

# Keyswide Home Elevation Education Project

Alison Higgins  
Resiliency Manager  
City of Key West



**GULF OF MEXICO**  
RESEARCH INITIATIVE

**Sea Grant**

Texas • Louisiana • Florida  
Mississippi - Alabama

**FIRM**

FAIR INSURANCE RATES IN MONROE

**UF** IFAS Extension  
UNIVERSITY of FLORIDA





# Problems in Paradise

- Mostly Slab on Grade
- Mostly workforce
- Mostly families
- Disproportionately affected by flooding



# FEMA Programs Fail Us

## Pre Disaster Mitigation Funds

- 1,300 Postcards
- 150 Responses
- 100 Attendees
- 28 Pre-App Assessments
- 14 Site / Structural Analysis
- 10 Submitted
- Most recommended replacement
- Most homeowners couldn't get financing
- 2 Were Raised



## **Adaptation Coordination Team Goals:**

- 1) Assess Vulnerability and Adaptation Needs .
- 2) Increase Financing Options for Adaptation
- 3) Update Land Development Regs for Commercial & Residential Resilience
- 4) Continue Collaboration with Others
- 5) Decrease Insurance Burdens by Reducing Risk



# Keyswide Home Elevation Education Project

## Grant Goals

1. Summary Flyers
2. Keyswide Workshops
3. Assist Homeowners
4. Organize Cooperative Bidding
5. Document and Disseminate



# Step 1: 12 Summaries of recent home elevations

- Square Footage
- House Construction
- Cost
- Finance Method
- Insurance Changes
- Appraisal Changes
- Unexpected Issues
- Time out of House



# Step 1: 12 Summaries of recent home elevations

## Pro's

Lots of Examples

Good memories

## Con's

Contractors are very Busy

Don't Want to Share Costs

## Solution:

Dig into permits

Create a budget template





# Step 1: Summaries of recent home elevations



813 Waddell Street



## THE CREW

### STRUCTURAL ENGINEER

Keister Webb Structural Engineers

### ARCHITECT

Bender & Associates  
Architects



### CONTRACTOR

Skylimit Construction Ales Bursa

### ELEVATOR

No actual lifting occurred



## ABOUT THE HOUSE

### YEAR

This home was built in 1954

### SQUARE FOOT

2,800



### TYPE OF CONSTRUCTION

Concrete Block Walls, Wood Roof

### FOUNDATION TYPE

Concrete Pile Supported  
Slab on Grade

### HISTORIC

Yes

## HOME ELEVATION

### METHOD

Filled inside of house, raised  
windows, doors and roof.

### FLOOD ZONE

Shaded X Zone - No regulations  
for first floor height.

### TOTAL CHANGE

1' 8" - insurance rounds to 2'

### HIDE THE CHANGE

Raised bed planters help  
camouflage the elevation.



## HOMEOWNER EXPERIENCE

### REASON FOR ELEVATING:

Major renovations  
triggered elevation.  
Kept nonconforming  
footprint by preserving  
foundation.



### HOW LONG AWAY FROM HOME:

Homeowner had secondary residence

### LEARN FROM EXPERIENCE:

- Raising windows cuts into roof tie beams, so a new one had to be poured.
- Talk about future needs: Open style floor plans need more supportive beams.

## FINANCIAL DETAILS



### COST BREAKDOWN

Architectural Drawings	\$75-100K
Permits	\$21K
Remove Roof	\$10-15K
Move Doors/Windows	\$50-75K
New Concrete Block	\$35-55K
Reinstall Roof	\$100-150K

### INSURANCE CHANGES

None, was in X Zone



### CHANGES IN HOME VALUE

Cannot separate from  
major renovations that  
happened same time.

**FINANCING** Self Financed

Before

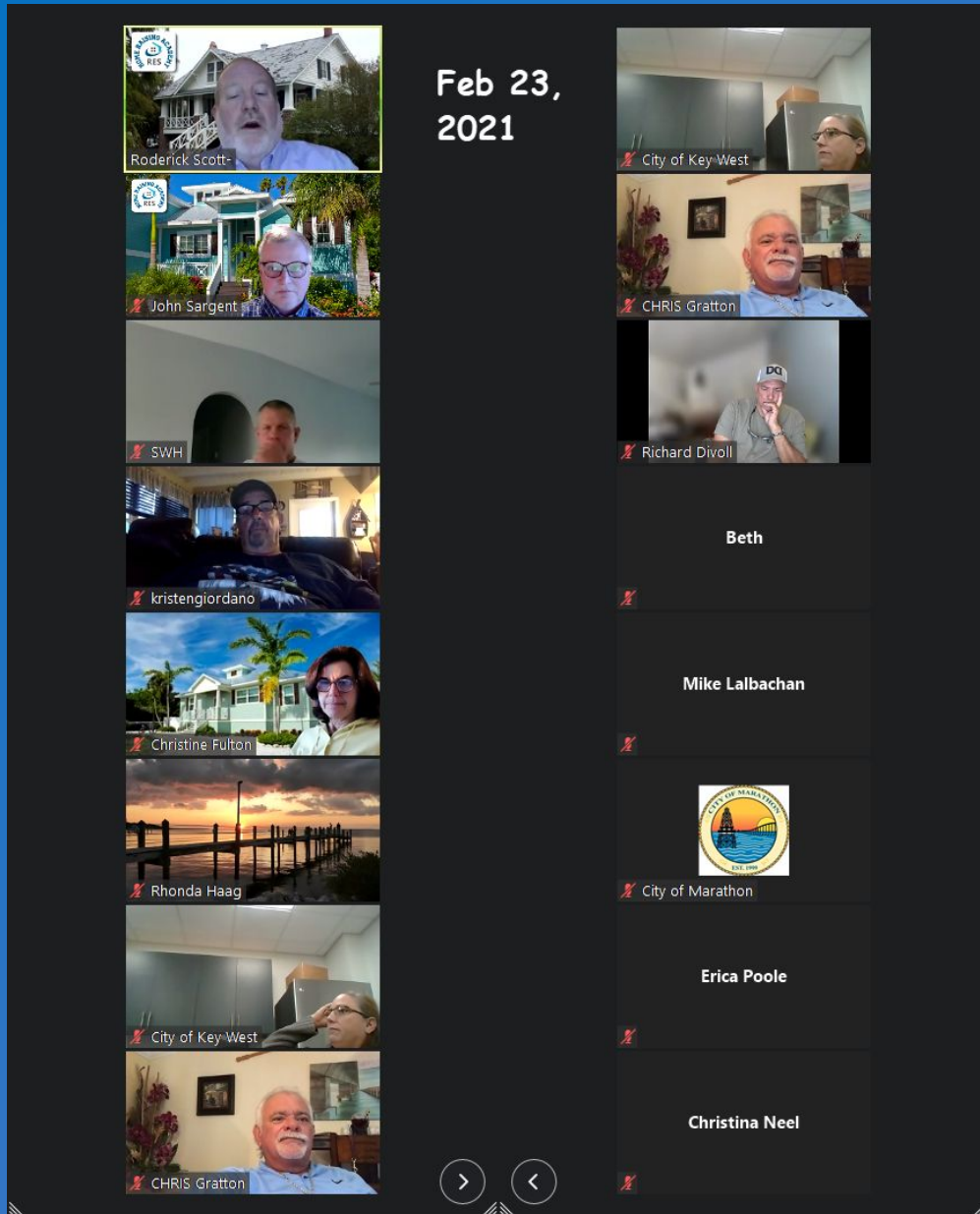


After



- The walls on this house were extended with wood.
- Existing foundations are like caprock & great to put fill on.
- Cannot add a second floor without strengthening existing walls to be able to handle the load.

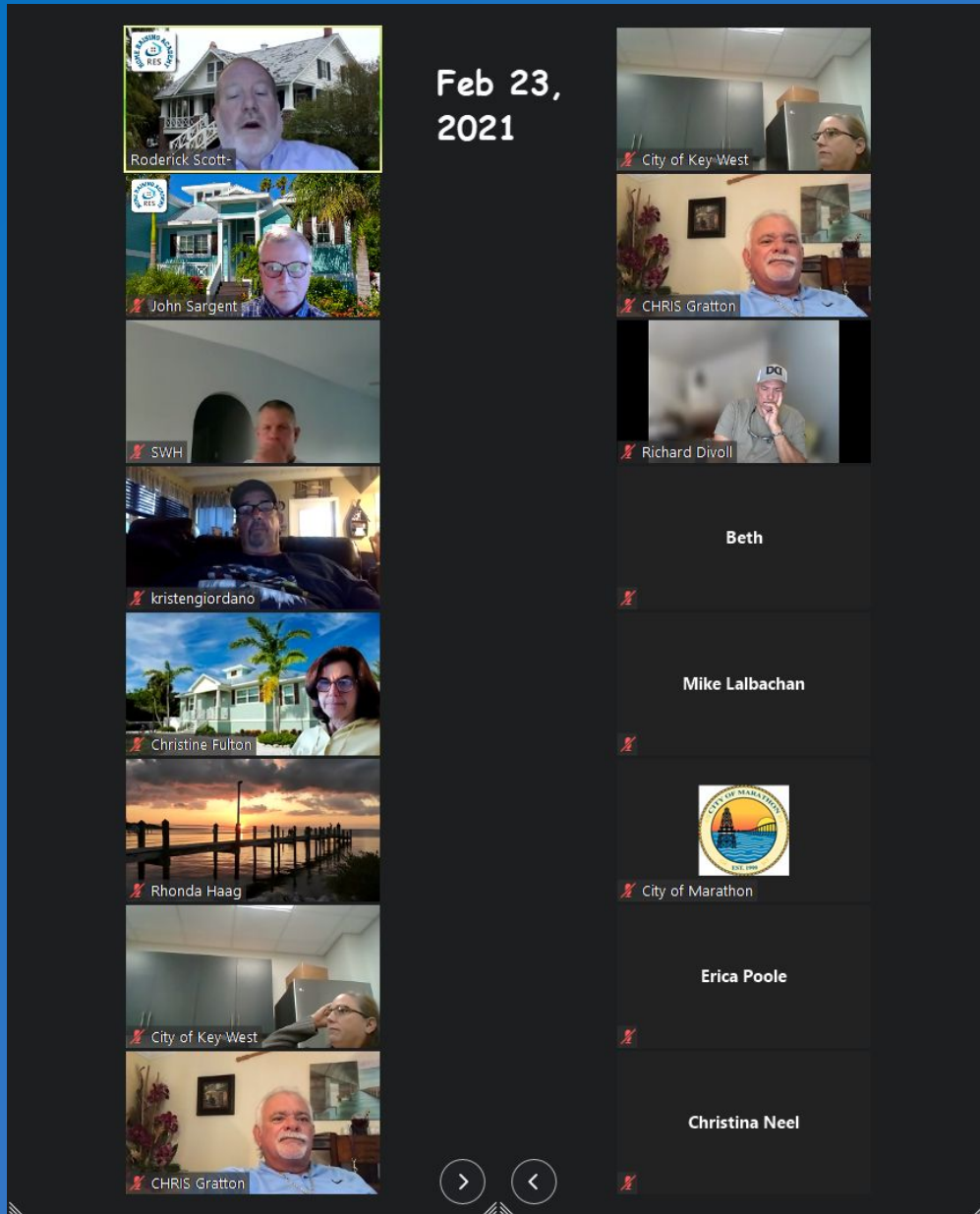
# Step 2: Contractor Workshop



- Home Raising Academy
  - 10 Contractors
  - 6 Local Govt
- Request for Qualifications



# Step 2: Contractor Workshop



**Resilient Enterprise Solutions**

Pro's

Great Course!

Easy to Do

Con's

8 hours (4 nights of 2 hours)

Contractors are busy

Solution

Table of past projects

Nagging

# Step 3: Public Workshops

- Key West, Big Pine, Marathon, Islamorada, Key Largo
- Emphasis on low neighborhoods
- Emphasis on Low-Med Income
- Emphasis on Repetitive
- Home Summary Documents
- FEMA Pre Disaster Mitigation Grant
- Elevation Certificates
- SLR Predictions



## A Keys first: Concrete building elevated

By Mandy Miles Key West Citizen

July 25, 2018



ROB O'NEAL/The Citizen Danny McKearan of Ducky Johnson Home Elevations, right, speaks with homeowner Peter Batty Jr. at 3717 Eagle Avenue. It is the first block-style home to be elevated in the Florida Keys.



# Step 3: Public Workshops

## Pro's

Great Partners for Low Income Outreach

Zoom = wider reach, recordable

## Con's

Keeping it up to date

## Solution

Annual Review



## A Keys first: Concrete building elevated

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July 25, 2018



ROB O'NEAL/The Citizen Danny McKearan of Ducky Johnson Home Elevations, right, speaks with homeowner Peter Batty Jr. at 3717 Eagle Avenue. It is the first block-style home to be elevated in the Florida Keys.

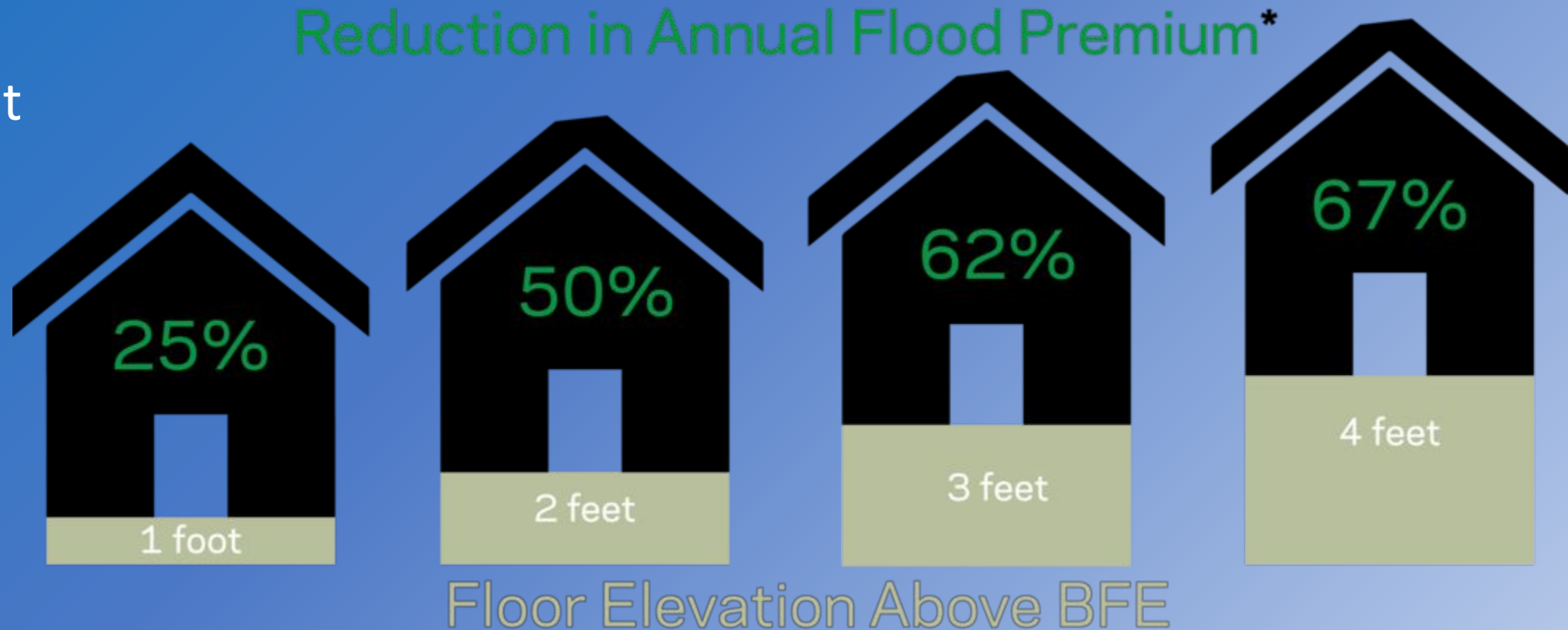
# Step 4: Assist Homeowners

## Financial Advisor

- Return on Investment
- Second Mortgage
- Equity
- Repayment

## Technical Advisor

- Elevation Advice
- Provide Estimates





# Step 4: Assist Homeowners

## Pro's

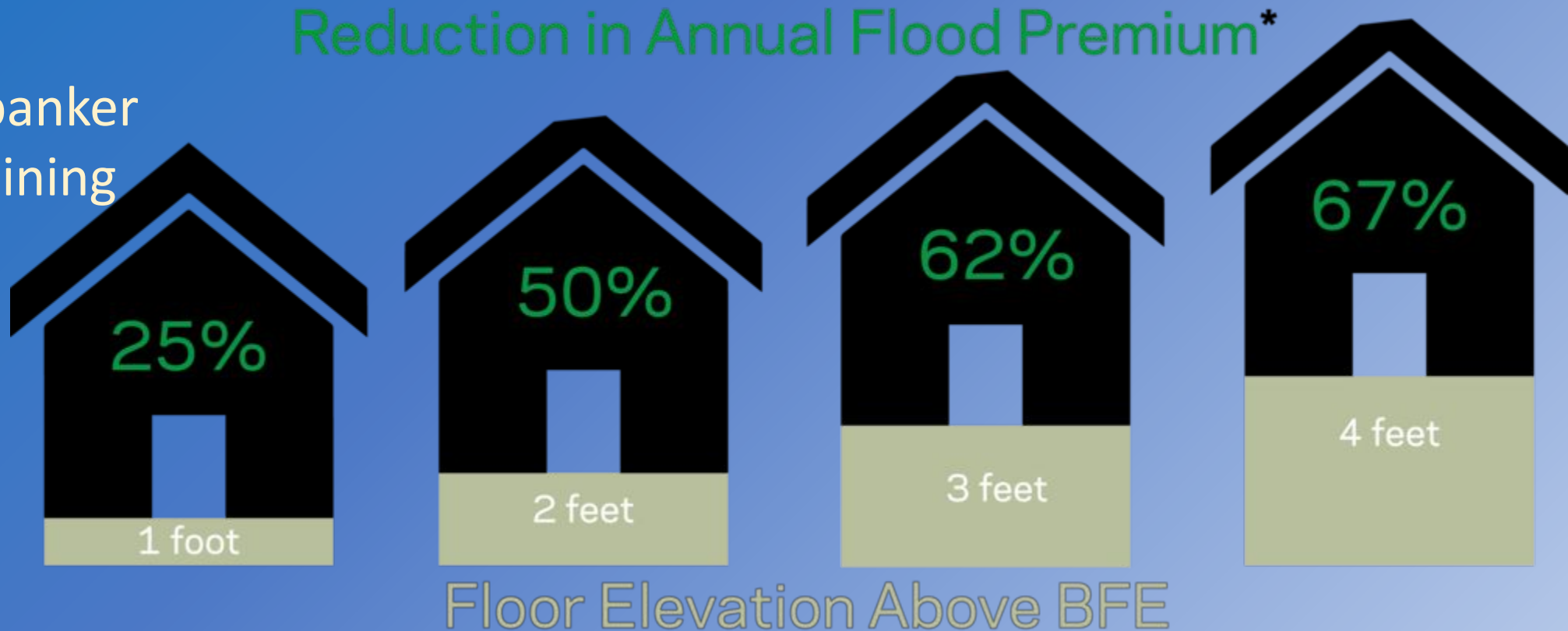
Collect Feedback and FAQs  
Great idea in Theory....

## Con's

No one specializes in all finance  
Contractors are busy

## Solution

Consult your banker  
Contractor Training



# Step 5: Organize Cooperative Bidding

- Economies of Scale
- Help vet companies
- Template RFP





# Step 5: Organize Cooperative Bidding



## Pro's

Much smaller number of qualified companies  
They are amenable

## Con's

How do separate contractors pick one?

## Solution

County RFP and Land



# Step 5: Document and Disseminate

- Presentations:
  - Sea Grant
  - Compact
  - FSDN
  - Historic associations
- State Policy Work:
  - Add to PACE financing
  - Valuation: Copy Solar Rule





# Step 5: Document and Disseminate

## Pro's

Available at anytime!

## Con's

Hidden in plain site

## Solution

Follow Me!

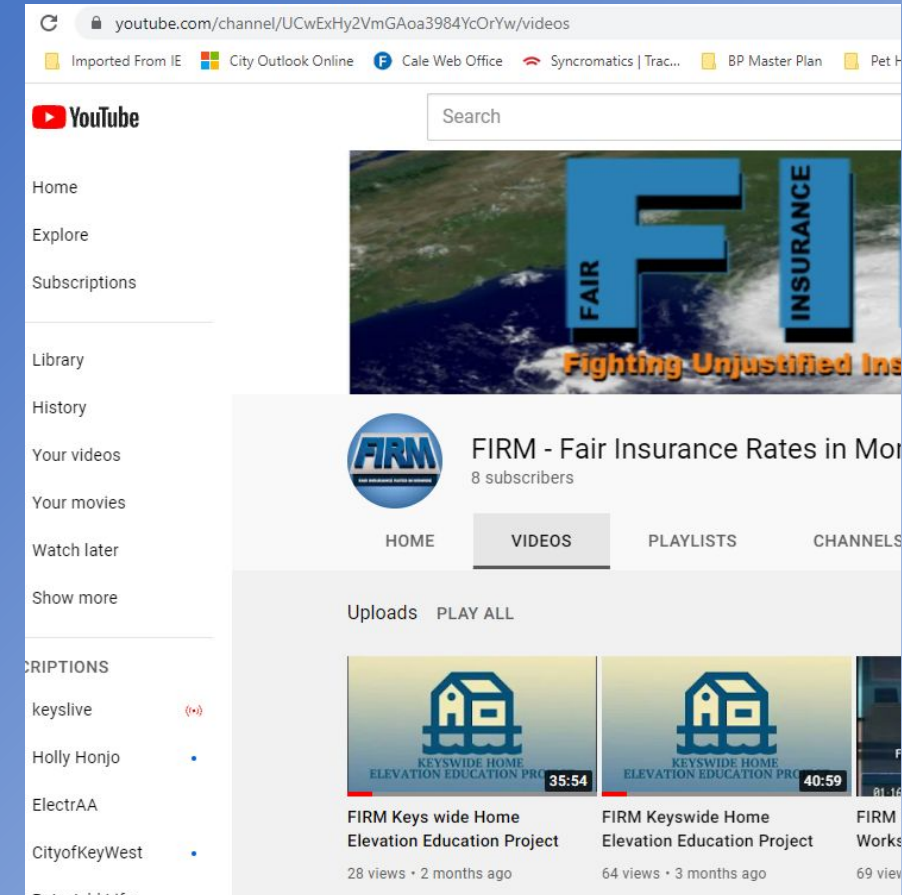
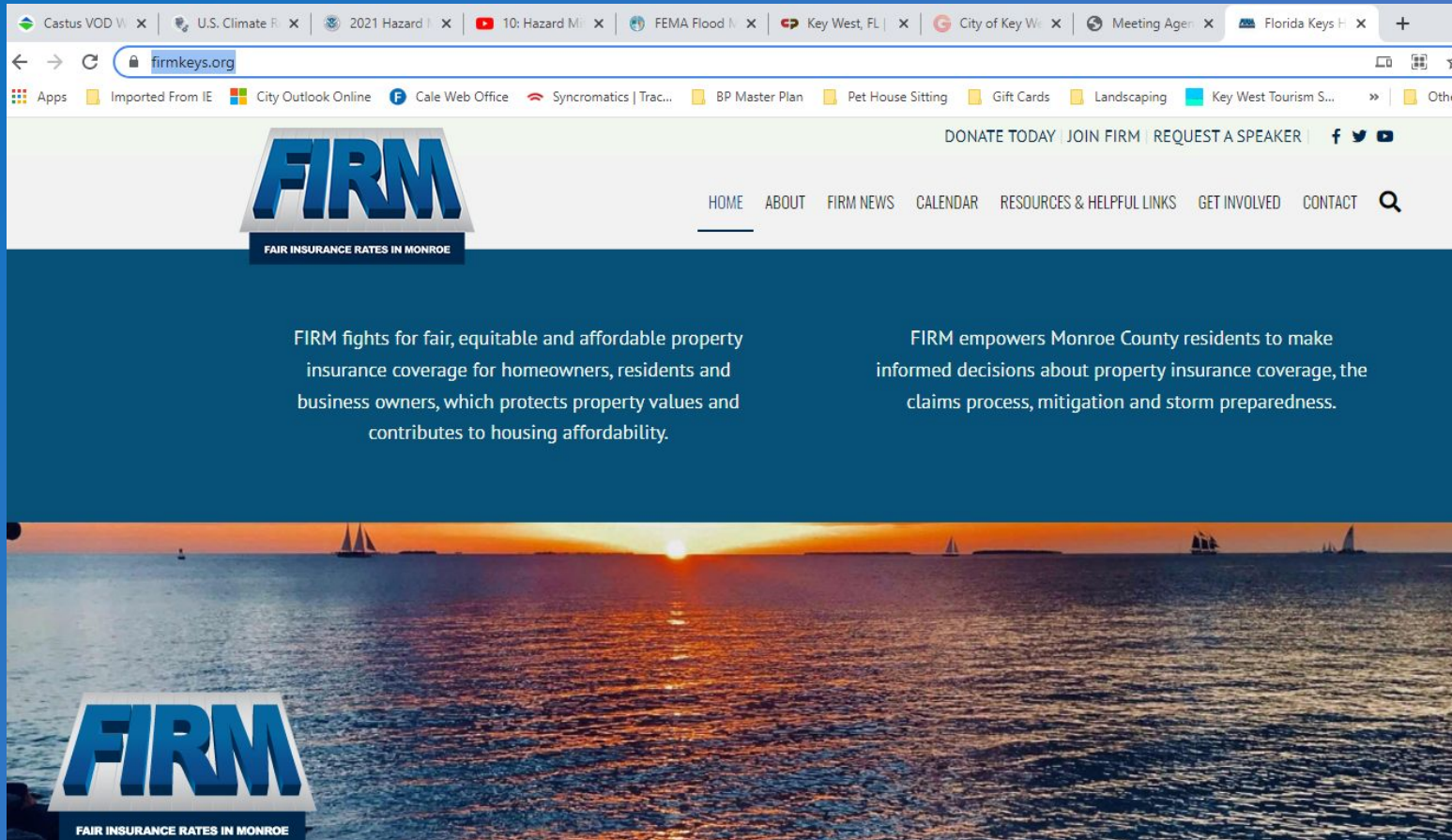
2019





# Step 5: Document and Disseminate

<https://firmkeys.org/>





# Potential Collaborations:

- Document Costs
- Document Methods
- Share an Elevation Contractor?
- Create an entry level GC class/certification for elevation?
- Other?

## UNIT PRICING GUIDE FOR ELEVATION WITH NEW FOUNDATION

To calculate estimated project price, add sections:

$$A + B + C + D = \text{TOTAL}$$

### Section A: Foundation & Elevation

	Feet Above Ground Level								
	2'	3'	4'	5'	6'	7'	8'	9'	10'
1000SF	\$67,702	\$70,124	\$72,546	\$74,967	\$81,182	\$83,604	\$86,026	\$88,448	\$90,869
1200SF	\$76,872	\$79,586	\$82,299	\$85,013	\$91,932	\$94,645	\$97,359	\$100,072	\$102,786
1400SF	\$91,394	\$94,900	\$98,407	\$101,913	\$110,750	\$114,257	\$117,763	\$121,270	\$124,776
1600SF	\$101,208	\$105,082	\$108,957	\$112,832	\$122,654	\$126,529	\$130,404	\$134,279	\$138,154
1800SF	\$108,180	\$112,214	\$116,248	\$120,282	\$130,625	\$134,659	\$138,692	\$142,726	\$146,760
2000SF	\$114,703	\$118,896	\$123,089	\$127,282	\$138,145	\$142,338	\$146,531	\$150,724	\$154,917

- 2 Story is additional... see last page of booklet for example.
- See attached sheets for details of Unit Pricing.

### Section B: Design Cost.

As-Built	\$1,285.00
Elevation Certificate & Lot Survey	\$1,669.00
Foundation Design	\$2,953.00
Geotechnical Analysis	\$2,182.00
Plot Plan	\$1,027.00
Zoning Application (Submit Zoning Permit)	\$706.00
Total	\$9,822.00

### Section C: Access Stairs.

Exactimate pricing \$350 per vertical feet of rise from ground. (At each access location)

### Section D: Other.

Masonry Chimney Present:	\$4500 per chimney
Slab on Grade Separation (with new floor system above):	\$31.67 / Square Foot
Garage Door: (Single Car / Double Car)	\$6500 / \$9000
Exterior Garage Man Door	\$850 / Each
Attached Deck to be lifted	\$17.35 / Ft
Downspouts	\$36.60 / Each
Helical Piles	\$1500 / Each
AC Platform	\$750 / Each

# Keyswide Home Elevation Education Project

Alison Higgins  
Resiliency Manager  
City of Key West  
[ahiggins@cityofkeywest-fl.gov](mailto:ahiggins@cityofkeywest-fl.gov)

Questions?



Texas • Louisiana • Florida  
Mississippi - Alabama



FAIR INSURANCE RATES IN MONROE

**UF** IFAS Extension  
UNIVERSITY of FLORIDA

