



ARCHITECTURE

EHLINGER & ASSOCIATES

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NOTTOWAY PLANTATION
Whitecastle, Iberville Parish, Louisiana, USA
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NOTTOWAY PLANTATION

Nottoway Plantation house, this issue's limited edition print of a sketch by Ladd P. Ehlinger, near Whitecastle in Iberville Parish, Louisiana is one of the largest plantation houses ever built in the southern region of the U.S. Designed by the renowned architect Henry Howard as a result of an informal competition of several submittals by architects to John Hampden Randolph, the owner. Randolph's father had come to Louisiana from Virginia in 1820, and brought with him the tradition of the planter's life, which was maintained and expanded by his son.

Nottoway plantation consisted of 6,200 acres purchased by the father in 1841, who initially built the plantation with 155 African slaves into a sugar cane business. The son expanded the plantation business and it became very profitable -- so much so that one of the most ambitious mansions of the south was initiated and completed in 1858.

The main house is placed about 200 feet from and faces the Mississippi River among oaks, magnolias, pecan trees and sweet olives. It is composed of 64 rooms on three levels with the crowning achievement being the semi-circular Ballroom on the first level, with the Master Bedroom above that can be seen in

the sketch in the center. The columns and brackets and the 200 or so windows are all tall and narrow in the Italianate style. The entablature is heavy and with the Italianate brackets is close to the evolving Victorian style. The balustrades are cast iron as most of the New Orleans balconies were, but of Italianate motifs. The exterior and interior of Nottoway is white in color, including the interior Ball-

room Corinthian columns, marble mantels, curtains and even the floors.

A neighbor built an even larger plantation mansion called Belle Grove of pink brick and plaster to deliberately contrast with Nottoway's white. To one-up-man-ship Rudolph further, Belle Grove was designed by the same architect, Henry Howard. Belle Grove is in total ruin today, while Nottoway survives with grace.

In 1862, Randolph took most of his slaves and went to Texas to work a cotton plantation to keep his business afloat. His wife, Emily Jane Liddel Rudolph stayed behind with most of their ten children to keep Nottoway safe from harm and to run it as best she could under the circumstances. The teen age daughters were sent away to a safer location.

Emily Jane at the age of 45 protected the house when Union gunboats were in a battle with Confederate troops on her front lawn. The gunboats actually shelled the house inadvertently. The Union officer in charge of one of the gunboats realized that he had stayed at Nottoway before the war and stopped the shelling, sparing the house. The Union army never entered the house other than to

search for weapons, though they did bivouac on the grounds.

Today, Nottoway has been fully restored and converted to a Bed and Breakfast and serves as a living museum of plantation life. The main house, out buildings and cabins are furnished as hotel rooms in the style of the plantation days. Tours call on the facility, and are fed in a large meeting room / restaurant that has been built for that purpose. The price is moderate and worth the visit. You may reach them at www.nottoway.com.

MOLD IS GOLD

...for the lawyers and experts dealing with it in litigation. Mold and mildew have taken the place of asbestos as the grist for plaintiff (and defense) lawyers making a lucrative living. Several aspects of design and construction have conjoined to bring this about: a lessening of standards and knowledge of design professionals and constructors, a seeming increase in certain standards to accommodate energy and health concerns, and greater knowledge of the health aspects of mold upon humans.

Design and construction standards and knowledge have deteriorated markedly in the past fifteen years. The schools of architecture and engineering have become dominated by teachers who have little or no experience in design and construction. Practical knowledge has been lost or has failed to have been passed on to the novices. Consequently, there are now graduate architectural practitioners who do not know how to design a wall that is air tight, leak resistant and manages water vapor. In addition, new products such as EIFS (Exterior Insulation & Finish Systems, a synthetic stucco) have achieved widespread usage in the market with little understanding of the subtleties and fine points of these assemblies. Old products, such as cementitious stucco and brick veneer have enjoyed a renaissance

without having the expertise of the old master being applied.

For instance, brick veneer is an old assembly that now is being used with a metal stud back-up wall, whereas before it was used with a masonry back-up wall or wood stud back-up wall. The difference has profound implications. The masonry back-up wall typically was more air tight by virtue of how it was built than the wood stud wall, but both types were thermally neutral with respect to the ambient air when compared to the metal studs. In other words, one may "get away" with a slightly leaky wood stud back-up wall, but one definitely can't with a leaky metal stud wall: the warm moist air from the exterior condenses rapidly on the cold metal studs.

Some of the lack of knowledge we see implemented in brick veneer walls are: unsealed gaps, cracks and openings in the sheathing of the metal stud wall such that warm moist air penetrates to and through the back-up wall; lack of base flashings to direct the water back out through weepholes; less than adequate width of the air space / cavity (minimum 2"); air spaces / cavities with mortar bridges that convey water from the brick veneer to the back-up wall; weepholes that are impacted with mortar droppings within the walls or blocked by their method of construction such as with sash cords that are left in place such that the cavity fills up with water; unsealed junctures of the sheathing with windows and doors; placement of windows in the middle of the air space or cavity; lack of

weepholes at all; and lack of base flashing and end dams on the base flashings.

Similar errors occur in the EIFS and stucco walls: no head flashings on windows or doors; no sill flashings on windows or no end dams on sill flashings so they may as well not be there; no provisions for control joints to direct where the inevitable cracks will take place (150 SF in cementitious stucco -- 10' x 15' or 12' x 13'); no coating over the cementitious stucco such that water fills the stucco pores and drains downward and sometimes inward due to total reliance on the paper backing of the lath for waterproofing; no design provisions for penetrations such as refrigerant lines, conduit, hose bibbs, downspout straps, shutters, etc. such that leaks occur around these penetrations; and no provisions for junctures with other materials.

On the other hand, standards have increased in the quest to save energy: more weatherstripping is applied to doors and windows in the field and in factory built assemblies resulting in tighter, less air leakage in openings. This resulted in complaints about chemical pollution from building material solvents used in paints, carpets, plywood and other engineered wood products which raised concerns about "sick building syndrome" and caused demands for more fresh air in HVAC (heating ventilating and air conditioning) systems. The standards were changed in 1987-88 to require a much larger amount of fresh air. For instance, in schools the standard was raised from 5 CFM (cubic feet per minute) per person

to 15 CFM of fresh air. Mechanical engineers began complying with the new requirements without thinking through all of the consequences.

Some buildings had the additional air designed in without the air being conditioned to remove the humidity, resulting in HVAC systems that never cooled properly and were always humid. Some designs also didn't factor in the Restroom exhaust properly as well, resulting in tremendous quantities of warm moist air being drawn into the building (negative pressure), overwhelming the HVAC system, creating condensation and growth of mold. Similar situations occurred in hotels, office buildings, and in other building types in addition to schools.

With the conjunction of defective design and construction, mold problems started to become prevalent in the early 90's and the health aspects of the mold infestations became apparent. Some molds can infect humans directly and grow within the body. Other molds produce mycotoxins that are thought to be directed against other types of mold and bacteria. For instance penicillin is a mycotoxin produced by the Penicillium mold. Some people are very allergic to these mycotoxins and become ill when exposed.

SCOTTSBORO AIRPORT

The sketch below is of the front elevation of a new hangar, part of a new terminal and hangar project that E&A is doing for the City of Scottsboro, Alabama.

