

Interview of Curtiss Byrne by Brandie Allen-Rezac for an Insulated Concrete Form Trade Magazine

Brandie: How much responsibility do you believe architects need to take in the building process for the building/construction industry to positively impact the environment?

Curtiss: I believe that architects have a great professional responsibility to design sustainable buildings and to encourage their clients to implement sustainable building methods. Currently buildings account for 40% of the all the energy used in the U.S. Both the American Institute of Architects (AIA) and The U.S. Green Building Council (USGBC), whose members include architects, are examples of organizations that are already setting goals to reduce greenhouse gas emissions in the Building Sector by 50% by the year 2010 and eliminating carbon emissions altogether by 2030.

Brandie: What efforts do you think it will take in order to meet the carbon reduction goals set by the AIA and USGBC?

Curtiss: It will take a collaborative effort by the building industry, government agencies and end users in order to meet the carbon reduction goals set by the AIA's 2030 Challenge. Building and energy codes for example will need to be amended. Current building energy conservation standards only go 25% to 30% towards the 2010 carbon reduction goal. California is the first state to adopt a Green Building Code which in addition to the goal of reducing energy consumption by 15% above the current standards has more stringent optional standards which will become mandatory in the 2010 edition of the code.

Brandie: In regards to energy efficiency, how much of an impact do you think ICFs have in the final result of a building as compared to other features like energy saving windows, ventilation systems, etc? (With this question, I am trying to get at how important ICFs are when also using other energy efficient products.)

Curtiss: Insulated Concrete Forms have a significant impact when part of the design of an energy efficient building. While the addition of energy efficient windows to a design, for example, might result in an energy savings of 10%, we have been able to attain a reduction of 60% to 80% in energy consumption over conventional construction when ICFs are used in conjunction with other upgrades such as energy efficient windows and Geothermal HVAC. One of the benefits of the ICF is that air leakage is a major contributor to energy loss and when building with ICFs, it is easier to attain a sealed thermal envelope thus reducing energy consumption.

Brandie: Tell me about your first project you designed with ICFs. What precipitated the decision? If you did not use ICFs, the exterior walls have been constructed from what material?

Curtiss: The first project which I used ICFs on was Roberts Place, a 26 lot infill development of green homes in the City of St. Louis. The original plan was to build the 3,000 square foot residences using conventional framing. Midway through the construction drawings, the developer decided that building with ICFs would better provide the energy savings we were trying to achieve.

Brandie: How did the design of the project go? What issues did you have? The construction?

Curtiss: One of the challenges I experienced designing the residences at Robert Place was converting the designs from stud construction to ICF construction. Because we were building “green” I wanted to design the house to a modular size to reduce cutting and waste, but the ICF module is different than the typical 4’-0” module of frame construction. The contractor still had to trim many of the forms, but I have been able to better apply the ICF module to my new designs.

The construction of the houses at Roberts Place went fairly well considering the subcontractors were inexperienced with ICFs. People from the ICF company were brought in to train the subcontractors and halfway through the second house, the subcontractors were operating efficiently and smoothly.

Brandie: As far as the future of building, what challenges do you and other architects face? In the immediate future? 30 years from now?

Curtiss: Architects will face many challenges in the next coming years trying to keep up with all the new emerging products and technologies while attempting to decipher which products are sustainable and environmentally friendly and which products only claim to be “green”. In thirty years, architects and contractors will be faced with the challenge of dealing with a plethora of obsolete McMansions and big box stores. These buildings will be difficult to renovate to meet the energy codes of the day and the landfills will be full or too expensive to simply tear the buildings down and dispose of them.

Brandie: Do you see a trend towards using ICFs in certain types of buildings?

Curtiss: I see an increase in using ICFs in custom residences, multifamily residences and retail buildings over the next few years because clients are requesting buildings that save money through energy efficiency and are environmentally responsible. The construction of custom residences, multifamily residences and retail buildings lends itself well to ICFs.

Brandie: Clients are demanding their structures be kind to the environment or to be “green”. Are they willing to pay more? What are finding when it comes to the costs?

Curtiss: I believe clients are willing to pay more for “green”. Clients value the savings of energy efficient buildings, improved indoor air quality, and environmentally friendly products. Some green features have no additional cost like using no-VOC paints or planting native drought resistant plants. Other features like high efficiency HVAC equipment do come with an added expense, but overall we have seen an increase in construction cost of about 10% to 12% to go “green” depending on the size and type of building. Much of this expense is recouped in energy and maintenance savings over the first ten years. In some cases green buildings also benefit from reduced insurance costs and lower mortgage rates. Studies have also shown that green certified buildings have resulted in better sales, faster lease ups and higher resale value.