

# Build Back Smarter



Believe in Belle Harbor

**NHMA**  
Natural Hazard Mitigation Association

# Introduction



Torti Gallas and Partners

The Natural Hazard Mitigation Association is honored to offer this presentation to help Hurricane Sandy survivors recover in ways that make them safer and their communities more resilient. Here are steps to...

## Build Back Smarter

# Background



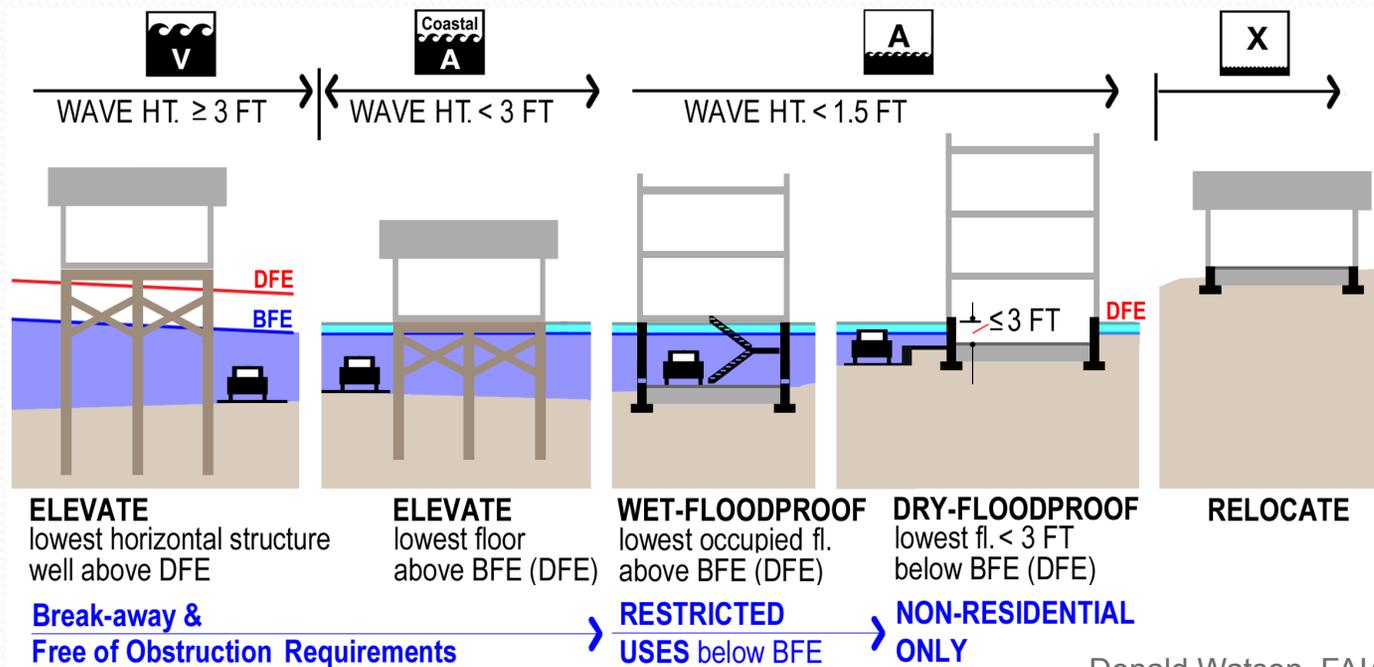
Local officials and storm survivors are searching for ways to rebuild strong, safe communities.

- Many expect future storms to come more often and be worse because of a changing climate.

Many communities learned these lessons after other storms.

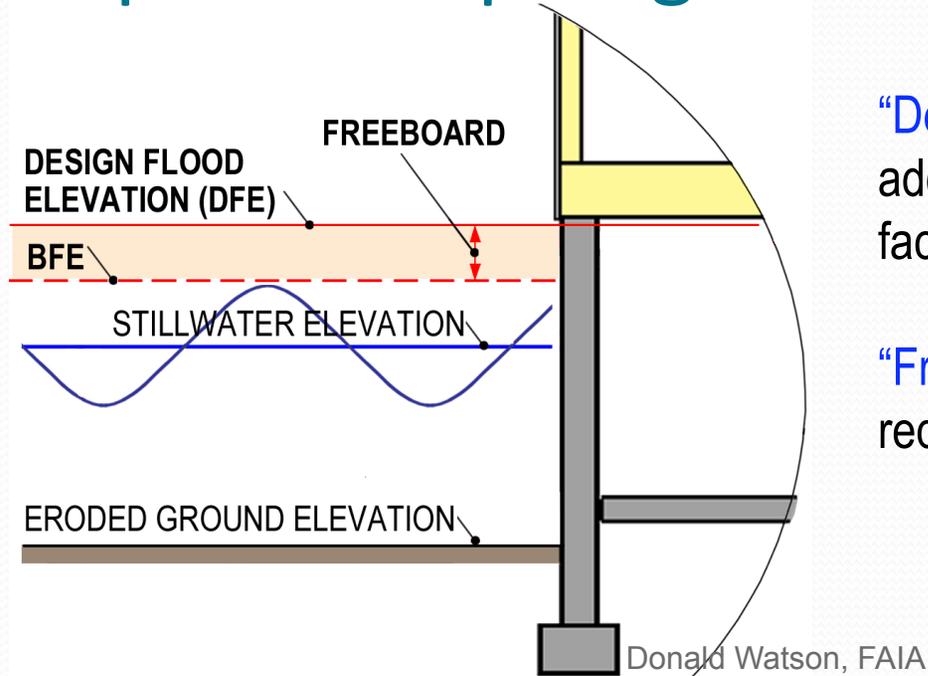
- Don't rush to rebuild before you have a good plan.
- Take advantage of opportunities for improvement.
- Seize the chance to mitigate (reduce) future hazards.

# Step 1 – Know the rules



- Building codes have to be enforced to protect citizens.
- Good floodplain management reduces future grief.
- Substantially damaged buildings need special attention.
- Look carefully at whether some buildings should be elevated, set back, or moved to safe sites.

## Step 2 – Adopt higher standards



“Design Flood Elevation” (DFE) is often adopted in local codes to represent a safety factor above the Base Flood Elevation (BFE).

“Freeboard” is the added elevation of DFE required above the BFE minimum.

- Build beyond minimum standards for safety to meet your community’s real needs.
- Plan for higher sea levels, bigger storms, in the future.
- Recovery should include higher standards for redevelopment and future development.

## Step 3 – Commit to mitigate



Louisiana 2012 Coastal Recovery Masterplan

- Pledge now to make your home, your business, and your community safer in the future.
- Let survivors know that it takes time to do it right.
- Keep everybody involved in planning / decision making
- Get expert assistance as needed, to evaluate your options for hazard mitigation during recovery.

## Step 4 – Triage damaged areas



Quickly survey and categorize damaged property into three categories:

- A. Apparently safe.** No exterior signs of structural damage. People can be allowed to return but will need building permits for repairs.
  - B. Substantially damaged.** The building is gone, collapsed or missing walls. Cannot reoccupy without structure repair.
  - C. Could be substantially damaged.** A closer assessment is needed to determine condition.
- FEMA software to help with these assessment: [www.fema.gov/hazus](http://www.fema.gov/hazus)

## Step 5 – Identify target areas



Believe in Belle Harbor

- Develop plans for areas with many buildings that are or may be substantially damaged.
- Consider all options, even not rebuilding the areas.
- Planning may take several weeks.
- Residents may clean up and salvage their property, but should not put money into rebuilding until plans are set.

## Step 6 – Involve affected people in plans



National Service Corps

- Recovery and rebuilding decisions must involve the people affected.
- Grassroots people know most about their neighborhoods, buildings, needs, and desires.
- Include neighborhoods, businesses, and families in planning.
- Develop a unified vision of the future and a consensus on how to recover.

## Step 7 – Keep the public informed



FEMA

- Keep lines of communication open.
- In areas of substantial damage, residents need to understand why they cannot immediately repair and move back.
- Do active outreach to communicate safety precautions, mitigation measures, and insurance—why mitigation can keep people and property safer in the future.

## Step 8 – Ensure full repairs and reconstruction.



FEMA

- If buildings are repaired, permit officials must ensure that they are safe and sanitary before anyone moves back in.
- Everything must be dry, without mold, tested for bacteria and moisture, and cleaned.
- There are no shortcuts to restoring what can be preserved.

## Step 9 – Mitigate to the extent feasible

- Understand that properties rebuilt in damage areas will not have 100% protection against future damages, but they can be “mitigated” – rebuilt in ways to reduce future risks. Some examples:
  - Some buildings and appliances can be elevated above floods.
  - Hurricane shutters can cover windows and doors.
  - Hail-resistant roofing or tornado SafeRooms can be installed.
  - Hurricane straps can brace structural connections to hold the building together.
  - Flood insurance and other insurance can help cover future losses.
- Federal funding may be available to help with mitigation.

## Step 9 – Mitigate to the extent feasible



FEMA

**NHMA**  
Natural Hazard Mitigation Association

# Conclusion



Donald Watson, FAIA

- Communities that took the time for these steps, with long-term recovery and redevelopment plans, have rebuilt safer, stronger, and smarter places.
- Hazard mitigation planning and actions can significantly reduce the misery, damage, death, and disruption from future storms such as Hurricane Sandy.

# References

For more information:

- NHMA white paper, *Building Back Safer & Smarter*, November 2012.
- *Planning and Building Livable, Safe & Sustainable Communities: The Patchwork Quilt Approach*, by NHMA.
- [www.ResilientNeighbors.com](http://www.ResilientNeighbors.com)
- [www.NHMA.info/Sandy/](http://www.NHMA.info/Sandy/)

