



# Architecture

John Anderson	Allison Anderson
Marianne Cusato	R. John Anderson
Christine Franck	Milton Grenfell
Susan Henderson	Michael Imber
Gary Justiss	Eric Moser
Steve Mouzon	

# Key Issues



## § **Timing**

Emergency housing and retail must be on the ground fast. Manufactured, modular, and panelized solutions should be utilized for speed.

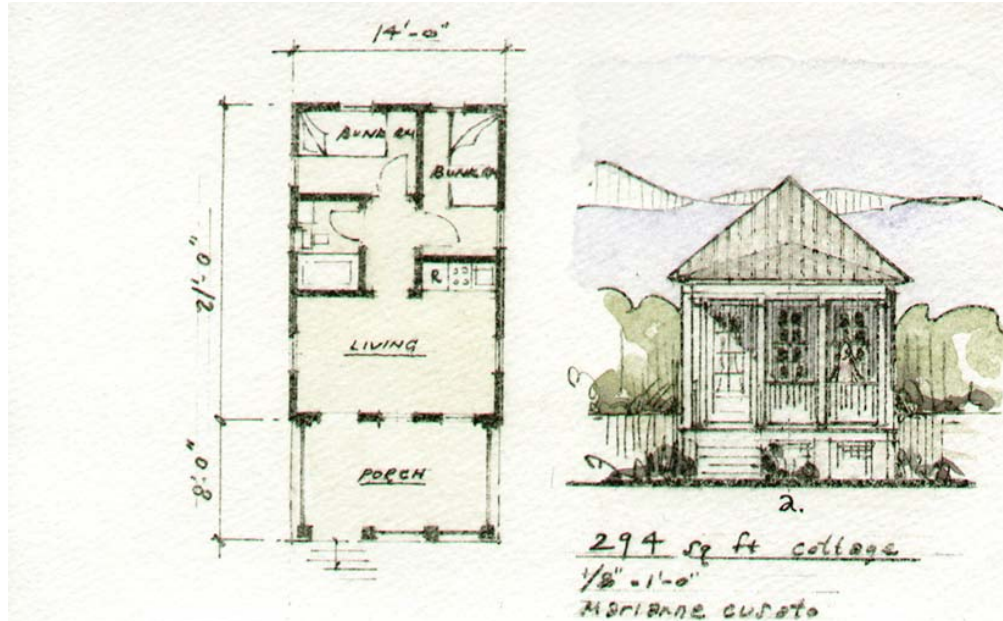
## § **Affordability**

Regional needs for affordability were not met prior to Katrina, and are even more critical now. Normal affordable options listed above should be designed to reflect the architectural heritage of the Gulf region and to give units lovability.

## § **Durability**

Success stories have been analyzed and new standards of construction are being suggested for durability. FEMA requirements for height restrictions are only one solution for the 30 or 50-year events. Structural hardening should also be an option to allow the habitation of the coastal region.

# Timing & Affordability: Emergency Cottage



## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Emergency/ Affordable Housing

Drawing Title

12 October 2005

Date

Marianne Cusato

Name of Contact for Additional Information

[mcusato@aol.com](mailto:mcusato@aol.com)

E-mail address

### NARRATIVE:

Three versions of the same small-scale emergency housing intended for immediate housing for workers and displaced residents. They can be manufactured or built on site for about \$25,000.

# Timing & Affordability: Modular Construction

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Modular Construction

Drawing Title

18 October 2005

Date

R. John Anderson

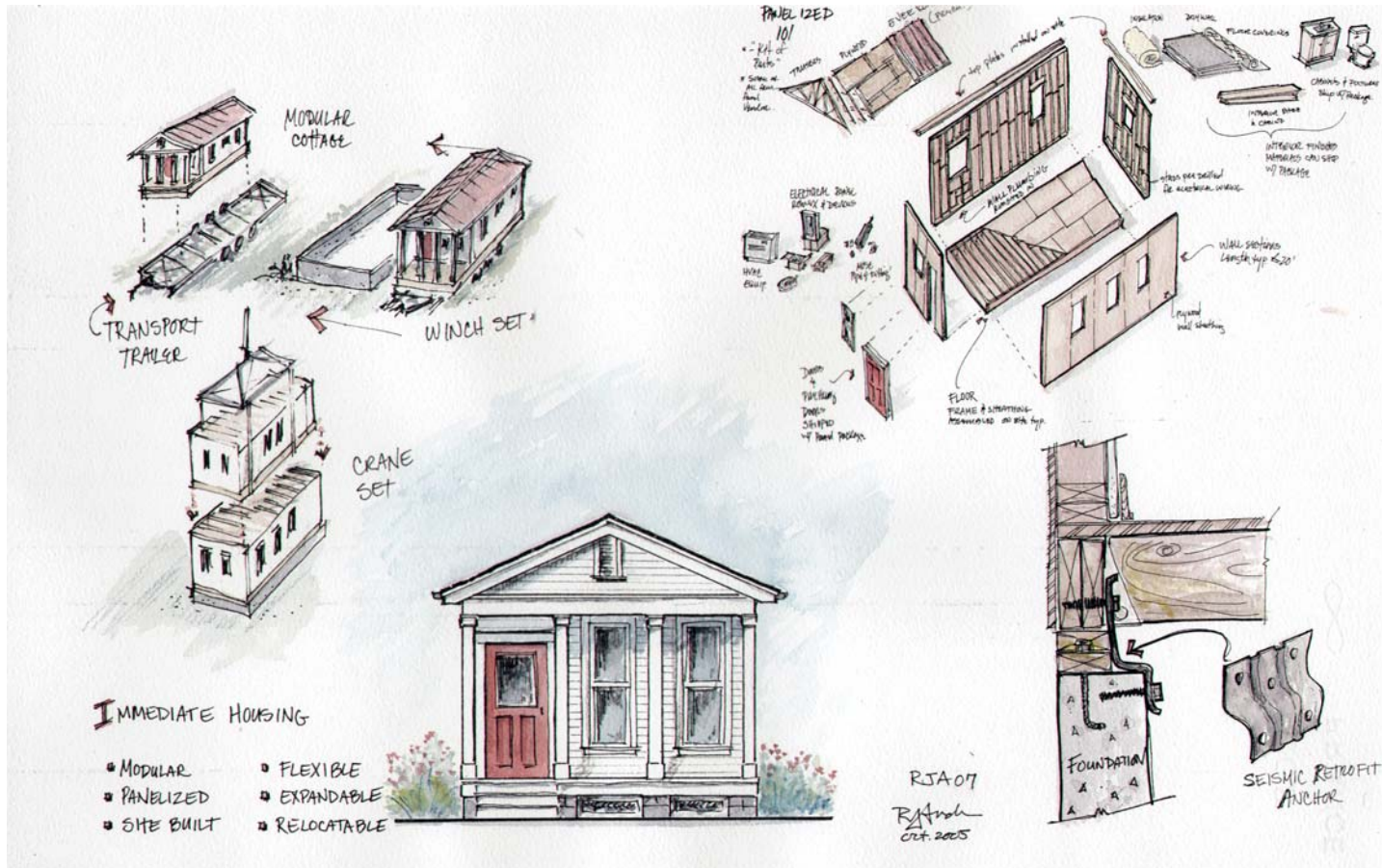
Name of Contact for Additional Information

[randerson@newurbanbuilders.com](mailto:randerson@newurbanbuilders.com)

E-mail address

### NARRATIVE:

Modular / manufactured 101. Illustrated methods of assembly for a regionally appropriate housing option.



# Timing & Affordability: Ability to Grow

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Grow House

Drawing Title

18 October 2005

Date

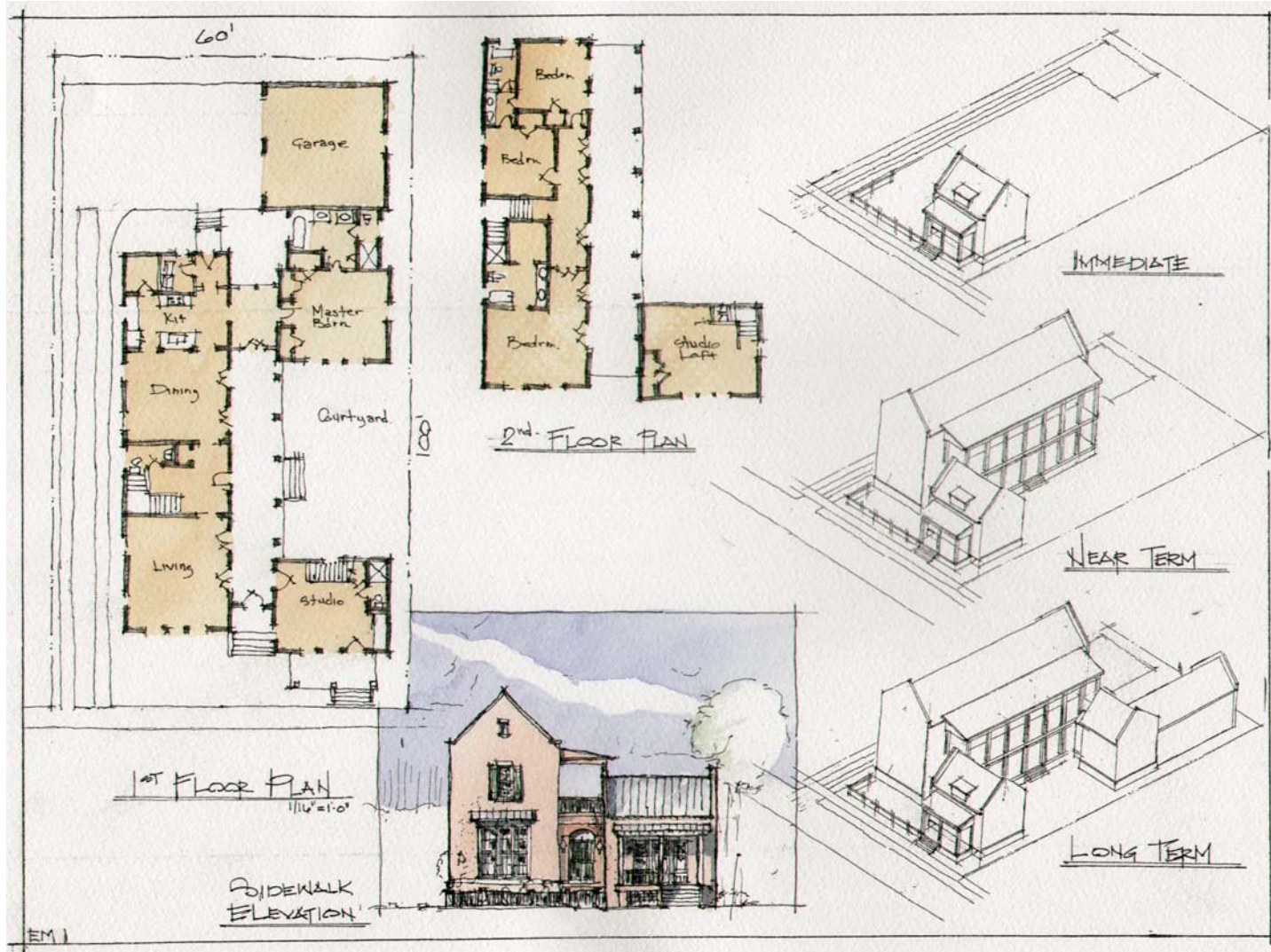
R. Eric Moser

Name of Contact for Additional Information

E-mail address: [ericmoser@moserdesigngroup.com](mailto:ericmoser@moserdesigngroup.com)

### NARRATIVE:

A study of how emergency housing may grow into a compound over time. Additions may be made as financial stability grows. Eliminates the waste of assets if temporary structures may grow into a permanent compound.



# Affordability & Durability: Plan Books

PREVALENCE NEIGHBORHOOD COLLECTION

Architecture

Place or Topic

DRAWING TYPE

- Analytical
- Proposal

TIMING

- Immediate
- Medium Term
- Long Term

URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

IMPLEMENTATION THROUGH

- Design
- Policy
- Management

Michael Barranco

Drawing Title  
18 October 2005

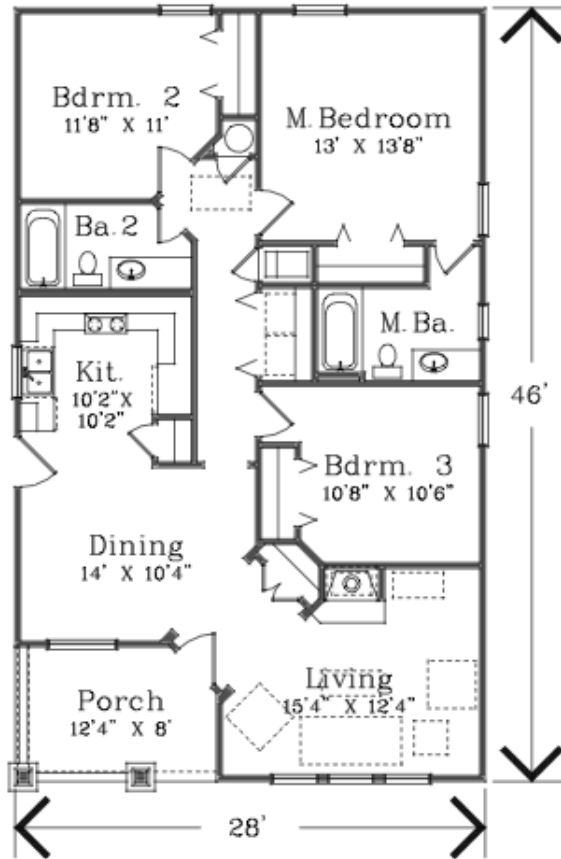
Date

Name of Contact for Additional Information

E-mail address

NARRATIVE:

The use of plans books and pre-approved plans increase affordability. Selecting regular geometries enable modular or panelized construction. Municipalities may elect to pre-approve a plan book for permitting. This is one example of an affordable plan book option.



Floor Plan



Front Elevation

**BARRANCO MRF-1196**

# Affordability & Durability: Urban Casino

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

John Anderson

Drawing Title

18 October 2005

Date

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

Study of boutique casino configured in a single block north of Beach Blvd. Parking is buried mid-block, restaurant / bar anchors the corners, and an arcade provides shade along the street. Residential towers are split to lower height and be more appropriate in scale to adjacent neighborhood. North side of building is lined with townhouses.



# Durability: Elevated Condos

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Condominiums

Drawing Title

18 October 2005

Date

Michael Imber

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

Elevation study condominiums as they scale left to right from the beach to the neighborhoods. All are elevated to meet FEMA requirements with parking below. Where allowed the parking is lined with street front retail.





# Durability: Elevated Condos

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Beach-front Condominiums

Drawing Title

18 October 2005

Date

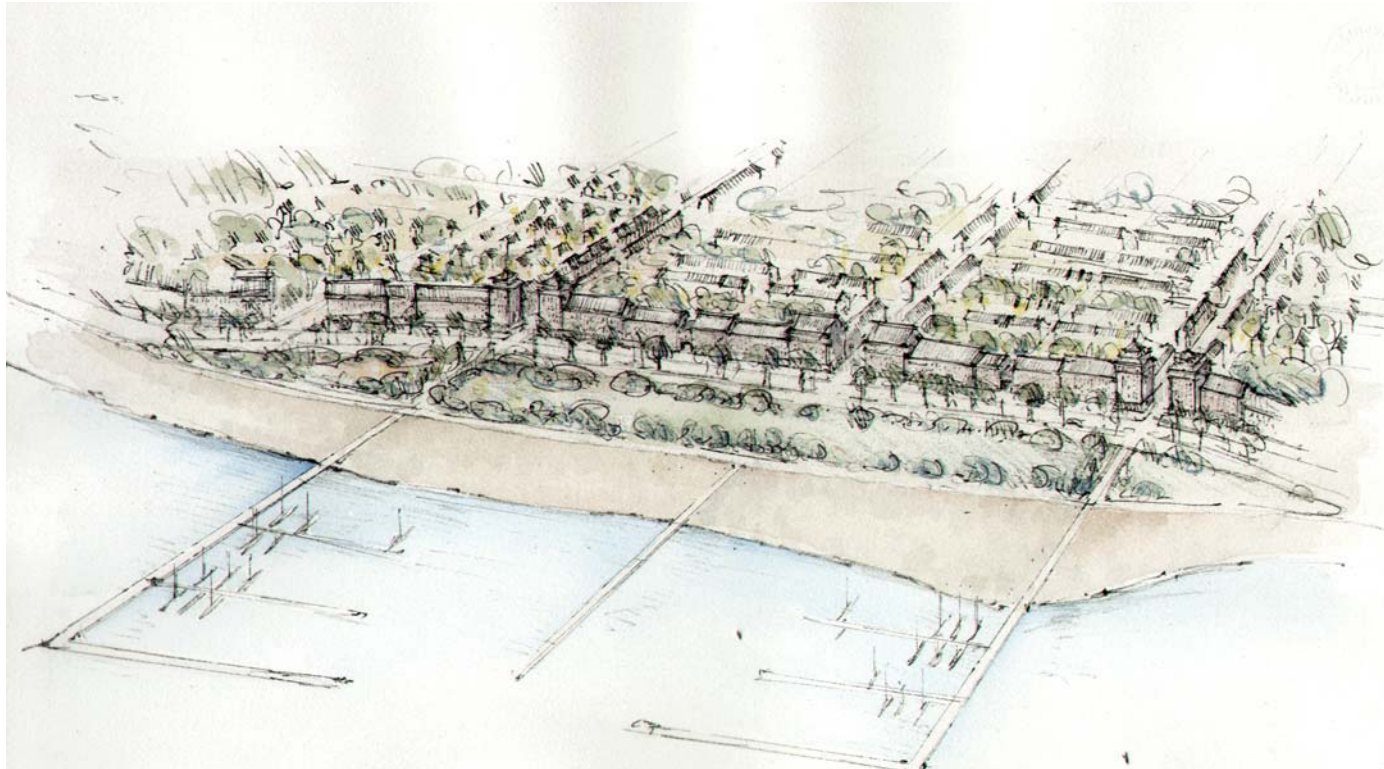
Marianne Cusato

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

Beach-front condominiums are fronted by a public park giving topographical elevation to locate buildings within an A zone. This allows for retail along the street.



Beach Front Condos  
Long Beach, Mississippi

Marianne Cusato  
Oct 15

# Durability: Elevated Housing

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Courtyard Mixed-Use

Drawing Title

18 October 2005

Date

Gary William Justiss

Name of Contact for Additional Information

[gjustiss@aol.com](mailto:gjustiss@aol.com)

E-mail address

### NARRATIVE:

Elevation study for an apartment / condo elevated above a parking level lined with commercial space at the street. The courtyard garden is on top of the parking



# Durability: Elevated Village

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Elevated Village

Drawing Title

18 October 2005

Date

Marianne Cusato

Name of Contact for Additional Information

[mcusato@aol.com](mailto:mcusato@aol.com)

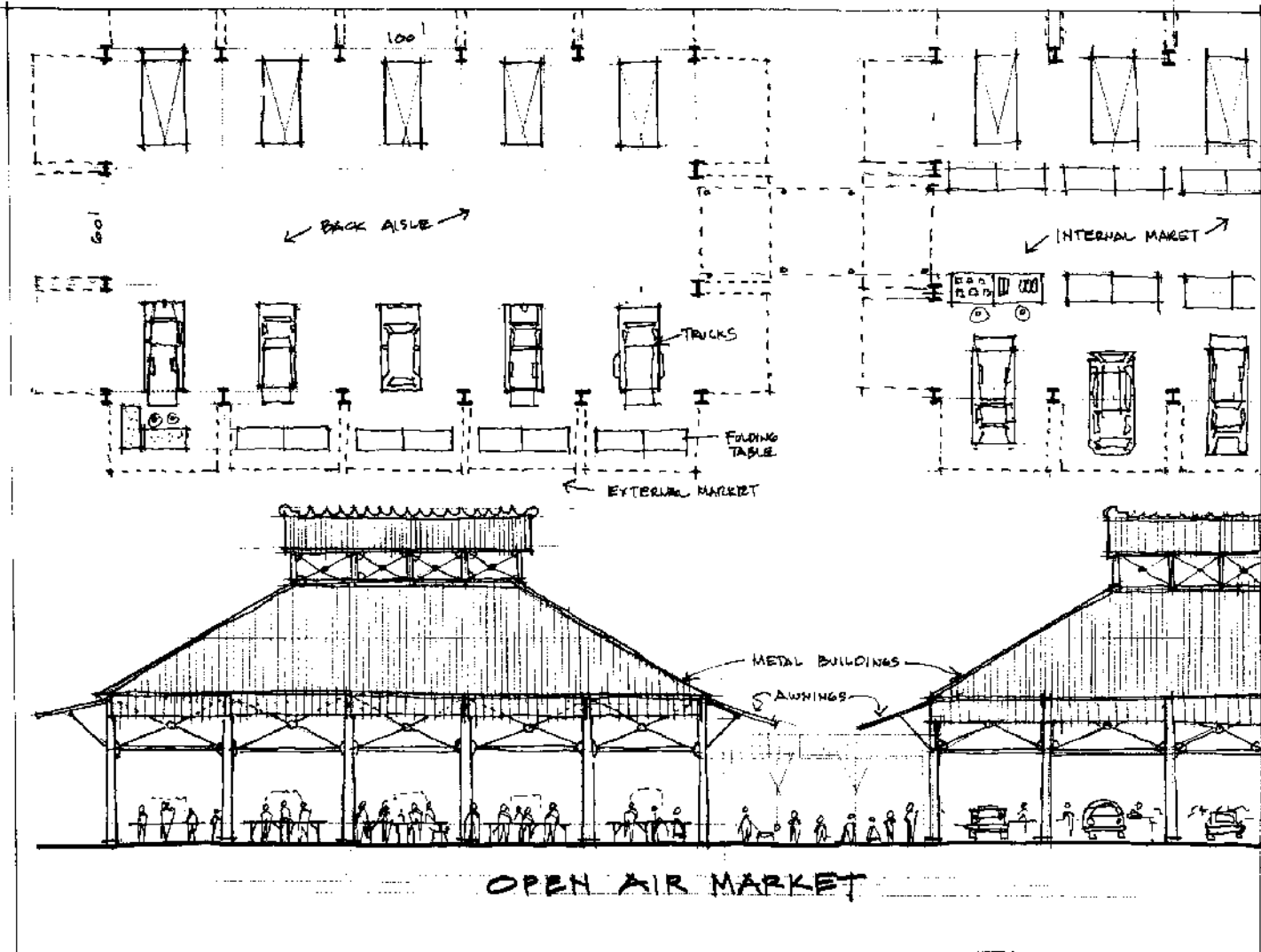
E-mail address

### NARRATIVE:

One alternative to new FEMA mapping is to elevate waterfront mixed use as in a fishing village.



# Timing & Durability: Open-Air Market



## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Open-air Market

Drawing Title  
18 October 2005

Date  
Gary William Justiss

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

This open-air market is one solution for both timing and durability. It is speedy to construct and could be built in the FEMA V zones because the retail is removable. It is a good solution for supporting the local small-scale agricultural economy.

# Durability: Elevation

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Open-air Market / Residential

Drawing Title

18 October 2005

Date

John Anderson

Name of Contact for Additional Information

[janderson@studioedr.com](mailto:janderson@studioedr.com)

E-mail address

### NARRATIVE:

One solution to the schism between existing Coleman Avenue elevation and FEMA advisory elevation is to build an open-air marketplace that can be emptied in the event of a hurricane. This design includes housing above the required FEMA height limit.



# Durability: Elevation & Hardening



## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Gulfport Casino

Drawing Title

16 October 2005

Date

Michael Imber

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

This illustration is a Gulfport casino that utilizes both elevation and structural hardening to achieve durability. The lower levels are parking to reach the FEMA height requirements.

# Durability: Elevation & Hardening

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

### Biloxi Casino

Drawing Title

16 October 2005

Date

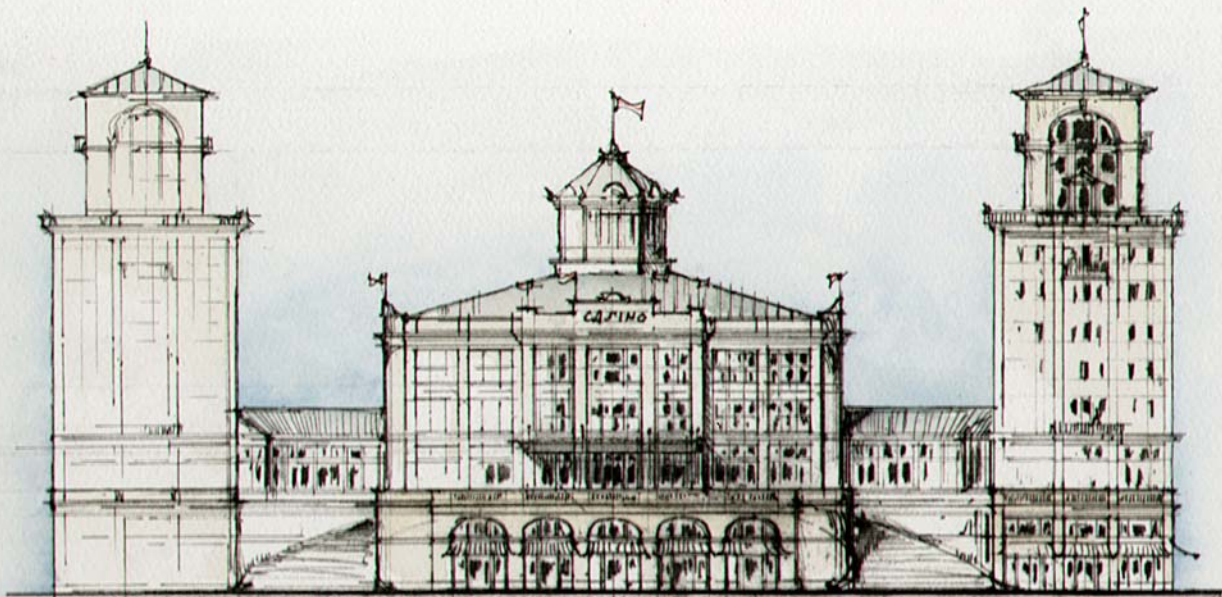
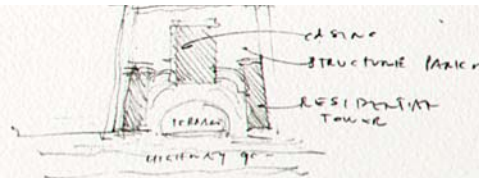
Marianne Cusato

Name of Contact for Additional Information

E-mail address

### NARRATIVE:

This illustration is a Biloxi casino that utilizes both elevation and structural hardening to achieve durability. The lower levels are parking with portable retail to reach the FEMA height requirements.



Casino & Residential Towers - Biloxi  
1/32" = 1'-0"

Marianne Cusato '05

# Durability: Elevation & Hardening

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Gulfport Municipal Center

Drawing Title

16 October 2005

Date

Christine G. H. Franck

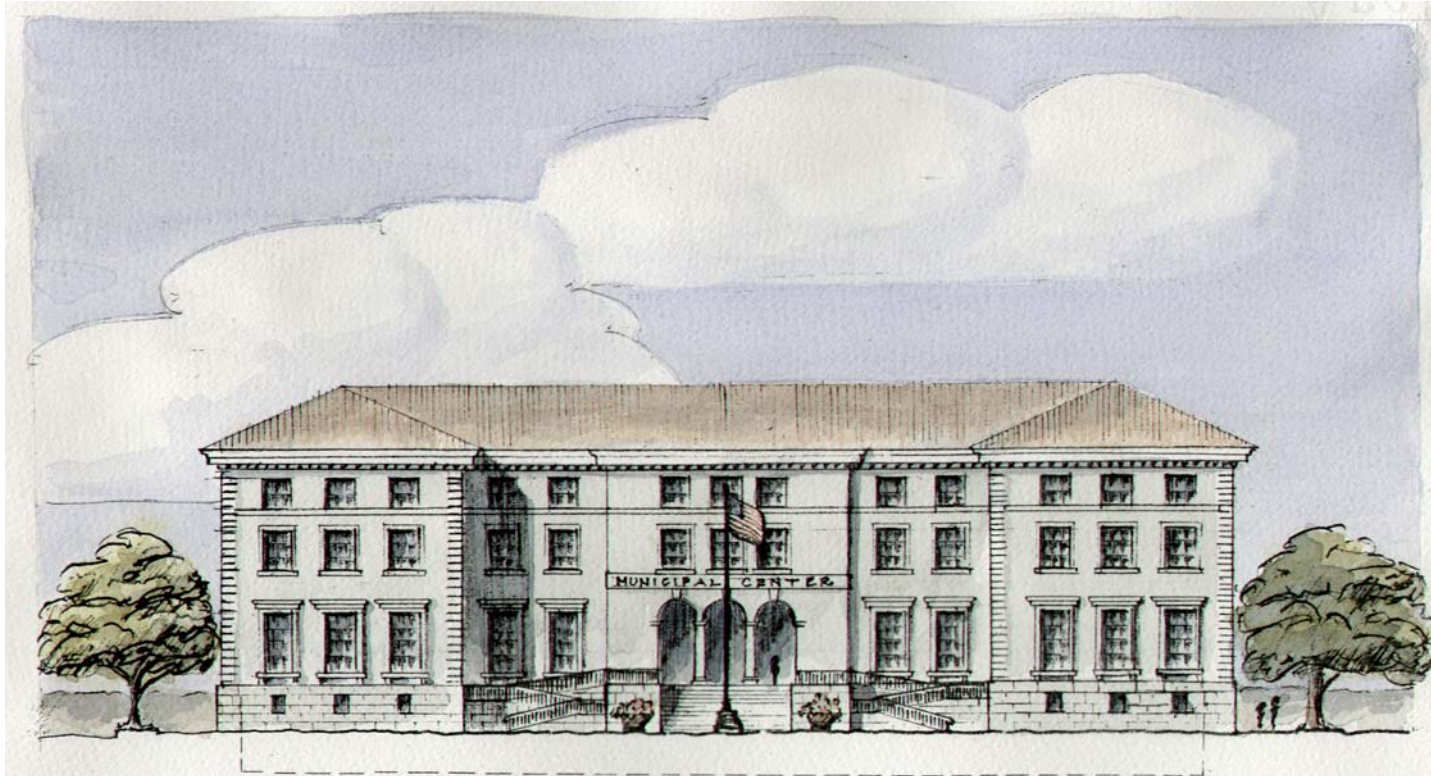
Name of Contact for Additional Information

[cghfranck@aol.com](mailto:cghfranck@aol.com)

E-mail address

### NARRATIVE:

This proposed civic structure is both elevated and hardened for durability. Materials are masonry with metal roof, and parking is a half-level below grade.



PROPOSED GULFPORT MUNICIPAL CENTER

$\frac{3}{32}'' = 2'-0''$

CHRISTINE G. H. FRANCK; OCTOBER 17, 2005

0 4 8 12 20



# Durability: Environmental Responsibility

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Moss Point Landing

Drawing Title

16 October 2005

Date

Allison H. Anderson, AIA

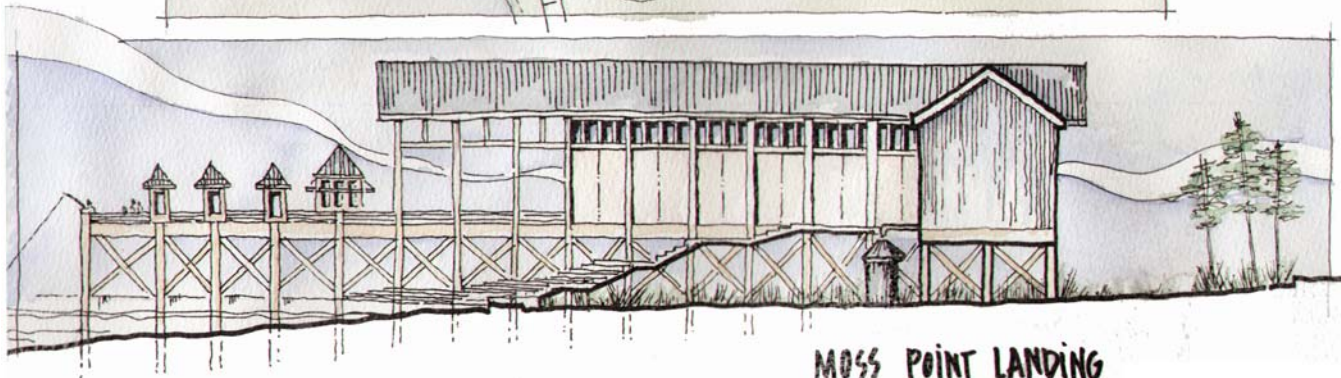
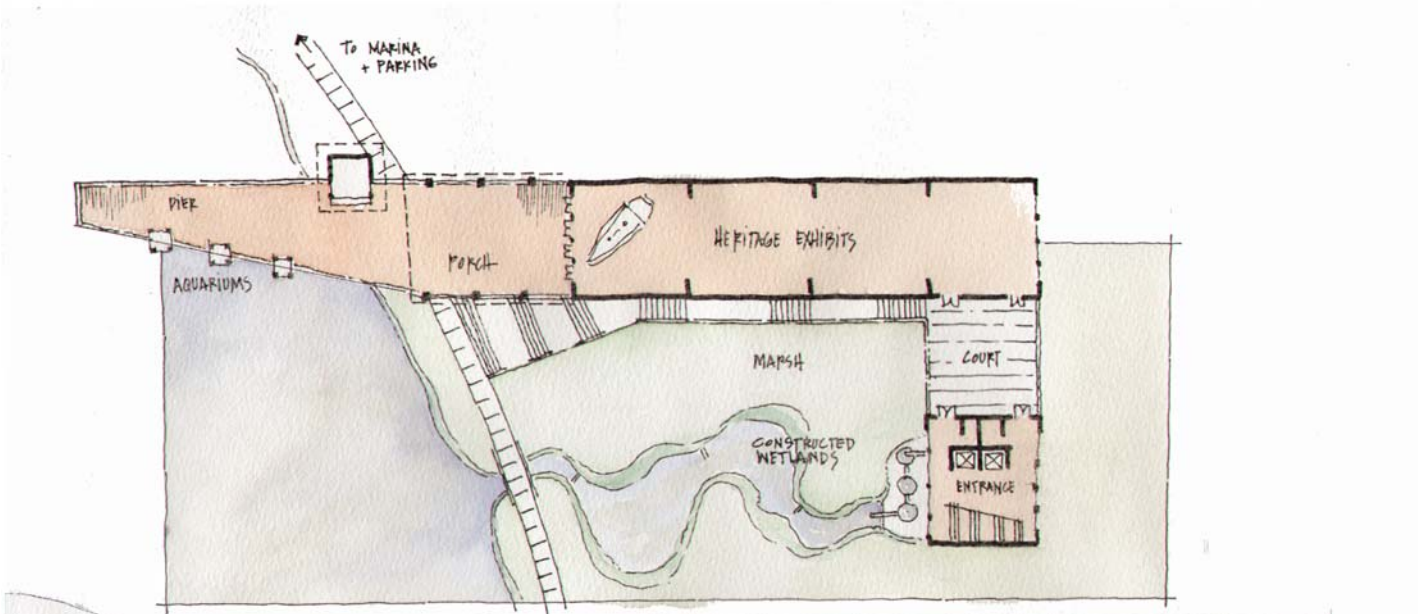
Name of Contact for Additional Information

[unarch@att.net](mailto:unarch@att.net)

E-mail address

### NARRATIVE:

The Landing highlights the importance of water in Moss Point's industrial and cultural heritage. Exhibits focus on shipping, fisheries and the environmental. A constructed wetland treats grey water to tertiary standards and releases it into the Escatawpa River.



**MOSS POINT LANDING**  
1/32" = 1'-0" AHA-3

# Durability: Hardening a Structure

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

### Hurricane Construction

Drawing Title

16 October 2005

Date

Steve Mouzon

Name of Contact for Additional Information

[steve@newurbanquild.com](mailto:steve@newurbanquild.com)

E-mail address

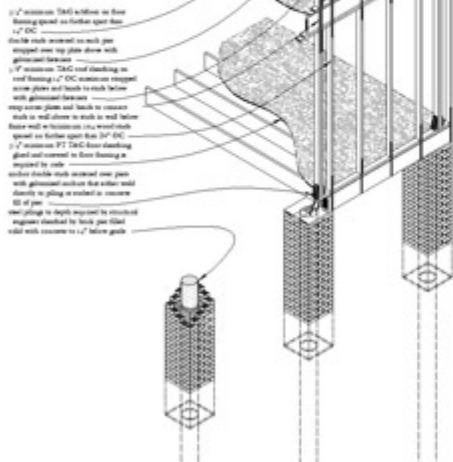
### NARRATIVE:

This illustration shows a structure on the left that complies with current building codes. The next two illustration show ways to make the structure more resistant and then hardened to effects of wind and water. These are not meant to be engineering drawings.

### COMPLIANT

#### NOTES

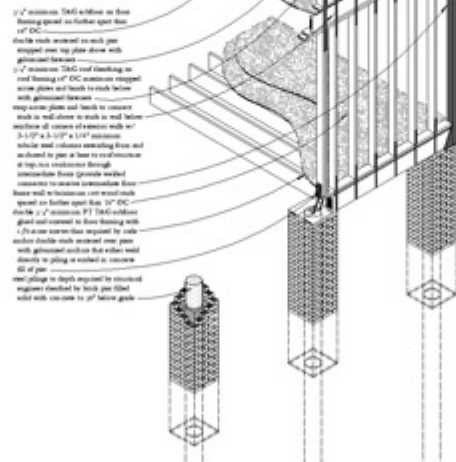
- A. The following are set fast construction specifications, but are general minimum standards only. Every part of structure shall be designed by a structural engineer to meet the required loads. The required elements may be made stronger for the structural engineer if required by design calculations, but they may not be made weaker than required by these methods.
- B. The foundation method is the lowest, consisting of a set over the minimum methods required to be in compliance with current building codes. At the same time as the piling method, an air lift is required. It is intended to be used on the open shellable building.
- C. All structural elements including sheathing shall be water resistant so that the building can be occupied, dry out, and in a part of the structure will be raised a inch.
- D. Each frame building on this roof framing shall be made of steel or concrete with other. The building framing. Minimum requirements of a Complete structure are as follows:



### RESISTANT

#### NOTES

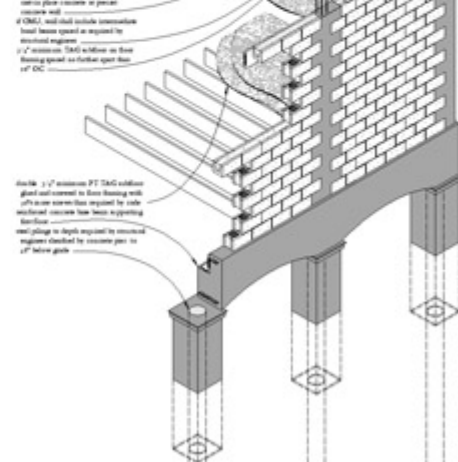
- A. The following are set fast construction specifications, but are general minimum standards only. Every part of structure shall be designed by a structural engineer to meet the required loads. The required elements may be made stronger for the structural engineer if required by design calculations, but they may not be made weaker than required by these methods.
- B. The foundation method is intermediate, consisting of elements required to be in compliance with current building codes, but adding extra mass to ensure the stability of building. It is intended to be used on prime building in high-see areas.
- C. All structural elements including sheathing shall be water resistant so that the building can be occupied, dry out, and in a part of the structure will be raised a inch.
- D. Each frame building on this roof framing shall be made of steel or concrete with other. The building framing. Minimum requirements of a Complete structure are as follows:



### HARDENED

#### NOTES

- A. The following are set fast construction specifications, but are general minimum standards only. Every part of structure shall be designed by a structural engineer to meet the required loads. The required elements may be made stronger for the structural engineer if required by design calculations, but they may not be made weaker than required by these methods.
- B. The foundation method is the highest, and is intended to be used in the highest-see areas, or for the open important buildings.
- C. All structural elements including sheathing shall be water resistant so that the building can be occupied, dry out, and in a part of the structure will be raised a inch.
- D. Each frame building on this roof framing shall be made of steel or concrete with other. The building framing. Minimum requirements of a Hardened structure are as follows:



# Durability: Success Analysis

## ★KATRINA★ ★SUCCESS ANALYSIS★

### PASS CHRISTIAN WEST BEACH HOUSE



STEPHEN A. MOUZON  
PREPARED FOR THE MISSISSIPPI RENEWAL FORUM  
05 OCTOBER 18

KATRINA EXTERIOR SUCCESS

VIEW FROM JUST INSIDE FENCE



Fill of the yard to an elevation of 14" at the house begins just behind the tree. The pool terrace wall can be seen at the left of this image. This wall likely is responsible for the very light damage to the guest house beyond. A house as substantial as this is not allowed by FEMA in V-Zones. FEMA says that they allow break-away walls to approximate the look of this house, but then they hold municipalities liable for enforcing the ban on habitable space in the basement. Because non-compliance by a small number of properties could result in less of flood insurance by every citizen in the entire municipality, so municipality in their right mind would allow opaque break-away walls because it makes enforcement much more difficult. In other words, municipalities are highly likely to require transparent basements. Transparent basements result in architecture like that of the houses of Myrtle Beach, South Carolina, which is occasionally referred to as "Salt City." By effectively lowering houses of the stature of this one, FEMA is destroying probably billions of dollars of real estate value along the Gulf Coast. But this value doesn't just affect wealthy people. Cheaper mid houses don't generate as much income for the local construction community, and they generate substantially less property tax revenue for as long as they stand.

14

## Architecture

Place or Topic

### DRAWING TYPE

- Analytical
- Proposal

### TIMING

- Immediate
- Medium Term
- Long Term

### URBAN SCALE

- Street, Blocks, Building
- Neighborhood, District, Corridor
- Region

### IMPLEMENTATION THROUGH

- Design
- Policy
- Management

## Hurricane Construction

Drawing Title

16 October 2005

Date

Steve Mouzon

Name of Contact for Additional Information

[steve@newurbanquild.com](mailto:steve@newurbanquild.com)

E-mail address

### NARRATIVE:

This booklet was compiled from observations of two structures that survived Katrina in a Velocity Zone. Many structural techniques can be observed for improving durability. The booklet is included in the final report in its entirety.

# Recommendations

- § **Timing** Emergency housing and retail must be on the ground fast. Manufactured, modular, and panelized solutions should be utilized for speed. Local sites should be identified immediately for manufacturing facilities. Local and regional suppliers are recommended to reduce cost and lead time. Congressional action should be encouraged to redefine FEMA enabling legislation so “temporary” housing has the potential of permanence and isn’t a wasted investment.
- § **Affordability** Manufacturers are standing by to produce models appropriate to the architectural and cultural heritage of the region. New designs have been submitted by numerous architects and designers and should be the standard for incoming houses, both emergency and permanent. A plan book of regionally appropriate stock plans is being compiled and municipalities are encouraged to pre-permit these houses to expedite construction. All houses would still require local inspections, but construction would not be delayed by the permitting process.
- § **Durability** Local municipalities are encouraged to unite in an effort to enlarge FEMA requirements from merely the prescriptive, and to include performance standards. Structural hardening should be an option to allow the habitation of the coastal region. Numerous levels of hardening are available, even including finishes which can tolerate immersion.