



What is Flood Safety Worth?

Eliminate the mystery of financing risk reduction in new building.

Louisiana Floodplain Management Association
36th Annual Technical & Business Conference

Jennifer C. Gerbasi, CFM
Terrebonne Parish Planning and Zoning Department
Recovery Assistance and Mitigation Planning Division

“What we have here is a failure to communicate.”

Flooding can occur:

- In a desert
- In the mountains
- In the city
- In the suburbs
- Outside the Special Flood Hazard Area
- Above the Base Flood Elevation

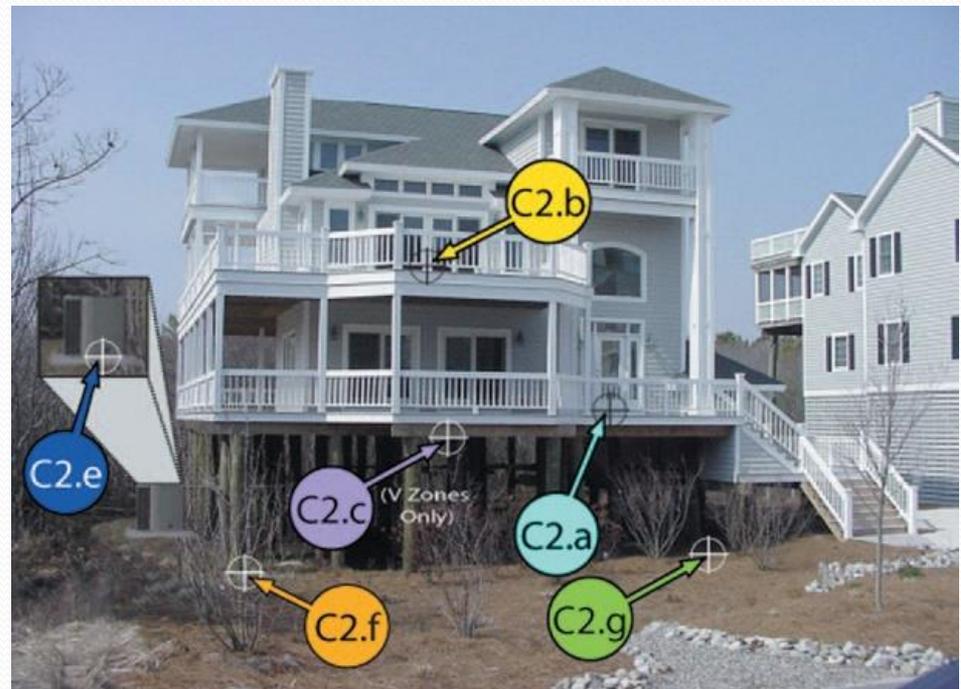


Flood Insurance

- ❑ Is REQUIRED for every structure in the floodplain with a federally backed loan
- ❑ May be required outside the SFHA by lenders
- ❑ Mortgage companies have failed to require as many as 20-40% of borrowers to get or maintain insurance
- ❑ Anyone in an NFIP participating community not explicitly excluded CAN buy flood insurance for a price
- ❑ Private insurance is available
- ❑ Grandfathering may stabilize a premium, downplaying the risk and potential costs to the buyer

Building to the base flood elevation

- New construction
- Substantial improvement
- Substantial damage



Encouraging better new building or retrofitting/mitigation

- Individual discounts for freeboard

Under the Flood Insurance Reform Act of 2012, You Could Save More than \$90,000 over 10 Years if You Build 3 Feet above Base Flood Elevation*



Without Freeboard



Annual flood insurance: \$1,050

With 3' of Freeboard



Annual flood insurance: \$302

Encouraging better new building or retrofitting/mitigation

- Community Rating System provides community-wide flood insurance discounts for:
 - Freeboard
 - Limits on building in the SFHA
 - Limits on fill/compensatory storage in the SFHA

Private Efforts to Reduce Risk

- Builders experimenting with freeboard to:
 - Add value to the client through lower costs
 - Distinguish their structures from others
 - Enable more efficient use of property by building an elevated foundation
- Building to the safer standard is a loss of profit
- May need grants to pay for the difference in cost while the market adjusts to reflect the safety value

Private investment in flood safety not supported by current lending

- ❑ In many cases there is an upfront cost to the buyer
- ❑ Mortgage companies and appraisers show no recognition of the increased cost or value of flood safety other than presence in or out of the SFHA
- ❑ There is no valuation increase in appraisals for extra safety margins that reduce risk



Storm Safety Impact on Value

- Properties in the SFHA
 - Have a value 6-7% less than other zones based on comp sales
 - This is based on the flood zone, not compliance or additional safety
 - Lack of storms decreases difference between flood zones
- Fortified Home™ construction for wind
 - Adds ~7% value to a structure according to studies
- No studies completed to identify a value of the increased flood safety of a structure

Freeboard Amenity Valuation

- Include flood safety in the appraisal to enable lending
- Capture value of flood safety
- Stable, quantifiable, and relatable to mortgage

Home with 1' Freeboard

Monthly mortgage payments \$1,266.71

Monthly flood insurance + \$793.58

Total monthly cost = \$2,060.29

Home with 3' of freeboard

Monthly mortgage payments \$1,276.85 (+10.14)

Monthly flood insurance + \$564.58 (-229)

Total monthly cost = \$1,841.43 (-218.86)

Vermont Outreach Material

Insured Value

\$170,000

Total Insured Value
(total value of structure or
value of mortgage on structure)

	Premium	Decade	30-Years	Savings over 30 years elevating from minus 1
4 Feet Above BFE	\$232	\$2,320	\$6,960	\$104,250
3 Feet Above BFE	\$268	\$2,680	\$8,040	\$103,170
2 Feet Above BFE	\$340	\$3,400	\$10,200	\$101,010
1 Foot Above BFE	\$536	\$5,360	\$16,080	\$95,130
At BFE	\$1,211	\$12,110	\$36,330	\$74,880
1 Foot Below BFE	\$3,707	\$37,070	\$111,210	\$0

Capitalization Method Example of Savings on NFIP Premiums*

	V Zone ¹		A Zone ²	
	Annual savings	30-year savings	Annual savings	30-year savings
1' freeboard	\$1,360 (25%)	\$40,800	\$502 (41%)	\$15,060
2' freeboard	\$2,730 (50%)	\$81,900	\$678 (55%)	\$20,340
3' freeboard	\$3,415 (62%)	\$102,450	\$743 (60%)	\$22,290

**NFIP premiums based on May 2007 rates for a one-floor residential structure with no basement built after a FIRM was issued for the community (post-FIRM rates differ from pre-FIRM rates). \$500 deductible/ \$250,000 coverage for the building/\$100,000 for contents.*

Mortgage

- A mortgage is a debt instrument, secured by the collateral of specified real estate property, that the borrower is obliged to pay back with a predetermined set of payments
- A federally backed mortgage requires flood insurance:
 - If the structure is in the Special Flood Hazard Area
 - If the lender believes that the structure is at risk though not technically in the SFHA
 - With a policy value equal to that owed on the mortgage
 - Until the mortgage is paid in full

Measuring Flood Safety Benefits

□ Mortgage

- Qualifying ratio may allow buyers to buy more valuable house (incidentally valuing the flood safety)
 - Qualifying ratio is the maximum ratio of debt to income
 - Considers the cost of the mortgage including insurances and other maintenance costs v. the buyers income
 - A structure that has lower insurance will have a higher ratio with the same income
- Does not increase the loan value if not captured in the appraisal

The Intended Use of an Appraisal

- To facilitate the transfer of ownership of real property
- To help prospective sellers determine acceptable selling prices or prospective buyers decide on an offer
- To assist the underwriter in establishing a value of security for a mortgage loan
- To provide an investor with a sound basis for the purchase of real estate mortgages, bonds or other types of securities

Appraisers

- When an appraiser considers any type of improvement to the land, the value associated must have a market value
- That can be difficult to identify when the mitigation method is not yet tested in the market
- Some markets capture the zone in comparative sales, but flood safety is not captured in detail

Why is safety not captured?

- There is no quantified evidence of the value added
- Skepticism - If it has value then why hasn't the market acknowledged through paying a higher price?
- The new idea may be too new to have been tested for the market's willingness to pay more
- The data is not always available to be assessed
- Mortgage broker looking to appraiser for value signal
- Other amenities more important to the buyer

Challenges to Building Safety Benefits

- How to capture these values and encourage builders to innovate and lenders to cooperate?
- Current capture = \$0, so safe building is discouraged
- When appraisers do not take the value into account, it impacts the homebuilders



Recruit new actors to recognize the value of flood safety including:

- Assessors' offices
- Appraisers
- Mortgage companies and other lenders
- Real estate professionals



Goal: Promote Private Investment by Providing

- Studies of current valuation of flood safety
- Tools for monetizing the value
- Education to professionals

Studies

- Study sales in the floodplain for value trends
- Study sales with first floor elevation on EC for safety margin and value
 - Data sets are available through public ECs
 - Sales can be compared in different regions

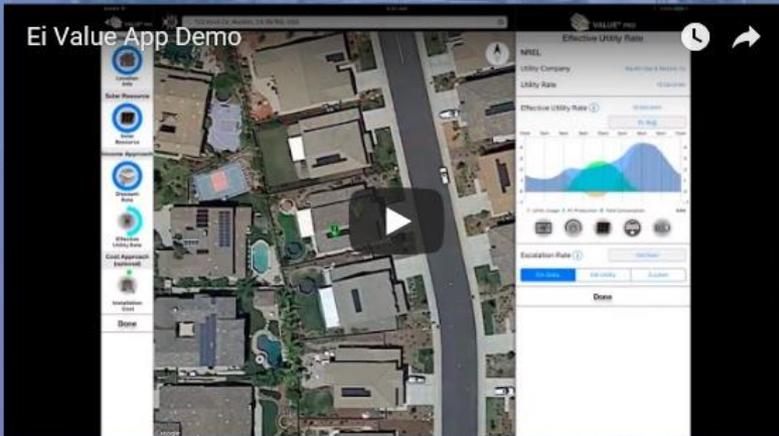
Sample Tools

- Standard Appraisal Methodologies
 - Market Value
 - Debt Coverage Ratio
- Reduce to an equation
- Enhance with FEMA Benefit Cost Assessment
 - Displacement costs per person
 - Business Interruption

- Model: Solar valuation from Energy Sense Finance - web-based calculator for appraisers

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Measuring Flood Safety Benefits

□ Appraisal

● Additional amenity

- More efficient due to durability
- Less costly for lifetime maintenance
- Less time away from dwelling during flood evacuation
- No additional time needed for restoration



Direct Sales Comparison Approach

- Property compared to sales of similar properties in order to arrive at a value
- Identifies the comparable properties as being similar in age and somewhat similar in size, quality, use, and amenities
- Adjustments to the sales price of the comps, based on how they differ from the specific property

Lost in Translation to Present Value

- Flood insurance savings (over 30 years): \$40,800
- Savings according to appraisers:
 - Discount rate: \$20,906.53
 - Debt coverage ratio amount: \$16,585.36

Costs associated with freeboard

- Incorporating freeboard into new structures adds about .25% to 1.5% to the cost of construction for each foot of added height (NAS, 2006)
- The marginal increase in monthly mortgage payments is more than offset by saving on NFIP premiums (for structures not built greater than 1' on fill)
- In the A zone, the discounts are less, and may not alone be sufficient to draw a buyer to the safer house (\$502 discount vs. \$218 discount).



Takeaway

- Capture all flood savings to show the true value
- The tool must capture the present value
- It must be accessible and simple to use
- Provide a value for that amenity that is supported by evidence

Freeboard

- Can save flood policy holders up to 62%
- Savings can be projected over life of mortgage
 - Insurance is unlikely to go down
 - Simple calculations identify savings over time
 - Value can be reduced to present value
 - Can create materials to show the savings
 - Value is persistent and will transfer from buyer to buyer
 - NFIP standardization allows for consistent value and reliability



Education through Existing Channels

- Appraisers
- Elected officials
- Floodplain managers
- Real estate industry
- Insurance companies
- Banks and mortgage lenders
- Builders
- Consumers

Actions Necessary by Actor

□ Mortgage

- Communicate to appraisers that they want this information
- Accept lesser qualifying ratio if there is additional flood safety
- Accept that structure will retain value and marketability due to flood safety
- Develop Cap Rate if that is more acceptable to the industry

Actions Necessary by Actor

□ Appraiser

- Request information on flood safety
 - Elevation Certificate
 - Current flood insurance premiums
 - FEMA history
 - Sellers disclosure document
- Include valuation like other comp amenities
- Suggest this added value to lending institution, with rationale for the additional value
- Provide studies or access to the tool for documentation

Actions Necessary by Actor

- Floodplain management community
 - Provide information on flood safety
 - Enter into Memorandums of Understanding with local or other willing lending institutions
 - Provide consumer advice on safe buildings and savings
 - Educate builders, elected officials, and realtors

Actions Necessary by Actor

- The Flood Safety Valuation Team
 - Create multimedia educational materials for
 - Appraisers
 - Mortgage/lending industry
 - Homebuilder associations
 - Chambers of commerce
 - Elected officials
 - The general public

The Flood Safety Valuation Team Updates

- Appraiser Training from Diana Jacobs
 - Provided training on the issue to appraisers in Texas, Louisiana, Wisconsin, Arizona, and Iowa
 - Incorporated freeboard in a weekly Tip of the Week for The Appraiser's Business Companion
 - Included flood safety valuation in Looking for the Rainbow After the Storm textbook
 - Incorporated into webinars on disaster preparedness

Acknowledgments

Diana Jacob, AQB Cert. USPAP Instructor
Smart Home America
IBHS -Fortified Homes
National Association of Appraisers
The Appraisal Institute
FEMA
FIMA
Sandy Adomatis, Appraiser
Patricia Staebler, SRA,RS

For additional information:

Jennifer C. Gerbasi
jgerbasi@tpcg.org
985-873-6565