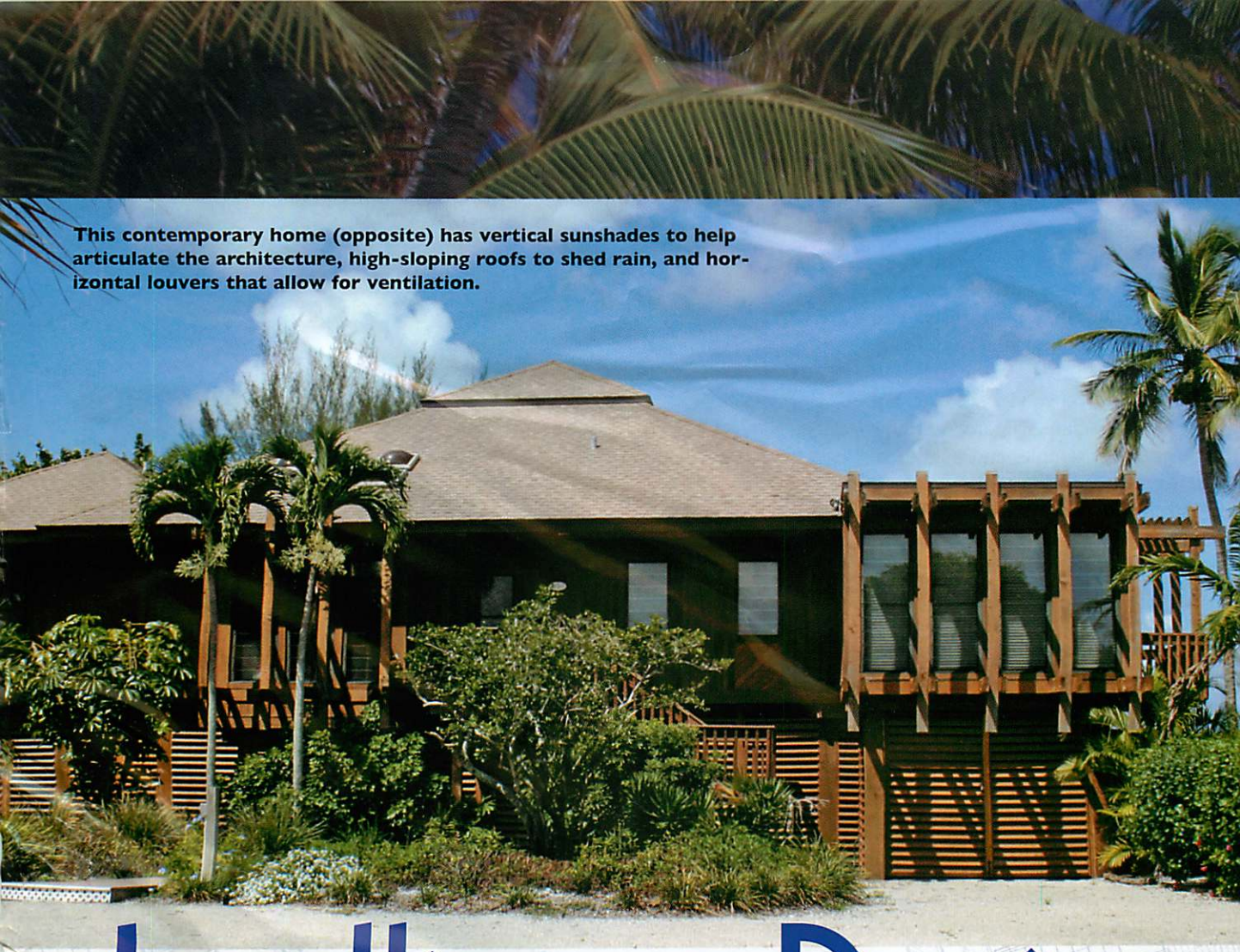


This contemporary home (opposite) has vertical sunshades to help articulate the architecture, high-sloping roofs to shed rain, and horizontal louvers that allow for ventilation.

Intelligent Design

Taking local factors into consideration helps create better-performing homes

by Libby Boren McMillan

Many a Southwest Florida local has gotten drenched by rain pouring off a roof overhang that didn't take the house's entry into account. Neglecting to create a dry entry in a region where rain is common is a major architectural flaw and underscores the importance of designing correctly for the environment.

Whether you're looking for your own home's selling points, thinking of renovating, considering a purchase, or simply expanding your appreciation of good architecture, Southwest Florida presents its own unique set of criteria for consideration. Recognizing not only the major points of *any* good building, but also those aspects that really make one work *here,* can be valuable beyond measure.

"There are three goals when you're designing a building," says award-winning Fort Myers architect and *News-Press* columnist Joyce Owens. "It must meet the user's needs, address the site, and consider the climate. In Florida, this last goal is very specific, because we have a subtropical climate. The best buildings take that into account."

Addressing Users' Needs

Rather than the inhabitants adapting to a building, the ideal design situation is to construct or live in a building that is specifically created for a purpose or lifestyle. Categories to consider include privacy, regularly occurring activities, maintenance, the accommodations of vehicles and belongings, and, in the case of houses, sleeping patterns and houseguests.

Addressing the way you actually live or work when looking at a property is crucial. If privacy is important, don't think that a handsome house with a neighbor ten feet away will actually work. Late sleepers should consider whether their master suite is going to be subjected to garage, driveway, or street noise. An anticipated slew of houseguests might give merit to an additional bathroom or extra parking spaces.

Residents who come and go throughout the year should look for low-maintenance homes and yards, so their sunny Florida time is not filled with chores. Pets mandate their own lists: Where can the litter box be stored? How will Spot come and go from the house?

If teens are part of the mix, a dedicated space in which the volume can be turned up without compromising the peace and quiet of others is a really good idea. Garage tinkerers need shade and ventilation to tackle summer projects. Alfresco dining requires a mix of sun and shade.

It's just as important to match function to style in commercial buildings. Owens's new high school campus for the Canterbury School in Fort Myers, for instance, is modern in style and a good example of how buildings can work well within their environment.

The orientation of the school's buildings combined with integrated design features reduce energy consumption. Large overhangs and shading devices decrease solar gain, but large windows allow daylight in and minimize the need for artificial light. All windows are operable to take advantage of natural ventilation and limit the dependency on air-conditioning. Native vegetation is used to reduce water consumption and positioned to maximize shading.

The goal is to be realistic about function when considering any building. Hoping or assuming "it will work out" is nearly a guarantee of a limiting compromise or long-term disappointment. Choosing or designing a building that fits the lifestyle or needs of its inhabitants will greatly increase the pleasure experienced within the structure.

BOTTOM RIGHT PHOTO BY LIBBY BOREN MCMILLAN; OTHER PHOTOS COURTESY OF ARCHITECT JOYCE OWENS

Design elements well-suited for the local environment include shaded porticos (above right) to keep building temperatures down, pilings (right) to help address flood concerns, and courtyards (below) to allow for privacy and cross-ventilation of rooms.

Even a utilitarian building (left) can be Florida friendly; note the dry entrance, a real plus for customers on a rainy day. This saltbox cottage on Cabbage Key (above) has a sloped metal roof and large porch, two elements well suited to the area climate.

Working with the Site

Great architects and designers spend a lot of time getting to know a site before they draw plans for building on or improving it. Advance planning greatly enhances the compatibility of a building to its site. The goal is always to maximize the site's existing benefits while hiding or downplaying its negatives. The key is to identify them upfront and design for both. Thinking outside the box is also helpful.

Look around your neighborhood and you'll see examples of buildings that were designed with site in mind (and those that weren't). A less desirable view or less privacy on one side of the property ideally might call for high windows, allowing light and air to come in without exposing a negative.

Discovering the prevailing wind direction of a site is critical to designing a successful Southwest Florida residence. Situate the building to best capture breezes, which hold down the utility bill and energy consumption.

Saving mature trees is always a nice idea, but determine how the site's existing shade can best serve the structure. Learn which parts of a home or business benefit most from shade.

A recent battle between homeowners in a Sanibel neighborhood and an owner who wanted to dwarf all the existing structures with a new home underscores the design component of harmony. In her *News-Press* column, Owens explained, "An appropriate structure should be styled in such a way that contributes [to] rather than detracts from the overall aesthetic of the surrounding neighborhood. This includes size and mass, as well as styling or cosmetics." Some sites are far more suitable than others for something different.

Designing for Climate

Southwest Florida's heat and humidity can be as brutal as any winter and often catches transplants to the area off guard. A well-designed building holds the worst elements at bay and works with those that enhance comfort.

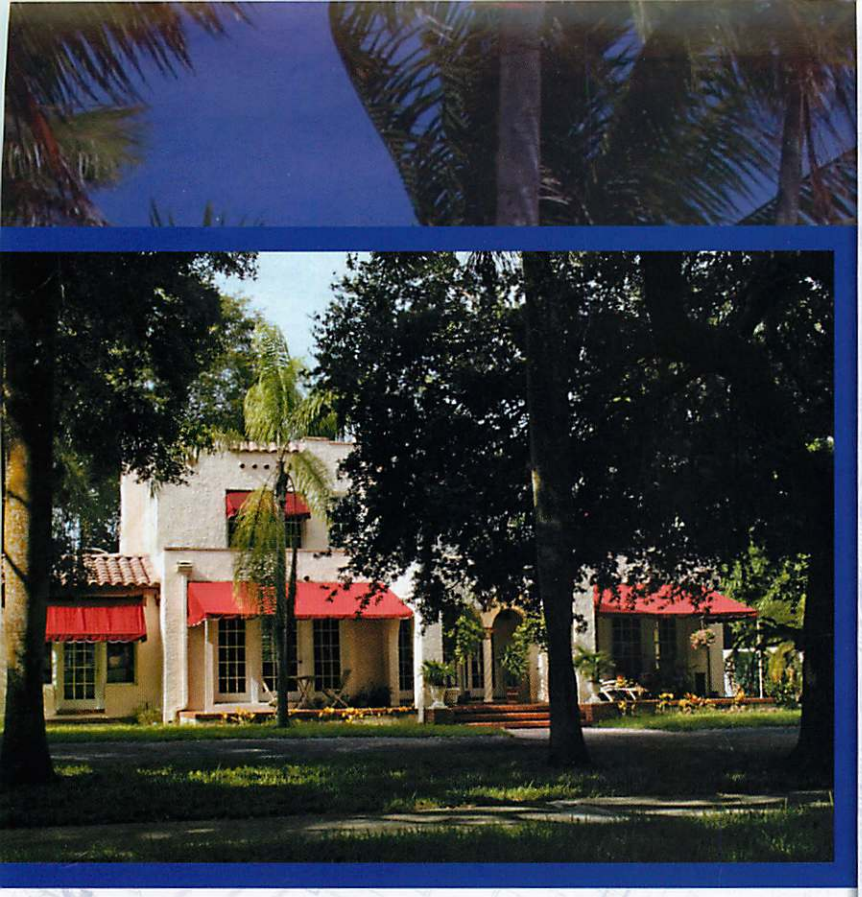
"The best buildings take natural breezes into account," says Owens. "Allow houses to be completely cross-ventilated in both directions; buildings like this are going to be much cooler." And as a result, homeowners won't have to use their air-conditioning as frequently.

"The original Spanish Revival style of the 1920s—found in the older parts of Fort Myers—was appropriate to local climate," says Owens. "Awnings, porticos, and loggias shade the windows and walls. They are traditionally only one room deep, with internal courtyards making them easier to ventilate."

"The wider the roof overhang, the shadier the exterior wall is, so it doesn't transmit heat to the dwelling," says Sanibel-based contractor Mark McQuade. "As long as you can shade the wall, you're ahead of the game."

Owens explains that many houses billed today as "Mediterranean" are taking references from Italy, Spain, and South America without taking the local environment into account. Many new homes have hot, sunny exterior walls, no shaded or screened porches, and floor plans without cross-ventilation, meaning there's no way for air to move naturally through the rooms.

Both Owens and McQuade are fans of clerestory windows, which are set high into a wall well above eye level. "They're great," says Owens. "They bring the light in." And since hot air rises, they also help to cool off a room. "If you're able to open those, and have a fan on reverse, it will make the hot air rise, and the clerestories will suck the hot air out of there," says Owens. But she adds that these kinds of windows need to be protected from the sun, or they can also bring in a lot of heat.



Awnings and a portico reduce the effects of the sun on this 1920s Spanish Revival–style house.

Skylights present the same kinds of opportunities as clerestories, "but you should use heat-reflecting glass [like low-E glass] or film to reduce heat gain," says Owens. "And make sure they can open too. Another great trick is putting an extract fan at the top of a false chimney, which can mechanically pull the hot air out of the house."

Having some protection at the home's entrance is a twofold function, to abate effects of both sun and rain. "Far too many homes on Sanibel have wet entrances [or entrances unprotected from the elements]," says McQuade. "In the boom of the 1980s, people were just throwing houses up and not thinking about the entry. People have wised up though; they're tired of getting rained on."

Old Florida Cracker-style buildings were brilliant about addressing the area's climate. "Raising a building off the ground does three things," says Owens. "It helps with flooding. It will allow the shaded air to keep moving underneath the house, which keeps the air naturally cooler; the floor isn't hot. And it helps with insects, because the house isn't sitting on the ground."

Screening addresses bugs and ventilation too. "It would be nicer if people didn't put the cages on the back of their houses, but actually integrated the screened spaces into their homes with an extended roof and columns to support the screening, instead of boxes attached to the houses," says Owens.

Roofs also play a valuable part in making a house work with the Southwest Florida climate. "A high-pitched roof allows hot air to rise, sheds the rain, and reflects the sun, if it's metal," says Owens.

By keeping all these design factors in mind, area homeowners should be able to see or imagine local structures through new eyes. And if they incorporate some of them into their own homes, it should make living in paradise even more enjoyable.

Freelance writer Libby Boren McMillan is a frequent contributor to Times of the Islands *and* RSW Living.

Holding up to Hurricanes

Fifty-year Sanibel resident and contractor Mark McQuade has seen his share of hurricane damage. We asked him what design components best survived Hurricane Charley, and which didn't fare as well in the storm.

"Hip roofs definitely lasted better, versus gable roofs or shed roofs," he says. "And low-profile roofs—not steep ones—did better. The airflow could run right over them, like an airplane wing."

Metal roofs all did well, and shingle roofs did second-best when it came to holding up against hurricane-force winds. "Regular shingles are fine; they perform well," says McQuade. "They're nailed much better than earlier models were. But metal appears to be the best choice at this point. It will suffer the least amount of damage and get the longest life."

"Tile took the worse hit because of the way it's fastened," he says. "They're coming up with glues now that they hope are going to get around that, but it doesn't seem like it's the right choice. Unfortunately, that's what people want." (McQuade, who grew up on Sanibel Island, saw the original influx of tile roofs when Michigan Homes started building in the late 1960s and early '70s.)

"In Miami, when [Hurricane] Andrew hit, the tile all ripped off and hurt all the houses nearby," he says. "It's an airborne missile that shoots through windows and walls." McQuade recalls how, after Charley, roof tiles from the houses on the bay were stuck into walls at the Bubble Room, a Captiva restaurant that's one street over from the water.

When it comes to windows, McQuade is seeing people go for impact glass now, instead of single-pane one-eighth-inch glass. "The new impacts are a lot thicker, and people are finally coming around and realizing they don't have to have the high-maintenance shutters," he says. "[Shutters are] horribly expensive and require a lot of maintenance. The ones that you crank have to be lubricated and cleaned all the time. Electric ones go bad. Service contracts are required. Impact glass gets rid of all of that." And those who were here for the four storms that affected the state in 2004 will remember the many year-round residents who were living for weeks and months in shuttered homes—definitely not a pleasant way to live.

McQuade has also seen homeowners move away from vinyl siding since Charley. "[They're] going toward nail-down siding like hardiboard and manufactured siding that will stand up to wind better," he says.