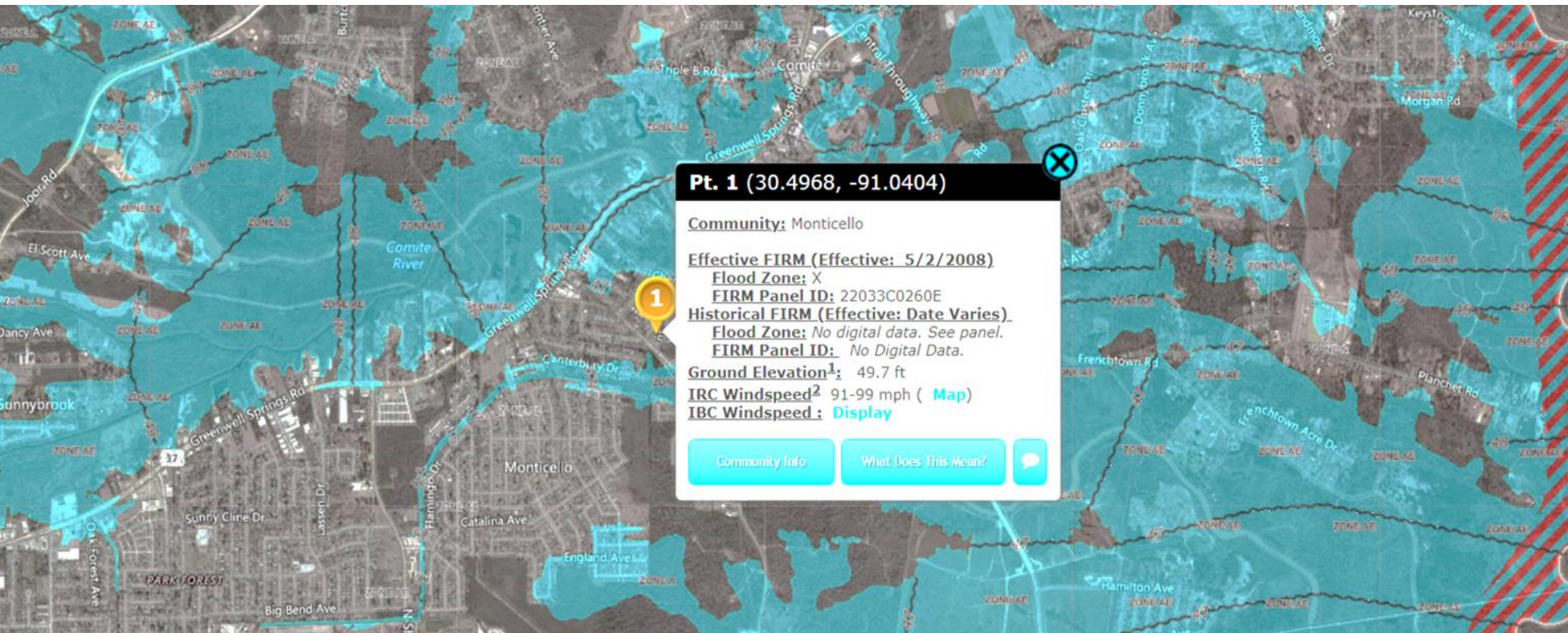


Rebuilding the Homes that “weren’t supposed to flood”



Shandy Heil, CFM
LSU AgCenter

Operation Wet Proof



- Initiated August 2017
- LSU AgCenter & LA Dept. of Health venture
- **GOAL:** Provide updated, flood hardy construction techniques to flood survivors who could not relocate

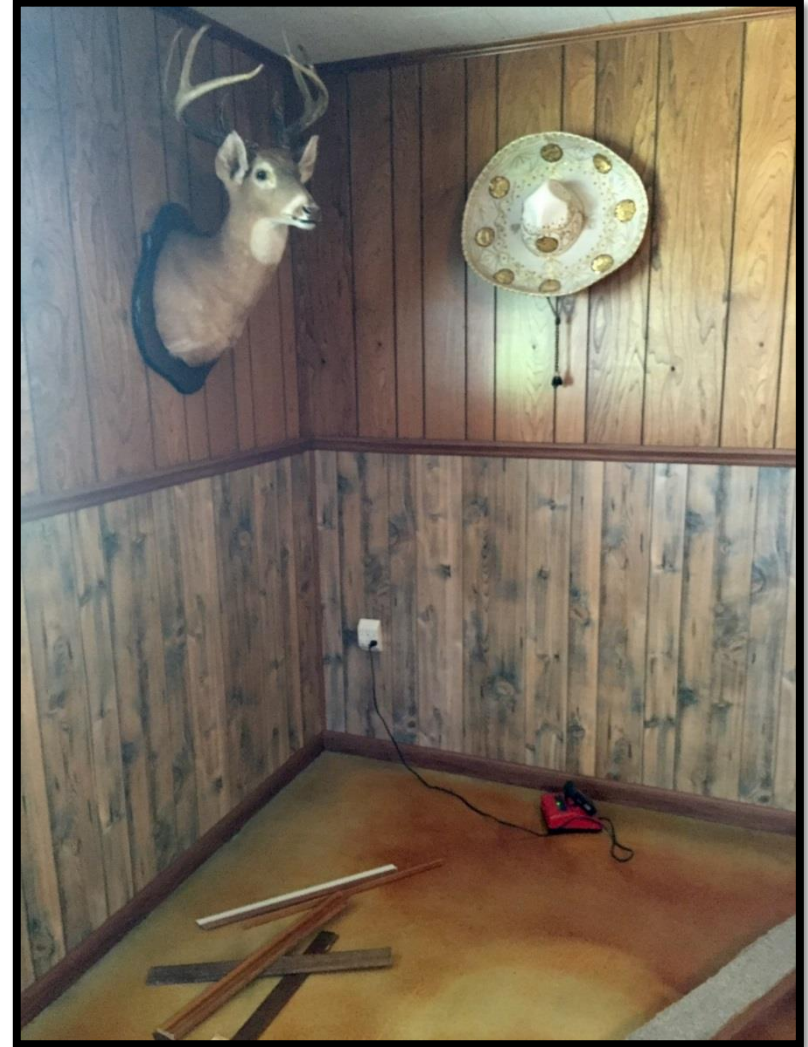
The Need Was Apparent...



We Knew There Were Solutions...



August 19, 2016 (5 days after flood)



October, 2016 (back in her home after 2 months)

Wet Floodproofing:

[illegible]

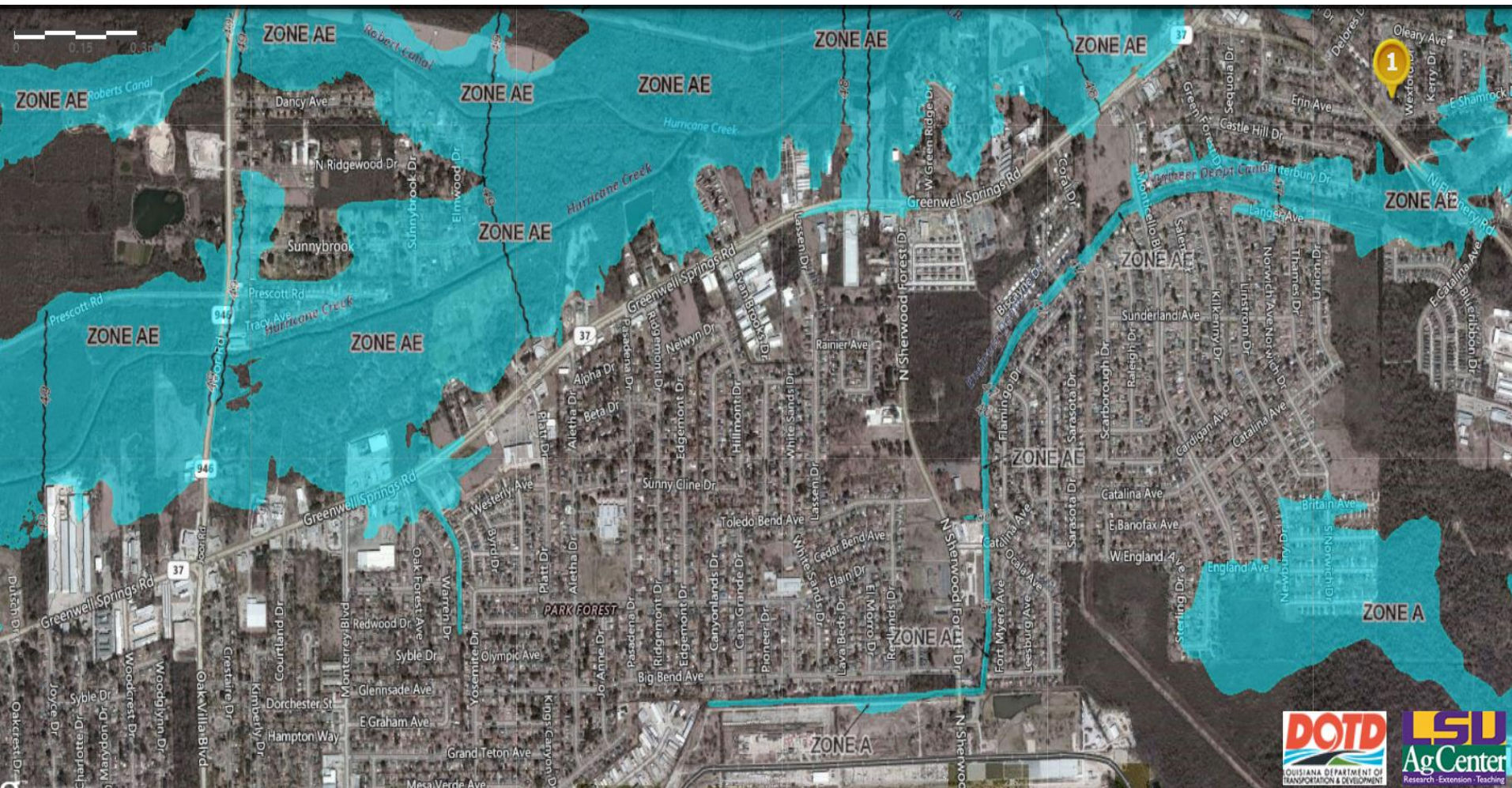
PROJECT FOCUS: N. Baton Rouge

Slab-on-grade, X Zone Structures



PROJECT FOCUS: N. Baton Rouge

Slab-on-grade, X Zone Structures



The Brave Client



- Ms. Gloria - Baton Rouge, LA
- Special Needs Aid at Elementary School (by day)
- Nursing Home Aid (by night)
- Widow of Vietnam Veteran – Was planning to retire in Dec. 2016
- **\$9,000 awarded in I.A. – Spent \$4,000 on mold remediation & demo**
- **Was told to get SBA loan for \$30,000+ rebuild (due to income level)**
- Became a Catholic Charities client to find more rebuilding options other than taking out a loan, since she still has a mortgage to pay on the house

Initial Inspection



- Partially damaged drywall on upper walls
- Ceramic tile in living areas
- Shelter In-Place Work:
 - Temporary sinks, non-moisture resistant drywall in bathrooms

Initial Inspection



Commercial gyp./Sheathing/Blackboard

- Creates interior skin of building
- Keeps water out of interior
- Plane to connect brick ties



Scope of Work

- **Create flood resistant wall assemblies**
 - Create a drainage plain to replace the missing sheathing
 - Insulate with removable closed cell foam panels
 - Construct removable lower wall assemblies
- **Elevate electrical above record flood level**
- **Help client purchase flood resistant finishes**
 - Being installed this month by Habitat for Humanity!

Volunteers & Donations



lowernine.org

A.B.V. CONSTRUCTION, LLC



HARDIBACKER.
The Ultimate Cement Backerboard

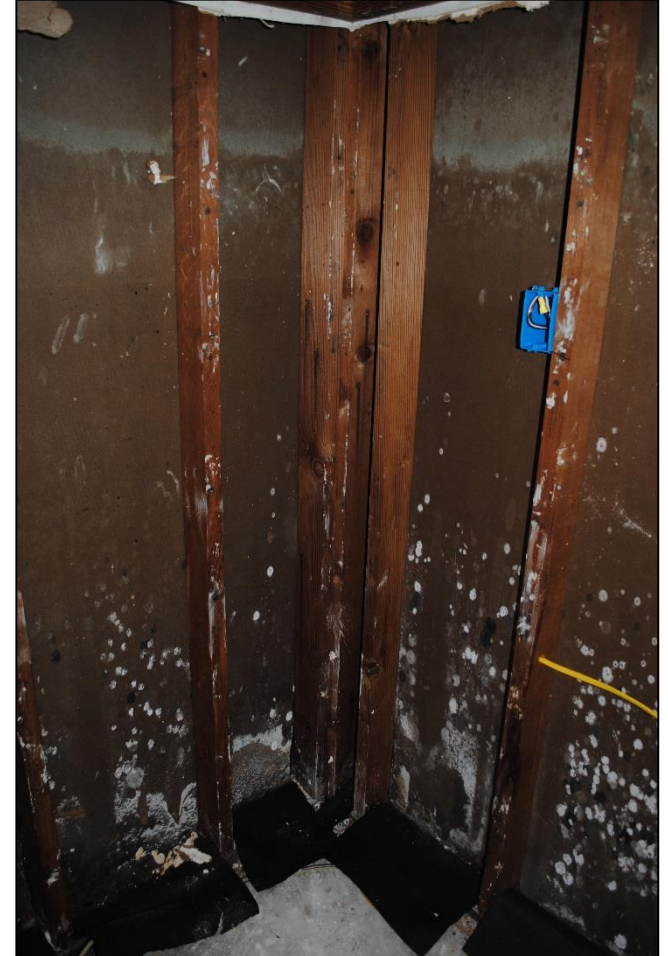
MIRATEC
Treated Exterior Composite TRIM



Commercial Gyp. Sheathing /Blackboard



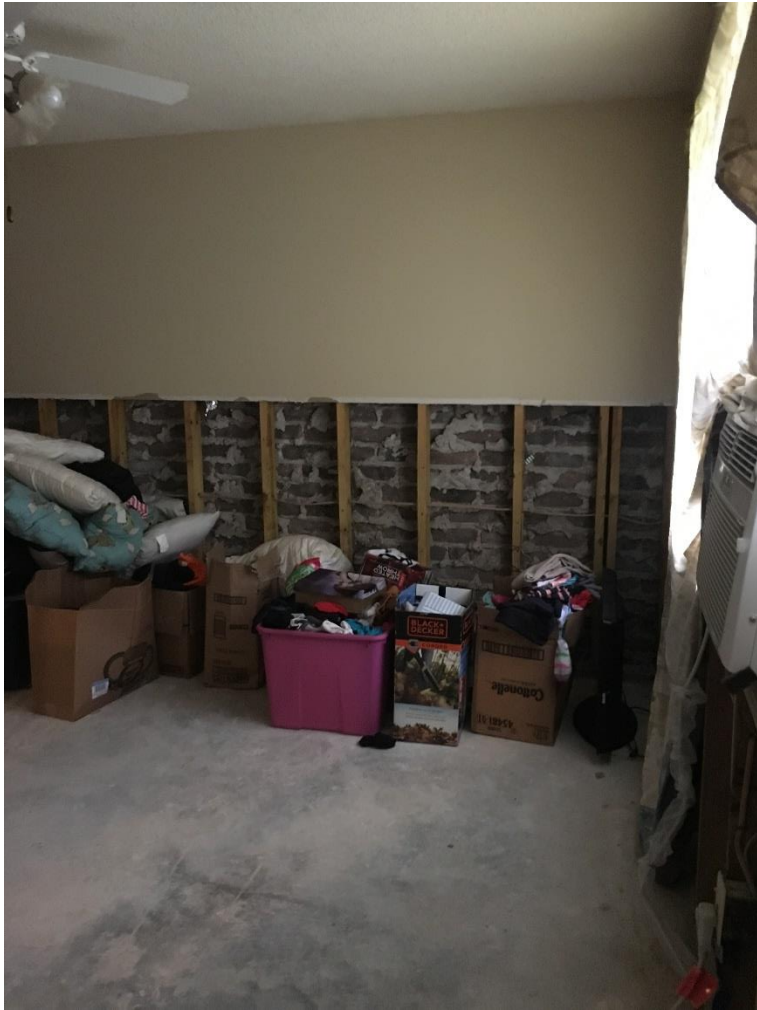
- Loses structural integrity (AKA – turns to mush)
- Breeding ground for MOLD
- Material was never meant to sit in water

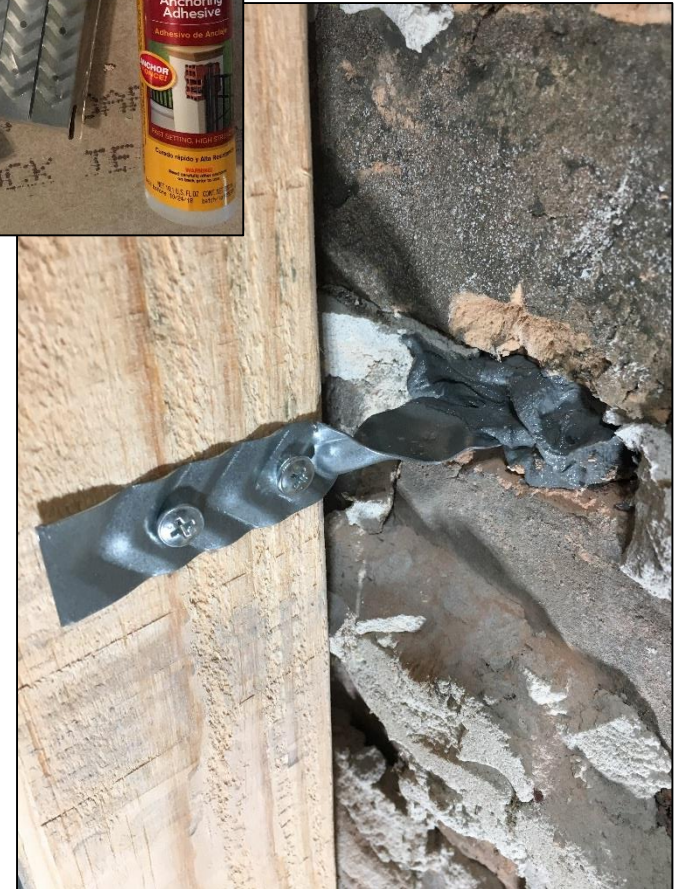




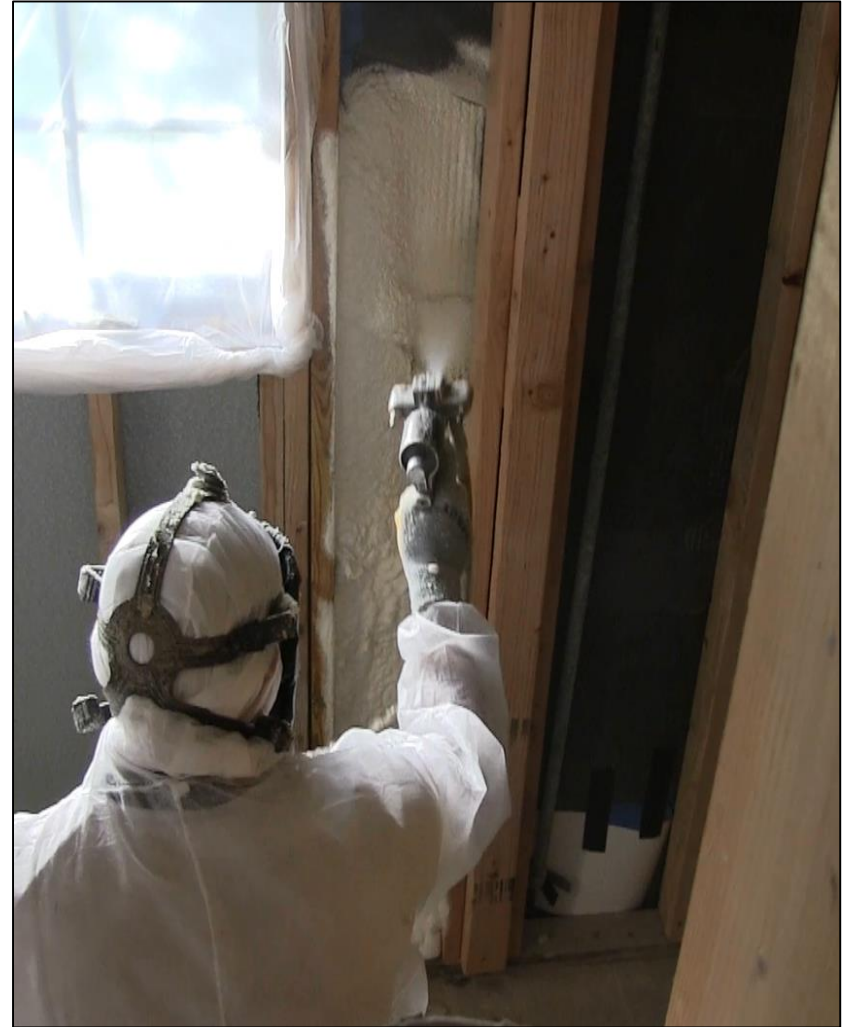
The true fix? Remove the brick veneer & replace the sheathing. BUT - Insurance does not cover the cost...

Walls with no Sheathing





- Make hole in existing mortar
- Epoxy new brick tie into hole
- Attach new brick tie to stud



- Synthetic rain screen with 2" spray foam application

Walls with Sheathing



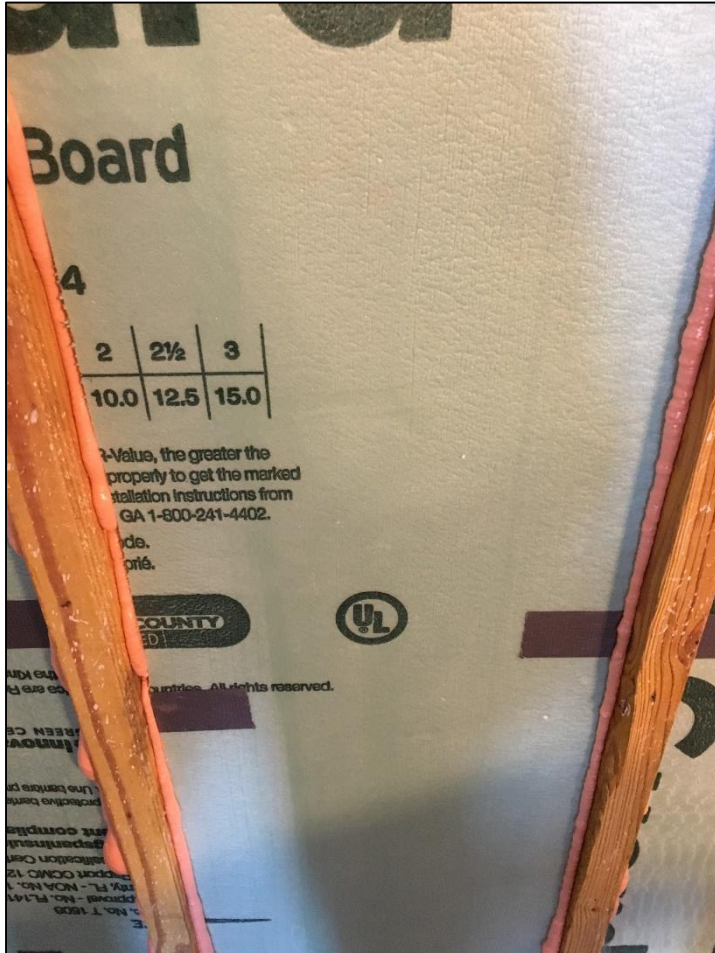
- Removable Foam Insulation panels on bottom
- Breathable, Fiberglass insulation on top



Capillary break between fiberglass and foam:

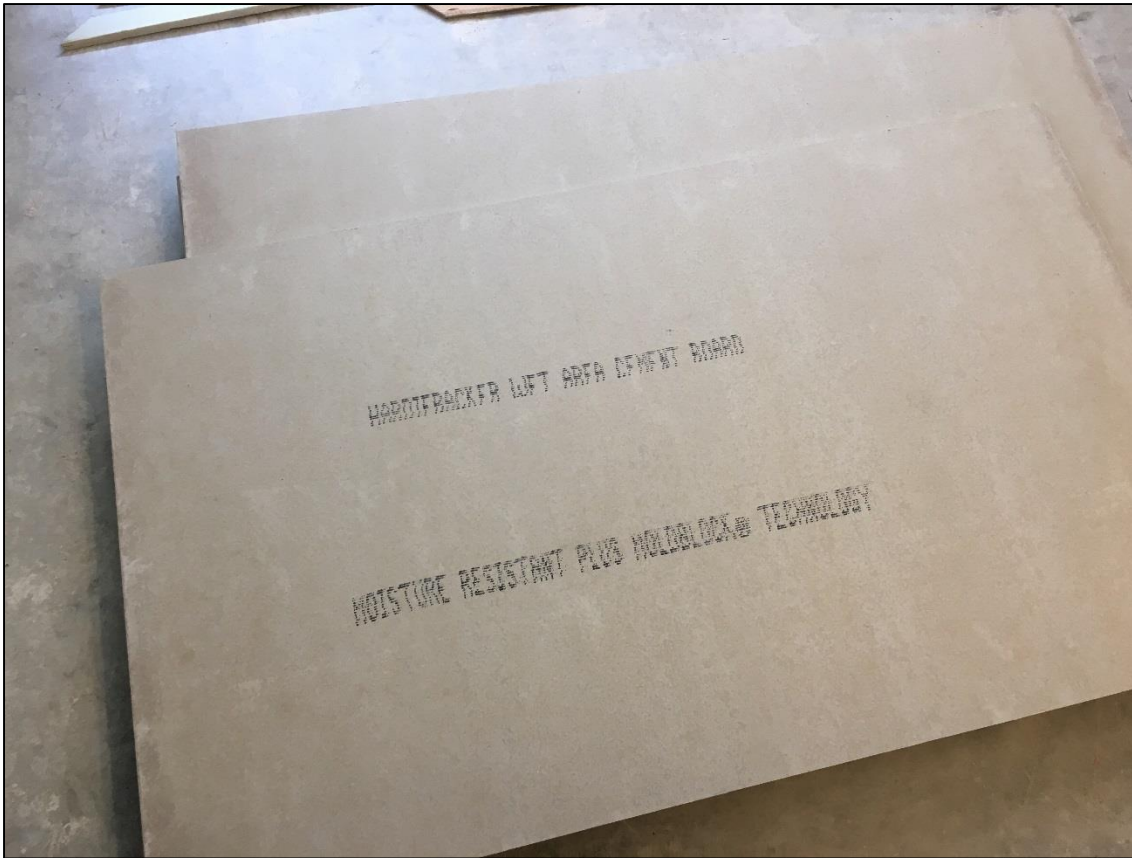
- Holds fiberglass in place
- Prevents future wetness

Material Considerations



Foam panels must be doubled paned and spray foamed around edges for full insulating value – **must be cut out after flood**

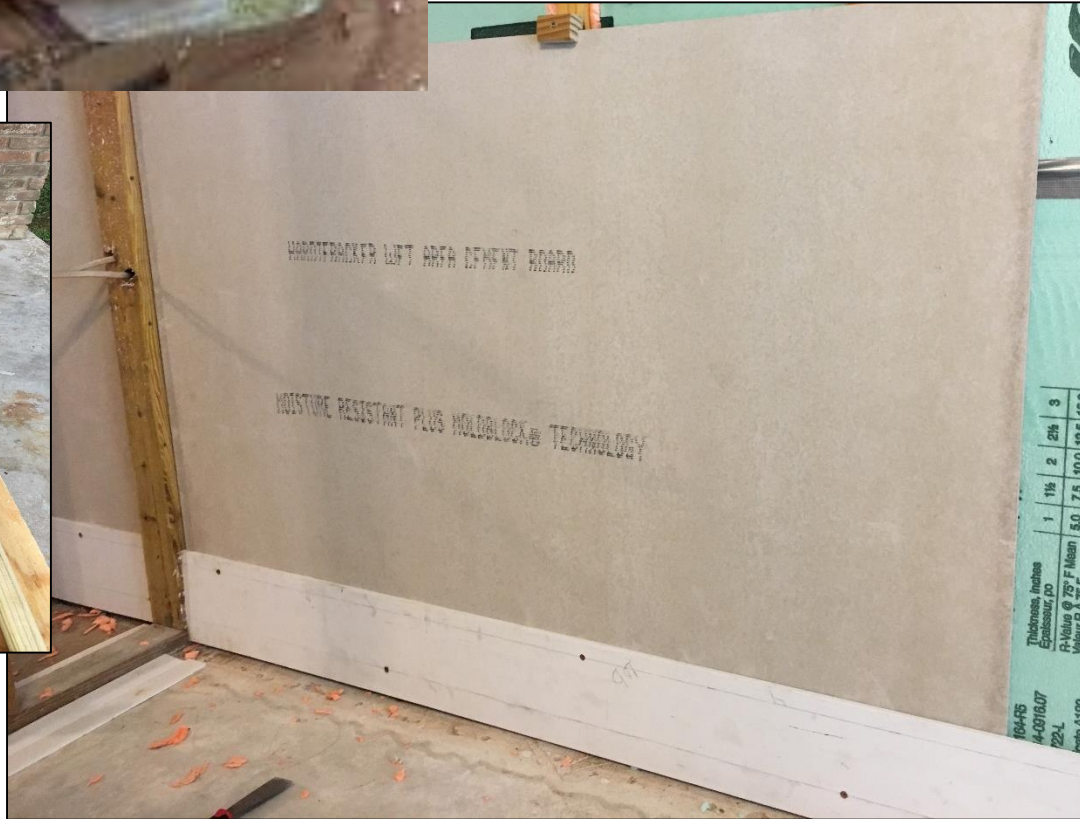
Flood Resistant Interior Walls V.1



Fiber Cement Board



Composite Baseboard



Removable Assembly:

- Mechanically fastened baseboard with rabbited channel
- Mechanically fastened chair rail



Material Considerations



Specialized Tools



Requires a lot of Trim Work
VERY unforgiving

Flood Resistant Interior Walls V.2



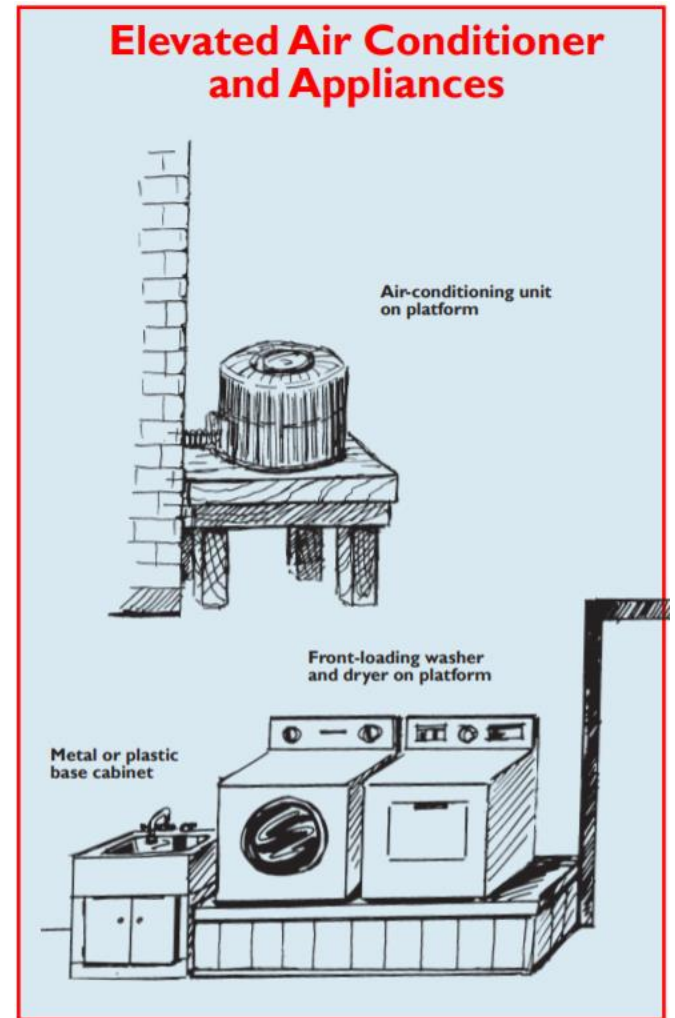
Plywood Bead Board
(painted)



Finishes



Plumbing Fixtures



Pedestals

Finishes



Wood Look Ceramic Tile



Rubber



Polished/Stained Concrete

Outcomes



- True constructability with featured flood resistant materials is realized
- Photos and videos being produced for flood recovery
- Cost information is available for BCA
- Realization that better design information needs to be published...otherwise we will still rebuild the same way

Outcomes

- PRP adoption!!
 - Currently full coverage
 - Promises to keep partial once retired
 - contents, finishes, appliances



Outcomes



All Hands and Hearts
Smart Response

Dear Shandy,

I just wanted to give you some good news. I have spoken with our CEO and other directors about what we are doing here in the Flood Proof Project and everyone is really impressed and excited about it.

We recently merged with Happy Hearts fund and part of our new goal is also to provide Resilience to the communities that we are helping. **Repairing a flooded house with water resistance techniques fits perfectly with our new goal, and gives the homeowners hope that if they have the same problem in the future, it won't be as costly from them to repair the damage. Texas will be our pilot program with this new concept, but we will also try to take the lessons learned to other Recovery Projects like U.S.V.I and Puerto Rico.**

We already had more than 24 volunteers from 9 nationalities joining us in this project. They come from all over the U.S., and we had the following countries being represented: Brazil, Russia, Canada, Czech Republic, France, U.K, Taiwan and Sweden.

As mentioned before, this project is very special for us and we are really proud to be part of it. Keep up the good work advocating about this.

I will keep you posted on the developments of our version of the Flood Proof Project in Texas.

Best,

Aline Guidry | Program Director Louisiana Flood Recovery



Shandy Heil, CFM
LSU AgCenter
sheil@agcenter.lsu.edu

