

ARCHITECTURAL PATTERNS

This section of the Pattern Book identifies those patterns among Louisiana house and building types that are important to maintain in the rebuilding process. Individual builders and homeowners, as well as production house builders and developers will find the architectural patterns presented in this section of the Pattern Book useful as they rebuild the fabric of Louisiana's neighborhoods and towns. This Pattern Book includes the design of houses, rowhouses, small apartment buildings, and mixed-use buildings.

The section begins with a description of the essential qualities of traditional houses that respond to the rigors of the tropical climate as a basis for developing Green Building Guidelines. The section includes information that is helpful in meeting FEMA requirements, updated code requirements, and issues of visitability and accessibility, as well as techniques useful in applying the principles contained in the Pattern Book to mass production and manufactured housing methods. The section continues with an overview of traditional building types as they relate to the scale of the urban environment in which they are placed. Descriptions of a range of architectural styles and how they relate to the culture, history, and location within the state are included. Each style is described and illustrated in detail as a guide and an inspiration for those engaged in the rebuilding process.

THE INFLUENCE OF CLIMATE ON ARCHITECTURE

The unique climate and geography of Louisiana play an important role in the daily life of its residents. The intense heat and humidity, extended summers, short winters, and prevalent gulf breezes provide a backdrop to the lifestyles and traditions of South Louisiana. Over time, builders, designers, and homeowners have developed architecture and landscape patterns that are a direct response to the extreme climate of the region. Vernacular architecture from all regions of South Louisiana share the pursuit of providing relief from the sun and rain while still capturing as many breezes as possible. Generously scaled porches, tall ceilings, full-height windows, shade gardens, porch fans, and wood shutters are all elements that distinguish the traditional architecture of South Louisiana from elsewhere in the country.

Vernacular architecture from all regions of South Louisiana shares a common intention—to provide relief from the sun and rain while still capturing as many breezes as possible. Generously scaled porches, tall ceilings, full-height windows, jalousie windows, shade gardens, porch fans, and wood shutters are all elements that distinguish the traditional architecture of South Louisiana from elsewhere in the country.

LOUISIANA BUILDING TRADITIONS

The early settlers of Louisiana, arriving by water, brought their cultures, lifestyles, religions, and methods of building with them. In response to the climate, geography, and natural forces, these settlers created a unique architecture. In this Pattern Book, this indigenous style is referred to as Louisiana Vernacular and includes both Acadian-influenced and Creole-influenced house types, as well as Anglicized versions of them.

Later settlers who came from the north brought their methods of building and a collection of architectural styles which were then modified and adapted to the climate and culture of Louisiana. These include the Victorian, Classical, and Arts & Crafts styles which can be seen in a wide variety of building types throughout the state.

These architectural patterns, followed for a very long period of time, have gradually evolved in form, blending traditions in ways that have ultimately created a rich mix of architecture in Louisiana's towns and cities. This continuity was broken with the advent of the industrial era and the radical break with the past called for by Modernist architects, the increasing popularity of mass-produced houses post World War II, and standardized patterns of sprawl. While it's true that the patterns have been broken, they have not been completely eliminated; traditional and modern houses continued to be built that held true to many aspects of their regional heritage and cultural forms.

A leader in this effort was A. Hays Town, an architect who designed a series of remarkable buildings using the methods and forms of traditional Louisiana architecture. The floor plans of his houses are modern with large open kitchens and carefully placed windows and glass walls that open the houses to the outdoors. Yet the architectural language Town employed is an authentic and precise use of traditional proportions and elements. Town gained much of his sensibility for traditional details by working for the Historic American Building Survey as a young man.

These forms continue to be used by builders and architects (traditional and modern alike) who are distilling the essential qualities of traditional buildings and using new materials in ways that carry the traditions forward in new houses. In the wake of Katrina and Rita, urgent need exists to build quickly using mass production techniques, yet in a way that continues to respect the traditions of the region.



Abbeville



GALLERY OF EXAMPLES



Donaldsonville



Vermilionville



Lafayette



Baton Rouge



New Orleans



Abbeville

RESIDENTIAL BUILDING TYPES


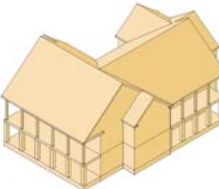

This Pattern Book defines building types by scale, form, and use. In using the Pattern Book, architects and manufacturers will be working with plan types that differ from the historic ones that generated many of the original building types. However, the character, image, and architectural style of those building types has enduring value, especially in the creation of neighborhoods and communities that are consistent with the character of Louisiana’s traditional ones. Single-family houses include the Acadian-influenced and Creole-influenced cottages, shotgun houses, as well as center and side-hall houses. These variations are illustrated within each of the architectural styles presented in this book. Rowhouses also have many variations including mixed-use (with the inclusion of ground-floor retail). Porches and galleries, when added, provide an almost infinite number of possible building forms. The mansion apartment house is a new house type that uses traditional, large, single-family house forms to create a multi-family building that can fit comfortably within the scale of Louisiana neighborhoods.

Each type is appropriate for several, but not all, of the Transect Zones.

The emergency house, developed during the Demonstration Charrettes, uses traditional forms to create a house that can be put in place quickly at low cost, yet can also be the first phase in the development of a larger complex.

The bars on the right refer to the six Transect Zones. The colored area adjacent to each house type indicates the Transect Zones in which that building type is appropriate.

These basic building types can be built using a number of different architectural vocabularies as shown on the opposite page.

 <div>T1T2T3T4T5T6</div>	 <div>EMERGENCY HOUSING</div> 
<div></div>	 <div>SINGLE-FAMILY HOUSE</div> 
<div></div>	 <div>DUPLEX</div> 
<div></div>	 <div>MANSION APARTMENT</div> 
<div></div>	 <div>ROWHOUSE</div> 
<div></div>	 <div>2- TO 4-STORY APARTMENT HOUSE</div> 
<div>T1T2T3T4T5T6</div> 	 <div>MIXED-USE BUILDING</div> 

LOUISIANA ARCHITECTURAL STYLES



LOUISIANA VERNACULAR



Abbeville



New Orleans



LOUISIANA VICTORIAN



Abbeville



New Orleans



LOUISIANA CLASSICAL



Crowley



Crowley



LOUISIANA ARTS & CRAFTS



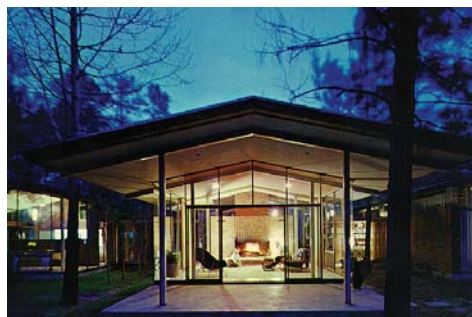
Baton Rouge



Natchitoches



MODERN



Hammond



Baton Rouge

Photo courtesy of Steve Mouzon

Photo courtesy of Michael Desmond

Photo courtesy of Neil Alexander

GREEN BUILDING GUIDELINES

Whether the term used is green building, sustainable design, or high performance buildings, all refer to the planning, design, construction, and maintenance of buildings that are energy-efficient, healthy, and environmentally-friendly. Rebuilding Louisiana presents an unprecedented opportunity to incorporate green building strategies and systems early in the design process and at a massive scale. Although traditional and older Louisiana architecture uses climatically-responsive design strategies that enhance human comfort without requiring electricity (e.g., porches, tall ceilings, large windows, and roof overhangs), newer homes have relied almost exclusively on fossil-fuel-dependent mechanical systems for heating and cooling. In the year 2000, Louisiana ranked as the fifth highest per capita consumer of electricity in the country, using 25% more electricity than the national average. Whether the energy source is electricity, gas, oil, wind, or solar, increasing the efficiency of a house reduces energy bills and lessens the impact on the environment. Using 30% less energy translates directly into financial savings. Moreover, the small increase in upfront construction costs attributable to energy efficiency measures will be returned in longer-term savings to the homeowner or renter. Green building strategies are therefore important not only because of their environmental and human benefits, but also in terms of cost savings and affordability.

ENERGY EFFICIENCY STRATEGIES

Energy-efficient houses provide significant benefits including reduced energy demand, utility costs, and pollution, as well as enhanced human comfort, health, durability, quality, and control. One way to achieve energy efficiency in new construction is to follow the Energy Star Program, a national, voluntary program sponsored by the U.S. Environmental Protection Agency (EPA) to reduce greenhouse gas emissions and protect the environment. Energy Star homes are 15–30% more energy efficient than homes built to national or state energy codes. Program requirements are typically met through a combination of building-envelope upgrades, high-performance windows, controlled air infiltration, upgraded heating and air conditioning systems, and tight duct systems. These features contribute to improved home quality and homeowner comfort, lower energy demand, lower utility bills, and reduced air pollution. The program is clear and easy to use, affordable, and is monitored to ensure high quality and efficient construction.

SYSTEMS THINKING

A well-designed, energy-efficient building addresses many interrelated elements that control, move, circulate, or retain energy, air, and water to achieve human comfort, functionality, and safety. Decisions made for climate and solar orientation relate to decisions about the location and number of windows. Insulation choices, tightness of the building envelope, and foundation choices all contribute to the size of the heating-ventilation-air conditioning (HVAC) system. Buildings designed with these interrelated elements achieve greater energy efficiency, comfort, safety, and affordability.

MECHANICAL HEATING, COOLING, AND DEHUMIDIFICATION

To achieve the highest energy efficiency, mechanical units must be sized properly for a given house or building. Under- or oversized systems do not achieve the desired balance of heating, cooling, and dehumidification for human comfort. In Louisiana's hot and humid climate, a high efficiency, central air-conditioning unit is particularly important to achieve energy reductions and cost savings. Adding an optional, dedicated, whole-house dehumidifier helps to further control indoor humidity and increase comfort. This is an important consideration in Louisiana, where mold is a common problem. Mold spores are invisible to the naked eye, float through outdoor and indoor air, and grow indoors on moist surfaces. Molds typically require a relative humidity greater than 80%, so controlling moisture in the house is the most effective means of preventing mold growth.



Deep overhangs for shade



Operable windows & shutters



Porches provide shade and outdoor living space

In Louisiana, the purpose of passive solar design is to prevent heat gain in the summer and allow heat gain in the winter. Passive heating and cooling is easy to achieve through early design consideration, with attention paid to the house's orientation in relation to the sun.

APPLIANCES AND LIGHTING

Appliances and lighting account for 40% of home energy usage with refrigerators typically being the single biggest energy-consuming home appliance. Energy Star appliances meet specific energy criteria set by the EPA and use an average of 10–15% less energy than non-certified products, thereby reducing energy costs and pollution.

WATER HEATERS

Water heating is typically the second largest household energy expense. Greater efficiency can be achieved simply and affordably by using less hot water, setting the heater temperature at 115°F, and wrapping the heater and pipes with insulation. Tankless (on-demand) hot water heaters typically cost less and are more efficient because they do not store hot water if there is no demand. Solar hot water heaters use the sun to heat water or a heat-transfer fluid in collectors, reducing the need for conventional water heating by about two-thirds.

PASSIVE DESIGN STRATEGIES

Passive design strategies refer to non-mechanical systems or architectural features that use the sun's natural energy to heat living spaces during the colder seasons, while minimizing heat gain during the warmer seasons. Solar energy is a renewable and non-polluting natural energy source. Passive design features do not generate greenhouse gases, deplete fossil fuels, or rely upon costly, and at times unreliable, energy sources. High ceilings, overhangs, porches, courtyards and galleys, shutters, and natural ventilation are all examples of effective passive design elements and traditional Louisiana architecture. Window placement and the seasonal pathway of the sun are critical considerations in passive solar design. Passive systems should be considered early in the design process, and used in conjunction with a well-built, well-insulated house that has an efficient mechanical heating, cooling, and ventilation system.

ROOFS

The roof is the greatest source of potential heat gain in southern Louisiana during the warmest months when the path of the midday sun is directly overhead. A light-colored and reflective roof surface is the most effective design strategy to minimize heat gain. Roof design is also an important factor in mitigating wind hazards: roof anchors are the best protection against hurricane wind forces, and hip roofs are more wind resistant than gabled roofs.

OVERHANGS

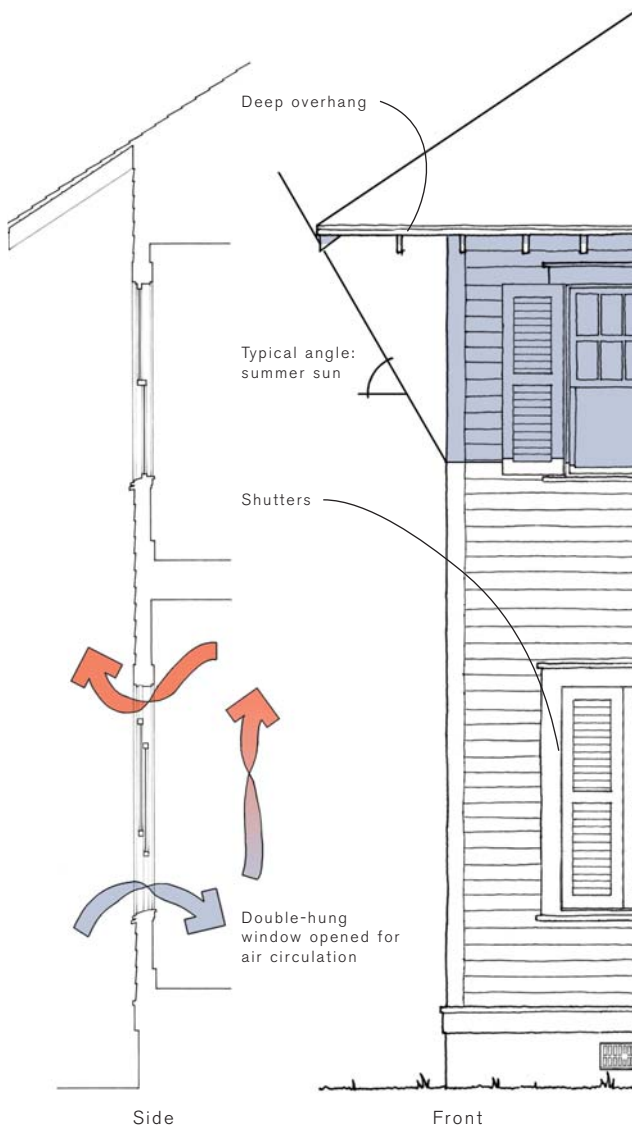
Roof overhangs on the south side of the house can be sized to provide shade in the summer (when the sun is high in the sky), yet allow sunlight and warmth inside the house during the winter (when the sun is at a lower altitude). Overhangs also prevent water from draining directly onto the house and its foundation.

PORCHES

Porches provide shading as well as outdoor living space. The south side is the most critical face of the house to shade. Front porches create a transition from the private space of the house to the public space of the street. Screen porches provide breezy outdoor space while keeping out the bugs.

SHUTTERS

Operable, exterior shutters are both a traditional and aesthetically pleasing feature of Louisiana houses. Operable exterior shutters keep the hot sun out while allowing cooling breezes to ventilate the house. Shutters also provide an effective window insulation system, enhanced weather protection, and household security.



Correctly proportioned overhangs and shutters provide shade, decreasing heat gain. Double-hung windows allow cooler air to enter through the raised bottom sash, while hot air escapes through the lowered upper sash. High ceilings allow hot air to rise above the occupied areas, increasing human comfort.

CEILING HEIGHT

Traditional Louisiana architectural styles often use 12-foot ceilings, which are higher than the typical 8 feet. Higher ceilings of even just 9 or 10 feet provide more space for hot air to rise, thereby increasing human comfort in warm weather. Coupled with large windows, taller ceilings also promote more effective ventilation strategies.

CEILING FANS

Ceiling fans increase human comfort by providing air movement that aids the body's evaporative cooling system, rather than actually regulating temperature. Fans also increase ventilation on outdoor porches and help keep away bugs. Fans should be turned off when the room is not occupied.

WINDOWS

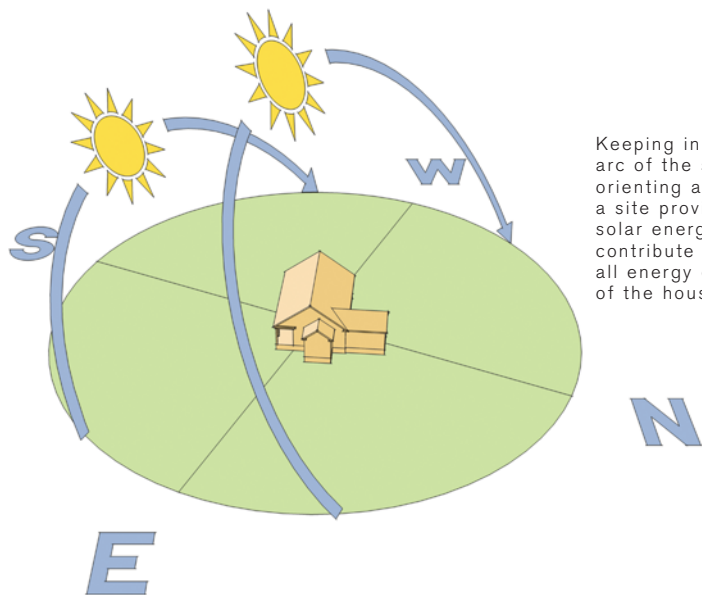
The placement, size, number, and type of windows are important factors in the comfort and energy efficiency of any house. Reduce the size and number of windows on the heat-intensive west side, and use larger windows for greater ventilation and day lighting on the north and east sides. Choose double-pane, insulated, and Low-E coated windows that hinder radiant heat flow through glass layers, and allow in light and air. Double-hung windows are ideal for ventilation; cooler air enters through the raised bottom sash, while hot air escapes through the lowered upper sash. All windows and doors should be sealed, flashed, and properly installed to reduce air and moisture infiltration.

VEGETATED SHADING

Shade is a valuable and affordable resource in the hot, humid climate of Louisiana. Planting deciduous trees and shrubs on the west, east, southwest, and southeast sides of the house shades against solar heat gain in the summer and lets in sunlight in the winter. Small shrubs and groundcover can be used to shade pavement around the house, keeping the house and outdoor spaces cooler by reducing reflected heat.

WALL SECTION

The design of the wall is one of the most complex components of the building envelope. A well-insulated, properly constructed exterior wall can increase the comfort, efficiency, and health of a house. Traditional wood framing is likely to remain the most common and accessible building system available. Framed houses, 2 x 6 Optimum Value Engineered (OVE) with structural sheathing, generally cost about the same as standard framed houses but have added benefits. OVE reduces framing time, lowers construction costs, conserves resources, and reduces annual energy costs through increased efficiency. OVE also reduces the amount of lumber used in the exterior wall while increasing the amount of insulation.



Keeping in mind the arc of the sun when orienting a house on a site provides passive solar energy and can contribute to the overall energy efficiency of the house.

Energy-efficient houses provide significant benefits including long-term cost savings, improved human comfort and health, enhanced durability, and hazard-resistance.



Doors and full-height porch windows increase ventilation



Porches and vegetation provide shading

INSULATION

Insulation is a critical element in constructing energy-efficient, comfortable houses. Insulation should exceed the required minimums to save on overall energy costs and make the house more comfortable. Use recycled wet-blown cellulose for better insulation and insect control. Where there are threats of flooding, install closed-celled foam insulation that does not absorb moisture. Cavity insulations without vapor retarders should be selected. Wall assemblies should be designed to dry inwards. Interior vinyl wall coverings and non-permeable paints or finishes should be avoided.

FOUNDATION SYSTEMS

Foundation systems should be carefully designed according to site characteristics (see FEMA requirement for Floor Zones). The well-built, well-insulated foundation can add greatly to the comfort and energy efficiency of a house. Vented crawlspaces are preferred.

MATERIALS AND INDOOR AIR QUALITY

Initial decisions in the construction of the house can have a significant impact on maintenance and replacement costs over time. Consider selecting roof materials with extended warranties and using a cementitious fiberboard for siding. Selecting high quality materials and assemblies may add to upfront costs, but will likely provide long-term savings through greater durability, strength, and reduced replacement costs.

Because people spend an average of 65% of their time indoors, indoor air quality is critical to the health of residents, especially more vulnerable groups such as children, seniors, and individuals with existing respiratory problems and compromised immune systems. Toxic materials have associated human health impacts including cancer, allergies, and “sick building syndrome.”

Sources of indoor air pollution include:

- Building materials and furnishings (e.g., insulation, carpets, and cabinetry) that contain phthalates, arsenic, and formaldehyde
- Polyvinyl chloride (commonly called PVC or vinyl) approximately 75% of all PVC manufactured is used in construction materials
- Adhesives that release formaldehyde
- Mold resulting from moisture trapped inside walls
- Cleaning and maintenance products containing toxic chemicals
- Interior paints, primers, and removers that release volatile organic compounds

Materials should be selected with low or zero volatile organic compounds (VOCs), PVC, formaldehyde, arsenic, chromium, and other toxic chemicals. There are many alternative construction materials that can be used in place of vinyl including cast iron piping, fiber-cement board siding, metal roofing, natural linoleum, tile, wood flooring, sustainably harvested wood, fiberglass, and aluminum windows and doors.



Courtyards provide ventilation, outdoor living space, and garden space within urban environments. Galleries often line the interior of the courtyard and provide shade for the building. (Sketch by John Desmond, FAIA)

FLOODPLAIN MANAGEMENT REQUIREMENTS

Finding ways to build stronger houses that can better withstand future storms and be protected from floods is essential. Below are several techniques which can contribute to building more durable houses.

INDIVIDUAL HOUSE BELOW REQUIRED ELEVATIONS ABOVE FLOODPLAINS

FEMA and the Army Corps of Engineers have developed Floodplain Elevations. These federally mandated standards set finished floor above mean sea level requirements for all new construction. Visit FEMA at www.fema.gov and local authorities for site-specific requirements.

This Pattern Book includes a 'kit of parts' to satisfy those requirements in a manner derived from local vernacular examples. These options can be used individually or in combination. The strategies were carefully designed so as not to overwhelm the building's scale. Not all building types can be used with the most restrictive conditions.

The basic strategies include:

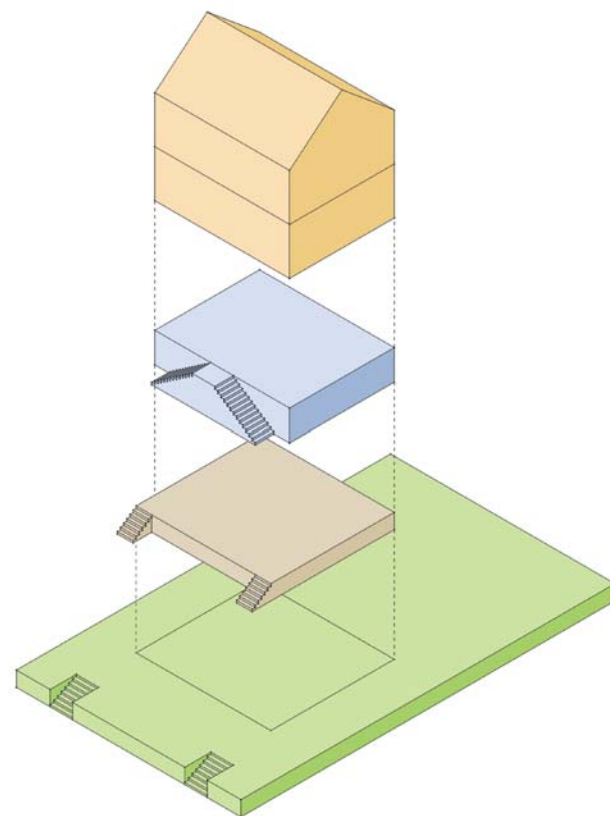
- >> Raising the site with fill
- >> Using a base to raise the floor elevation
- >> Incorporating a sub-story with a grand stair

SUBMERSIBLE BUILDINGS

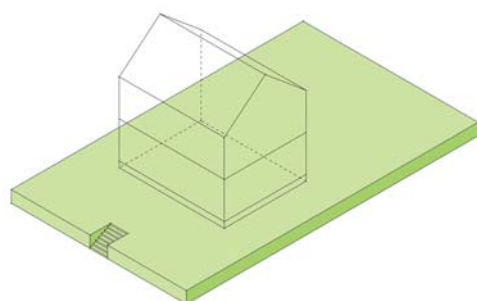
As this Pattern Book goes to press, there are discussions taking place about the feasibility of using construction techniques that would enable a house to be more easily re-used after it was flooded. The major challenge with current houses that are flooded is the penetration of water into dry wall and cavity wall construction which increases the risk of mold developing. By using the Structural Insulated Panels (SIP) system, water would not be able to penetrate the wall. After the water recedes, the interior of the house would be cleaned and then ready for occupancy. As this technique was not yet approved by FEMA as of this writing, it is essential to verify its appropriateness prior to use.

WIND PROTECTION

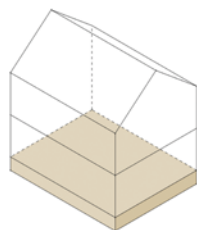
The Louisiana coast has been divided into several Velocity Zones (V-Zones) which start with a 150 mph wind zone at the extreme southeastern coast and decrease in 10 mph increments as you move northward. A chart in the International Residential Code (IRC) identifies the V-Zones. The IRC 2003 Edition, published by the International Code Council (ICC), was adopted by the state legislature under Title 12 in 2005; compliance with the IRC is mandatory throughout the state. Provisions of the IRC supercede any code provisions for the same parameters.



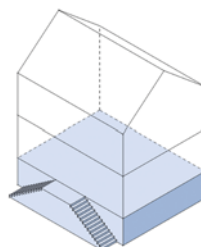
These options can be used individually or in combination.



Raised Site Using Fill



Raised Base



Sub-Story with Grand Stair



St. Francisville



Donaldsonville



Baton Rouge

VISITABILITY AND ACCESSIBILITY

Thus, the first step in building a house in Louisiana is to identify the V-Zone in which your house site is located. Once you've identified the appropriate V-Zone, all the other components of the code are applied based on that zone designation. It should be noted that Title 12 also references other existing standards for IRC implementation, such as the Standard for Hurricane Resistant Construction (SSTD-10) published by Southern Building Code Congress International (SBCCI, now the ICC) and the Wood Frame Construction Manual by the American Forest and Paper Association. Both standards contain design information for wood frame construction in regions with wind speeds up to 150 mph.

For commercial buildings [which includes both multi-family (more than two family) residential structures and mixed-use buildings], refer to the International Building Code (IBC) which covers the comparable provisions for those building types.

CONSTRUCTION HARDENING TECHNIQUES

The IRC contains numerous construction hardening techniques for windows and doors and other building components. For example, windows in V-Zones of 120 mph or more must pass a particular ballistics test to be permitted, or openings must be shuttered with appropriate, approved devices.

The IRC also includes mandatory requirements to tie down buildings (again, according to V-Zone). Within specific V-Zones, the structural tie-down requirements have been changed from previous codes. Be sure to research the requirements for the specific V-Zone in question.

As with wind protection, first check the V-Zone in which your house or mixed-use/commercial building will be constructed, then follow the IRC or IBC provisions to ensure that you meet the construction hardening requirements for that zone.

The legislature has indicated that each parish is required to administer the IRC and the IBC. In jurisdictions where there is no specific authority tasked with administering the codes, local professionals have been identified as approval authorities. Contact your parish government offices to obtain a list of these approved professionals.

FEMA produced 31 Technical Fact Sheets that provide guidance and recommendations concerning the construction of coastal residential buildings. The Fact Sheets present information aimed at improving the performance of buildings subject to flood and wind forces in coastal environments. Photos and drawings illustrate National Flood Insurance Program (NFIP) regulatory requirements, the proper siting of coastal buildings, and recommended design and construction practices for building components, including structural connections, the building envelope, and utilities.

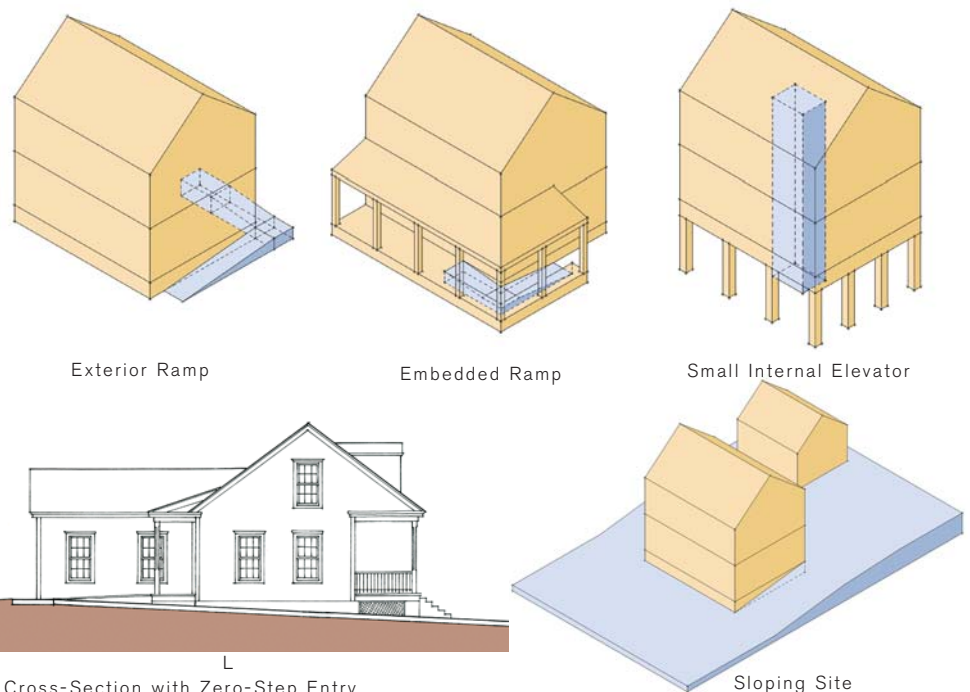
All fact sheets can be downloaded at:

http://www.fema.gov/rebuild/mat/mat_fema499.shtm

Houses, like neighborhoods and public buildings, should be accessible for persons with physical disabilities, especially since many people displaced by Katrina have disabilities or are aged. This requires careful thought when faced with the need to raise the first floor above grade to meet flood plain management requirements. Different conditions call for different solutions.

For sites where the first floor must be 1'-0" to 4'-0" above grade, visitability and accessibility can best be achieved through the use of site grading and one grade level entry. Keeping site grades to 5% or less will reduce or eliminate the need for ramps. On steep sites, it is often possible to provide access without steps at the side or rear from an adjoining driveway or sidewalk. Where ramps are necessary, accessibility codes require that they have an 8.33% maximum grade and railings on both sides. In extreme cases, mechanical means such as small personal elevators, chair lifts, and porch lifts may be necessary as a last resort.

Inside the house, visitability—the most basic level of accessibility—includes circulation on the entry floor and into one bathroom that is accessible by a person in a wheelchair, with doorways offering 32 inches clear passage. When carefully investigated, there is rarely a need to add space to the floor area of a house to provide visitability or accessibility. Visitability costs even less than accessibility, usually adding, at most, about \$200–500 to the total construction cost. It is a feasible strategy for all housing.



Interior Stair Lift



Interior Chair Lift

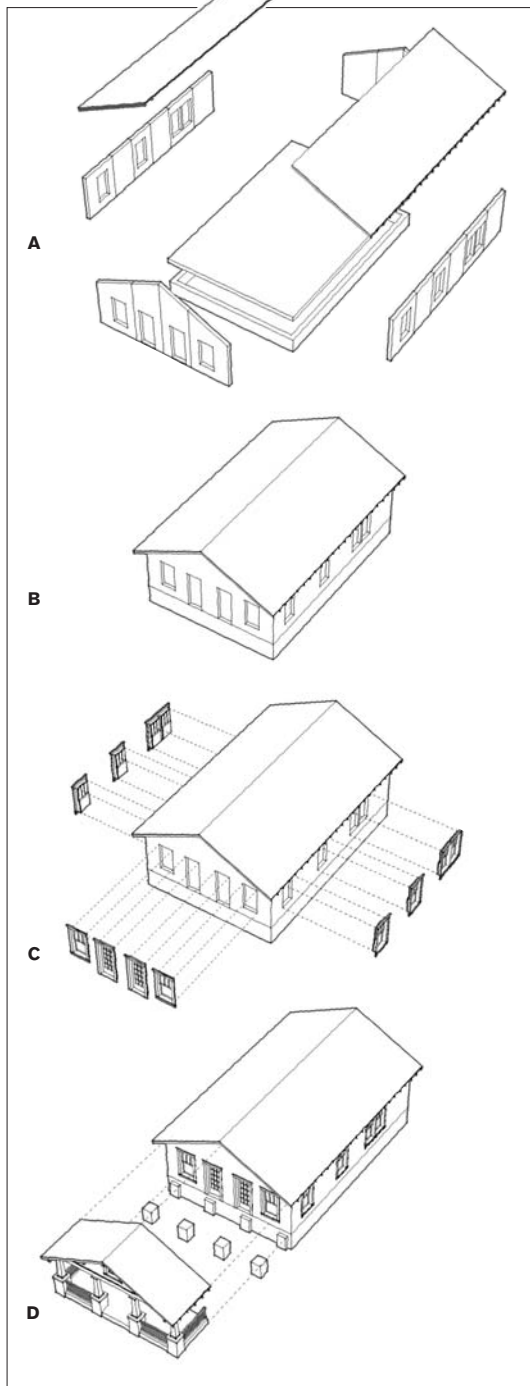


Elevator

ALTERNATIVES TO CONVENTIONAL CONSTRUCTION

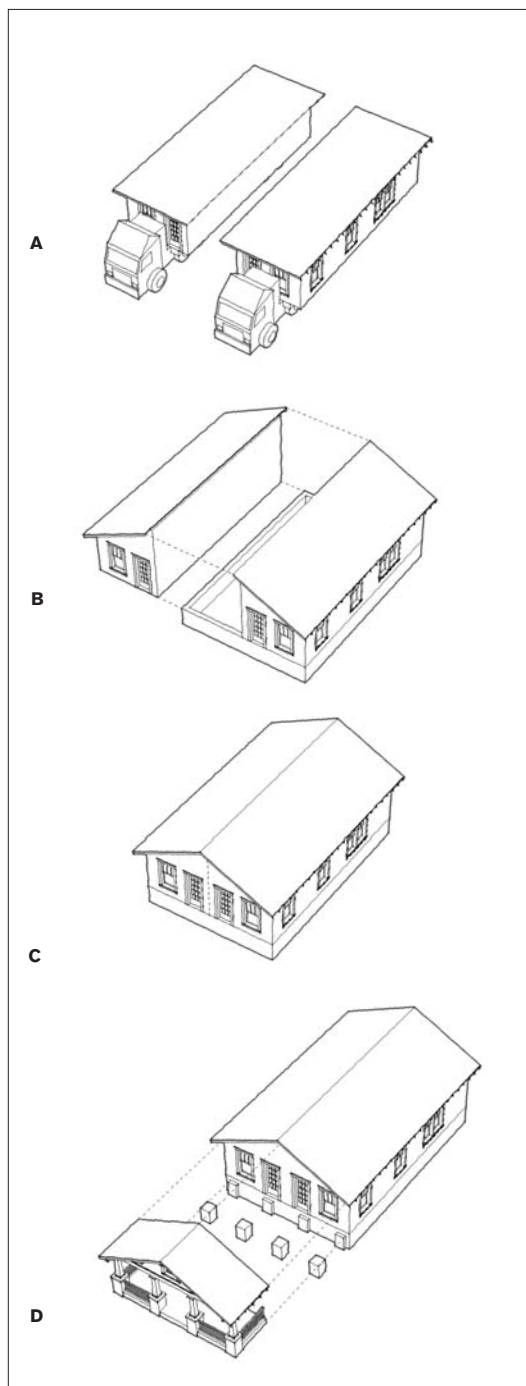
Timely replacement of the more than 200,000 homes that were lost in the wake of Hurricanes Katrina and Rita will require a variety of production methods. Conventional construction techniques alone cannot keep pace with the enormous need for housing because they require on-site skilled labor, efficient delivery of materials to the construction site, a prepared site, and consistent weather. Alternative methods—such as panelized housing, manufactured housing and ICF materials—make it possible to mass produce components in controlled environments in locations where an appropriate workforce is already in place.

Alternative 1:
Panelized



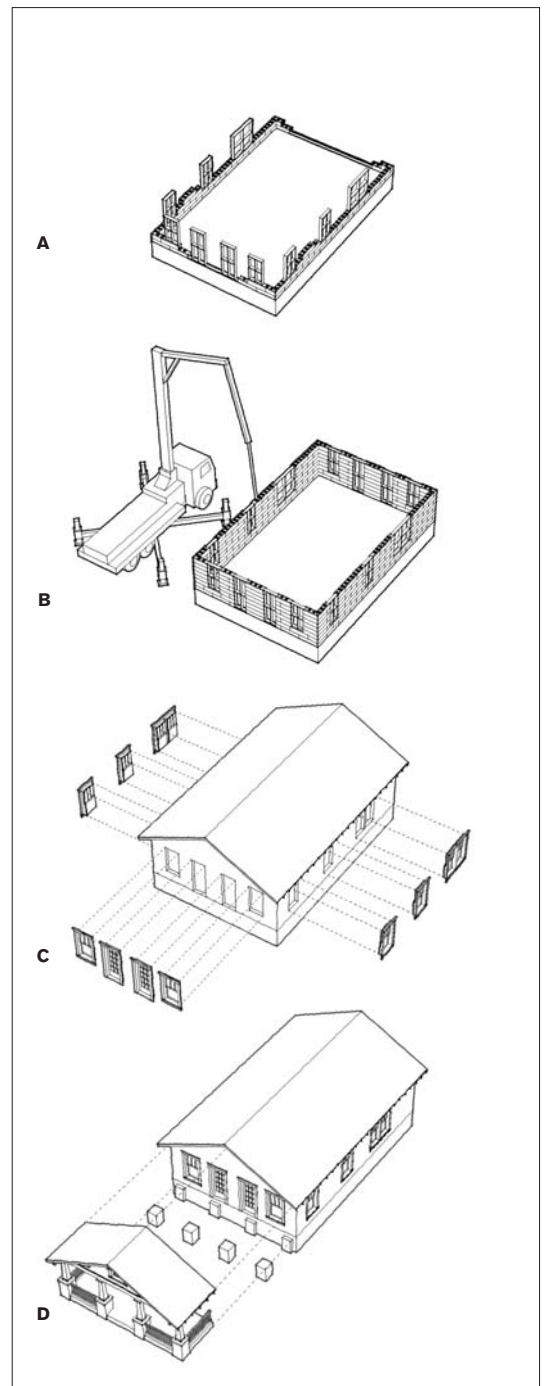
- A** Panels Arrive
- B** Panels Assembled and Finishes Applied
- C** Windows and Doors Installed
- D** Porches Constructed

Alternative 2:
Manufactured



- A** Pre-Constructed House Shipped to Site
- B** House Assembled
- C** House Sealed
- D** Porches Constructed

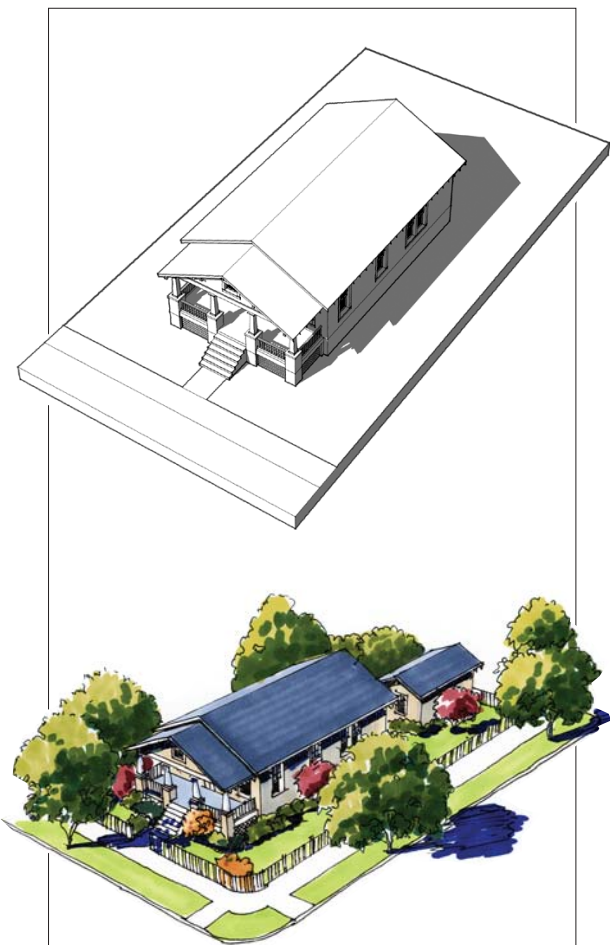
Alternative 3:
Insulating Concrete Forms (ICF)



- A** Forms Assembled
- B** Concrete Poured
- C** Windows and Doors Installed
- D** Porches Constructed

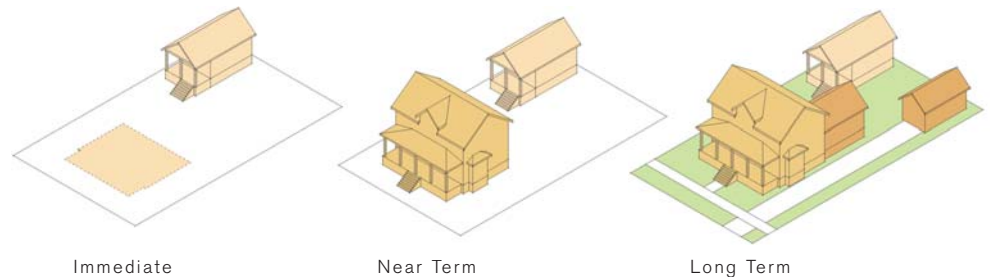
THE HOUSE THAT GROWS

Two prototypes for manufactured emergency housing were developed in the course of the charrettes on the Gulf Coast: the small 308 square foot Katrina Cottage I, proposed as an alternative to a trailer, and the 770 square foot Katrina Cottage II, both of which were designed to be a first step in the reconstruction of a family's home. The smaller one is a module that was stick-built off-site, while the larger one used a waterproof SIP panel system. Louisiana has a tradition of houses that have grown incrementally over time. In some established traditional neighborhoods, there are houses that began as simple modest structures that were added to with a collection of wings and subsidiary structures. In some cases, the main body of the house was added later. The diagrams illustrate how both of the Katrina Cottages can be placed on the site to create either a family compound or a large house with many wings.

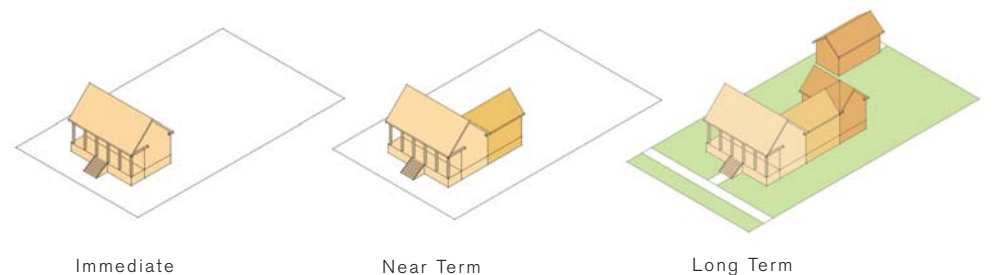


Timely replacement of the more than 200,000 homes that were lost in the wake of Hurricanes Katrina and Rita will require a variety of production methods. These three alternatives, as well as conventional construction, can be used to produce the house illustrated here.

Katrina Cottage I



Katrina Cottage II



Duany Plater-Zyberk & Company



Duany Plater-Zyberk & Company

Katrina Cottage I
Marianne Cusato, Architect

Katrina Cottage II
Andrés Duany, Steve Oubre, Susan Henderson,
Eric Moser, Steve Mouzon, Matthew Lambert,
Diane Dorney, Architects and Designers

DESIGNING MULTI-FAMILY HOUSING AND MIXED-USE BUILDINGS

The goal of building smarter, safer, and stronger calls for creating more compact, walkable neighborhoods and towns, thereby reducing sprawl. Except in New Orleans, the majority of residential buildings are houses with only a small number of rowhouses, apartment houses, and mixed-use buildings in the centers of towns. Therefore, a need exists to develop multi-family and mixed-use buildings that will continue the scale of the traditional towns, but with a new arrangement of spaces. These include some for which there are direct precedents, including rowhouses of two, three, and four stories and townhouse/commercial buildings with one or two floors of apartments atop ground-floor retail, often with galleries. Other types on these style pages include small apartment houses that resemble single-family houses; larger buildings with a form similar to the large mansions of Louisiana towns; and mid-rise, mixed-use buildings based on those found in the urban core of towns and medium-sized cities. These building types can be articulated in a number of different architectural vocabularies depending on scale: Louisiana Vernacular, Louisiana Victorian, and Louisiana Arts & Crafts for the smaller-scale buildings; Louisiana Classical or Modern at the larger scale.

ESSENTIAL ELEMENTS

Multi-family buildings are treated as either “big houses” within single-family detached neighborhoods or as attached, narrow houses in more urban settings. Traditional apartment buildings are found in the most urban (T5 & T6) settings.

Mixed-use buildings are typically two to three stories in height with a ground floor composed of individual shopfronts.

Mixed-use buildings often feature galleries over the taller ground floor; these galleries provide shade and rain protection for pedestrians.

The pattern of mixed-use buildings along a street creates continuous frontage with variation in narrow widths at the ground level.



MANSION APARTMENT BUILDINGS

- >> Small apartment buildings that are two- to three-and-one-half stories can be configured to resemble the large, single-family houses. Since many traditional neighborhoods have a mix of small and large houses, this approach can fulfill the goal of compact development without losing the character and scale of the neighborhood. Possibilities include one or two units per floor (which results in a single volume) and three to four units per floor (which can be articulated as two separate houses attached with a common stair).
- >> The buildings should be placed on their sites as guided by the setbacks of adjacent buildings and as is appropriate for the specific transect zones.
- >> Appropriate architectural styles include Louisiana Vernacular, Louisiana Victorian, Louisiana Classical, and Louisiana Arts & Crafts.



New Orleans



Beauregard



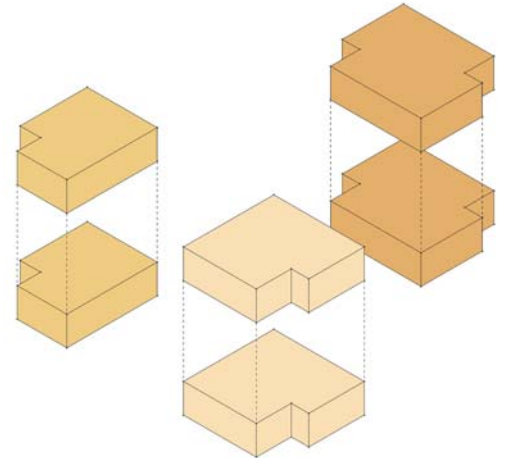
Example of 6-Unit Mansion
Apartment Building

Photo courtesy of Steve Mouzon

UNIT PLAN

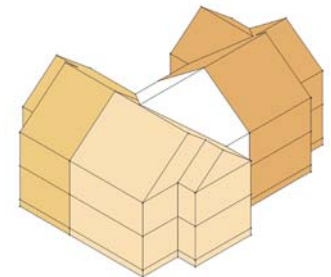
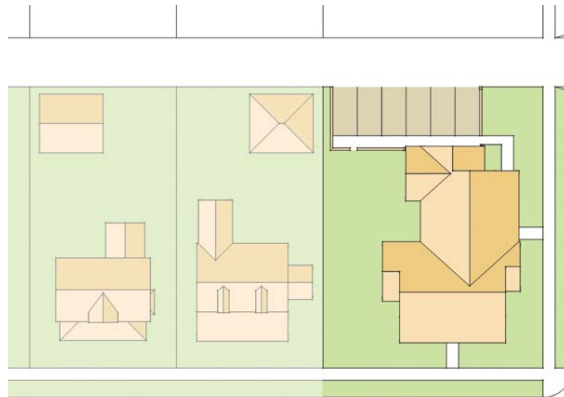


MASSING



Apartment units expressed
as separate entities

SITE PLAN



Massing of Mansion Apartment

SITE AXONOMETRIC DRAWING



ROWHOUSES AND SMALL-SCALE MIXED-USE BUILDINGS

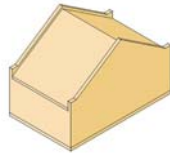
- >> The Creole-influenced style of rowhouses provides a wide range of building and use combinations. The narrow front, side-gabled forms can be used as individual buildings on narrow lots, in continuous rows of individual units, as a combined building with apartments served by corridors, and as apartments over ground-floor retail uses.
- >> For ground-floor residential uses, the buildings should be set back from the sidewalk to provide a small front garden. For retail and public-use ground floors, the facade should be at the property line or to a widened sidewalk.
- >> Great richness can be provided by adding porches and galleries to the upper floors. For all residential buildings, cantilevered balconies provide facade variation. For mixed-use buildings, the galleries and porches provide shade for the ground-floor uses as well as the outdoor spaces for the upper-level apartments.
- >> Appropriate architectural styles include Louisiana Vernacular, Louisiana Victorian, and Modern.



New Orleans

Photo courtesy of Steve Mouzon

ROWHOUSE MASSING >>



1-story Rowhouse



New Orleans

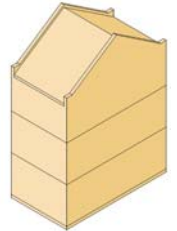


2-story Rowhouse



New Orleans

Photo courtesy of Steve Mouzon



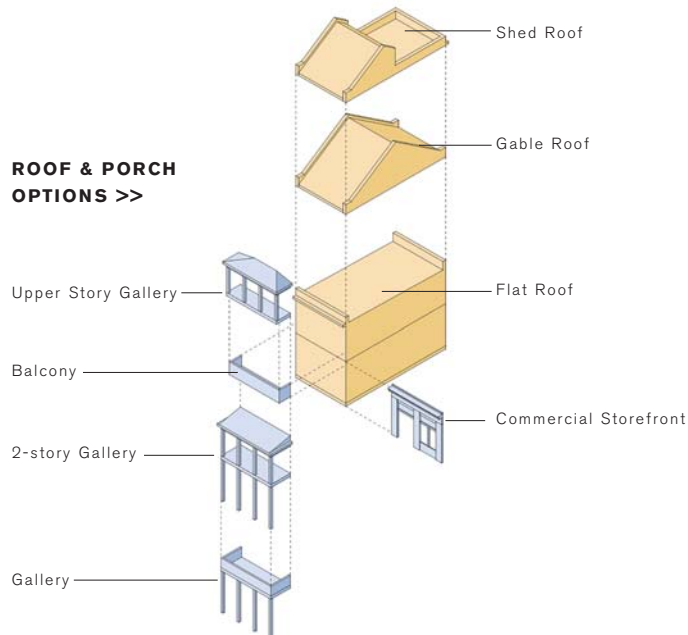
3-story Rowhouse



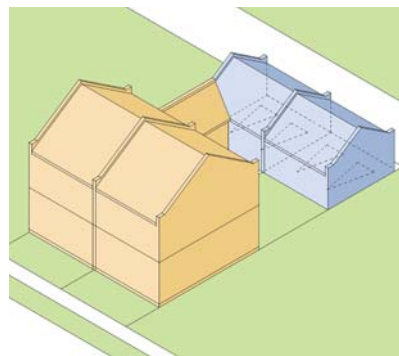
New Orleans

Photo courtesy of Steve Mouzon

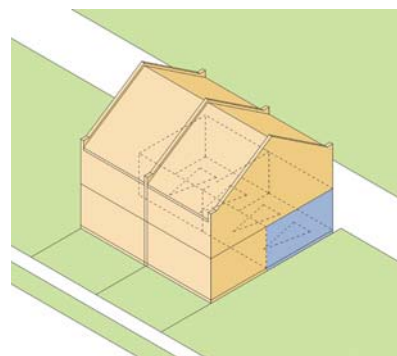
ROOF & PORCH OPTIONS >>



PARKING OPTIONS >>



Attached and Detached Garages



Tuck-Under Parking



New Orleans

Photo courtesy of Steve Mouzon

LARGE APARTMENT HOUSES AND MIXED-USE BUILDINGS

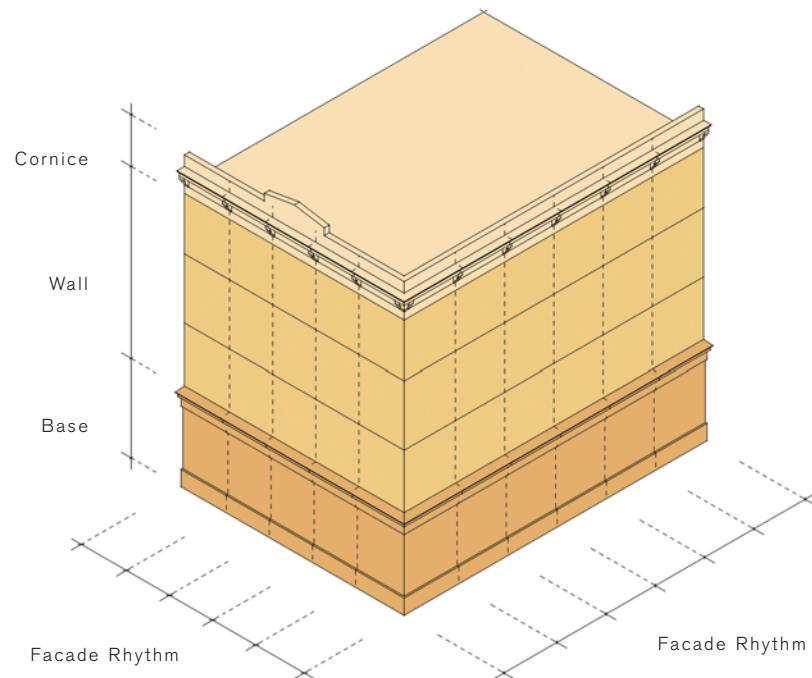
- >> Large-scale buildings, generally in the most urban locations, should be articulated in order to create an effective urban space and to relate to smaller-scale buildings in the adjacent neighborhoods. This includes a base of one or two stories and an articulated element that could be either a parapet expression or roof form. Ground-floor shopfronts and entrances to lobbies should be more transparent than upper floors.
- >> Buildings should be placed on their sites to create a continuous active street frontage. Buildings with ground-floor residential uses should be set back to provide a landscaped front yard. Ground-floor retail and public uses should open directly to the sidewalk.
- >> Appropriate architectural styles include Louisiana Classical, Louisiana Victorian, and Modern.



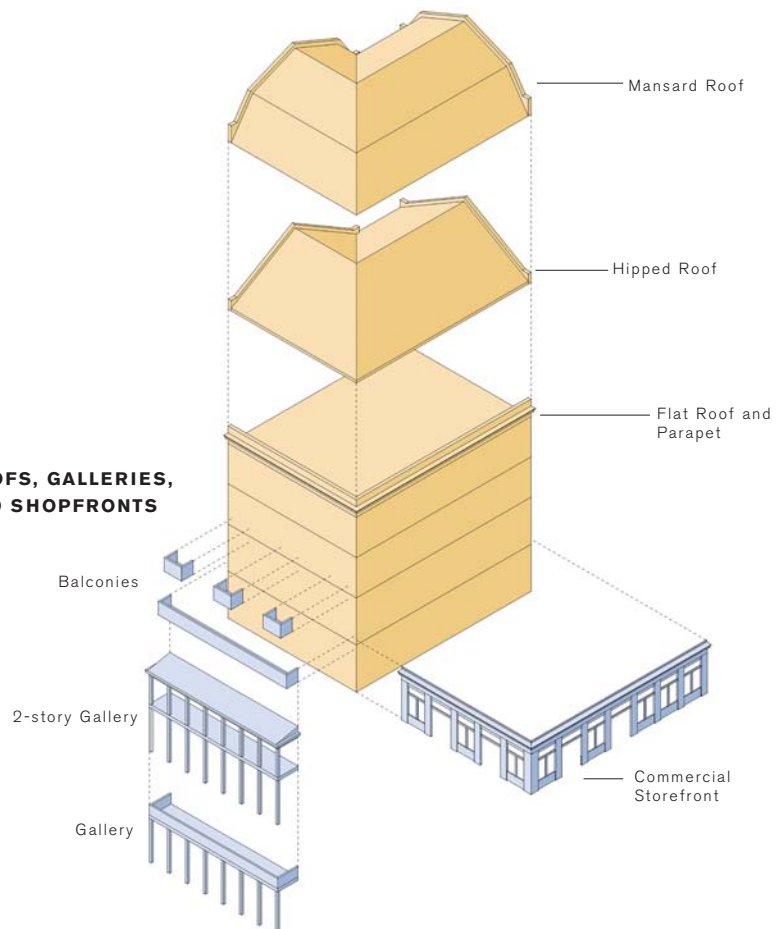
New Orleans



New Orleans



ROOFS, GALLERIES, AND SHOPFRONTS



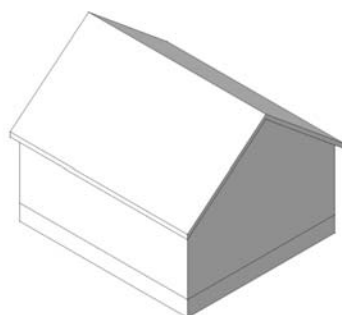
DESIGNING A LOUISIANA HOUSE

Most traditional houses are distinguished by a **MAIN BODY** that is always the most important form. Additional space is created through secondary additions to this Main Body. The first step in designing a house is to determine the Main Body Massing Type. This will guide the development of a new house plan or the modifications to an existing house.

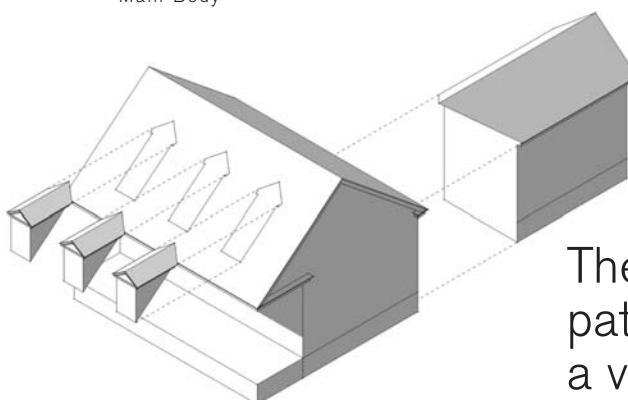
In general, additions are treated as **WINGS**. Side wings can be either one or one-and-one-half stories, set back from the front facade of the Main Body. Two-story additions can be added to two-story Main Bodies, but should be set back from the front facade and limited in width to a maximum of one-third the width of the Main Body. Side wings and rear wings can be added in many combinations.

Once the massing and the floor-to-floor heights are determined, various **DOOR AND WINDOW COMPOSITIONS** can be explored. Most styles have very definite patterns used to produce balanced or picturesque compositions with a harmonious and pleasing image. Window proportions, location, and spacing are all important and were well understood by early house builders.

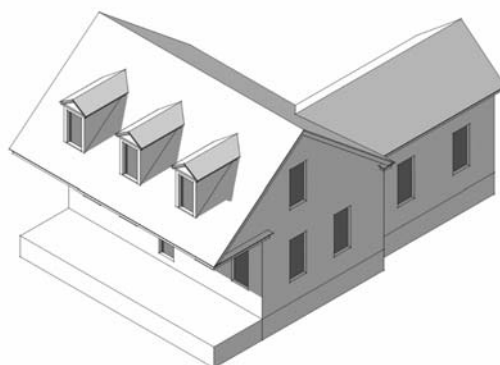
PORCHES are important elements of Louisiana houses and find expression in almost every architectural style or vocabulary. Setting the appropriate column types, porch cornices, railing, and balustrades is key to establishing the character of the house. The Pattern Book offers options found within a particular style, complete with sample profiles that illustrate the correct dimensions and components.



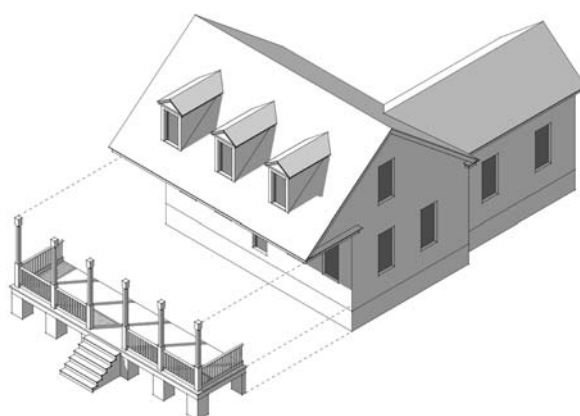
Main Body



Wings



Window and Door Composition



Porch

The traditional architectural patterns were followed for a very long period of time and have gradually evolved in form, blending traditions in ways that have ultimately created a rich mix of architecture in Louisiana's towns and cities.



Photo courtesy of Jay Edwards

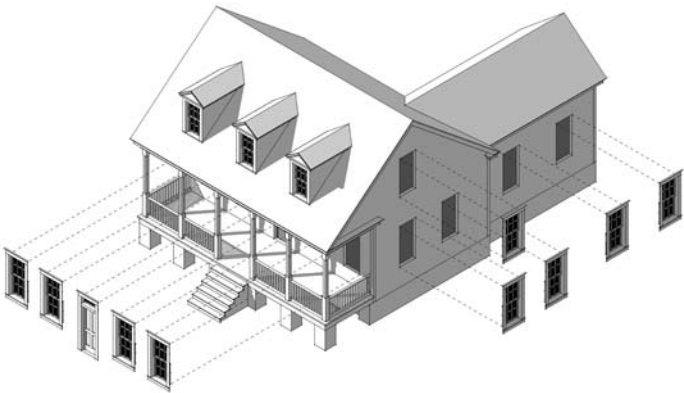


Photo courtesy of Jay Edwards

Lake Charles (historic)

While **WINDOWS AND DOORS** are available today from a wide range of manufacturers and come in almost any shape and size, correctly proportioned and detailed windows and doors are critical in reinforcing the style of the house. This Pattern Book illustrates standard window and door types used for each architectural style and special windows and doors used as accents.

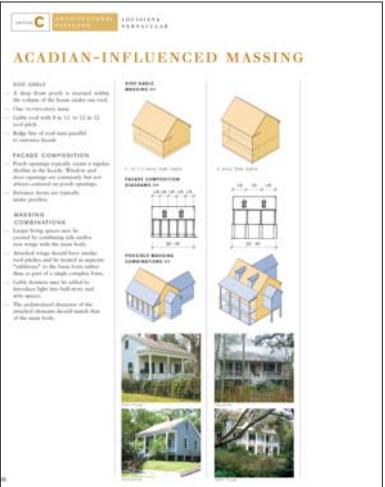
The **FINAL ASSEMBLY** of the various components should produce a house of recognized character and quality, no matter what the size. A series of illustrated possibilities within each style section demonstrates the effective application of the Pattern Book guidelines.



Windows and Doors



Final Assembly



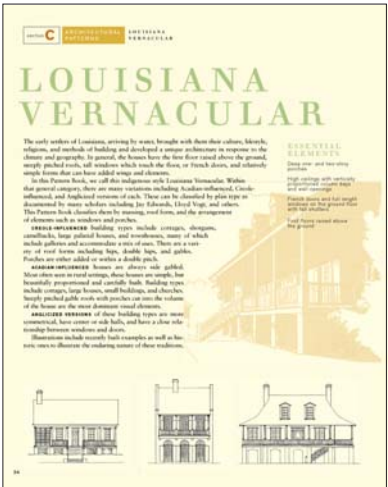
Acadian-Influenced Massing & Composition page



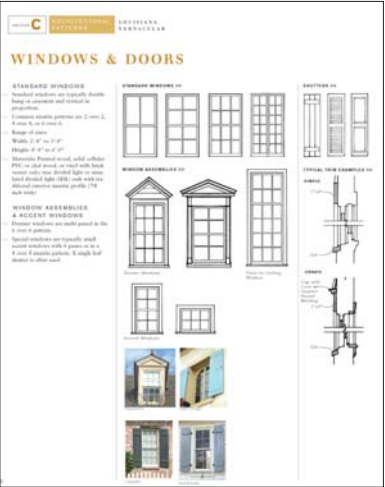
Porches & Galleries page



Baton Rouge



History & Character page



Windows & Doors page