally have solid foundation walls. See Diagram 8 in the Elevation Certificate Instructions.
<b>Deductible</b>	The fixed amount of an insured loss that is the responsibility of the insured and that is deducted before any amounts are paid for the insured loss under the insurance policy.
<b>Elevated Building</b>	A building that has no basement and that has its lowest elevated floor raised above the ground level by foundation walls, shear walls, posts, piers, pilings, or columns. Solid (perimeter) foundation walls are not an acceptable means of elevating buildings in V and VE Zones.

<b>Elevation Certificate (EC)</b>	Is an administrative tool used by the NFIP. It is used to provide elevation information necessary to ensure compliance with community floodplain management ordinances; to determine the proper insurance premium rate; and or support a request for a Letter of Map Amendment (LOMA) to remove a building from the Special Flood Hazard Area.
<b>Federal Policy Fee</b>	A flat charge that the policyholder must pay on each new or renewal policy to defray certain administrative expenses incurred in carrying out NFIP operations.
<b>FEMA Risk Rating 2.0</b>	The National Flood Insurance Program (NFIP) is redesigning its risk rating system by leveraging industry best practices and current technology to deliver rates that are fairer, easier to understand, and better reflect a property's unique flood risk.
<b>Flood</b>	<p>A general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties (at least one of which is the policyholder's property) from:</p> <ul style="list-style-type: none"> <li>• Overflow of inland or tidal waters;</li> <li>• Unusual and rapid accumulation of runoff of surface waters from any source; or</li> <li>• Mudflow</li> </ul> <p>OR</p> <p>Collapse of subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.</p>
<b>Flood Insurance Rate Map (FIRM)</b>	Official map of a community on which FEMA has delineated the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs), and the risk premium zones applicable to the community.
<b>Flood Mitigation Assistance (FMA)</b>	The Flood Mitigation Assistance program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended with the goal of to reduce or eliminate flood risk of severe repetitive and repetitive flood damage to buildings insured by the National Flood Insurance Program (NFIP).
<b>Full-Risk Premium Rate</b>	A rate charged to a group of policies that results in aggregate premiums sufficient to pay anticipated losses and expense for that group.
<b>Grandfathering</b>	<p>A rating procedure that enables policyholders to use a prior flood map for rating if the building was built in compliance or continuously insured.</p> <ul style="list-style-type: none"> <li>• Under NFIP administrative grandfathering, Post-FIRM buildings in the Regular Program built in compliance with the floodplain management regulations in effect at the start of construction will continue to have a favorable rate treatment even though higher Base Flood Elevations (BFEs) or more restrictive, greater risk zone designations result from Flood Insurance Rate Map (FIRM) revisions.</li> <li>• Policyholders who have remained loyal customers of the NFIP by maintaining continuous coverage (since coverage was first obtained on the building) are also eligible for administrative grandfathering.</li> </ul>
<b>Hazard Mitigation Grant Program (HMGP)</b>	Provides funds to states, tribes, and local communities after a disaster declaration to protect public or private property through various mitigation measures. Hazard mitigation includes long-term efforts to reduce the impact of future events.
<b>HFIAA Surcharge</b>	The statutory surcharge imposed by Section 1308A of the Act (42 U.S.C. 4015a).
<b>Historic Building</b>	<p>Any building that is:</p> <ul style="list-style-type: none"> <li>• Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; or</li> <li>• Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a</li> </ul>

	<p>district preliminarily determined by the Secretary of the Interior to qualify as a registered historic district; or</p> <ul style="list-style-type: none"> <li>• Individually listed in a state inventory of historic places in states with preservation programs that have been approved by the Secretary of the Interior; or</li> <li>• Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: <ul style="list-style-type: none"> <li>▪ By an approved state program as determined by the Secretary of the Interior; or</li> <li>▪ Directly by the Secretary of the Interior in states without approved programs</li> </ul> </li> </ul>
<b>HOME Investment Partnerships Program (HOME)</b>	The Pennsylvania HOME Program is a federally funded program that provides municipalities with grant and loan assistance to expand and preserve the supply of decent and affordable housing for low- and very low-income Pennsylvanians. HOME funds can be used in a variety of ways to address critical housing needs in the Commonwealth, including market-oriented approaches that offer opportunities such as homeownership or rental activities to revitalize communities with new investment. HOME Program funds are provided to DCED from the U.S. Department of Housing and Urban Development (HUD) through the annual entitlement appropriation process.
<b>Homeowner Flood Insurance Affordability Act (HFIAA)</b>	This law repeals and modifies certain provisions of the Biggert-Waters Flood Insurance Reform Act and makes additional program changes to other aspects of the program not covered by that Act. Many provisions of the Biggert-Waters Flood Insurance Reform Act remain and are still being implemented.
<b>Housing and Urban Development (HUD)</b>	A federal agency dedicated to strengthening and supporting the housing market.
<b>Increased Cost of Compliance (ICC)</b>	Coverage for expenses that a property owner must incur, above and beyond the cost to repair the physical damage the building sustained from a flooding event, to comply with mitigation requirements of state or local floodplain management ordinances or laws. Acceptable mitigation measures are elevation, floodproofing, relocation, demolition, or any combination.
<b>Low- and moderate-income (LMI)</b>	A low-income person is someone whose total annual income is 50% or less of the area median income for the community where they live. A moderate-income person is someone whose total annual income is 80% or less of the area median income for the community where they live.
<b>Lowest Adjacent Grade</b>	The lowest point of the ground level immediately next to a building.
<b>Mandatory Purchase</b>	Under the provisions of the Flood Disaster Protection Act of 1973, individuals, businesses, and others buying, building, or improving property located in identified areas of special flood hazards within participating communities are required to purchase flood insurance as a prerequisite for receiving any type of direct or indirect federal financial assistance (e.g., any loan, grant, guaranty, insurance, payment, subsidy, or disaster assistance) when the building or personal property is the subject of or security for such assistance.
<b>National Flood Insurance Program (NFIP)</b>	The program of flood insurance coverage and floodplain management administered under the Act and applicable federal regulations in Title 44 of the Code of Federal Regulations, Subchapter B.
<b>Newly Mapped (A Property Newly Mapped into the SFHA)</b>	A property that was once designated outside of the Special Flood Hazard Area (SFHA) on an effective Flood Insurance Rate Map (FIRM), and following a map revision, is designated within the SFHA. Refer to the Newly Mapped section for additional information.
<b>Participating Community</b>	A community for which FEMA has authorized the sale of flood insurance under the NFIP.

<b>Pennsylvania Insurance Department</b>	The Pennsylvania Department of Insurance is a cabinet-level agency in Pennsylvania, United States. It was founded in 1873 and has several main functions, including: ... Issue licenses to insurance industry individuals and companies. Regulate insurance policies and rates.
<b>Policy</b>	The entire written contract between the insured and the insurer. The written contract includes the following: <ul style="list-style-type: none"> <li>- The printed policy form;</li> <li>- The application and declarations page;</li> <li>- Any endorsement(s) that may be issued; and</li> <li>- Any renewal certificate indicating that coverage has been instituted for a new policy and new policy term.</li> </ul>
<b>Post-FIRM Building</b>	A building for which construction or substantial improvement occurred after December 31, 1974, or on or after the effective date of an initial Flood Insurance Rate Map (FIRM), whichever is later.
<b>Pre-Disaster Mitigation (PDM)</b>	The Pre-Disaster Mitigation Program, authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, is designed to assist states, territories, federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on federal funding in future disasters.
<b>Pre-FIRM Building</b>	A building for which construction or substantial improvement occurred on or before December 31, 1974, or before the effective date of an initial Flood Insurance Rate Map (FIRM).
<b>Preferred Risk Policy (PRP)</b>	The lower-cost Standard Flood Insurance Policy (SFIP), written under the Dwelling Form or General Property Form. It offers fixed combinations of building/contents coverage limits or contents-only coverage.
<b>Primary Residence</b>	A single-family building, condominium unit, apartment unit or unit within a cooperative building that will be lived in by the policyholder or the policyholder's spouse for: <ul style="list-style-type: none"> <li>- More than 50% of the 365 calendar days following the current policy effective date; or</li> <li>- 50% or less of the 365 calendar days following the current policy effective date if the policyholder has only one residence and does not lease that residence to another party or use it as rental or income property at any time during the policy term.</li> </ul>
<b>Proper Openings</b>	In Enclosures (Applicable to Zones A, A1-A30, AE, AO, AH, AR and AR Dual) – All enclosures below the lowest elevated floor must be designated to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Requirements for proper openings: <ul style="list-style-type: none"> <li>- A minimum of 2 openings, with positioning on at least 2 walls,</li> <li>- A total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding.</li> <li>- The bottom of all openings must be no higher than 1 foot above the higher of the exterior or interior grade (adjacent) or floor immediately below the openings.</li> </ul>
<b>Reserve Fund Assessment</b>	An amount dedicated to the NFIP Reserve Fund added to the insured's premium pursuant to section 1310A of the Act (42 U.S.C. 4017a).
<b>Revolving Loan Fund (RLF)</b>	A revolving loan fund (RLF) is a gap financing measure primarily used for development and expansion of small businesses. It is a self-replenishing pool of money, utilizing interest and principal payments on old loans to issue new ones.

<b>Severe Repetitive Loss Building</b>	<p>Any building that:</p> <ul style="list-style-type: none"> <li>- Is covered under a Standard Flood Insurance Policy</li> <li>- Has incurred flood-related damage for which: <ul style="list-style-type: none"> <li>- Four or more separate claim payments have been made under a Standard Flood Insurance Policy, with the amount of each such claim exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$20,000; or</li> <li>- At least two separate claim payments have been made under a Standard Flood Insurance Policy, with the cumulative amount of such claim payments exceed the fair market value of the insured building on the day before each loss.</li> </ul> </li> </ul>
<b>Special Flood Hazard Area (SFHA)</b>	An area having special flood, mudflow, or flood-related erosion hazards, and shown on a Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM) as Zone A, A0, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/A0, AR/A1-A30, V1-V30, VE or V.
<b>State Historical Preservation Office (SHPO)</b>	The State Historic Preservation Office (SHPO) is a state governmental function created by the United States federal government in 1966 under Section 101 of the National Historic Preservation Act (NHPA).
<b>Subsidized Premium Rate</b>	A rate charged to a group of policies that results in aggregate premiums insufficient to pay anticipated losses and expenses for that group.
<b>Substantially Damaged Building</b>	A building that has incurred damage of any origin whereby the cost of restoring the building to its condition before damage would equal or exceed 50% of the market value of the building before the damage occurred.
<b>Substantially Improved Building</b>	<p>A building that has undergone reconstruction, rehabilitation, addition, or other improvement, the cost of which equals or exceeds 50% of the market value of the building before the “start of construction” of the improvement. This term does not include a building that has undergone reconstruction, rehabilitation, addition, or other improvement related to:</p> <ul style="list-style-type: none"> <li>- Any project or improvement of a building to correct existing violations of a state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or</li> <li>- Any alteration of a “historic building”, provided that the alteration will not preclude the structure’s continued designation as a “historic building”.</li> </ul>
<b>Waiting Period</b>	The time between the date of application and the policy effective date.
<b>Zone</b>	A geographical area shown on a Flood Hazard Boundary Map (FHBM) or a Flood Insurance Rate Map (FIRM) that reflects the severity of type of flooding in the area.

## **APPENDIX – QUANTIFIABLE OUTCOMES OF REPORT WITH ATTACHMENTS**

- Selinsgrove – FMA 2018 – LOI attached, dated 10/23/2018
  - 310 S. Front Street
  - 320 S. Front Street
- Selinsgrove – FMA 2019 – LOI attached, dated 10/1/2019
  - 310 S. Front Street
  - 320 S. Front Street
- Bloomsburg – HMGP-4408– applied for on 5/13/2019
  - 334 E. 9<sup>th</sup> Street
  - 122 E. 12<sup>th</sup> Street
- Bloomsburg – FMA 2019 – LOI attached, dated 10/1/2019
  - 334 E. 9<sup>th</sup> Street
  - 122 E. 12<sup>th</sup> Street
- Bloomsburg – FMA 2019 – LOI attached, dated 10/15/2019
  - 243 Barton Street
- Montour County – HMGP-4408 – LOI examples attached
  - Anthony Township – application submitted 5/22/2019
  - Derry Township – application submitted 5/22/2019
  - Danville Borough – application submitted 5/22/2019
- Watsontown Borough – FMP 2020 – applied for on 6/2/2020

**FEMA HAZARD MITIGATION ASSISTANCE UNIFIED GRANT PROGRAM**  
**(Non Disaster Grants) Letter of Interest**

**SUBJECT:** FEMA Hazard Mitigation Assistance Unified Grant Program (Non Disaster HM Grants)

**TO:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

Dear SHMO:

The purpose of this notice is to inform you of our interest in participating in the Unified Hazard Mitigation Assistance Program for the federal fiscal year 2018 (FFY).

  
Signature

Borough Manager  
Title

**DATE:** October 23, 2018

**APPLICANT COMMUNITY:** Selinsgrove Borough

**COUNTY:** Snyder County

**PROJECT CONTACT**

**NAME:** Paul Williams

**TITLE:** Borough Manager

**AGENCY:** Selinsgrove Borough

**ADDRESS:** One North High Street, Selinsgrove, PA 17870

**PHONE:** 570-374-2311

**EMAIL:** pwilliams@selinsgrove.org

<b>Repetitive Flood Claims (RFC)</b>	<input type="checkbox"/>	<b>TYPE OF PROGRAMS INTERESTED IN</b>	<input checked="" type="checkbox"/>
<b>Severe Repetitive Loss (SRL)</b>	<input type="checkbox"/>	<b>Flood Mitigation Assistance (FMA)</b>	<input checked="" type="checkbox"/>
		<b>Pre-Disaster Mitigation Grant Program (PDM)</b>	<input type="checkbox"/>

<b>TYPE OF ORGANIZATION</b>		
<b>Municipal Government</b> <input checked="" type="checkbox"/>	<b>Private Nonprofit</b> <input type="checkbox"/>	<b>Public College/University (PDM only)</b> <input type="checkbox"/>
<b>County Government</b> <input type="checkbox"/>	<b>State Agency</b> <input type="checkbox"/>	

**LOCATION OF PROJECT:** 310 South Front Street & 320 South Front Street, Selinsgrove, Snyder County

**BRIEF DESCRIPTION OF PROJECT:** The project will include the elevation of two (2) one-story primary residences located in the SFHA.

**BRIEF DESCRIPTION OF PROBLEM TO BE SOLVED:** 310 South Front Street & 320 South Front Street are both Repetitive Loss properties. Elevation of these structures will reduce long term risk to life and property from floods

**TOTAL ESTIMATED COST:** \$350,000

**SOURCE OF FUNDING FOR NON-FEDERAL SHARE:** 15% State 10% Local

**FAX to PEMA at 717-651-2150 or mail to:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

**\*PRE-APPLICATION MUST BE SUBMITTED BEFORE AN APPLICATION PACKET WILL BE SENT TO**



**FEMA HAZARD MITIGATION ASSISTANCE UNIFIED GRANT PROGRAM  
(Non Disaster Grants) Letter of Interest**

**SUBJECT:** FEMA Hazard Mitigation Assistance Unified Grant Program (Non Disaster HM Grants)

**TO:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

Dear SHMO:

The purpose of this notice is to inform you of our interest in participating in the Unified Hazard Mitigation Assistance Program for the federal fiscal year 2019 (FFY).

  
Signature

Borough Manager  
Title

**DATE:** October 1, 2019

**APPLICANT COMMUNITY:** Selinsgrove Borough

**COUNTY:** Snyder County

**PROJECT CONTACT**

**NAME:** Paul A. Williams

**TITLE:** Borough Manager

**AGENCY:** Borough of Selinsgrove

**ADDRESS:** One North High Street

**PHONE:** 570-374-2311

**EMAIL:** williams@selinsgrove.org

<b>Repetitive Flood Claims (RFC)</b>	<input type="checkbox"/>	<b><u>TYPE OF PROGRAMS INTERESTED IN</u></b>	<input checked="" type="checkbox"/>
<b>Severe Repetitive Loss (SRL)</b>	<input type="checkbox"/>	<b>Flood Mitigation Assistance (FMA)</b>	<input checked="" type="checkbox"/>
		<b>Pre-Disaster Mitigation Grant Program (PDM)</b>	<input type="checkbox"/>

<b><u>TYPE OF ORGANIZATION</u></b>	
<b>Municipal Government</b>	<input checked="" type="checkbox"/>
<b>County Government</b>	<input type="checkbox"/>
<b>Private Nonprofit</b>	<input type="checkbox"/>
<b>State Agency</b>	<input type="checkbox"/>
<b>Public College/University (PDM only)</b>	<input type="checkbox"/>

**LOCATION OF PROJECT:** 310 South Front Street and 320 South Front Street, Selinsgrove, Snyder County, PA

**BRIEF DESCRIPTION OF PROJECT:** The project will include the elevation of two RL primary residences. Both structures are located in the SFHA.

**BRIEF DESCRIPTION OF PROBLEM TO BE SOLVED:** 310 and 320 South Front Street in Selinsgrove are Repetitive Loss properties. Elevation of these structures will reduce long term risk to life and property from floods.

**TOTAL ESTIMATED COST:** \$350,000

**SOURCE OF FUNDING FOR NON-FEDERAL SHARE:** 15% state and 10% homeowner

**FAX to PEMA at 717-651-2150 or mail to:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

**\*PRE-APPLICATION MUST BE SUBMITTED BEFORE AN APPLICATION PACKET WILL BE SENT TO**

**FEMA HAZARD MITIGATION ASSISTANCE UNIFIED GRANT PROGRAM**  
**(Non Disaster Grants) Letter of Interest**

**SUBJECT:** FEMA Hazard Mitigation Assistance Unified Grant Program (Non Disaster HM Grants)

**TO:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

Dear SHMO:

The purpose of this notice is to inform you of our interest in participating in the Unified Hazard Mitigation Assistance Program for the federal fiscal year 2019 (FFY).

Lisa Dooley  
Signature

Town Manager  
Title

**DATE:** October 1, 2019

**APPLICANT COMMUNITY:** Town of Bloomsburg

**COUNTY:** Columbia County

**PROJECT CONTACT**

**NAME:** Lisa M. Dooley

**TITLE:** Town Manager

**AGENCY:** Town of Bloomsburg

**ADDRESS:** 301 East Second Street, Bloomsburg, PA 17815

**PHONE:** 570-784-7123

**EMAIL:** ldooley@bloomsburgpa.org

<b>Repetitive Flood Claims (RFC)</b>	<input type="checkbox"/>	<b>TYPE OF PROGRAMS INTERESTED IN</b>	<input checked="" type="checkbox"/>
<b>Severe Repetitive Loss (SRL)</b>	<input checked="" type="checkbox"/>	<b>Flood Mitigation Assistance (FMA)</b>	<input checked="" type="checkbox"/>
		<b>Pre-Disaster Mitigation Grant Program (PDM)</b>	<input type="checkbox"/>

<b>Municipal Government</b>	<input checked="" type="checkbox"/>	<b>TYPE OF ORGANIZATION</b>	<input type="checkbox"/>	<b>Public College/University (PDM only)</b>	<input type="checkbox"/>
<b>County Government</b>	<input type="checkbox"/>	<b>Private Nonprofit</b>	<input type="checkbox"/>	<b>State Agency</b>	<input type="checkbox"/>

**LOCATION OF PROJECT:** 334 East 9th Street & 122 East 12th Street, Bloomsburg, Columbia County

**BRIEF DESCRIPTION OF PROJECT:** The project will include the elevation of one (1) one-story primary residence and one (1) two-story residence. Both structures are located in the SFHA.

**BRIEF DESCRIPTION OF PROBLEM TO BE SOLVED:** 334 East 9th St. & 122 East 12th St. are both Severe Repetitive Loss properties. Elevation of these structures will reduce long term risk to life and property from floods.

**TOTAL ESTIMATED COST:** \$334,450

**SOURCE OF FUNDING FOR NON-FEDERAL SHARE:** N/A (100% Federal due to both properties being SRLs)

**FAX to PEMA at 717-651-2150 or mail to:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

**\*PRE-APPLICATION MUST BE SUBMITTED BEFORE AN APPLICATION PACKET WILL BE SENT TO**

**FEMA HAZARD MITIGATION ASSISTANCE UNIFIED GRANT PROGRAM**  
**(Non Disaster Grants) Letter of Interest**

**SUBJECT:** FEMA Hazard Mitigation Assistance Unified Grant Program (Non Disaster HM Grants)

**TO:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

Dear SHMO:

The purpose of this notice is to inform you of our interest in participating in the Unified Hazard Mitigation Assistance Program for the federal fiscal year 2019 (FFY).

Lisa M. Dooley  
Signature

Town Manager  
Title

**DATE:** October 15, 2019

**APPLICANT COMMUNITY:** Town of Bloomsburg

**COUNTY:** Columbia County

**PROJECT CONTACT**

**NAME:** Lisa M. Dooley  
**TITLE:** Town Manager  
**AGENCY:** Town of Bloomsburg  
**ADDRESS:** 301 East Second Street, Bloomsburg, PA 17815  
**PHONE:** 570-784-7123  
**EMAIL:** ldooley@bloomsburgpa.org

<b>Repetitive Flood Claims (RFC)</b>	<input type="checkbox"/>	<b>TYPE OF PROGRAMS INTERESTED IN</b>	<input type="checkbox"/>
<b>Severe Repetitive Loss (SRL)</b>	<input checked="" type="checkbox"/>	<b>Flood Mitigation Assistance (FMA)</b>	<input checked="" type="checkbox"/>
		<b>Pre-Disaster Mitigation Grant Program (PDM)</b>	<input type="checkbox"/>

<b>Municipal Government</b>	<input checked="" type="checkbox"/>	<b>TYPE OF ORGANIZATION</b>	<input type="checkbox"/>	<b>Public College/University (PDM only)</b>	<input type="checkbox"/>
<b>County Government</b>	<input type="checkbox"/>	<b>Private Nonprofit</b>	<input type="checkbox"/>	<b>State Agency</b>	<input type="checkbox"/>

**LOCATION OF PROJECT:** 243 Barton Street, Bloomsburg (Columbia County), PA 17815

**BRIEF DESCRIPTION OF PROJECT:** The project will include the aquisition and demolition of one SRL primary residence located in the floodway.

**BRIEF DESCRIPTION OF PROBLEM TO BE SOLVED:** 243 Barton Street, Bloomsburg, PA 17815  
Severe Repetitive Loss property. Acquisition/Demo of this structure will eliminate long term risk to life and property.

**TOTAL ESTIMATED COST:** \$276,000

**SOURCE OF FUNDING FOR NON-FEDERAL SHARE:** N/A

**FAX to PEMA at 717-651-2150 or mail to:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency, Bureau of Recovery and Mitigation  
Hazard Mitigation Division 2605 Interstate Drive, Harrisburg, PA 17110

**\*PRE-APPLICATION MUST BE SUBMITTED BEFORE AN APPLICATION PACKET WILL BE SENT TO**

**HAZARD MITIGATION GRANT PROGRAM (HMGP)**  
**Letter of Intent/Pre-Application**

**SUBJECT:** Hazard Mitigation Grant Program (HMGP) Letter of Intent  
**TO:** State Hazard Mitigation Officer (SHMO)  
Pennsylvania Emergency Management Agency  
2605 Interstate Drive  
Harrisburg, PA 17110

Dear SHMO:

The purpose of this notice is to inform you of our interest in participating in the Hazard Mitigation Grant Program for federally declared disaster **FEMA-4408 -DR-PA**.

\_\_\_\_\_  
**Signature** \_\_\_\_\_  
**Title**

**DATE:** \_\_\_\_\_

**APPLICANT COMMUNITY:** Montour County on behalf of Anthony Township

**COUNTY:** Montour

**PROJECT CONTACT**

**NAME:** William Bradfield  
**TITLE:** Flood Resiliency Program Analyst  
**AGENCY:** SEDA-Council of Governments  
**ADDRESS:** 201 Furnace Road  
Lewisburg, PA 17837  
**PHONE:** (570)524-4491  
**E-Mail:** wbradfield@seda-cog.org

**TYPE OF ORGANIZATION**

<b>Municipal Government</b> <input type="checkbox"/>	<b>Private</b> <input type="checkbox"/>	<b>Nonprofit</b> <input type="checkbox"/>
<b>County Government</b> <input checked="" type="checkbox"/>	<b>State</b> <input type="checkbox"/>	<b>Agency</b> <input type="checkbox"/>

**LOCATION OF PROJECT:** 4951 Muncy Exchange Road, Turbotville

**BRIEF DESCRIPTION OF PROJECT:** The project will include the proposed elevation of one (1) residence, which is located in the SFHA.

**BRIEF DESCRIPTION OF PROBLEM TO BE SOLVED:** Utilize FEMA approved mitigation techniques (elevation) to mitigate a flood-prone structure, thus reducing long term risk to life and property. The project is applicable for the FEMA BCA waiver.

**TOTAL ESTIMATED COST:** \$175,000

**SOURCE OF FUNDING FOR NON-FEDERAL SHARE :** 25% State, 0% Local

**FAX to PEMA at 717-651-2150 or mail to:**

State Hazard Mitigation Officer  
PEMA  
2605 Interstate Drive  
Harrisburg, Pennsylvania 17110

**PRE-APPLICATION MUST BE SUBMITTED BEFORE AN APPLICATION PACKET  
WILL BE SENT TO YOU**





