

Chapter 5. Protection of Man-Made Property

Property protection measures are used to protect man-made structures or property subject to damage. Property protection measures fall under three approaches:

- Modify the site to keep the hazard from reaching the building,
- Modify the building so it can withstand the impacts of the hazard, and
- Insure the property to provide financial relief after the damage occurs

Property protection measures are normally implemented by the property owner, although technical and financial assistance can be provided by a government agency.

5.1. Keeping the Hazard Away

Generally, natural hazards do not damage vacant areas. The major impact of hazards is to people and improved property. In some cases, properties can be modified so the hazard does not reach the damage-prone improvements. A fire break is an example of this approach - brush and other fuel are cleared away from the building so a fire may not reach it.

For the various hazards considered in this plan, flooding is the one hazard that can be kept away from a building. There are four common methods to do this:

- Elevate the building above the flood level
- Move the building out of the flood prone area
- Erect a barrier between the building and the source of flooding,
- Demolish the building.

5.1.1. Building elevation:

Raising a building above the flood level can be almost as effective as moving it out of the floodplain. Water flows under the building, causing little or no damage to the structure or its contents. Raising a building above the flood level is cheaper than moving it and can be less disruptive to a neighborhood.

Elevation has proven to be an acceptable and reasonable means of complying with floodplain regulations that require new, substantially improved, and substantially damaged buildings to be elevated above the base flood elevation. Elevating a building will change its appearance. If the required amount of elevation is low, the result is similar to putting a building on a 2- or 3-foot-high crawlspace. A problem with this approach is with basements. Only the first floor and higher are elevated. The basement remains as the foundation. All utilities are elevated and the basement is filled in to protect the walls from water pressure. The owner loses the use of the basement, which may deter him or her from trying this approach.

Hazards Addressed	
*	Flood
	Tornado
	Earthquake
*	Thunderstorm
	Winter Storm



5.1.2. Relocation

Moving a building to higher ground is the surest and safest way to protect it from flooding. While almost any building can be moved, the cost goes up for heavier structures, such as those with exterior brick and stone walls, and for large or irregularly shaped buildings. However, experienced building movers can handle any job.

In areas subject to flash flooding, deep waters, or other high hazard, relocation is often the only safe approach. Relocation is also preferred for large lots that include buildable areas outside the floodplain or where the owner has a new flood-free lot (or portion of the existing lot) available.

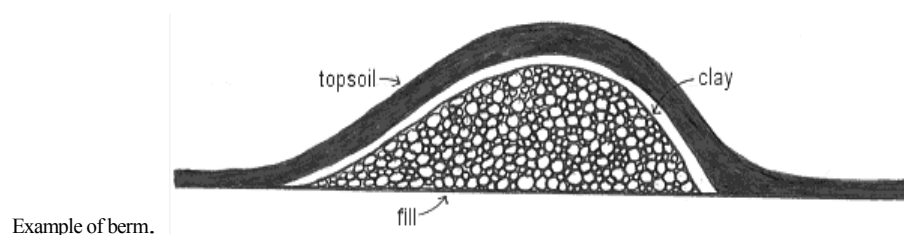


5.1.3. Barriers:

A flood protection barrier can be built of dirt or soil (“berm”) or concrete or steel (“floodwall”). Careful design is needed so as not to create flooding or drainage problems on neighboring properties. Depending on how porous the ground is, if floodwaters will stay up for more than an hour or two, the design needs to account for leaks, seepage of water underneath, and rainwater that falls inside the perimeter. This is usually done with a sump and/or drain to collect the internal groundwater and surface water and a pump and pipe to pump the internal drainage over the barrier.

Barriers can only be built so high. They can be overtopped by a flood higher than expected. Barriers made of earth are susceptible to erosion from rain and floodwaters if not properly sloped, covered with grass, and maintained. A berm can settle over time, lowering its protection level. A floodwall can crack, weaken, and lose its watertight seal. Therefore, barriers need careful design and maintenance (and insurance on the building, in case of failure).

A third problem with elevation is that it may expose the structure to greater impacts from other hazards. If not braced and anchored properly, an elevated building may have less resistance to the shaking of an earthquake and the pressures of high winds. Given the low threat of earthquakes and low flood depths in Jersey County, careful design and construction should prevent these secondary problems.



5.1.4. Demolition:

Some buildings, especially heavily damaged or repetitively flooded ones, are not worth the expense to protect them from future damage. It is cheaper to demolish them and either replace them with new, flood protected structures, or relocate the occupants to a safer site. Generally, demolition projects are undertaken by a government agency, so the cost is not borne by the property owner, and the land is converted to public use, such as a park.

Acquisition, followed by demolition, is most appropriate for buildings that are difficult to move—such as larger, slab foundation, or masonry structures-dilapidated structures that are not worth protecting.

One problem that sometimes results from an acquisition and demolition project is a “checkerboard” pattern in which nonadjacent properties are acquired. This can occur when some owners, especially those who have and prefer a waterfront location, prove reluctant to leave. Creating such an acquisition pattern in a community simply adds to the maintenance costs that taxpayers must support.



5.1.5. Local implementation:

In Jersey County we have elevated roads in Spanky and on Bartlett Road to facilitate a better way of evacuation. Also expanding on regrading and reopening of ditches on Coon Creek Road allows the



water to drain back into the river to stop ponding. In the City of Jerseyville some fill and storm water drainage improvements were needed. The City of Grafton has done buy outs since 1993 to lessen the impact of flood damage by removing the structures.

5.1.6. CRS credit:

The CRS credits barriers and elevating existing buildings (Activity 530 - Flood Protection). Elevating a building above the flood level will also reduce the flood insurance premiums on that individual building. Because barriers are less secure than elevation, not as many points are provided.

5.2. Retrofitting for Multiple Hazards

Section 5.1 focused on keeping the hazard from reaching a building or damage-prone part of a property. An alternative is to modify or “retrofit” the site or building to minimize or even prevent damage. There are a variety of techniques to do this. This section looks at the measures that can be implemented to protect existing buildings from damage by floods, sewer backup, earthquakes, tornadoes and high winds, and winter storms.

Hazards Addressed	
*	Flood
*	Tornado
*	Earthquake
*	Thunderstorm
*	Winter Storm

5.2.1. Flood retrofitting

Flood retrofitting measures include **dry flood proofing** where all areas below the flood protection level are made watertight. Walls are coated with waterproofing compounds or plastic sheeting. Openings (doors, windows, and vents) are closed, either permanently, with removable shields, or with sandbags.

Dry flood proofing of new and existing nonresidential buildings in the regulatory floodplain is permitted under State, FEMA and County regulations. Dry flood proofing of existing residential buildings in the floodplain is also permitted as long as the building is not substantially damaged or being substantially improved. Owners of buildings located outside the regulatory floodplain can always use dry flood proofing techniques. The alternative to dry flood proofing is **wet flood**



proofing: water is let in and everything that could be damaged by a flood is removed or elevated above the flood level. Structural components below the flood level are replaced with materials that are not subject to water damage.

For example, concrete block walls are used instead of wooden studs and gypsum wallboard. The furnace, water heater, and laundry facilities are permanently relocated to a higher floor. Where the flooding is not deep, these appliances can be raised on blocks or platforms.

Wet flood proofing has one advantage over the other approaches: no matter how little is done, flood damage is reduced. Thousands of dollars in damage can be prevented by simply moving furniture and electrical appliances out of a basement.

A third flood protection modification addresses flooding caused by overloaded sanitary or combined sewers. Four approaches may be used to protect a structure against sewer backup: floor drain plugs, floor drain stand-pipes, overhead sewers, and backflow protection valves.

The first two devices keep water from flowing out of the lowest opening in the building, the floor drain. They cost less than \$25. However, if water becomes deep enough in the sewer system, it can flow out of the next lowest opening, such as a toilet or tub, or it can overwhelm a drain plug by hydrostatic pressure and flow into the building through the floor drain. The other two measures, overhead sewers and backflow protection valves keep water in the sewer line during a backup. These are more secure, but more expensive (\$3,000-\$4,000).

5.2.2. Earthquake retrofitting

Earthquake retrofitting measures include removing masonry overhangs that will fall onto the street during shaking. Bracing the building provides structural stability, but can be very expensive.

Less expensive approaches may be more cost-effective for an area like Jersey County that faces a relatively low earthquake threat. These include tying down appliances, water heaters, bookcases and fragile furniture so they won't fall over during a quake and installing flexible utility connections.

While these simple and inexpensive measures may be cost effective for a home or business, they may not be sufficient for protection of critical facilities. Fire stations need to be sure that they can open their doors and hospitals must be strong enough to continue operating during the shocks and aftershocks.

5.2.3. Tornado and severe storm retrofitting

Tornado retrofitting measures include constructing an underground shelter or "safe room" to protect the lives of the occupants. Their worth has been proven by recent tornadoes in Oklahoma, as shown in the photo to the right. They can be installed for approximately \$3,000.



Another retrofitting approach for tornadoes and **high winds** is to secure the roof, walls and foundation with adequate fasteners or tie downs. These help hold the building together when the combination of high wind and pressure differences work to pull the building apart.

A third tornado and high wind protection modification is to strengthening garage doors, windows and other large openings. If winds break the building's "envelope," the pressures on the structure are greatly increased.

Retrofitting approaches to protect buildings from the effects of **thunderstorms** include storm shutters, lightning rods (illustrated to the right), and strengthening connections and tie-downs

(similar to tornado retrofitting). Roofs could be replaced with materials less susceptible to damage by hail, such as modified asphalt or formed steel shingles.



shutters and lightning rod

5.2.4. Winter storm retrofitting

Winter storm retrofitting measures include improving insulation on older buildings and relocating water lines from outside walls to interior spaces. Windows can be sealed or covered with an extra layer of glass (storm windows) or plastic sheeting. Roofs can be retrofitted to shed heavy loads of snow and prevent ice dams that form when snow melts.

5.2.5. Protecting Utilities

Burying utility lines is a retrofitting measure that addresses the winds from tornadoes and thunderstorms and the ice that accompanies winter storms. Installing or incorporating backup power supplies minimizes the effects of power losses caused by downed lines. “Retrofitting” the trees that hang over power lines is discussed in Section 6.6. Urban Forestry. Surge suppressors protect delicate appliances during thunderstorms.

5.3 Insurance

Technically speaking, insurance does not mitigate damage caused by a natural hazard. However, it does help the owner repair, rebuild and (hopefully) afford to incorporate some of the other mitigation measures in the process.

Insurance has the advantage that, as long as the policy is in force, the property is protected and no human intervention is needed for the measure to work. A standard **homeowner’s insurance** policy will cover a property for the hazards of tornado, wind, hail, and winter storms. Separate endorsements are usually needed for earth movement (e.g., earthquake) coverage.

Although most homeowner’s insurance policies do not cover a property for flood damage, an owner can insure a building for damage by surface flooding through the National Flood Insurance Program. **Flood insurance** coverage is provided for buildings and their contents damaged by a “general condition of surface flooding” in the area.

Some people have purchased flood insurance because it was required by the bank when they got a mortgage or home improvement loan. Usually these policies just cover the building’s structure and not the contents. Renters can buy contents coverage, even if the owner does not buy

structural coverage on the building. There is limited coverage for basements and the below grade floors of bi-level and tri-levels.

Several insurance companies have **sump pump failure or sewer backup coverage** that can be added to a homeowner's insurance policy. Each company has different amounts of coverage, exclusions, deductibles, and arrangements. Most are riders that cost extra. Most exclude damage from surface flooding that would be covered by a National Flood Insurance policy.

Larger local governments can self-insure and absorb the cost of damage to one facility, but if many properties are exposed to damage, self-insurance can be a major drain on the treasury. Communities cannot expect Federal disaster assistance to make up the difference. Under Section 406(d) of the Stafford Act.

If an eligible insurable facility damaged by flooding is located in a [mapped floodplain] ... and the facility is not covered (or is underinsured) by flood insurance on the date of such flooding, FEMA is required to reduce Federal disaster assistance by the *maximum* amount of insurance proceeds that would have been received had the buildings and contents been fully covered under a National Flood Insurance Program (NFIP) standard flood insurance policy. [Generally, the maximum amount of proceeds for a non-residential property is \$500,000.]

[Communities] need to:

Identify all insurable facilities, and the type and amount of coverage (including deductibles and policy limits) for each. The anticipated insurance proceeds will be deducted from the total eligible damages to the facilities.

Identify all facilities that have previously received Federal disaster assistance for which insurance was required. Determine if insurance has been maintained. *A failure to maintain the required insurance for the hazard that caused the disaster will render the facility ineligible for Public Assistance funding....*

[Communities] *must* obtain and maintain insurance to cover [their] facility - buildings, equipment, contents, and vehicles - for the hazard that caused the damage in order to receive Public Assistance funding. Such coverage must, at a minimum, be in the amount of the eligible project costs. FEMA will not provide assistance for that facility in future disasters if the requirement to purchase insurance is not met. - FEMA Response and Recovery Directorate Policy No. 9580.3, August 23, 2000

In other words, the law expects public agencies to be fully insured as a condition of receiving Federal disaster assistance.

5.3.2. Local implementation: Data on private insurance policies are not available. Flood insurance has been available in Jersey County communities since the 1974.

CRS Credit: There is no credit for purchasing flood or basement insurance, but the Community Rating System does provide credit for local public information programs that explain flood insurance to property owners. The CRS also reduces the premiums for those people who do buy NFIP coverage

5.4. The Government’s Role

Property protection measures are usually considered the responsibility of the property owner. However, local governments should be involved in all strategies that can reduce flood losses, especially acquisition and conversion of a site to public open space. There are various roles the County or a municipality can play in encouraging and supporting implementation of these measures.

Hazards Addressed	
*	Flood
*	Tornado
*	Earthquake
*	Thunderstorm
*	Winter Storm

5.4.1. Government facilities:

One of the first duties of a local government is to protect its own facilities. Fire stations, water treatment plants and other critical facilities should be a high priority for retrofitting projects and insurance coverage. Often public agencies discover after the disaster that their “all-hazard” insurance policies do not cover the property for the type of damage incurred. Flood insurance is even more important as a mitigation measure because of the Stafford Act provisions discussed above.

5.4.2. Public Information:

Providing basic information to property owners is the first step in supporting property protection measures. Owners need general information on what can be done. They need to see examples, preferably from nearby. Public information activities that can promote and support property protection are covered in Chapter 9.

5.4.3. Financial Assistance:

Communities can help owners by helping to pay for a retrofitting project. Financial assistance can range from full funding of a project to helping residents find money from other programs. Some communities assume responsibility for sewer backups, street flooding, and other problems that arise from an inadequate public sewer or public drainage system. Less expensive community programs include low interest loans, forgivable low interest loans and rebates. A forgivable loan is one that does not need to be repaid if the owner does not sell the house for a specified period, such as five years. These approaches don’t fully fund the project but they cost the community treasury less and they increase the owner’s commitment to the flood protection project. Often, small amounts of money act as a catalyst to pique the owner’s interest to get a self-protection project moving.

The more common outside funding sources are listed below. Unfortunately, the last three are only available after a disaster, not before, when damage could be prevented. Following past disaster declarations, FEMA, the Illinois Emergency Management Agency (IEMA) and the Illinois Department of Natural Resources have provided advice on how to qualify and apply for these funds.

Pre-disaster funding sources

- FEMA's Pre-Disaster Mitigation (PDM) grants (administered by IEMA)
- FEMA's Flood Mitigation Assistance (FMA) grants (administered by IEMA)
- Community Development Block Grant (administered by the Department of Commerce and Economic Opportunity)
- Illinois Department of Natural Resources
- Conservation organizations, such as the Conservation Foundation and CorLands, although generally these organizations prefer to purchase vacant land in natural areas, not properties with buildings on them.

Post-disaster funding sources

- Insurance claims
- The National Flood Insurance Program's Increased Cost of Compliance provision (which increases the claim payment to cover a flood protection project required by code as a condition to rebuild the flooded building)

Post-disaster funding sources, Federal disaster declaration needed

- FEMA's disaster assistance (for public properties, however, after a flood, the amount of assistance will be reduced by the amount of flood insurance that the public agency should be carrying on the property) (administered by IEMA)
- Small Business Administration disaster loans (for non-governmental properties)
- FEMA's Hazard Mitigation Grant Program (administered by IEMA)

5.4.4. Mandates:

Mandates are considered a last resort if information and incentives aren't enough to convince a property owner to take protective actions. An example of a retrofitting mandate is the requirement that many communities have that downspouts be disconnected from the sanitary sewer line.

There is a mandate for improvements or repairs made to a building in the mapped floodplain. If the project equals or exceeds 50% of the value of the original building it is considered a "substantial improvement." The building must then be elevated or otherwise brought up to current flood protection codes.

Another possible mandate is to require less expensive hazard protection steps as a condition of a building permit. For example, many communities require upgraded electrical service as a condition of a home improvement project. If a person were to apply for a permit for electrical work, the community could require that the service box be moved above the base flood elevation or the installation of separate ground fault interrupter circuits in the basement.

5.4.5. Local implementation:

Jersey County has used HMPG grants as well as DECA grants to buy out properties in the floodplain as well as the City of Grafton. Jersey County has also used PDM grants to locate 1138 structures in the floodplain and obtain the lowest floor elevation shots. Jersey County has also used the ICC claims process to elevate 3 residential structures through out the Floodplain. After disasters Jersey County has used other government grants to clean out roadways and ditches to aid drainage and reduce ponding.

5.4.6. CRS credit:

Except for public information programs, the Community Rating System does not provide credit for efforts to fund, provide incentives or mandate property protection measures. The CRS credits are provided for the actual projects, after they are completed (regardless of how they were funded or who instigated them). On the other hand, in order to participate in the CRS, a community must certify that it has adequate flood insurance on all properties that have been *required* to be insured. The minimum requirement is to insure those properties in the mapped floodplain that have received Federal aid, as specified by the Flood Disaster Protection Act of 1973.

5.5. Repetitive Loss Properties

Repetitive losses are flood-related damages sustained by a structure on two separate occasions during a ten-year period. The cost of repairs at the time of each such flood event, on average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

There are roughly 322 repetitive loss properties in Jersey County. Most of these properties have received two claims. Areas such as Coon Creek, Otter Creek, Coe Land, and Peters Park in Fieldon; Route 1, Spanky, RR 2, Mill Creek, and Piasa Harbor/Haven in Godfrey; Coon Creek and Powerline in Rosedale; and Coon Creek, Powerline, and Otter Creek in Nutwood have all been hit well over two times by flooding. The chart below pinpoints the areas most susceptible to repetitive losses and how often they have been hit by significant flood events.

Hazards Addressed	
*	Flood
	Tornado
	Earthquake
*	Thunderstorm
	Winter Storm

Chapter 2 explains the criteria for designation of the County’s repetitive loss areas. These properties deserve special attention because they are more prone to damage by natural hazards than any other properties in the County. Further, protecting repetitive loss buildings is a priority with FEMA and IEMA mitigation funding programs.

The 18 repetitive loss areas were reviewed for the key factors that determine appropriate property protection measures. The criteria used are based on several studies that have identified appropriate measures based on flood and building conditions. While a cost/benefit study was not conducted on each property, these guidelines show which measures are cost-effective.

- “High hazard areas” are areas in the floodway or where the 100-year flood is two or more

feet over the first floor.

- Buildings in high hazard areas or in less than good condition should be acquired and demolished.
- Buildings with basements and split level foundations in high hazard areas should be acquired and demolished. They are too difficult to elevate and the hydrostatic pressures on the walls from deeper flooding make them too risky to protect in place.
- Buildings subject to shallow flooding from local drainage should be protected through area-wide flood control or sewer improvement projects.
- Buildings in good condition on crawlspaces should be elevated or relocated.
- Buildings in good condition on slab, basement or split level foundations subject to shallow flooding (less than 2 feet) can be protected by barriers and dry flood proofing.
- Recent flood claims. Some properties have not had a flood insurance claim for 20 years, indicating that some measure has probably been put in place to protect the property from repetitive flooding.

These criteria are general and recommendations for individual structures should be made only after a site inspection. Other extenuating circumstances may also alter the recommendations. For example, the building in area 13 is an historic stone structure on the river. Its lower area could be wet flood proofed, providing partial flood protection without adversely affecting its historical appearance.

The results of this review are shown in the table below. Based on the review criteria, acquisition and elevation should be pursued in areas 7, 8, 9, 12 and 14. This does not mean that the entire areas should be bought out. Initial efforts should focus on the most flood prone properties and, in all cases, willing owners.

Table 2.2.6 Jersey County Repetitive Loss Areas

	City	Name/Street	Bldgs	# of total hits	Ave. hits/building
1	Fieldon	Nutwood	1	2	2
2	Fieldon	Route 1	2	4	2
3	Fieldon	Coon Creek	49	144	2.94
4	Fieldon	Powerline Rd	158	195	1.23
5	Fieldon	Otter Creek	19	59	3.11
6	Fieldon	Spanky	5	12	2.4
7	Fieldon	Lockhaven Rd	1	2	2
8	Fieldon	Coe Land	4	13	3.25
9	Fieldon	Mill Creek	1	2	2
10	Fieldon	RR1	4	9	2.25
11	Fieldon	Peter's Park	1	10	10
12	Fieldon	The Narrows	3	6	2
13	Fieldon	The Glades	1	2	2
14	Fieldon	Rosedale TWP	1	2	2
15	Grafton	Coon Creek	2	4	2
16	Grafton	Nutwood	1	2	2
17	Grafton	Powerline Rd.	1	2	2
18	Grafton	Route 1	2	5	2.5
19	Godfrey	Route 2	1	2	2

20	Godfrey	Spanky	3	8	2.67
21	Godfrey	RD 1	1	2	2
22	Godfrey	Beltrees Rd.	11	24	2.18
23	Godfrey	Clifton Terrace	1	3	3
24	Godfrey	Harbor Dell	3	6	2
25	Godfrey	Lockhaven Rd.	1	2	2
26	Godfrey	Route 2	1	2	2
27	Godfrey	RR2	5	14	2.8
28	Godfrey	Lower Piasa Creek	1	2	2
29	Godfrey	Nelson	1	2	2
30	Godfrey	Shady Acres	1	2	2
31	Godfrey	Mill Creek	5	18	3.6
32	Godfrey	Upper Piasa Creek	1	2	2
33	Godfrey	Piasa Harbor/Haven	4	10	2.5
34	Chautauqua	Alton	1	2	2
35	Rosedale	Coon Creek	5	17	3.4
36	Rosedale	Powerline	1	4	4
37	Nutwood	Coon Creek	7	20	2.86
38	Nutwood	Powerline	3	8	2.67
39	Nutwood	Otter Creek	3	13	4.33
40	Nutwood	Eagleton	1	2	2
41	Elsah	Harbor Dr.	1	2	2
42	Elsah	Beltrees Rd.	1	2	2
43	Jerseyville	Peter's Park	1	2	2
44	Otter Creek	Otter Creek	1	2	2
44	Piasa Island	Scott Jimmy Piasa	1	2	2

5.6. Conclusions:

Jersey County adopted a Floodplain Ordinance in June of 1993 and has adhered to the Plan. Structures located in the Floodplain have been retrofitted to remove the violations incurred by FEMA. Eight structures have been elevated. Pre disaster and post disaster mitigation grants were put into place to alleviate drainage problems and elevate structures. Utilities are required to be elevated above the flood level on structures and grain bins. Structures that were heavily damaged were demolished and repetitive losses of 257 were submitted for removal. In addition structures that have substantial damage or improvements of 50% must now be elevated one (1) foot above the base floor elevation.

The City of Grafton has been participating in the National Flood Insurance Program (NFIP) since 1974. Following the Flood of 1993, the city participated in the FEMA federal buyout program thus practically eliminating any cause for floodplain violations. Three structures were elevated, post 1993 flood disaster.

In November 2002 the City of Grafton adopted a new model floodplain ordinance regulating development in floodplain areas. The purpose of the new and updated ordinance serves many purposes which include:

- prevent unwise developments from increasing flood or drainage hazards to others;

- protect new buildings and major improvements to buildings from flood damage;
- promote and protect the public health, safety, and general welfare of the citizens from the hazards of flooding;
- lessen the burden on the taxpayer for flood control, repairs to public facilities and utilities, and flood rescue and relief operations;
- maintain property values and a stable tax base by minimizing the potential for creating blight areas; and
- make federally subsidized flood insurance available;
- preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and storm water impacts, improve water quality, and reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

With the above floodplain ordinance in place, the City of Grafton also adopted the 2003 edition of the International Building Codes in October of 2003. This will help to assure all new construction will abide by the floodplain regulations by requiring particular construction standards.

5.7 Recommendations:

1. The floodplain of Jersey County must be monitored closely with inspections.
2. Close contact with U.S. Army Corp of Engineers and FEMA should be maintained.
3. Jersey County Board will benefit should adopt a new model of the Floodplain Ordinance.
4. Jersey County should continue and enhance its effective floodplain management program.
5. Appropriate Jersey County organizations engage in an aggressive public information and education program aimed at the retrofitting of residential and business structures.
6. Appropriate Jersey County organizations identify public and private programs and funds in support of private retrofitting of residential and business structures.
7. Jersey County authorities complete or update a full inventory of critical facilities, which should include schools and other large gathering places (in addition to hospitals and public safety facilities). The inventory should indicate the status of each facility and the retrofitting needs. Upon completion of an updated inventory, Jersey County authorities prepare a plan for retrofitting needs.
8. Jersey County authorities are to identify and enforce structure requirements in all future critical facilities constructions.
9. Jersey County promulgates and enforces an appropriate nationally-recognized building code.

10. The City of Grafton must continue to monitor new construction in the floodplain according to the guidelines set forth in the ordinances.
11. The City of Grafton must continue to protect its own publicly-owned facilities with appropriate mitigation measures.
12. Although only a few structures remain in the area most relevant to flooding, the city must attempt to seek funding support for higher cost measures, such as elevation, relocation and acquisition of high priority properties.