Effective Hazard Mitigation: What HMGP Can Do For You

VERMONT DIVISION OF EMERGENCY MANAGEMENT & HOMELAND SECURITY

(DEMHS)

OCTOBER, 2015

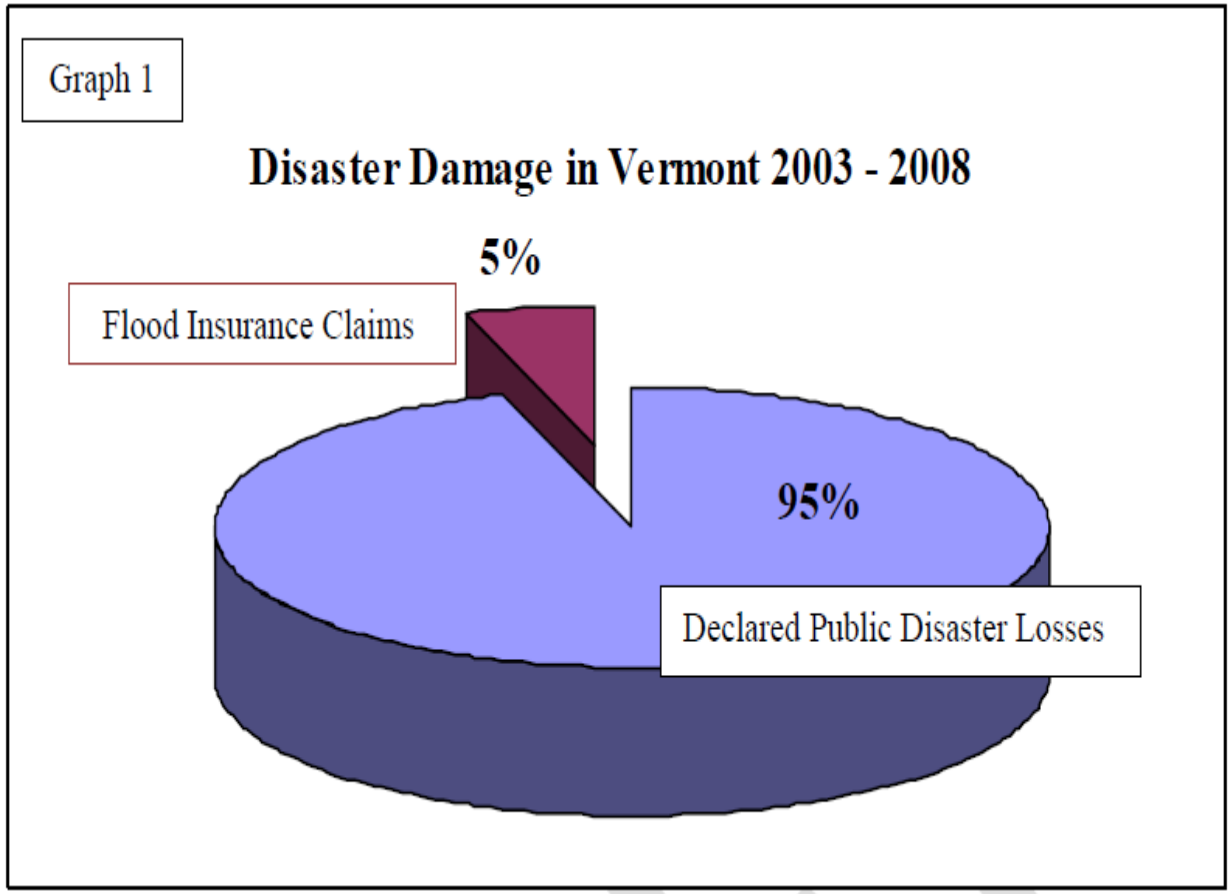
What We'll Cover:

- EFFECTIVE MITIGATION & ELIGIBLE HMGP PROJECTS
- OVERVIEW OF HMGP APPLICATION
- WHY THIS MATTERS:
  - DISASTER STATISTICS
  - NFIP CHANGES

Flood Facts

- Flooding is #1 natural disaster type in US & worldwide
- From 2003-2014, flood insurance claims were more than $3 billion *per year* nationwide
- Causes of flooding: tropical storms, Nor'easters, heavy rains, winter storms and spring thaws, development in flood plains
- Climate change resulting in more frequent catastrophic flooding events

% of VT Flood Costs Covered By Insurance



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POLICE

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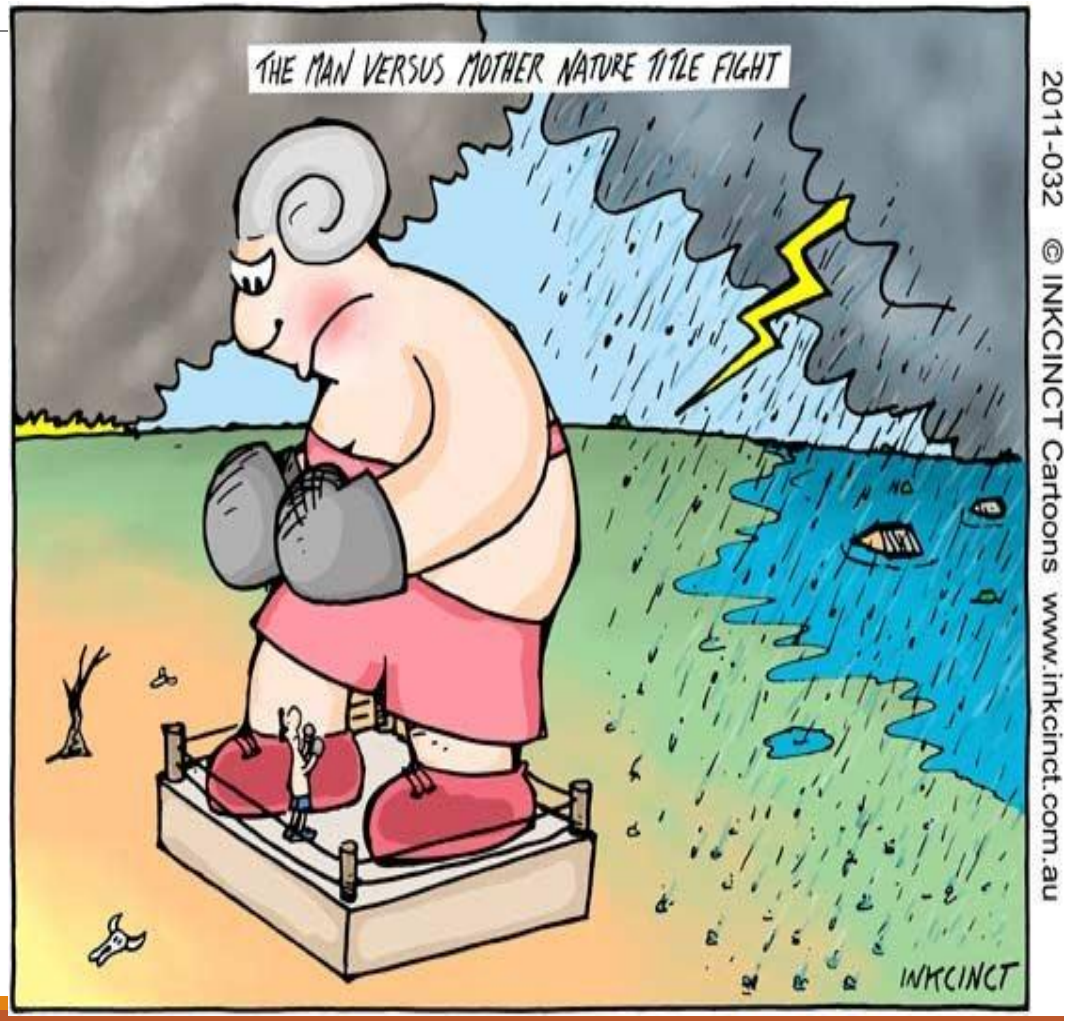
Hazard Mitigation

- Any sustained action taken to <u>reduce or eliminate long-term risk</u> to people and property due to natural or man- made disasters.



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An Intro to HMGP:

the Hazard Mitigation Grant Program

Overview of FEMA Mitigation Programs

Three primary FEMA grant programs:

- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- **Hazard Mitigation Grant Program (HMGP)**

HMGP opportunities

<u>Applications due to state:</u>

- November 6 (heavily subscribed)
- Spring 2016

FEMA Grant Requirements
(For all FEMA grants)

A town must:

- Have a Local Hazard Mitigation Plan approved by FEMA
- Participate in the National Flood Insurance Program (NFIP), if project is in a flood zone

LHMP

+ NFIP

= Access to FEMA $

Federal-State-Local Framework:
Basic HMGP Process

Local towns / State agencies / private nonprofits apply for grants

DEMHS and RPCs assist

State committee reviews and ranks applications

DEMHS

(RFI) process

FEMA reviews applications and makes final determination

1) FEMA RFI process

2) FEMA does environmental reviews

3) FEMA does Historic review if needed

Application is awarded!

1) Complete subgrant agreement

2) Begin work!

Roles & Responsibilities

Local (Sub-Grantee)

- Take initiative in finding projects
- Develop application
- Coordinate with homeowner(s)
- Submit application to the State
- Implement approved projects

State (Grantee)

- Act as facilitator between federal and local
- Set mitigation priorities and grant timelines
- Provide application assistance
- State committee selects projects to submit to FEMA
- Administer and manage funds

Roles & Responsibilities

FEMA

- Set grant guidelines
- Share financial management with state
- Provide technical assistance
- Award federal funds

Process of Project Selection

Applications first reviewed by State Mitigation Project Selection Subcommittee

Proposals are ranked and scored

- **Quality of project and application are important! Prioritization is considered (e.g. buy-outs before elevations)**

State selections are submitted to FEMA for final review and concurrence

FEMA conducts final approval

Eligible HMGP Projects
(FEMA share – 75% total project cost)

- **Buyout (acquisition/demolition)**
- **Structural elevation**
- **Flood proofing (wet/dry)**
- **Structure relocation**
- **Drainage/Public Infrastructure Project**
- **Local Hazard Mitigation Plans**
- **Outreach/Education/Training**

Ineligible Projects

- **Generators for non-critical facilities**
- **Major flood control projects**
- **Partial projects**
- **Projects already completed**

Property Buyouts

Town OR non-profit applies on behalf of homeowner

FEMA provides 75% of <u>total project costs</u>

Property owner accepts 75%, if no 25% match available from State or town	**CDBG is likely not available**

Property Buyouts:
Implementation

Town takes ownership of property

Structure(s) demolished

Land remains green open space in perpetuity

Structural Elevation

Structures can be elevated on:

- piles
- open walls or
- solid walls.

Solid walls must have vents.

Structures must be anchored.

Determining Cost-Effectiveness:

- BCA or
- SFHA & <$175,000

Smart Vent

Elevation

Lyndonville:
before elevation

during elevation

Final elevated structure.
Lowest floor is only for parking or storage.

Flood Proofing

Dry Flood Proofing

(historic or municipal buildings only)

Exterior Membrane Seals

Guillotine or Hinged Door Shields

- **Limit Shield Height to 3' or less**

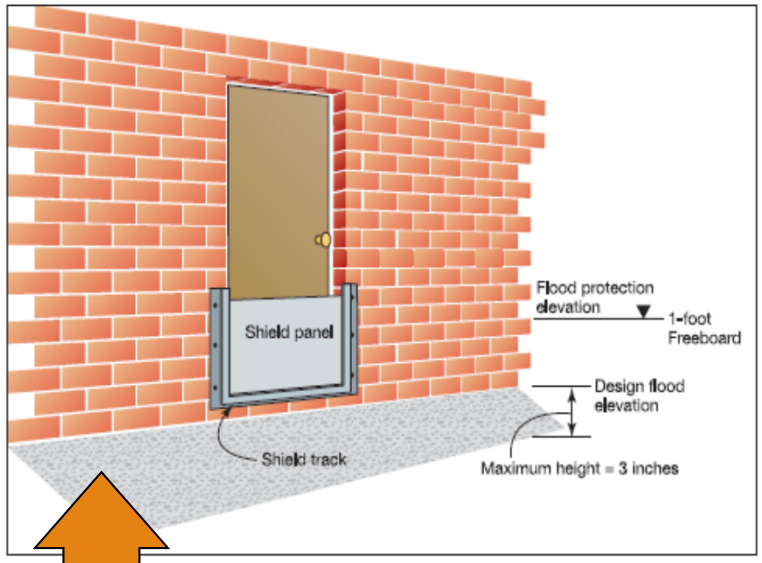


Figure 5 or opening may be closed using a variety of materials for shields.

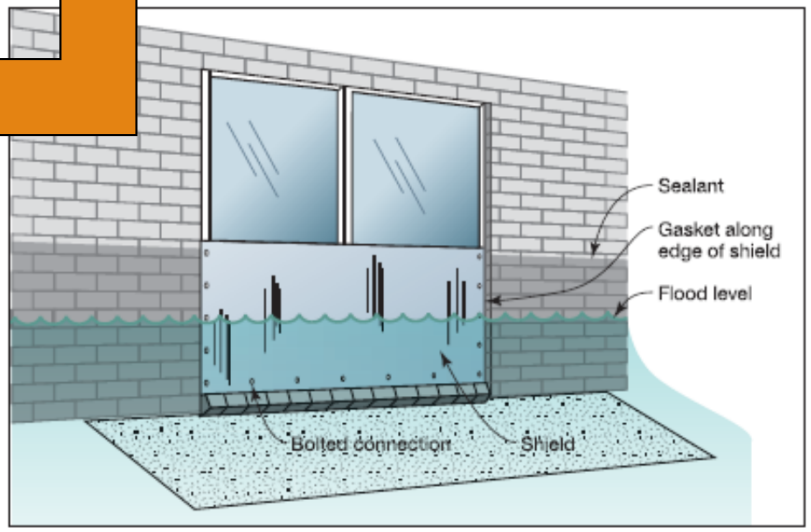


Figure 5D-6. A shield can help prevent low-level flooding from entering through a doorway.

Determining Cost-Effectiveness:

- BCA

Flood Proofing

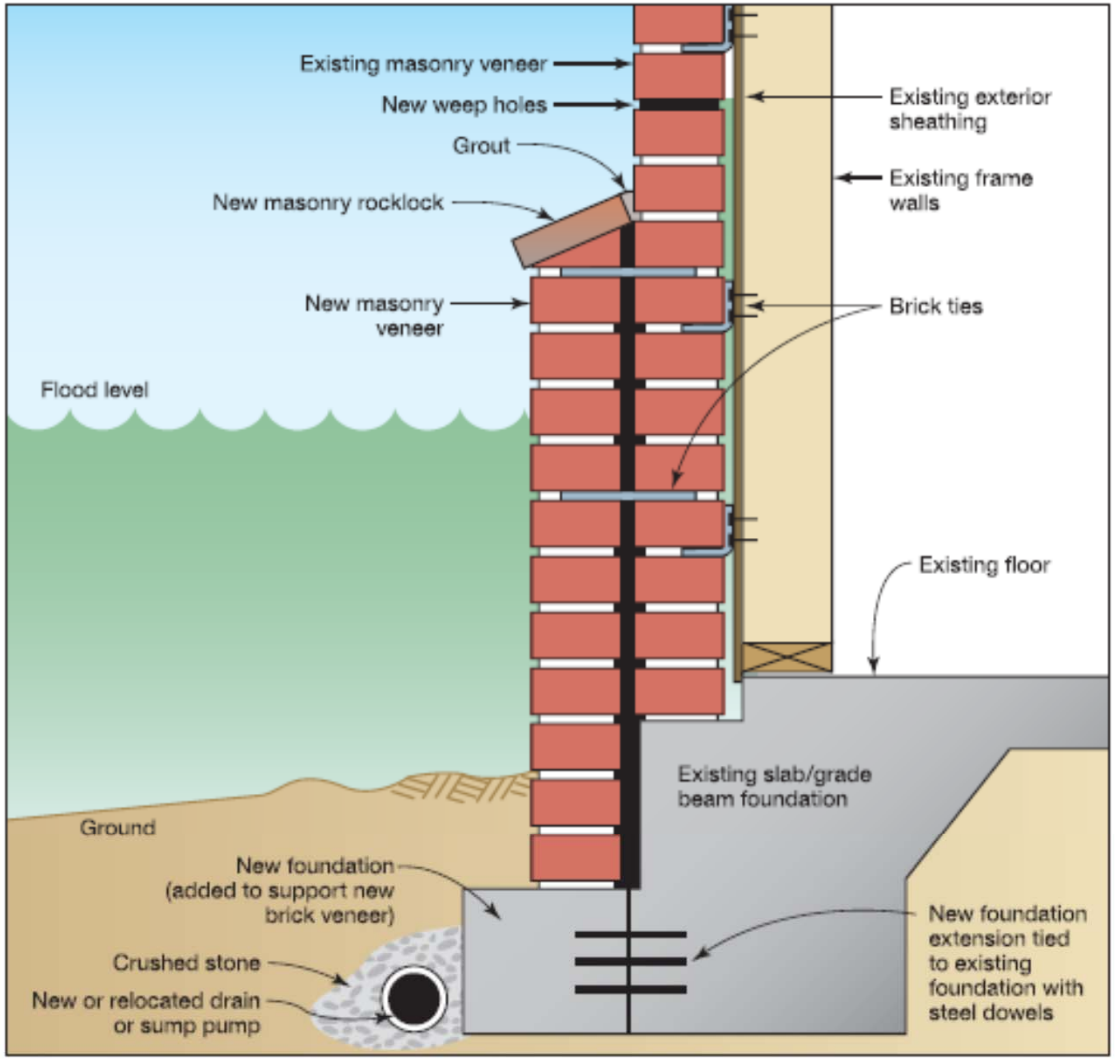


Figure 5D-2. A way to seal an existing brick-faced wall is to add an additional layer of brick with a seal in between. Please note that weep holes and wick drains work both ways to allow for moisture passage from high to low pressure. Weepholes and flashing should be located above the DFE, and the veneer below the DFE should be fully grouted.

Exterior Membrane Seal Example:

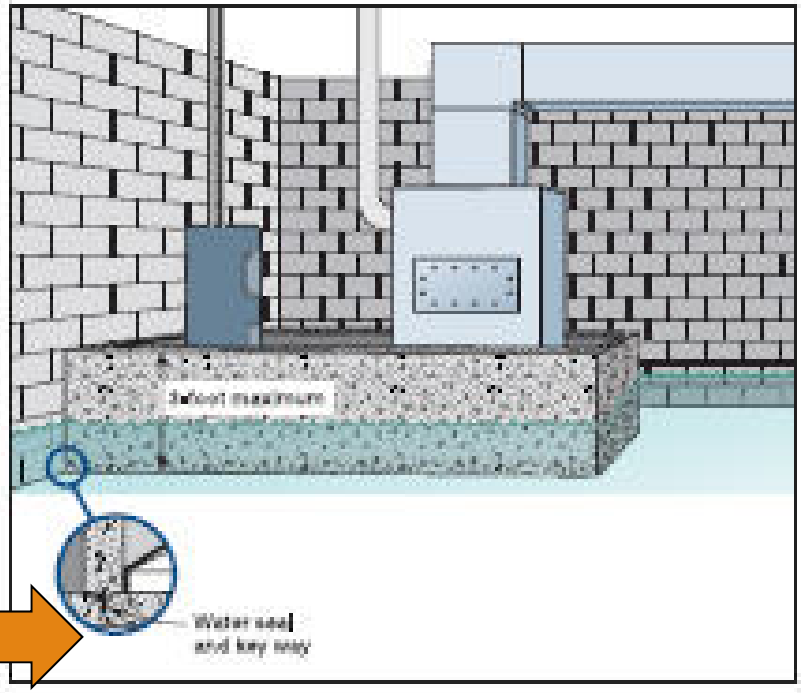
- **Added brick layer**
- **Placed seal in between**

Flood Proofing

Dry flood proofing in Lincoln, VT:
Burnham Hall

Flood Proofing

Figure 5W-2.
Flood enclosure protects basement utilities from shallow flooding
SOURCE: FEMA 348, 1999A



<u>Wet</u> Flood Proofing

- Elevated electrical panels
- Utility moats
- Utilities on pedestals
- Quick-disconnect units
- Anchored fuel tanks
- Sewage backflow valves

Determining Cost-Effectiveness:

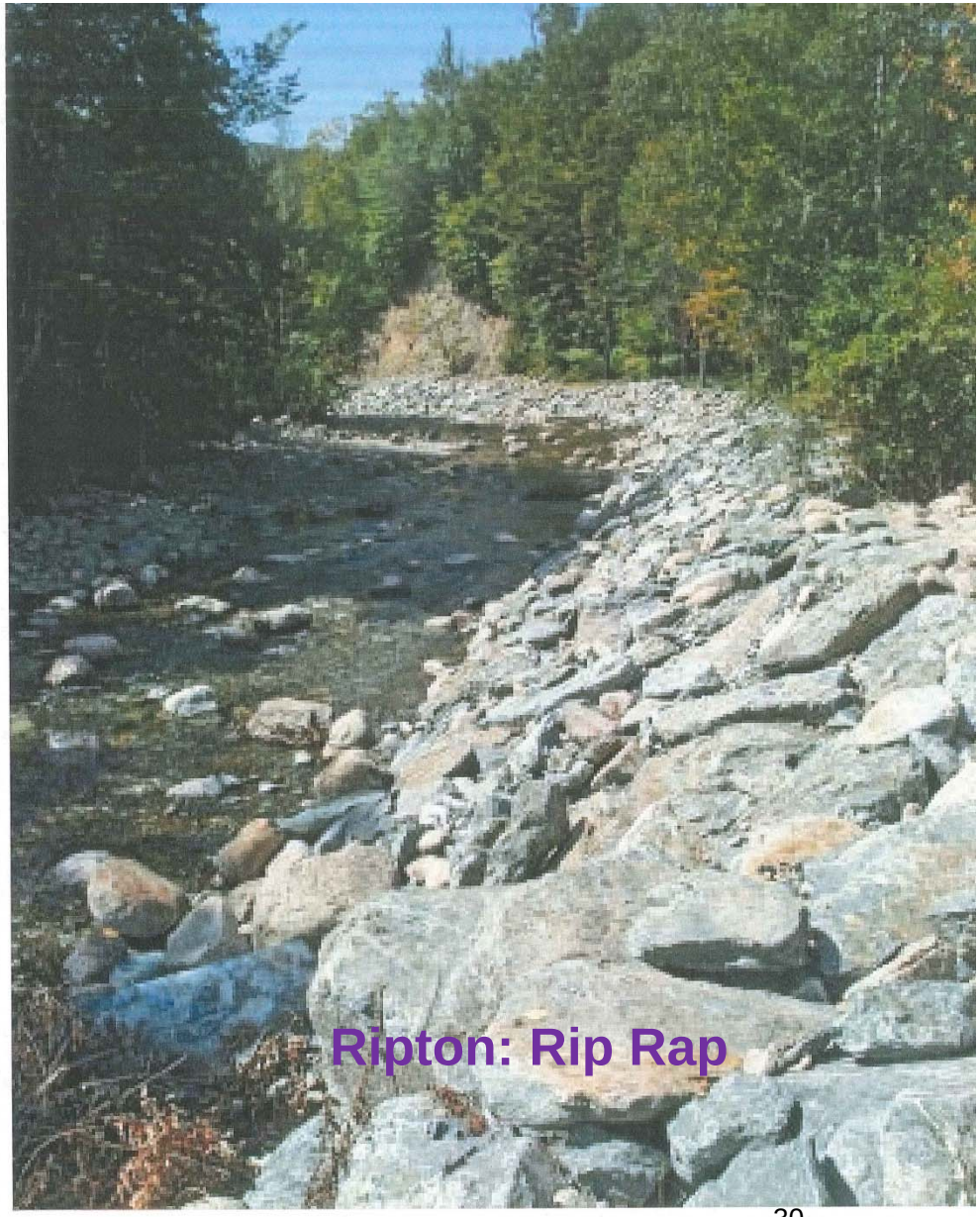
- **BCA Only**

Public Infrastructure

- Small-scale floodplain restoration
- Storm sewers
- Stream bank reinforcement
- Bridge/culvert upgrades
- Generators (for critical facilities)
- Ice jam projects

Determining Cost-Effectiveness:

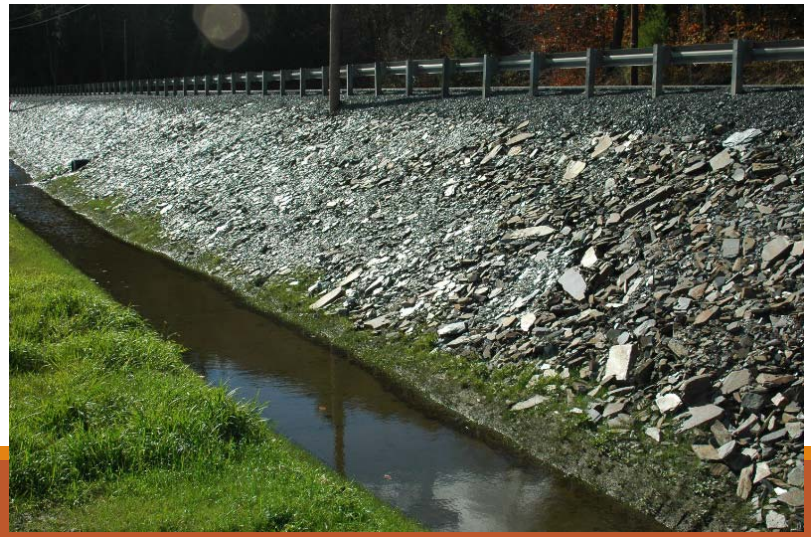
- **BCA Only**



Public Infrastructure

Warren: culvert upgrade

Common concrete box culvert upgrade



Moretown: road elevation & ditch

Marlboro: road relocation

Stream Bank Reinforcement
Bridge Street Marketplace, Waitsfield

Before

After

Overview of HMGP Application

Overview of HMGP Application:
Key Application Components

- HMGP Form
  - Problem Description
  - Scope of Work
  - Detailed Budget
  - Work Schedule

State of Vermont

Hazard Mitigation Grant Program

Project Application

		FEMA- DR-	VT	**Date Submitted to DEMHS:**	

Part 1:	**Applicant Information**		
Applicant Name: (*Eligible Applicant i.e. local government, state agency, non-profit*)			
County:			
Project Title:			
Primary Contact Information			
Name:			
Title:			
Organization:			
Mailing Address:			
Work Phone Number:		**Alternate Phone Number:**	
Fax Number		**Email:**	
Secondary Contact Information			
Name:			
Title:			
Organization:			
Mailing Address:			
Work Phone Number:		**Alternate Phone Number:**	
Fax Number		**Email:**	
Fiscal Agent Contact Information			
Name:			
Title:			
Organization:			
Mailing Address:			
Work Phone Number:		**Alternate Phone Number:**	

Part 2:	**Local Plan Compliance**		
D[redacted]u have a current Local Emergency Operations Plan on file with your Regional Planning Commission? If you are unsure, you can find out here under ERAF Summary Sheet: http://floodready.vermont.gov/assessment/community_reports		**Yes**	**No**
Has the municipality adopted bylaws to accomplish any or all of the following: (not required)	1. Limit new encroachments in Flood Hazard Areas?	Yes	No
	2. Limit new encroachments in River Corridors?	Yes	No
	3. Adopt regulations to reduce vulnerability to other natural (non-flood) hazards?	Yes	No
Does Town Have a Currently Approved Local Hazard Mitigation Plan (LHMP)?		**Yes**	**No**

If Yes:		**If No:**	
Name of Local Hazard Mitigation Plan: (*Regional, County or Town*)		Town Commits to Securing a FEMA-Approved LHMP Within 12 Months of HMGP Submittal to FEMA.	**Yes**
Date of FEMA approval of Local Plan:		Comments on Status of LHMP: (if applicable)	
Is Project Supported by Local Mitigation Plan?			
Has the municipality taken any other measures to reduce vulnerability? (e.g. adopt regulations to reduce vulnerability to other natural hazards.)			

Part 3:	**Problem Description**				
Problem Statement: (*What's Happening?*) *NOTE: Include description of prior actions taken to remedy, study, or alleviate the problem, and their results.*					
Location of Project:	Latitude:		Longitude:		*(in decimals)*

History of Damages

Date	Event	Description of Direct Damages	Description of Indirect Damages	Cost of Damage

Overview of HMGP Application:
Key Application Components

- Project Applications (non-planning)
  - Proof of Cost Effectiveness, if applicable
  - Site Drawings
  - FEMA FIRM map with project site ID'd
  - Photos
  - Engineering analysis, if applicable
  - Building information, if applicable

Budget

- **Provide detailed budget**
- **Provide estimate source: bids, etc.**
- **Avoid certain terms:**
  - **No “Lump Sum”**
  - **No “Contingency” costs**
  - **No “Management” or “Administrative” costs**

FEMA Benefit Cost Analysis (BCA)

- **Planning & 5% Initiatives do not need a BCA**
- **All other projects need a BCA, EXCEPT:**
  - Buyouts of substantially damaged structures in SFHA
  - Buyouts in SFHA that cost less than $276,000
  - Elevations in SFHA that cost less than $175,000
- **Requires BCA ratio of 1.0 or higher**

17 Feb 2012		Project:	**PAWLET - Betts Bridge 3 (Feb 2012)**				Pg 1 of 8
Total Benefits:	**$44,797**		Total Costs:	**$35,913**		BCR:	**1.25**
Project Number:		Disaster #:	DR-4022-VT	Program:	HMGP	Agency:	**Town of Pawlet**
State:	**Vermont**	Point of Contact:	Clarence Decker			Analyst:	Philip Picotte

New FEMA Policy for Benefit Cost Analyses (BCAs)

- Structural elevations:
  - ✓ if building is in SFHA (FEMA 100-year flood zone),
  - ✓ And project costs $175,000 or less,
  - NO BCA NEEDED!
- Buyouts:
  - ✓ if building is in SFHA,
  - ✓ And project costs $276,000 or less,
  - NO BCA NEEDED!

FEMA Benefit Cost Analysis (BCA)

1. Past (historical) Data
   - NFIP insurance claims
   - Town pay stubs/timesheets
   - Receipts for work & materials
   - Detour information (road closures)
   - Cost of emergency measures
   - Past Project Worksheets (PWs)
2. Estimated (future) Costs
   - Pre-project flood elevation
   - FEMA Flood Insurance Studies (FIS)
   - Building elevation
   - Building replacement value (BRV)
   - Post-project reduced flood elevation and saved costs

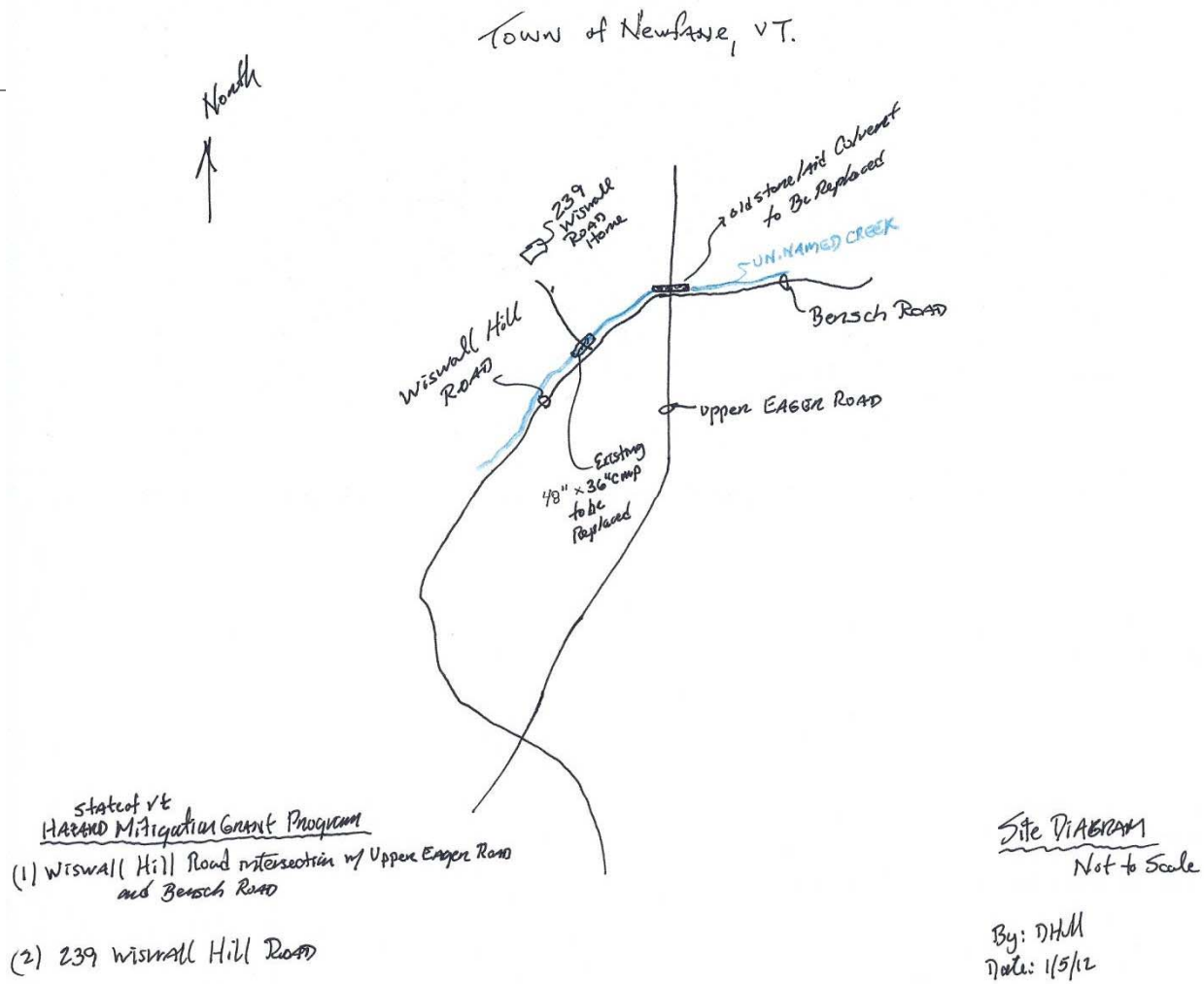
Site Drawings & Engineering Analysis

- **Public infrastructure projects need:**
  - **Hydraulics Study (contact ANR)**
  - **Site plan & schematics of project**

- **Elevation and Flood Proofing projects need**
  - **Site plan & schematics of project**

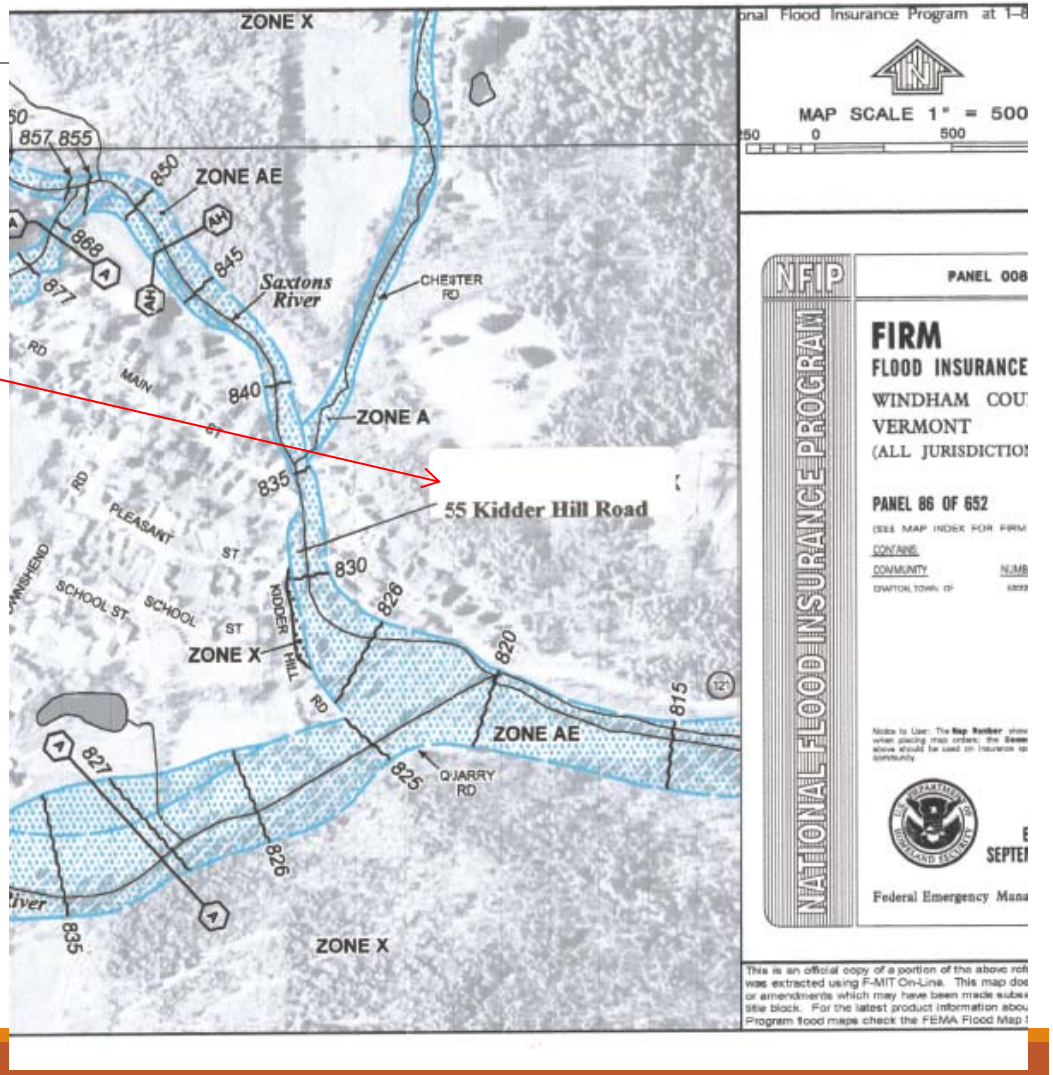
Site Drawings

an example



FEMA Flood Insurance Rate Map (FIRM)

- Clearly show project location on the map!



FEMA & State Conduct Reviews: Historic & Environmental

- **Note: Historic preservation reviews needed for all structures over 50 years**

- **Reviews completed concurrently by FEMA and State of Vermont**

Review:
HMGP App Process

HMGP Application =	HMGP Form	+ Required Forms Signed
+ BCA	+ Site Drawings	+ Engineering Information
+ Maps	+ Building Information	+ Photos

Some obstacles include:

- Lack of interest or experience at town level
- Town concern over loss of tax revenue from buyouts
- Length of time the process takes
- Lack of 25% local match share
- Lack of approved local hazard mitigation plan

HMGP Application Deadline

Next round applications are due to DEMHS by November 6, 2015.

Another small round coming in spring 2016 (approx. $240k from DR-4232)

Resources for Assistance

- **Vermont Division of Emergency Management and Homeland Security**
  - **Ben Rose, Ben.Rose@vermont.gov**
  - **Lauren Oates, Lauren.Oates@vermont.gov**

- **Regional Planning Commission staff**

Contacts

- **Vermont Division of Emergency Management and Homeland Security (DEMHS)**

  - **Ben Rose: Ben.Rose@vermont.gov**
  - **Lauren Oates: Lauren.Oates@vermont.gov**

Questions?