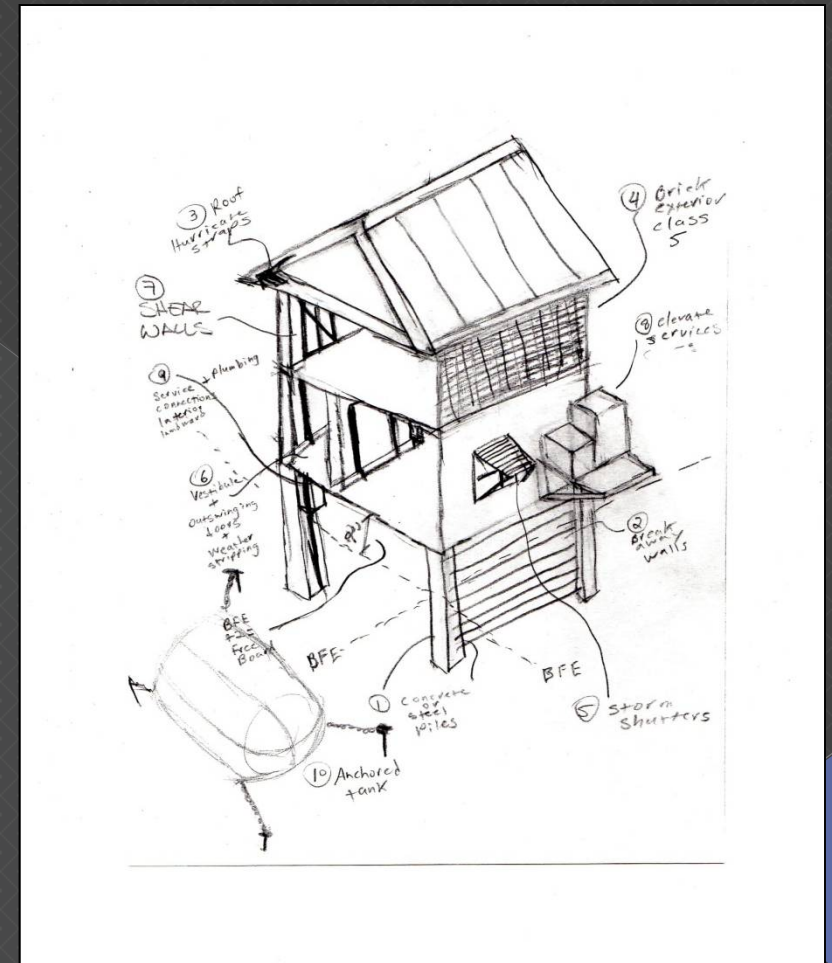


# HOUSE RECOMMENDATIONS FOR RESILIENCY

## GROUP 4

- Crystal Soudant
- Kenia Peralta
- Tim Massa
- Denisse Paez-Roldan
- Melissa Sahdala

# SPMPS



# SUMMARY

This document may be used as:

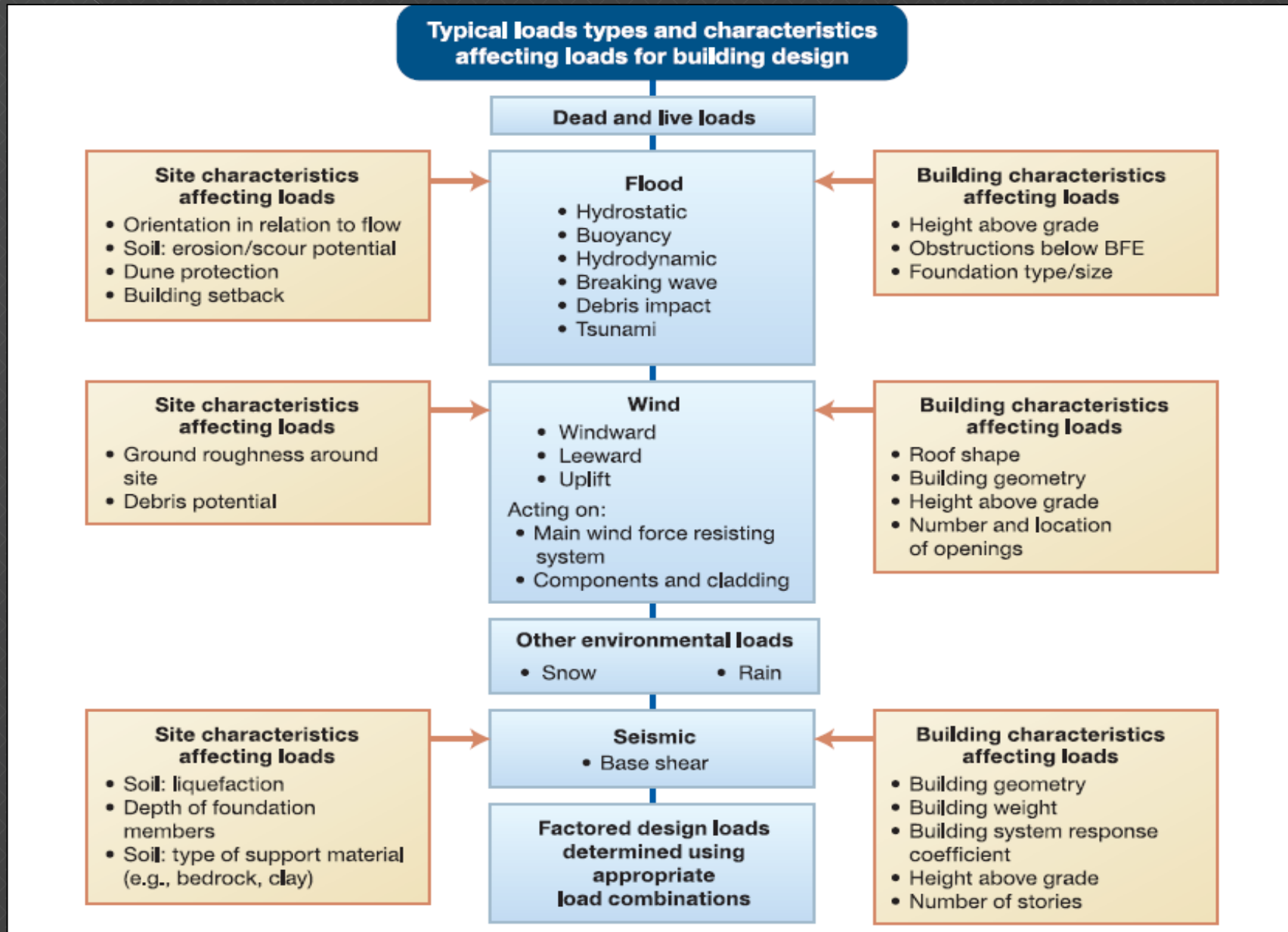
- › Resource to develop a model set of 10 recommendations
- › Design a replacement home that reduces risks from natural hazards and disasters.
- › Address and identify conflicts between standards

Federal Government's regulating industries used:

- › **FEMA Coastal Construction Standards**
- › **HUD Minimum Property Standards**
- › **Residential Code of NYS**
- › **Property Maintenance Code of NY**



# METHODOLOGY





# WHAT TO DESIGN FOR...

WINDS



NATURAL DISASTERS



FLOOD WATER



WAVES



# RECOMMENDATIONS

## ASTM UNIFORMAT II – Classification of Building Elements

A – SUBSTRUCTURE	Foundation	<u>1-Piles</u>
		<u>2-Breakaway Walls</u>
B – SHELL	Roof	<u>3-Standing-Seam Hydrostatic (i.e., water-barrier) Systems</u>
		<u>4- Hurricane Straps</u>
	Exterior Walls	<u>5-Class of Building Materials</u>
	Windows	<u>6-Shutters</u>
	Exterior Doors	<u>7-Vestibule/Weather Stripping</u>
C – SERVICES	Plumbing/HVAC/	<u>8-Elevating Utilities</u>
	Electrical	<u>9-Electric/Plumbing Along Inside of Piles</u>
	Fire Protection	<u>10-Fuel Tank Systems</u>

# INNOVATIVE TECHNOLOGIES

Window Energy Efficiency

1- Window Film

2- Insulated Vinyl Siding

Mold & Moisture

3- Water-resistant Polyurethane Subfloor Systems

Natural Disasters

4- Shear Wall Panels

5- Manufactured Ground Anchor Systems

# SUBSTRUCTURE

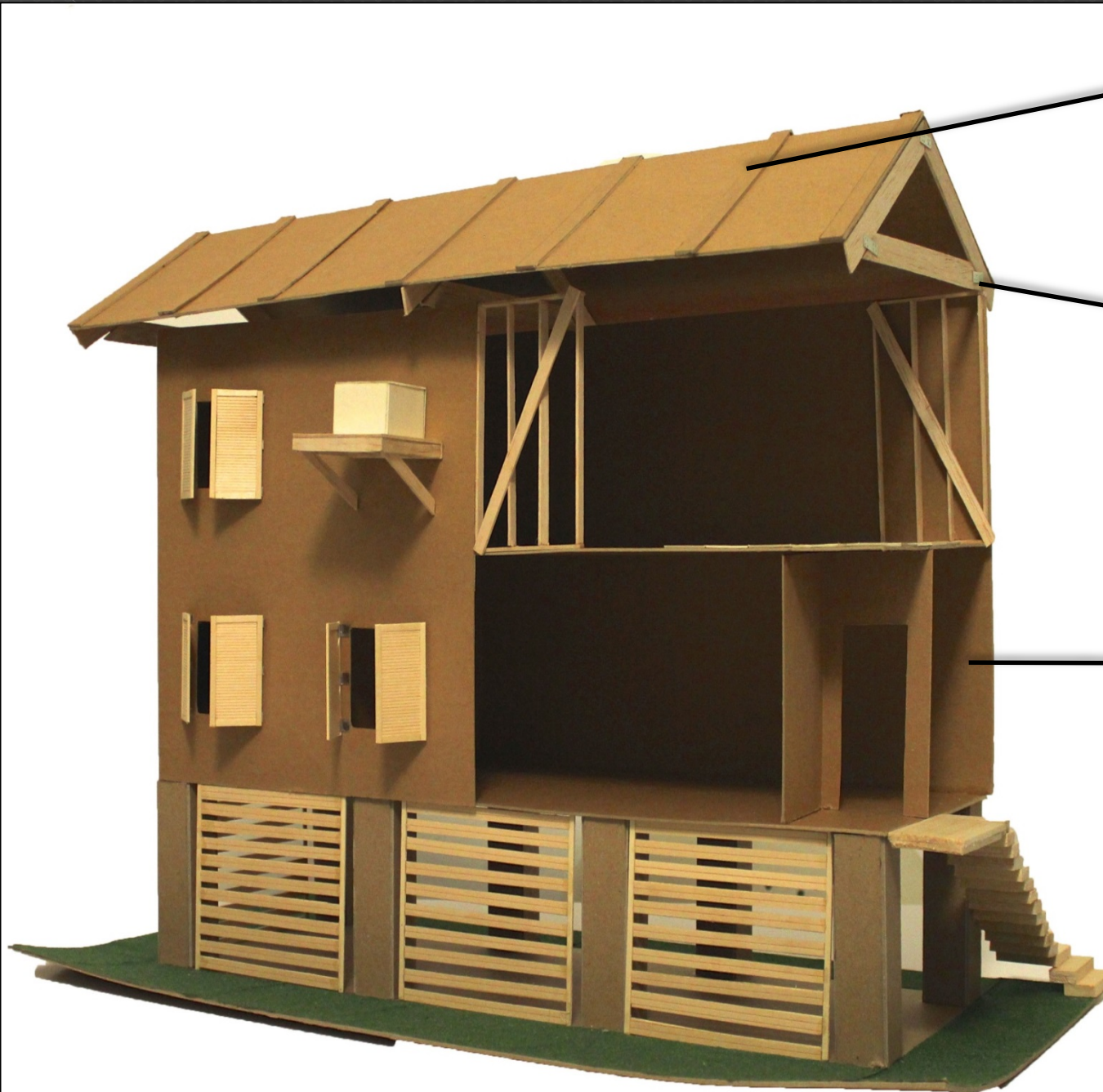


PILES: IT IS RECOMMENDED TO USE OPEN FOUNDATION (DEEP) OR OPEN FOUNDATION (SHALLOW)

BREAKAWAY WALLS: PROVIDE THAT THE OPEN AREA UNDERNEATH THE BUILDING COLLECTS LESS DEBRIS



# SHELL



STANDING-SEAM  
HYDROSTATIC SYSTEMS:  
RESIST WATER  
INFILTRATION UNDER  
HYROSTATIC PRESSURE



HURRICANE STRAPS:  
HELP HOLD YOUR  
ROOF TO THE WALLS



CLASS OF BUILDING  
MATERIALS: PLYWOOD OR  
OSB IS MORE RESISTANT TO  
WINDBORNE DEBRIS AND  
WATER INFILTRATION



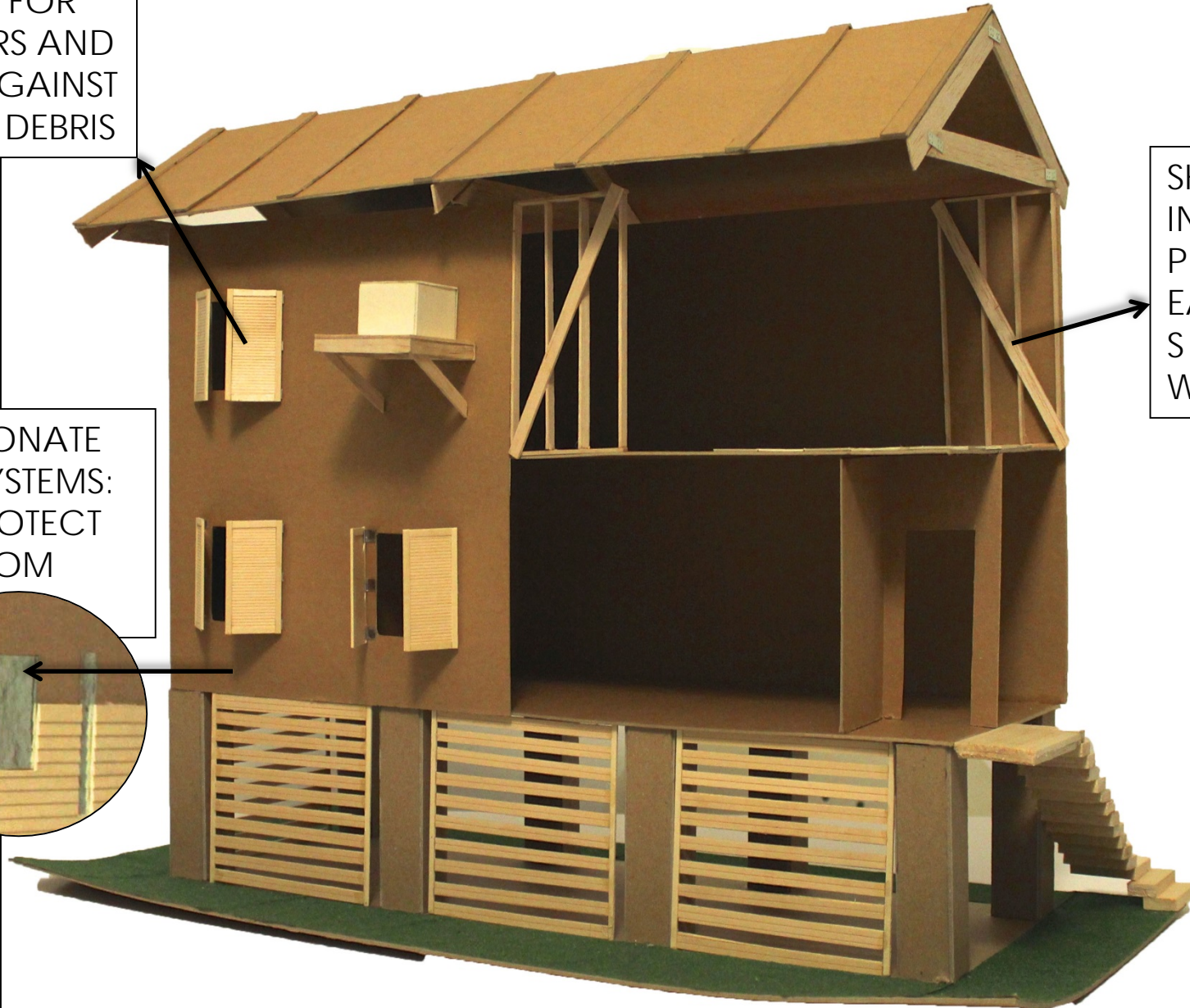


# SHELL

SHUTTERS: PROVIDE PROTECTION FOR GLASS DOORS AND WINDOWS AGAINST WINDBORNE DEBRIS

POLYCARBONATE GLAZING SYSTEMS: USED TO PROTECT WINDOWS FROM DEBRIS

SHEAR WALLS: IN AREAS PRONE TO EARTHQUAKES AND HIGH WINDS

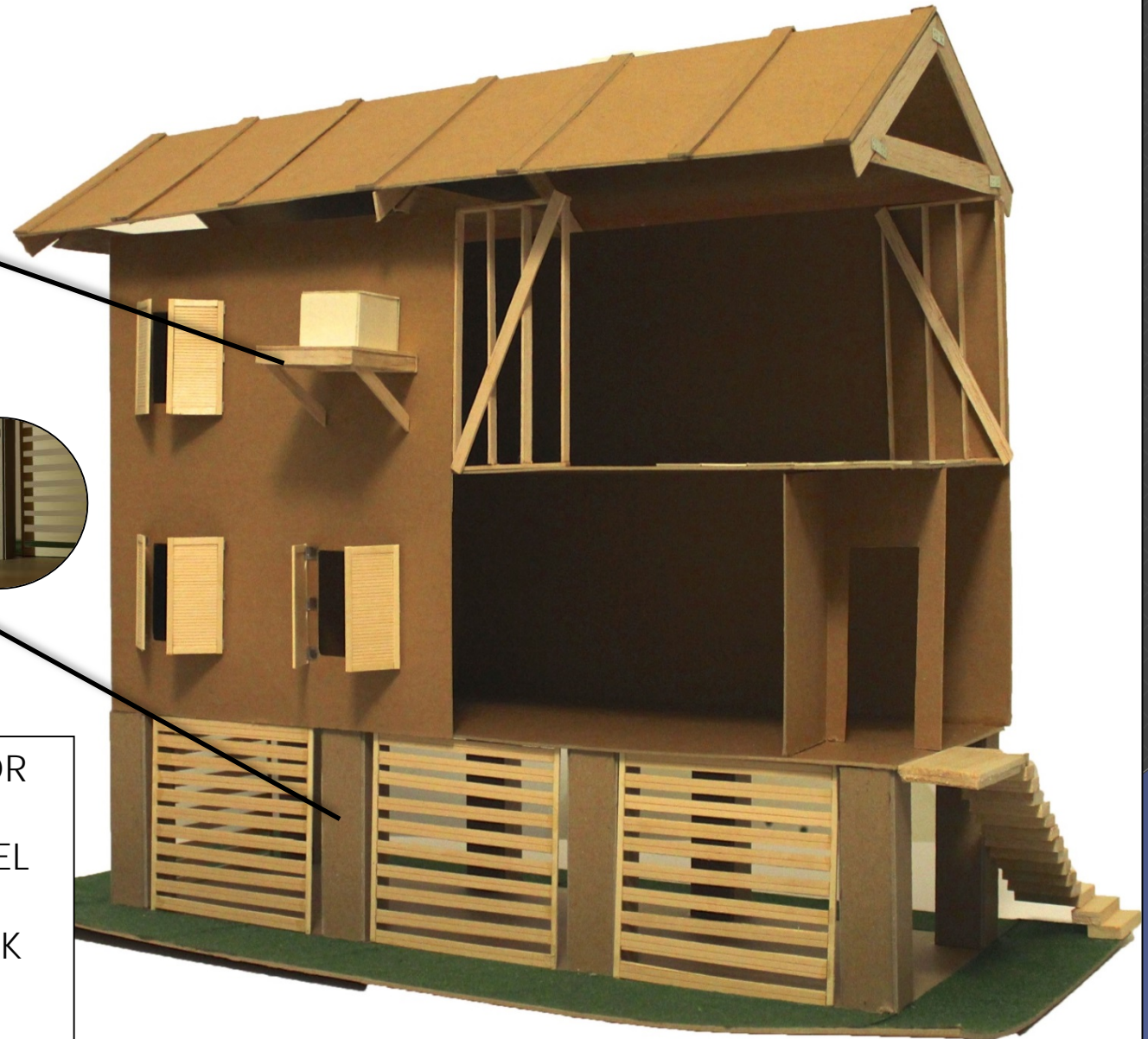
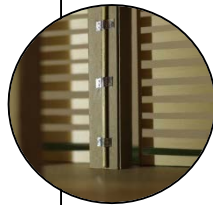


# SERVICES

ELEVATING UTILITIES:  
PLACING A PLATFORM  
CONNECTED TO THE  
EXTERIOR WALL OF A  
HOUSE, AN AREA CAN BE  
CREATED TO ELEVATE THE  
UTILITIES ABOVE THE DFE

ELECTRIC/PLUMBING  
ALONG INSIDE OF PILES:  
EMERGENCY POWER  
CAN BE PROVIDED BY  
PERMANENTLY ONSITE  
GENERATOR OR  
TEMPORARY  
GENERATORS

FUEL TANK SYSTEMS: FOR  
PROVIDING FLOOD  
PROTECTION FOR A FUEL  
STORAGE TANK IS  
ELEVATION OF THE TANK  
PLATFORM ABOVE THE  
DFE

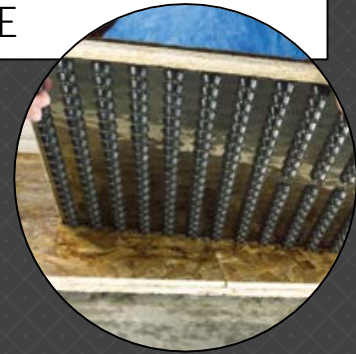




# INTERIOR



WATER-RESISTANT  
POLYETHYLENE  
SUBFLOOR: PREVENTS  
THE MIGRATION OF  
MOISTURE



VESTIBULE: ALLOWS  
BOTH INNER AND  
OUTER DOORS TO BE  
EQUIPPED WITH  
WEATHER STRIPPING



# RECOMMENDATIONS TO PREVENT DAMAGES FROM ENVIRONMENTAL HAZARDS

STANDING-SEAM HYDROSTATIC SYSTEMS: RESIST WATER INFILTRATION UNDER HYDROSTATIC PRESSURE

ELEVATING UTILITIES: PLACING A PLATFORM CONNECTED TO THE EXTERIOR WALL OF A HOUSE, AN AREA CAN BE CREATED TO ELEVATE THE UTILITIES ABOVE THE DFE

SHUTTERS: PROVIDE PROTECTION FOR GLASS DOORS AND WINDOWS AGAINST WINDBORNE DEBRIS

PILES: IT IS RECOMMENDED TO USE OPEN FOUNDATION (DEEP) OR OPEN FOUNDATION (SAHLOW)

ELECTRIC/PLUMBING ALONG INSIDE OF PILES: EMERGENCY POWER CAN BE PROVIDED BY PERMANENTLY ONSITE GENERATOR OR TEMPORARY GENERATORS

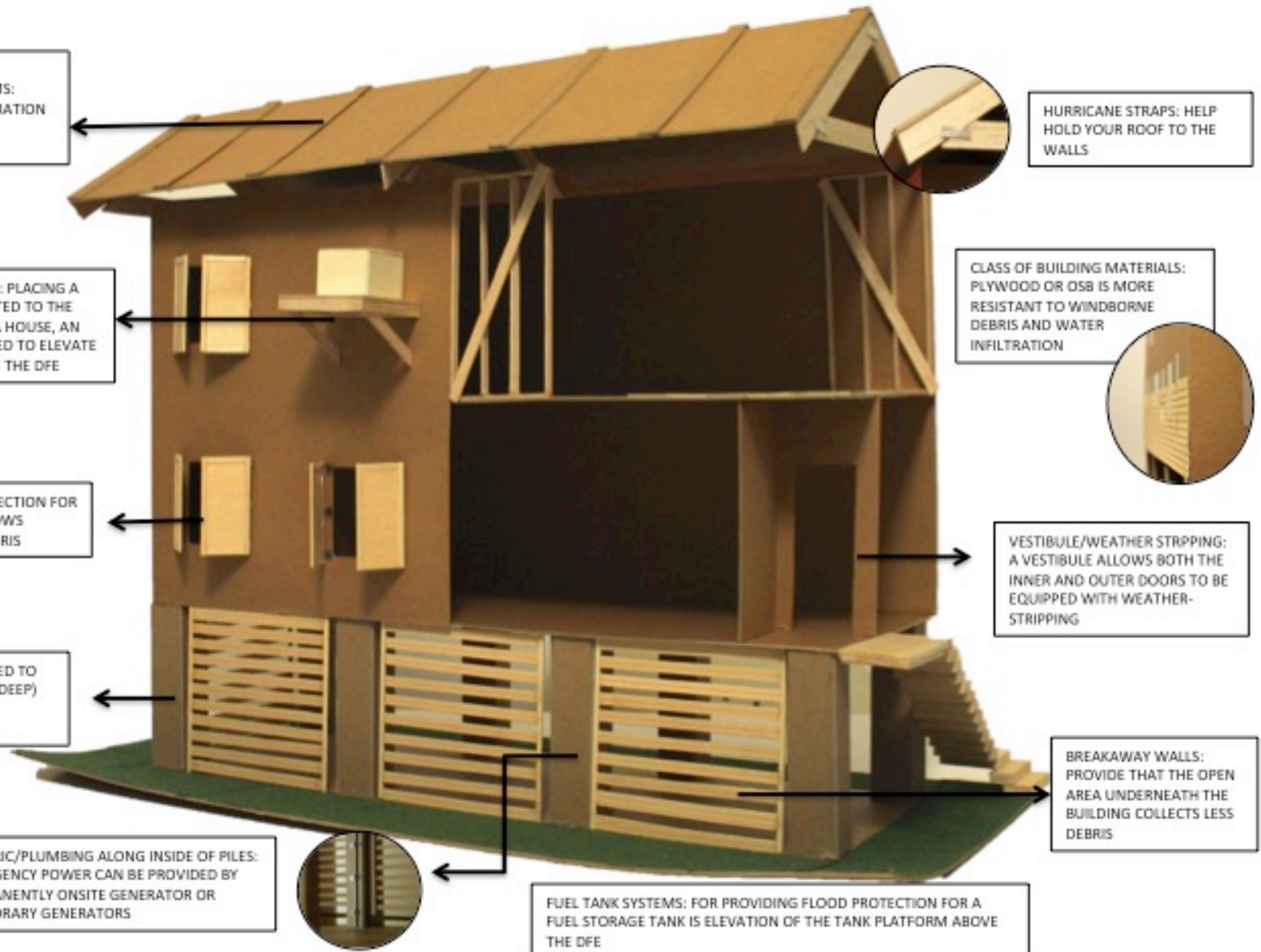
FUEL TANK SYSTEMS: FOR PROVIDING FLOOD PROTECTION FOR A FUEL STORAGE TANK IS ELEVATION OF THE TANK PLATFORM ABOVE THE DFE

HURRICANE STRAPS: HELP HOLD YOUR ROOF TO THE WALLS

CLASS OF BUILDING MATERIALS: PLYWOOD OR OSB IS MORE RESISTANT TO WINDBORNE DEBRIS AND WATER INFILTRATION

VESTIBULE/WEATHER STRIPPING: A VESTIBULE ALLOWS BOTH THE INNER AND OUTER DOORS TO BE EQUIPPED WITH WEATHER-STRIPPING

BREAKAWAY WALLS: PROVIDE THAT THE OPEN AREA UNDERNEATH THE BUILDING COLLECTS LESS DEBRIS



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THANK YOU!



**SPMPS**