



FEMA

AUG 27 2009

Robert P. French, Director
Pennsylvania Emergency Management Agency
2605 Interstate Drive
Harrisburg, Pennsylvania 17110-9364

RE: FEMA Region III Elevation Guidelines

Dear Mr. French:

This is a follow up letter to correspondence sent to you in November 2008 regarding the enclosed Elevation Guidelines which will assist your office and your sub-grantees in application development, project implementation and monitoring, and program/ financial close out of elevation projects.

As discussed at our meeting with your Hazard Mitigation Officer in Rehoboth Beach, Delaware in September 2008, these guidelines were developed by our Hazard Mitigation Assistance (HMA) Branch. This endeavor is part of our overall grants and project monitoring effort as directed to implement by Jonathan Sarubbi, our Regional Administrator in FY 2009. We have noted in the past few years that some mitigation grant projects are experiencing cost over runs, time delays, contractor oversight issues, etc., particularly with large elevation projects.

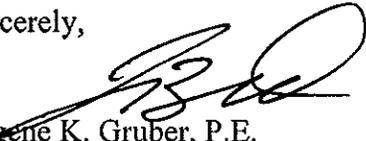
Since last fall we have received feedback from each of the State Hazard Mitigation Officers on these Elevation Guidelines, and at the National HMA Summit in Denver, Colorado in May 2009, we committed to your Hazard Mitigation staff that we would revise the guidelines based on their input. In addition, we have incorporated information obtained from our joint field visits to various local communities with open elevation projects.

These guidelines are our contribution to your staff to assist in working with your local sub grantees and, hopefully, they will be a resource in monitoring open elevation projects and developing new elevation project applications.

Robert P. French
Page 2

If you have any questions on the revised guidelines, please contact me at 215-931-5669 or Nancy Carpenter, HMA Branch Chief at 215-931-5508. I look forward to working together with you and your Hazard Mitigation staff on this issue and strengthening our federal/ state partnership to make this grants monitoring effort a success.

Sincerely,



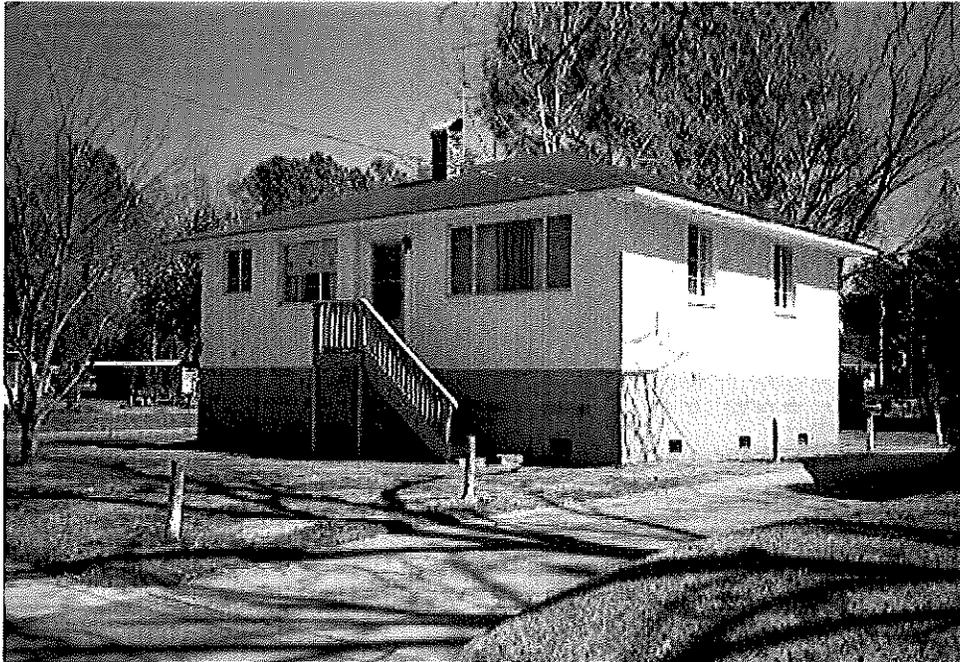
Eugene K. Gruber, P.E.
Director, Mitigation Division

Enclosure

cc: Thomas S. Hughes, State Hazard Mitigation Officer ✓

FEMA REGION III ELEVATION GUIDELINES

Revised
August, 2009



INTRODUCTION

Purpose and Intent:

These elevation guidelines have been prepared to assist states and local sub grantees in developing elevation project grant applications for submission to the Federal Emergency Management Agency (FEMA), Region III for funding under Hazard Mitigation Assistance (HMA) grant programs and for post award management and monitoring of approved projects.

Since the inception of the Hazard Mitigation Grant Program (HMGP) and the Flood Mitigation Assistance Program (FMAP) in the 1990's FEMA Region III has funded elevation projects in both inland river and coastal risk areas. Congress has since authorized three additional mitigation grant programs: Pre-Disaster Mitigation (PDM), Repetitive Flood Claims (RFC), and Severe Repetitive Loss (SRL). The latter two and FMA are funded from the National Flood Insurance Fund and target structures with flood insurance and that have experienced flood claims.

Over the past few years, many eligible property owners in Region III states have chosen elevation as a mitigation activity, and with the increasing number of elevation projects, states and local sub grantees have had difficulty in managing and monitoring this complex mitigation option. Examples of project management issues that have frequently occurred are: cost over runs for the elevation of individual homes when the contractor's bid exceeds the cost estimate submitted in the grant application; schedule delays and numerous period of performance extensions; funding of ineligible activities, such as improvements to the structure, that should be paid for by the property owner; floodplain management problems, including improper openings in Zone A elevations and conversion of lower floor areas to living space below the Base Flood Elevation (BFE).

Under federal grants management law and regulations, FEMA has the responsibility to provide sufficient guidance and technical assistance to states, local communities and property owners so that elevation project applications can be properly scoped and developed; managed and monitored; then closed in an efficient and effective manner. These guidelines are provided to Region III states as a resource tool and should increase awareness of the various grants management issues related to elevation of flood prone structures.

A. ELEVATION PROJECT MANAGEMENT

Financial Issues:

1. The proposed method/ technique for elevating a structure must be the lowest cost alternative within a range of elevation options.
2. Eligible HMA costs must be separated from ineligible costs and clearly identified. All project costs must be documented.
3. The estimated cost to elevate each structure must be included in the application.
4. A separate Benefit Cost Analysis (BCA) must be completed for each structure included in the project application. Initial BCA's should be based on reasonable cost estimates and may require re-evaluation if actual costs, such as contractor's bids, are higher.
5. Any change in the scope of the project (cost, number of structures, etc.) must be submitted by the sub grantee to the State and to Region III for approval. Scope changes may require a BCA review.
6. It is recommended that structures with the highest Benefit Cost Ratio (BCR) be elevated first. This will help ensure that: (1) structures with the highest risk will be elevated first; (2) cost overruns will be avoided; (3) the BCR will remain at 1.0 or greater.
7. Homeowner volunteer labor, and/or group volunteer labor is an eligible acceptable match and must be valued at rates consistent with those ordinarily paid for similar work in the same labor market. Records validating tasks and rates must be provided as part of the construction contract.
8. The bidding process must provide for full and open competition in compliance with local, State and Federal regulations. Homeowners cannot act as the contractor as this presents a potential conflict of interest.
9. HMA project funds are to be provided to the sub grantee by the state agency acting as the HMA grantee administrator. The sub grantee will release funds to the contractor(s) after verifying program eligibility of each task and ensuring that completed work meets the requirements of all permits, codes and applicable regulations as designated within the elevation project specifications and contract.

Property Owner Requirements:

1. Owners must have a valid flood insurance policy, or agree to purchase flood insurance upon completion of the elevation, and flood insurance must be maintained for the structure in perpetuity.

The March 20, 2006 memorandum by David I. Maurstad, Assistant Administrator, Mitigation Directorate (Attachment A), requires that all pending and approved project applications for the mitigation of properties in a Special Flood Hazard Area (SFHA) must include from each participating property owner his/her acknowledgement and acceptance of conditions for owning property in a SFHA mitigated with FEMA grant funds. This acknowledgement must be obtained for all pending and approved projects.

Owners of structures to be elevated and an authorized local official must submit a signed Model Acknowledgement of Conditions for Mitigation of Property in a SFHA with FEMA Grant Funds (Attachment A-1) prior to award. This document restricts future use of the area under the elevated lowest floor to parking of vehicles, temporary storage only, and other conditions specified in the *Acknowledgement* document in conformance with National Flood Insurance Program (NFIP) floodplain management requirements {44 CFR Part 60.3}; and commits the current and future property owners to maintaining flood insurance for as long as the building remains within a SFHA.

2. If a property owner receives, or is eligible to receive, federal disaster assistance, a flood insurance claim settlement or Increased Cost of Compliance (ICC) payment to elevate a structure, the owner must provide evidence (e.g. receipts) that the funds were expended for the intended purpose. If documentation is not provided, the amount of federal assistance will be deducted from the approved HMA grant funds as a duplication of benefits.

Permits/ Technical Issues:

1. Buildings proposed for elevation must be structurally sound and capable of being elevated safely.
2. It is recommended that an engineer certify that the design elevation will withstand depth and velocity of 100-year flood events and any potential increase in wind load. FEMA encourages that elevation projects be designed in accordance with the American Society of Civil Engineers (ASCE) 24-05 *Flood Resistant Design and Construction*.
3. Contractors must comply with all local and state laws for licensing, performance/ payment bonds and liability insurance.
4. The lowest floor of structures must be elevated to the Base Flood Elevation (BFE) or to the elevation specified in the local ordinance, if higher. Upon completion of the elevation work, an Elevation Certificate (FEMA Form 81-31) verifying "as built" elevations will be provided to the sub grantee and State to ensure that the structure complies with the local Floodplain Ordinance, NFIP floodplain management and HMA grant requirements.
5. An engineer, floodplain manager, or senior municipal official must certify that the elevation is in compliance with local ordinances and NFIP regulations, including all applicable NFIP Technical Bulletins. This information must be documented on the

Hazard Mitigation Assistance Program Elevation Compliance Record (Attachment B-page 1) and a copy of this record must be included in the project file.

6. If a structure located outside the SFHA is proposed for elevation, the local community, where feasible, should establish a BFE for the property so that the lowest floor is raised to the proper height. This information should be provided to FEMA Region III, Mitigation Division, Risk Analysis Branch, to assist in evaluating the risk shown in the current Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for the area surrounding the proposed elevation.

B. ELIGIBLE ELEVATION PROJECT COSTS

1. Eligible costs include: disconnection of all utilities; installation and removal of beams for lifting the house; cribbing for a raised house while foundation is constructed; building of a foundation so that the lowest floor is at BFE (effective BFE at time of application) or higher if required by local ordinance; lowering the house onto a new foundation; attachment of the building to that foundation; reconnecting of utilities and extending lines and pipes as necessary and elevating all utilities and service equipment.
2. Additional eligible project costs include engineering services, surveying, title search, deed recordation fees, legal fees, debris disposal, erosion control, project administration and construction management .
3. Additions to the habitable spaces of the structure are not eligible for reimbursement, except as noted below:
 - a) Construction of a utility room above BFE may be eligible only if there is no existing space within the house for this purpose, or if there is no alternative cost-effective way to elevate the utilities. If a utility room is constructed, it is limited to 100 sq. ft. Costs associated with any area that exceeds this size is the responsibility of the owner.
 - b) Elevation of existing decks, porch, or stairs; or construction of new stairs and railings to access the elevated living space per minimum code requirements.
 - c) In a case where an owner or members of the owner's family are physically handicapped, a physician's written certification is required before access facilities can be allowed as an eligible cost. Multiple access facilities are eligible for funding if required for compliance with local codes and regulations. If a ramp is to be used to provide access, it must be designed to meet Federal ADA standards for slope and width. If ramps are not technically feasible to build, a mechanical chair lift may be installed. This installation should be on interior access stairways if feasible, subject to local codes.
4. Insulation of pipes when required by local codes and standards.

5. Documented reasonable living expenses (except food and personal transportation) that are incurred during the period when the owner is displaced by the elevation construction are considered eligible (e.g., rent, extra mileage to work, etc). An acceptable method for determining the eligible lodging costs is: \$1.44 per square foot, plus \$500/month, plus a one-time \$500 cost for displacement/relocation due to mitigation activity (from FEMA's BCA Toolkit). Estimates of these costs must be included as a line item in the project application budget and cannot exceed displacement costs used in the BCA.
6. Grading and reseeded of property.
7. Reasonable costs for repair of sidewalks and driveways if damaged by equipment during the elevation project.
8. A wood floor system with floor coverings that meets minimum building code requirements is an eligible cost in the case of a residence built with slab on grade construction when it is not feasible for the slab to be raised and the structure must be detached from the slab.

C. INELIGIBLE ELEVATION PROJECT COSTS (INCLUDE BUT NOT LIMITED TO THE FOLLOWING):

1. Post FIRM structures are not eligible for funding.
2. Costs related to building additions or auxiliary structures are not eligible for reimbursement.
3. Costs associated with elevating the lowest floor to a height greater than that required by the local Floodplain Management Ordinance.
4. Repairs, rehabilitation, additions, expansions, or elevations of appurtenances except as noted in Part B, 1-4.
5. Landscaping except as noted in Part B, 6.
6. Construction of new decks or porches.
7. Costs to replace or repair utility service components, which are undersized, inadequately designed, or unsafe.
8. Costs to replace, restore, or repair the structure, such as an inadequately designed or constructed floor system, are not eligible, except minimum costs for exterior sheathing associated with what was damaged or removed during the elevation process. Deferred maintenance is not an eligible cost and shall be the responsibility of the owner.
9. Exterior finish on the exposed foundation of the elevated building.

10. New concrete floor at grade under an elevated structure.
11. In cases where masonry chimneys and fireplaces serve as the primary heat source for a residence, they will be considered eligible for elevation. A structural engineer or architect must certify that elevating the chimney and fireplace is feasible and the cost must be included in the BCA for the structure. If elevating the chimney and fireplace is not feasible and/ or the cost is prohibitive, a new heating system may be installed that meets the minimum local code requirements and is the least expensive option.

D. ADDITIONAL REQUIREMENTS:

1. States will notify and coordinate with FEMA Region III HMA staff on the schedule for the initial grants/ project briefing with sub grantees for all approved elevation projects. A HMA staff member will attend these briefings, if necessary, particularly for multiple home elevation projects or with new sub grantees.
2. Selected bids for each structure will be provided to the State by the sub grantee and made available to FEMA Region III prior to award. This requirement will allow Region III HMA staff to assist States in comparing the bid to the original cost estimate listed in the approved grant application, evaluating eligible and ineligible costs as outlined in this guidance, and reviewing other items that could affect overall project implementation and avoid potential cost over runs.
3. The final inspection shall include the Hazard Mitigation Assistance Program Elevation Compliance Record (Attachment B, page 2), certifying that the completed elevation complies with the approved plans and specifications, and the Hazard Mitigation Assistance Program Elevation Compliance Record (Attachment B, page 2) certifying that the completed elevation complies with the Floodplain Permit issued prior to the start of the project.
4. If a property is listed on the NFIP's Repetitive Loss (RL) or Severe Repetitive Loss (SRL) list, the subgrantee or State will complete an AW501 form for each structure in the completed elevation project so that it can be officially removed from these lists. The Grantee (state) or FEMA Region III will provide the AW501 form along with instructions for completion.

E. QUARTERLY REPORT REQUIREMENTS:

States will submit quarterly progress reports to FEMA Region III that summarizes work completed during the quarter, work expected to be accomplished during the next quarter, and a written explanation of any problems or issues that could affect the approved period of performance, scope of work or project costs.

DISCLAIMER: THIS LIST IS NOT EXHAUSTIVE. IT IS MEANT TO BE A GUIDE AND IS SUBJECT TO MODIFICATION.

Resources

NFIP Technical Bulletins

<http://www.fema.gov/plan/prevent/floodplain/techbul.shtm>

AW501

<http://www.fema.gov/government/grant/resources/aw501ins.shtm>

ASCE 24-05

http://www.floods.org/PDF/ASCE24_Highlights_1008.pdf

Attachment A

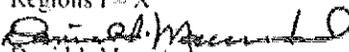
U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472



FEMA

MAR 20 2006

MEMORANDUM FOR: Regional Directors
Mitigation Division Directors
Regions I - X

FROM: 
David I. Maurstad
Acting Director
Mitigation Division

SUBJECT: Conditions for Mitigation of Property in a Special Flood
Hazard Area with FEMA Grant Funds

Effective as of the date of this memorandum, all project applications for mitigation of properties in Special Flood Hazard Areas (SFHA) must include from each participating property owner his/her acknowledgement and acceptance of conditions for having a property in a special flood hazard area mitigated with FEMA grant funds. This acknowledgement must address the information identified on the attached Model Acknowledgement document, "Model Acknowledgement of Conditions for Mitigation of Property in a Special Flood Hazard Area with FEMA Grant Funds," and have equivalent effect. This acknowledgement must be obtained for all pending and approved projects as well. This requirement applies to all FEMA Mitigation Grant Programs, including but not limited to: Hazard Mitigation Grant Program, Flood Mitigation Assistance, Pre-Disaster Mitigation, Severe Repetitive Loss, and Supplemental Mitigation Grants. The Acknowledgement document is designed to ensure that Property Owners who receive FEMA grant funds to mitigate structures on their property will insure their structures through the National Flood Insurance Program (NFIP) and that the property will be maintained in accordance with flood plain management criteria set forth in Title 44 of the Code of Federal Regulations Part 60.3.

The following requirements apply to any mitigation project that involves altering existing structures on individual properties that are sited within a SFHA:

- When the project is implemented, all structures that will not be demolished or relocated out of the SFHA must be covered by flood insurance to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less; and,
- The Sub-applicant (or Property Owner) will legally record with the county or appropriate jurisdiction's land records a notice that includes the name of the current property owner (including book/page reference to record of current title, if readily available), a legal description of the property, and the following notice of flood insurance requirements:

www.fema.gov

Attachment A

"This property has received Federal hazard mitigation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the property regardless of transfer of ownership of such property. Pursuant to 42 U.S.C. §5154a, failure to maintain flood insurance on this property may prohibit the owner from receiving Federal disaster assistance with respect to this property in the event of a flood disaster. The Property Owner is also required to maintain this property in accordance with the flood plain management criteria of Title 44 of the Code of Federal Regulations Part 60.3 and City/County Ordinance."

Applicants that receive mitigation grant funds for any mitigation project related to improved structures sited in SFHAs must ensure that these requirements are met by requesting the participating Property Owner(s) to provide a signed acknowledgement, such as the Model Acknowledgement document, and provide it to FEMA prior to award. Properties that do not meet these requirements will not be eligible to receive assistance. Guidance for each Mitigation Grant Program will be updated as needed to provide the procedures by which this requirement will be implemented.

The attached "Model Acknowledgement of Conditions for Mitigation of Property in a Special Flood Hazard Area with FEMA Grant Funds" document is being transmitted to the Regional Offices electronically and will be posted on the Mitigation web page: <http://www.fema.gov/fima>.

Attachment

ATTACHMENT A-1

Model Acknowledgement of Conditions for Mitigation of Property in a Special Flood Hazard Area with FEMA Grant Funds

Property Owner _____
Street Address _____
City _____, State _____ Zip Code _____
Deed dated _____, Recorded _____
Tax map _____, Block _____, Parcel _____
Base Flood Elevation at the site is _____ feet (NGVD).
Map Panel Number _____, Effective Date _____

As a recipient of Federally-funded hazard mitigation assistance under the Hazard Mitigation Assistance Program, as authorized by 42 U.S.C. §5170c / Pre-Disaster Mitigation Program, as authorized by 42 U.S.C. §5133 / Flood Mitigation Assistance Program, as authorized by 42 U.S.C. §4104c / Severe Repetitive Loss, as authorized by 42 U.S.C. §4102a / Repetitive Flood Claims, as authorized by 42 U.S.C. §4030, the Property Owner accepts the following conditions:

1. That the Property Owner has insured all structures that will not be demolished or relocated out of the SFHA for the above-mentioned property to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less, through the National Flood Insurance Program (NFIP), as authorized by 42 U.S.C. §4001 *et seq.*, as long as the Property Owner holds title to the property as required by 42 U.S.C. §4012a.
2. That the Property Owner will maintain all structures on the above-mentioned property in accordance with the floodplain management criteria set forth in Title 44 of the Code of Federal Regulations (CFR) Part 60.3 and City/County Ordinance as long as the Property Owner holds title to the property. These criteria include, but are not limited to, the following measures:
 - i. Enclosed areas below the Base Flood Elevation will only be used for parking of vehicles, limited storage, or access to the building;
 - ii. All interior walls and floors below the Base Flood Elevation will be unfinished or constructed of flood resistant materials;
 - iii. No mechanical, electrical, or plumbing devices will be installed below the Base Flood Elevation; and
 - iv. All enclosed areas below Base Flood Elevation must be equipped with vents permitting the automatic entry and exit of flood water.

For a complete, detailed list of these criteria, see City/County Ordinance document.

3. The above conditions are binding for the life of the property. To provide notice to subsequent purchasers of these conditions, the Property Owner agrees that the City/County will legally record with the county or appropriate jurisdiction's land records

a notice that includes the name of the current property owner (including book/page reference to record of current title, if readily available), a legal description of the property, and the following notice of flood insurance requirements:

"This property has received Federal hazard mitigation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the property regardless of transfer of ownership of such property. Pursuant to 42 U.S.C. §5154a, failure to maintain flood insurance on this property may prohibit the owner from receiving Federal disaster assistance with respect to this property in the event of a flood disaster. The Property Owner is also required to maintain this property in accordance with the flood plain management criteria of Title 44 of the Code of Federal Regulations Part 60.3 and City/County Ordinance document."

4. Failure to abide by the above conditions may prohibit the Property Owner and/or any subsequent purchasers from receiving Federal disaster assistance with respect to this property in the event of any future flood disasters. If the above conditions are not met, FEMA may recoup the amount of the grant award with respect to the subject property, and the Property Owner may be liable to repay such amounts.

This Agreement shall be binding upon the respective parties' heirs, successors, personal representatives, and assignees.

THE CITY/COUNTY OF _____

A _____ municipal corporation

By: _____
[Name, Title]

of the City/County of _____

&

[Name of Property Owner]

WITNESSED BY:

[Name of Witness]

[SEAL]

Notary Public

ATTACHMENT B

Page 1

Hazard Mitigation Assistance Program Elevation Compliance Record

Project Description _____
Address _____
City _____ State _____

The proposed project, plans and specifications are in compliance with the following:

1. The standards and requirements of the _____ floodplain management ordinance;
2. are designed and constructed to not adversely affect the flooding of surrounding properties;
3. are designed and constructed to resist flood hazard forces.

Project plans and specifications include:

1. Existing and proposed lowest reference floor elevations;
2. the base flood elevations, velocity and other data from the FIRMs and/or other studies;
3. existing and proposed structures, utilities and improvements;
4. that a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area below the lowest floor are provided. That the bottom of all openings shall be no higher than one foot above adjacent grade;
5. that the elevation shall be constructed with materials resistant to flood damages;
6. that electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities will be installed above the Base Flood Elevation, are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

This compliance record is conditioned upon the actual construction of the project being in strict accordance with the plans and specifications described herein. I attest that the project plans and specifications include the above requirements.

Signature _____
Name (print or type) _____
Title _____
Date _____

(Refer to FEMA Region III Elevation Guidelines, Permits & Process, #5)

ATTACHMENT B

Page 2

A. Local Building Inspector Sign-off

I attest that upon final inspection for _____, that the
Address
structure, as built, complies with the Hazard Mitigation Assistance Program Elevation
Compliance Record, and meets the approved plans and specifications.

Signature _____
Name (print or type) _____
Title _____
Date _____

B. Local Floodplain Permit Officer Sign-off

I attest that upon final inspection for _____, that the
Address
Structure, as built, complies with the Hazard Mitigation Assistance Program Elevation
Compliance Record, and is in compliance with the floodplain permit. I have also included
a copy of the Elevation Certificate, as prepared by the homeowner's architect/engineer or
licensed surveyor.

If the property is on the Repetitive Flood Claims and/or on the Severe Repetitive Loss list,
a copy of the AW501 form is included. If not, no AW501 form will be attached.

Signature _____
Name (print or type) _____
Title _____
Date _____

(Refer to FEMA Region III Elevation Guidelines, Additional Requirements #3 & #4 for further explanation)