



## DAVID PERKES - GULF COAST COMMUNITY DESIGN STUDIO





**MISSISSIPPI GULF COAST**





April 12, 2005



August 31, 2005



April 12, 2005



August 31, 2005













“Throughout the Renewal Forum and the work of the Commission, South Mississippi has been referred to as a **“clean slate,”** providing an enormous opportunity to rebuild in a way that optimizes the natural beauty of the Gulf Coast. Nowhere is this statement more accurate than with regard to the Highway 90 corridor. Hurricane Katrina’s winds and flood waters destroyed most, if not all, of the existing structures along this corridor. From Waveland to Pascagoula, the structural remains can be described as a **fresh canvas** awaiting a skilled artist’s creativity.”



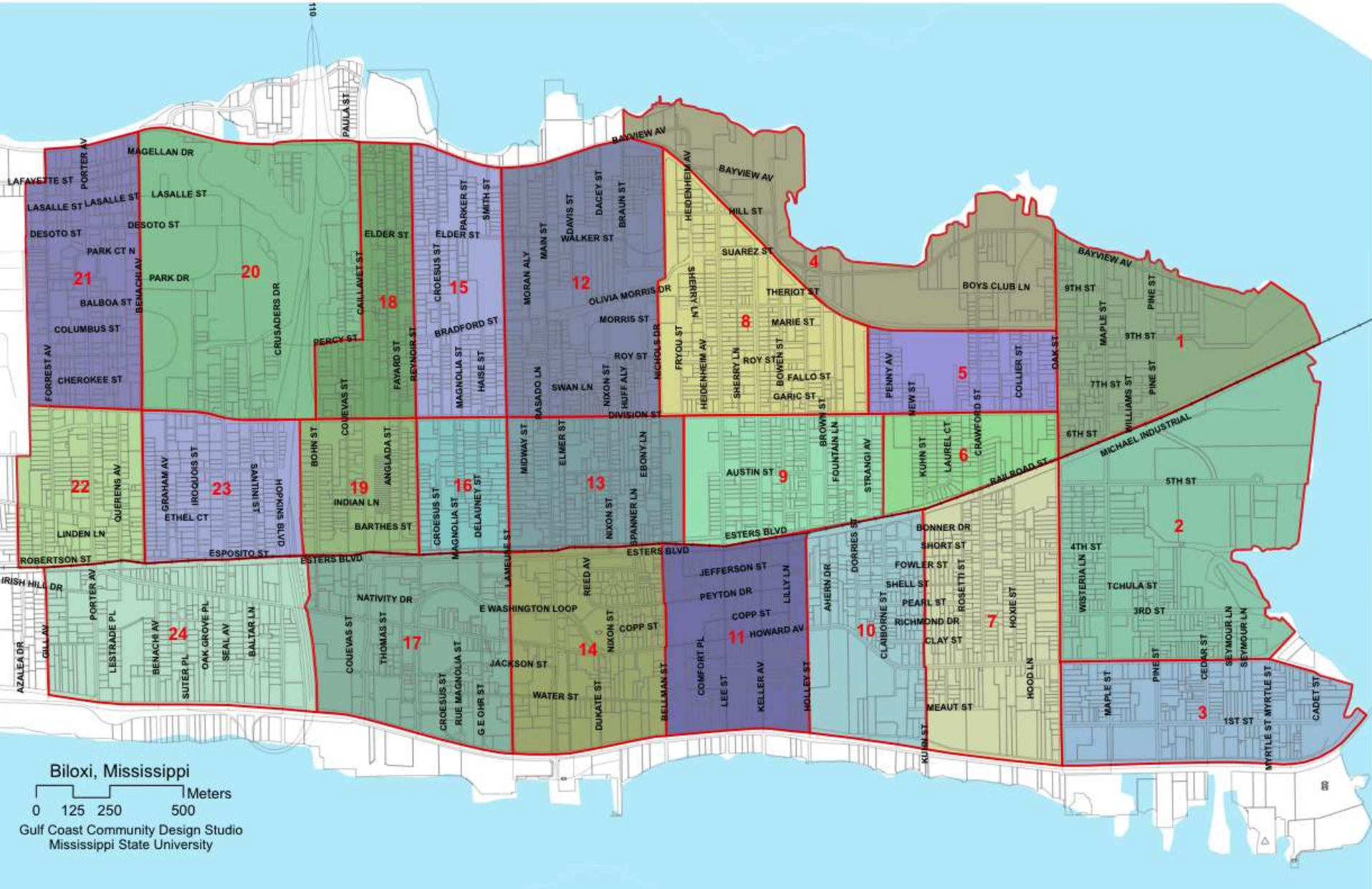






KATRINA RELIEF  
VOLUNTEER  
HANDSONUSA.ORG





# EAST BILOXI RELIEF AND COORDINATION GRIDS



1



## INTRODUCTION

MARCH 28

2



## ISSUE IDENTIFICATION

MARCH 30

3



## WORKING GROUP BRAINSTORMING

APRIL 6

4



## PROBLEM SOLVING

APRIL 13

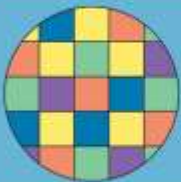
5



## SHARING GROUP WORK

APRIL 20

6



## COMMUNITY ACTION PLAN REPORT

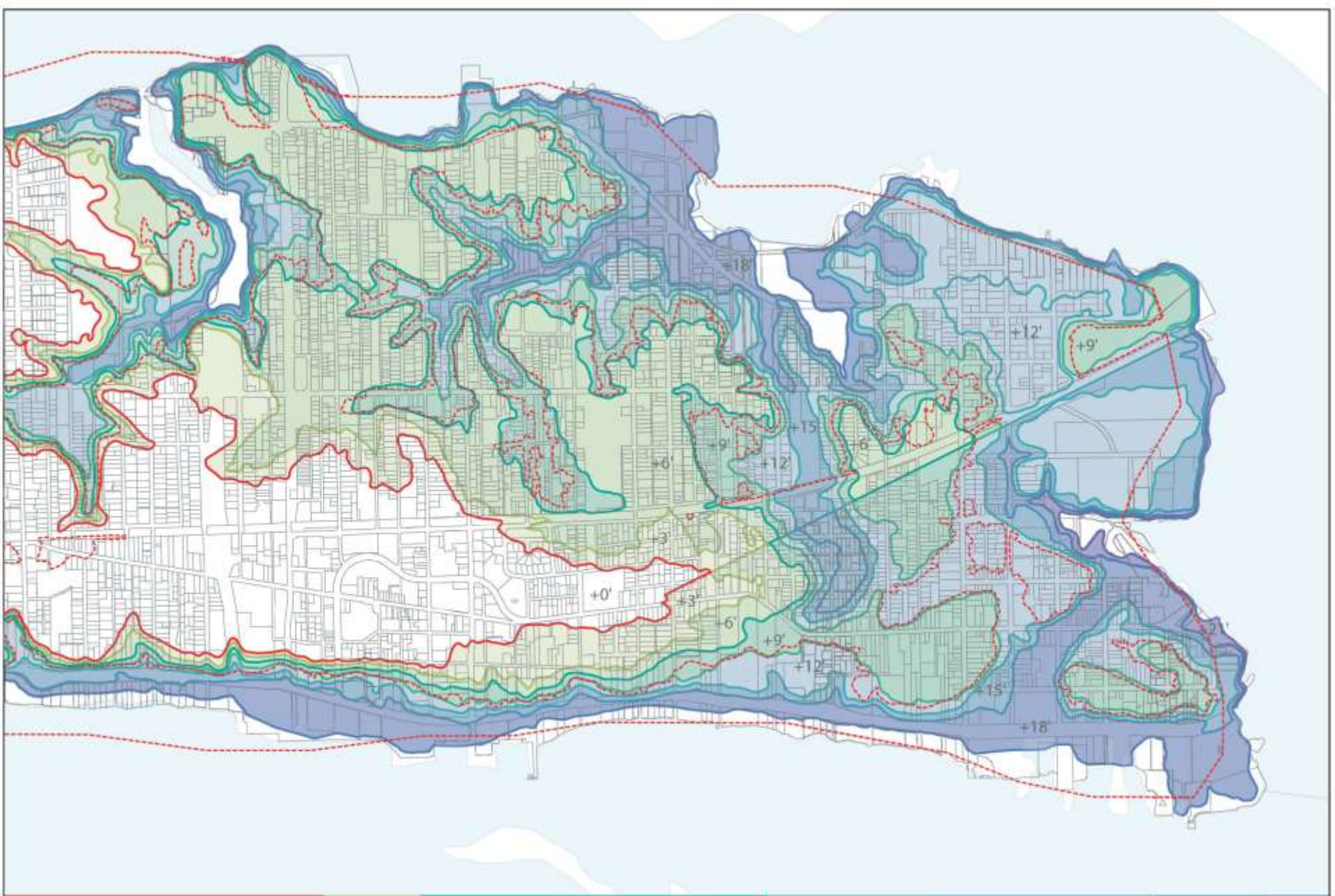
EARLY MAY

# EAST BILOXI COMMUNITY MEETINGS









Outside flood zone 24%

+3ft - 7%

+6ft - 26%

+9ft - 12%

+12ft - 17%

+15ft - 8%

+18ft - 5%



# FACTORS FOR REBUILDING

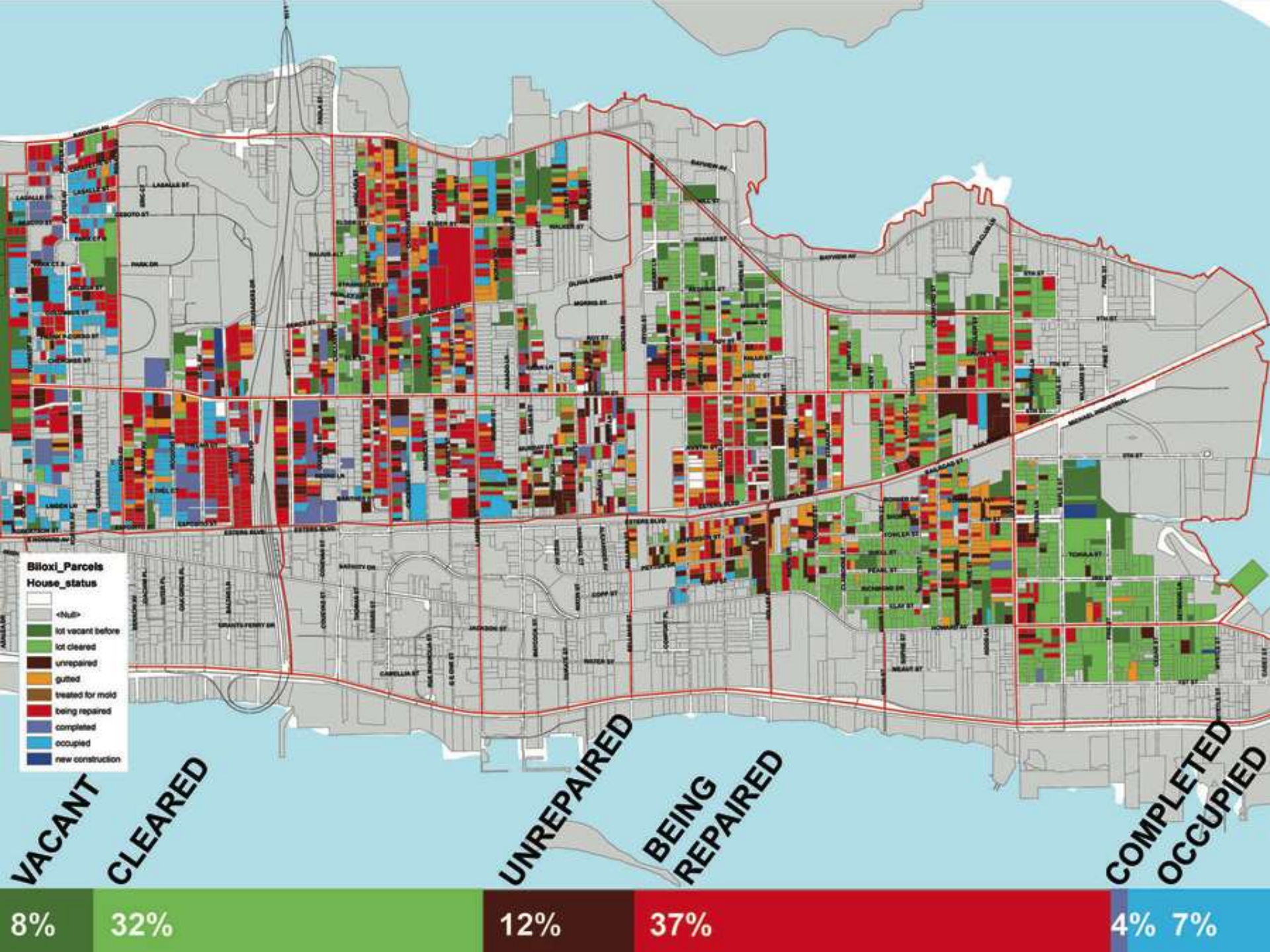
DAMAGE		FLOOD		
		UNDER %50 DAMAGE	OVER %50 DAMAGE	NEW HOUSE
IN FLOOD ZONE	NOW	<p>ADVISORY BFE CURRENT BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR FEMA CONSTRUCTION GRANT PROGRAM</p>	<p>ADVISORY BFE CURRENT BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR FEMA CONSTRUCTION GRANT PROGRAM</p>	<p>ADVISORY BFE CURRENT BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR FEMA CONSTRUCTION GRANT PROGRAM</p>
	WHEN FLOOD MAP CHANGES	<p>REVISED BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR FEMA CONSTRUCTION GRANT PROGRAM</p>	<p>REVISED BFE</p> <p>REQUIRED</p>	<p>REVISED BFE</p> <p>REQUIRED</p>
OUT FLOOD ZONE	NOW	<p>ADVISORY BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR STATE GRANT PROGRAM</p>	<p>ADVISORY BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR STATE GRANT PROGRAM</p>	<p>ADVISORY BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR STATE GRANT PROGRAM</p>
	WHEN FLOOD MAP CHANGES	<p>REVISED BFE</p> <p>REQUIRED</p> <p>QUALIFICATION FOR STATE GRANT PROGRAM</p>	<p>REVISED BFE</p> <p>REQUIRED</p>	<p>REVISED BFE</p> <p>REQUIRED</p>











Biloxi\_Parcels  
House\_status

- <Null>
- lot cleared
- unrepaired
- guttered
- treated for mold
- being repaired
- completed
- occupied
- new construction

VACANT  
CLEARED

8% 32%

UNREPAIRED  
BEING REPAIRED

12% 37%

COMPLETED  
OCCUPIED








4% 7%



Potential Infill Lots.  
Vacant Lots Requiring  
BFE of 6'-0" or Less.

September 2008

Height of Base Flood Elevation  
Above Existing Ground Plane

-  Limit of Velocity Zone
-  Current Floodplain
-  Limit of Proposed Floodplain
-  + 1' to 3'
-  + 4' to 6'
-  Vacant Buildings
-  Vacant Lots

NOTE: This is not an official FEMA map.  
Map for planning purposes only.

Sources: FEMA D-FIRMS, December,  
2007; GCCDS Housing  
Assessment, 2007.

0 0.05 0.1 0.2 0.3 0.4 Miles

**GCCDS**

Gulf Coast Community Design Studio





**RISK**

**AWARENESS OF RISK**


















### GCCDS Projects in East Biloxi

-  GCCDS Rehabilitated Homes
-  GCCDS New Construction
-  GCCDS Community Projects

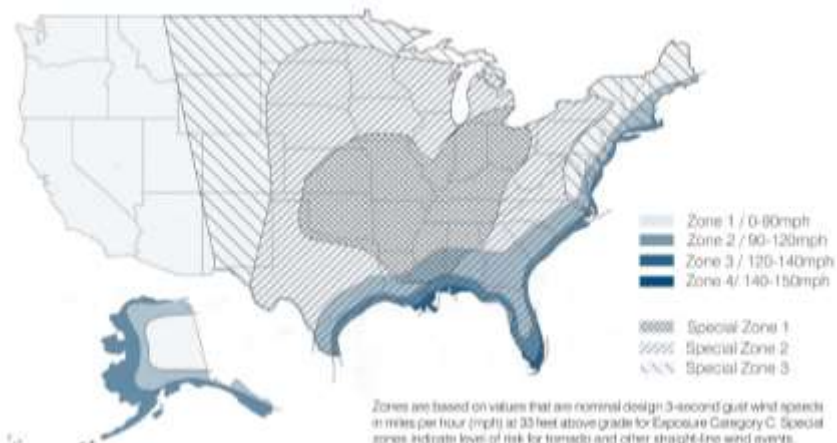




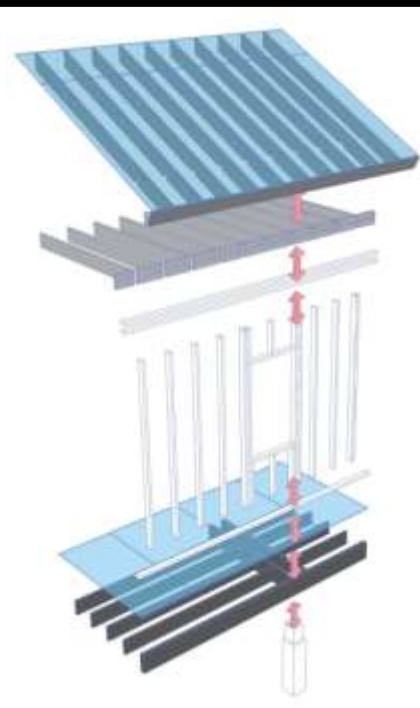
# RESILIENT HOME BUILDING GUIDE

## HIGH WIND WOOD FRAME CONSTRUCTION

### Wind Zone Map



Map produced by GCCOB for this guide from FEMA data to show both hurricane wind zones and tornado wind zone risk areas





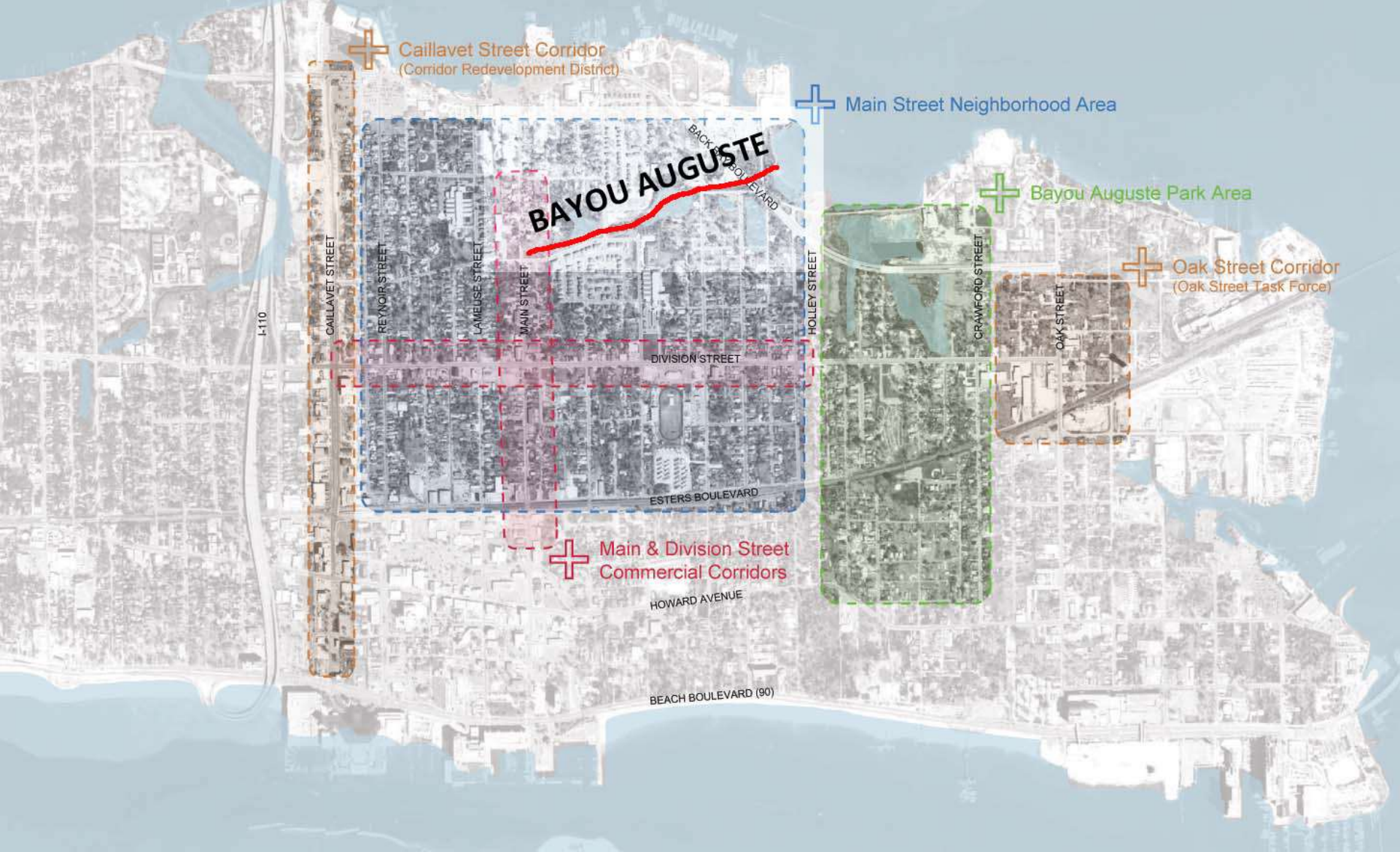


**KEEP OUT  
POLLUTION!  
THAT'S THE  
SOLUTION!**

**CLEAN WATER  
IS SMARTER!  
DON'T LITTER!**







Caillavet Street Corridor  
(Corridor Redevelopment District)



Main Street Neighborhood Area



Bayou Auguste Park Area



Oak Street Corridor  
(Oak Street Task Force)

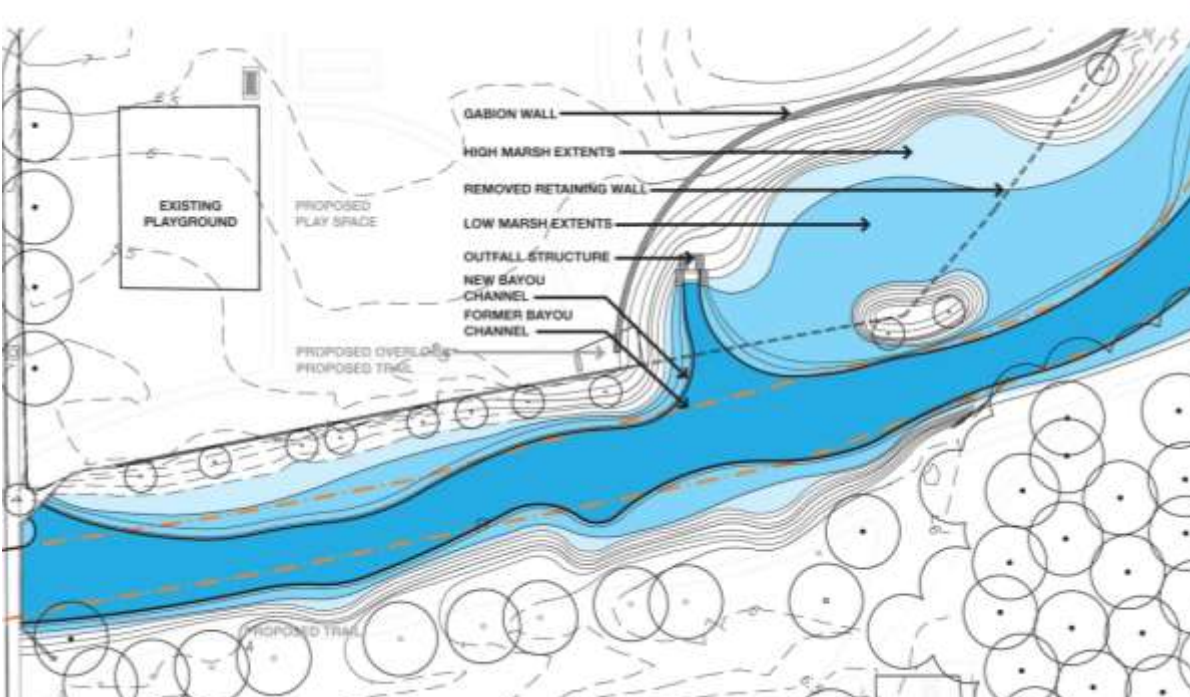


Main & Division Street  
Commercial Corridors

**BAYOU AUGUSTE**















IF YOU LITTER  
YOU'LL HURT  
A CRITTER!





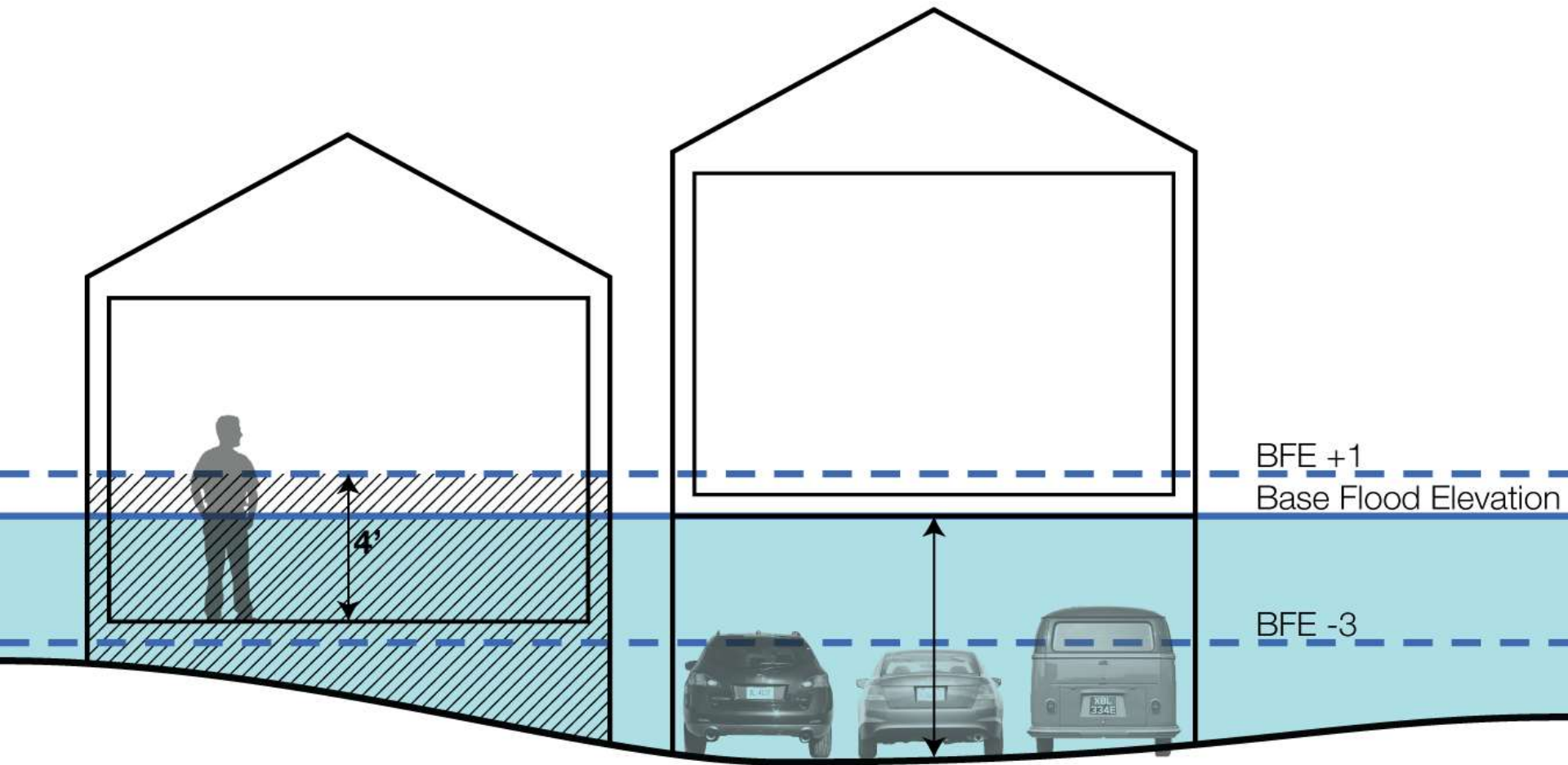








# DRY VS. WET FLOODPROOFING



## **Dry Floodproofing**

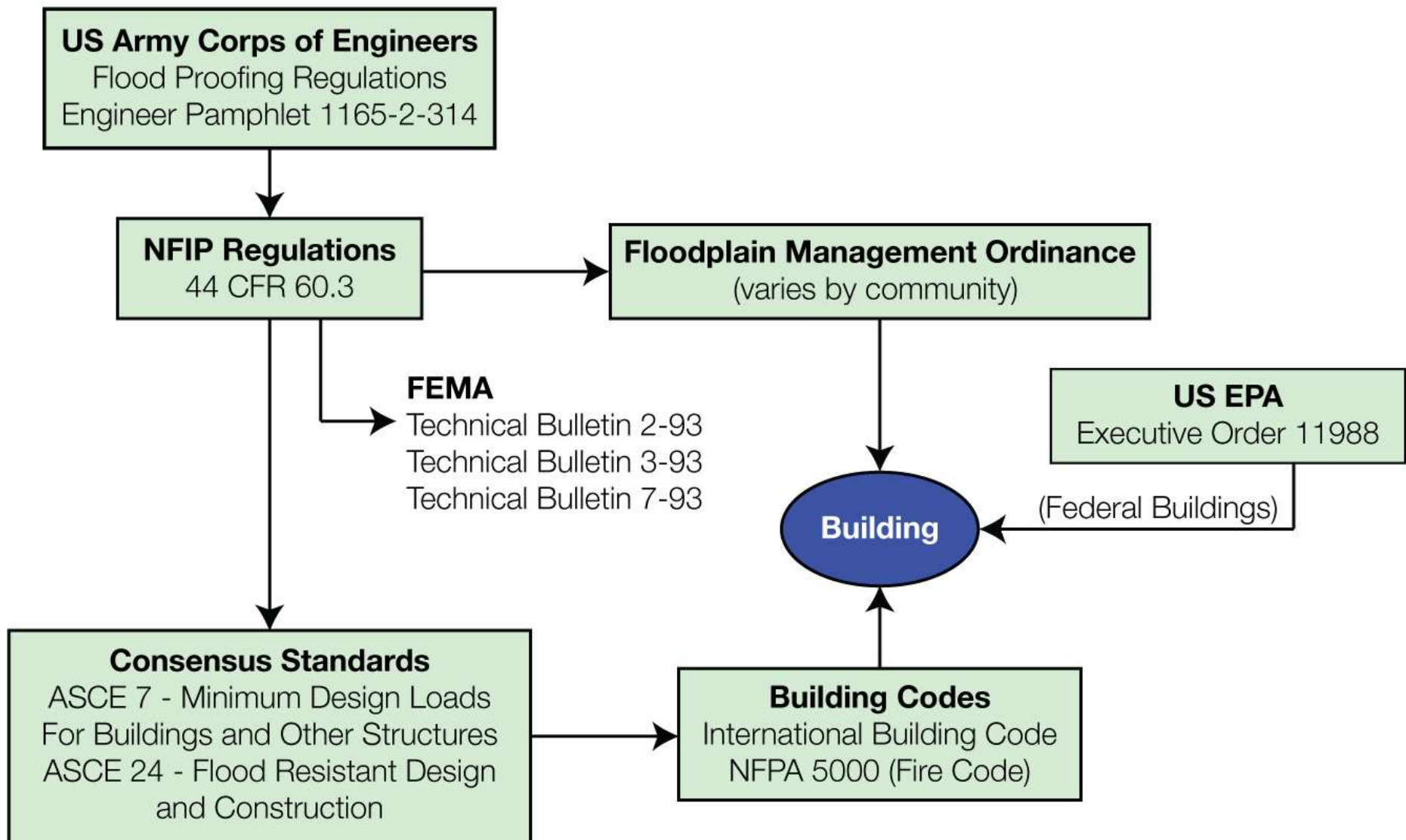
Not recommended more than 3' below the BFE.  
Must extend 1' above the BFE to meet flood insurance requirements.

## **Wet Floodproofing**

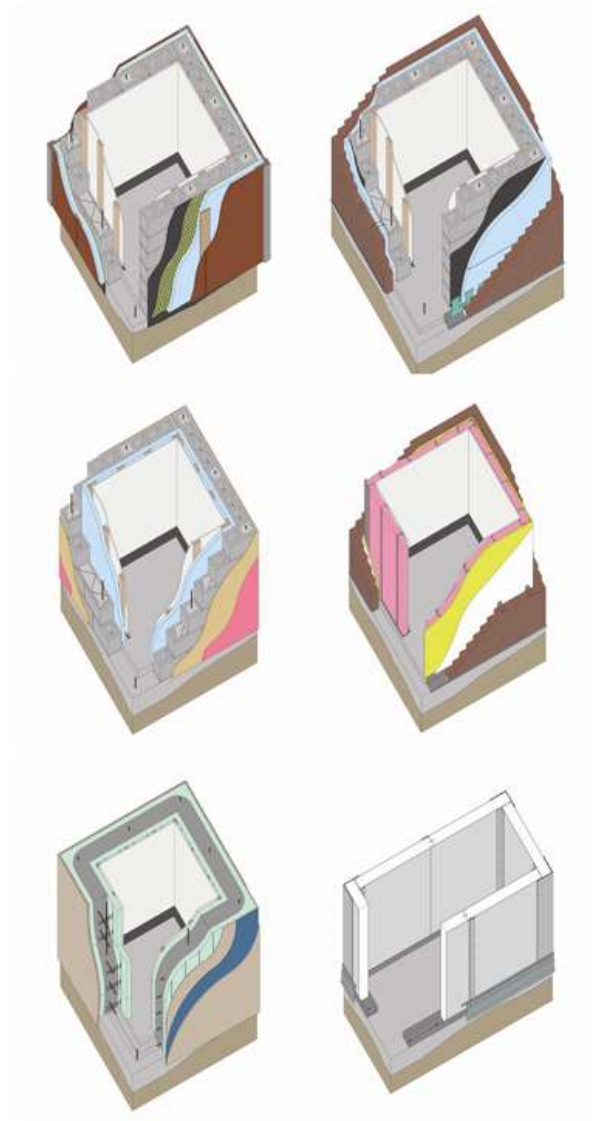
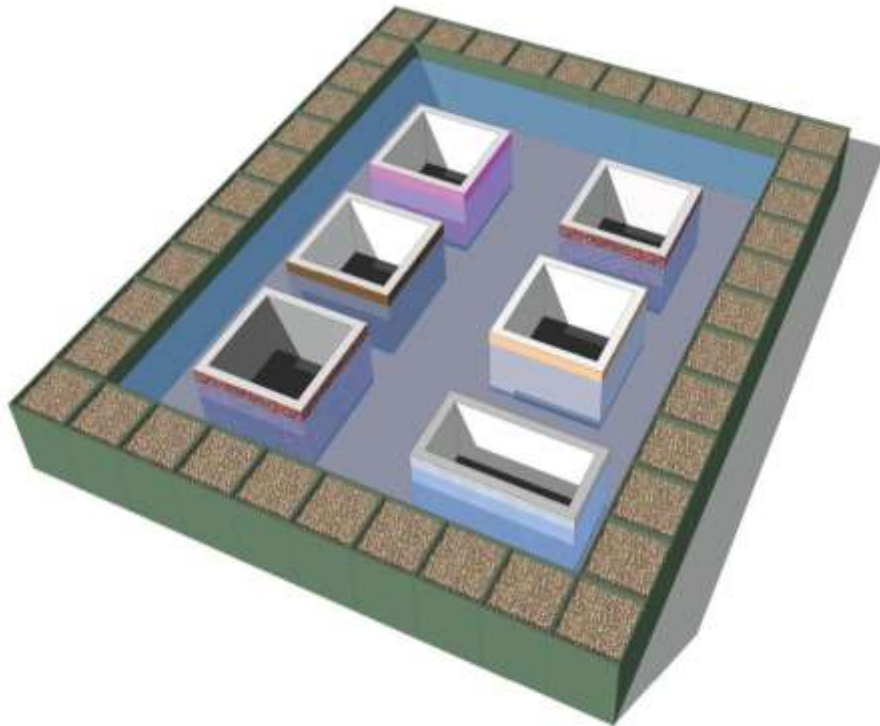
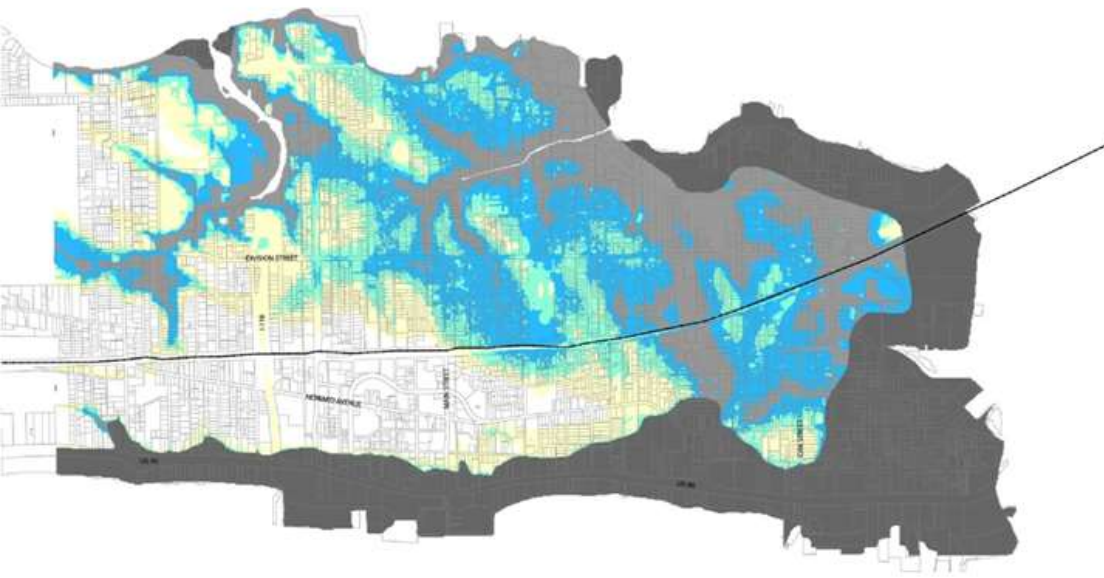
For parking, building access, and limited storage only.  
Other interior spaces must be elevated or dry floodproofed.



# OUTLINE OF FLOODPROOFING REGULATIONS

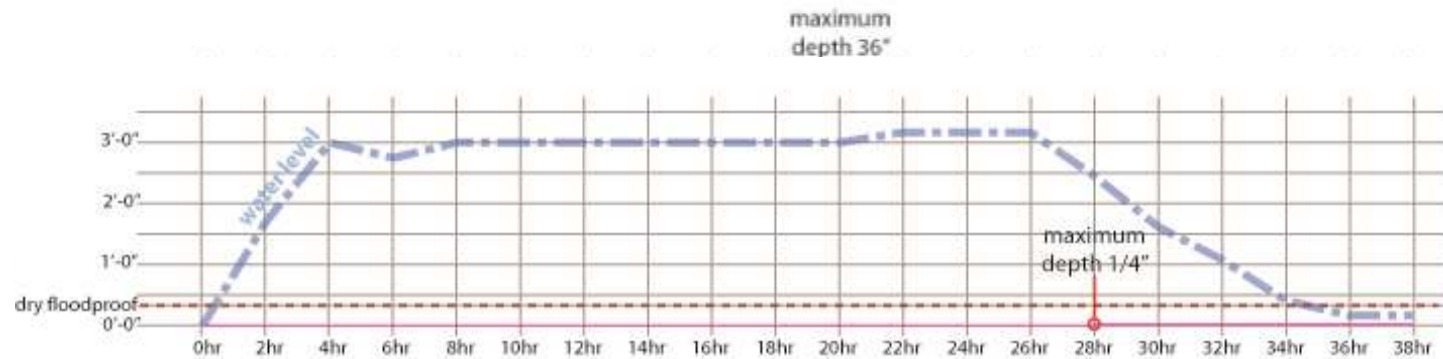


Source: Whole Building Design Guide.  
[http://www.wbdg.org/resources/env\\_flood.php](http://www.wbdg.org/resources/env_flood.php)





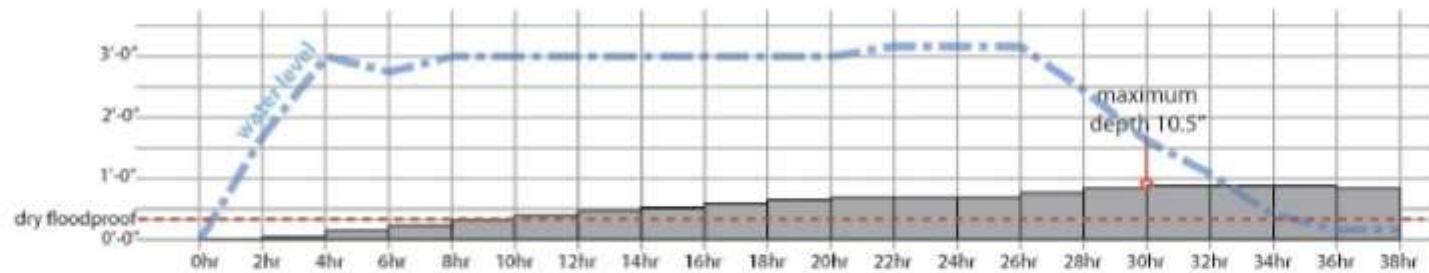




interior water depths during flood simulation 2 : sealed block test pod

GCCDS April 6th 2011

*a CMU wall coated w/ polymer resin layered exterior.*



interior water depths during flood simulation 2 : ICF test pod

GCCDS April 6th 2011

*an insulated concrete formwork wall w/ a stucco finish.*





#### **sensors**

dry-wall screws pictured. Longer probes are usefull for measuring wood. Proper placement is key to accurate readings.

#### **banana clips**

attach to probes or extension wires as shown here

#### **extension wire**

length does not effect or measurement

#### **wireless transmitter**

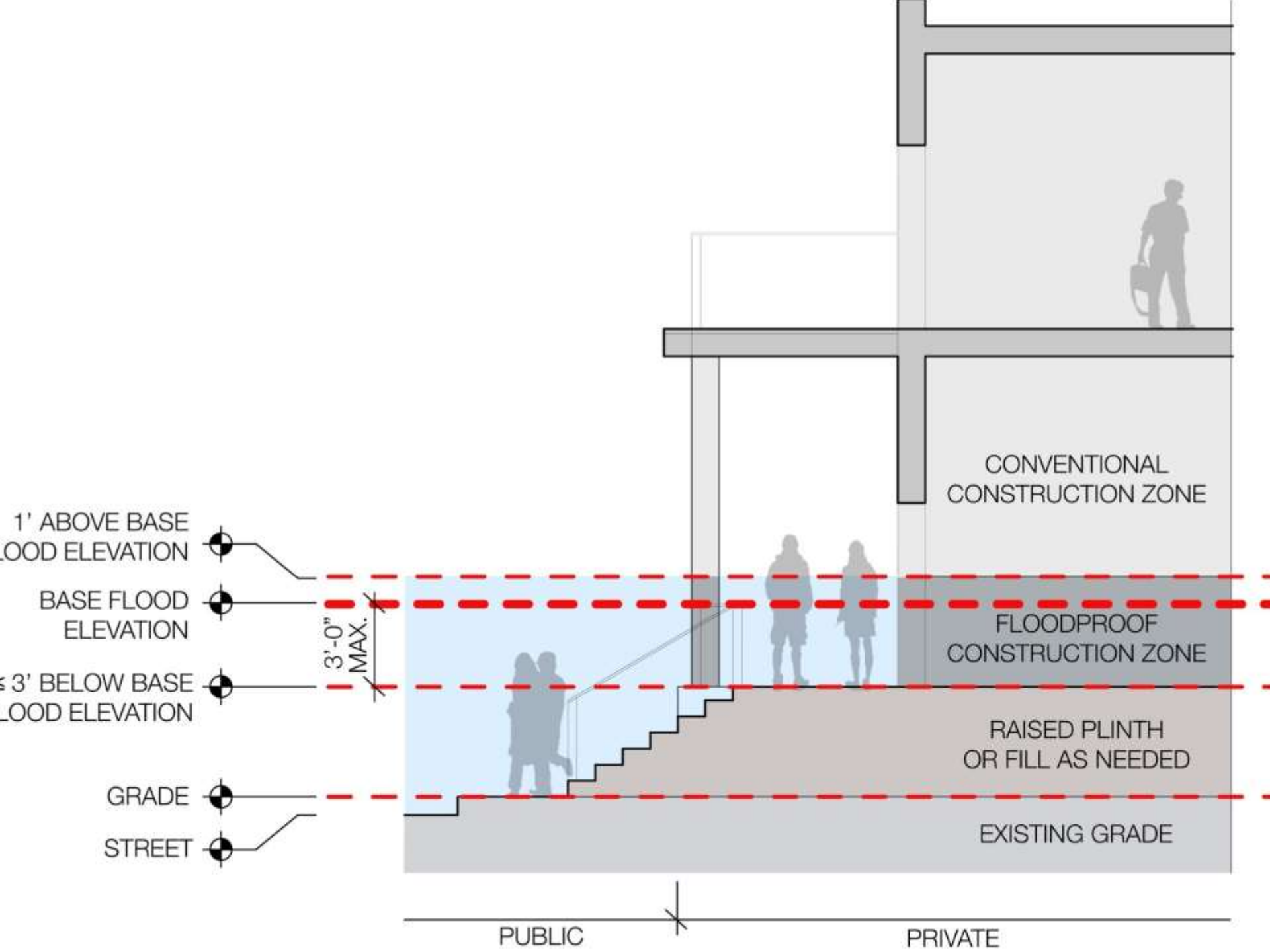
collects and transmits data. This sensor collects moisture content information by measuring resistance. Other sensor can measure moisture, temperature, and humidity.

#### **Sensor Equipment**

##### ***Measuring and Transmitting***

all equipment from Lignomat U.S.A.



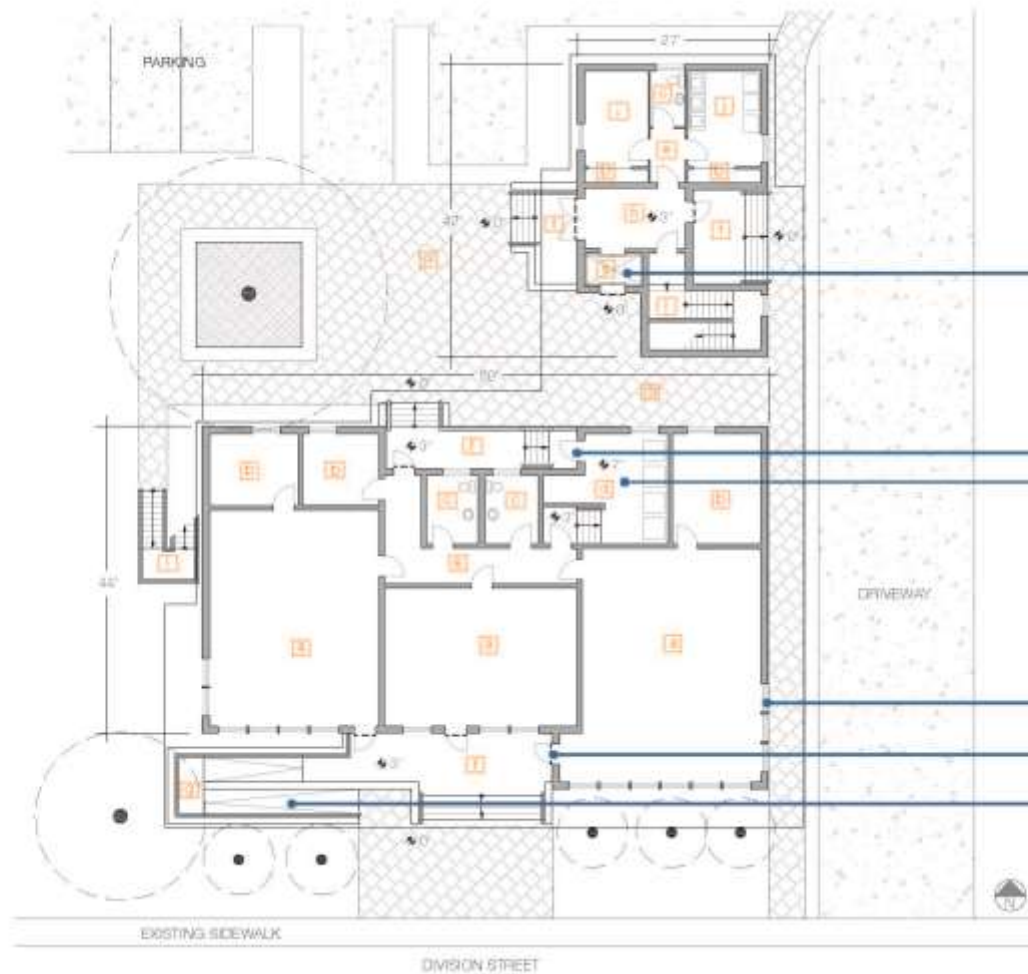




## MIXED-USE BUILDING

Plan: Level 1

- 1 commercial space
- 2 storage
- 3 bathroom
- 4 mechanical room
- 5 hallway
- 6 covered entry
- 7 ramp
- 8 lobby
- 9 reading office
- 10 laundry room
- 11 elevator
- 12 stairwell
- 13 driveway
- 14 courtyard



## FLOODPROOF CONSTRUCTION DESIGN STRATEGIES

hydraulic elevator for access to ground level; lobby, second and third floor residential units

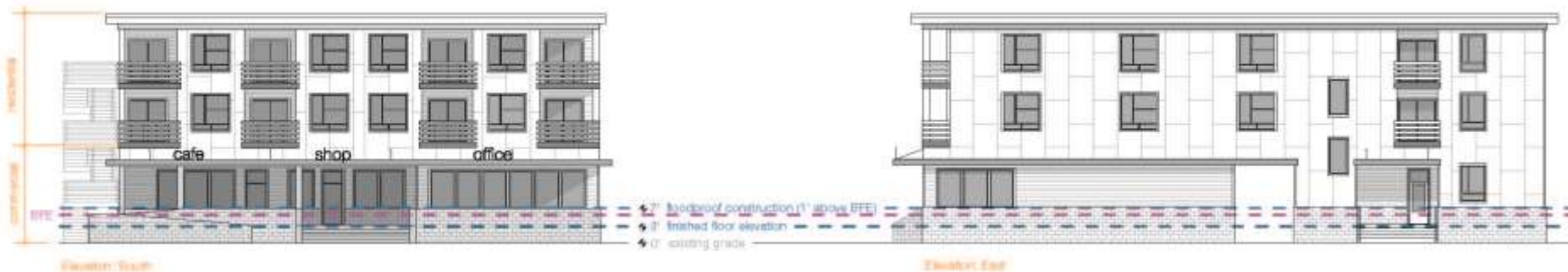
emergency egress elevated to 1' above BFE

mechanical room elevated to 1' above BFE

all windows to have sill heights above the extent of floodproof construction (7'-0" above grade)

stainless steel flood gates for all exterior doors on first level up to 1' above BFE

ramp access to commercial storefronts











***“The many people who designed and built my house are in my prayers every night. Bless them and their families.”***

**Edward Parker**