

Frank Lloyd Wright Pastiche

When Frank Lloyd Wright died in 1959 he had designed over one thousand buildings, over 500 had been built, a very substantial number of them residential, and about 300 hundred of these belonged to a type he termed, Usonian. For those aficionados and admirers of Wright's work one finds in the Wright literature an often repeated comment by his clients that working with Wright was one of their lives' great experiences (Edgar Tafel, "Years with Frank Lloyd Wright: Apprentice to Genius").

For those arriving at the time in adulthood when building a home for themselves was an option, if it was after 1959, the opportunity to experience that genius first hand was denied.

To thwart the chronological realities of death and birth, but experience in some small measure the genius of Wright and his Usonians a fiction was contrived for this property. If it was sometime during the 1940's or 1950's and a property was purchased that was identical to the existing property, with nineteenth century carriage house and barn, along with matching plat boundaries and contemporary code and setback restrictions, and Wright was hired to design a Main House for the property --- what might he have done?

Fanciful for certain, and perhaps even arrogant; undertaken nonetheless. To that end an Inline Usonian was conceived, borrowing similarities, differences, and individual details from Jacob House 1, Baird House, Rosenbaum House, and Zimmerman House.

The caveat and challenge: execute the above, but do so incorporating a high performance and durable envelope.

Design Program

Wright's Prairie Style architecture emphasized horizontality, thinness of building assemblies, cantilevers and extensions of structure and assembly members from interior conditioned space to the exterior, dissolution of corners, all with minimization of structure. Each essential to his design philosophy, but antithetical to High Performance Envelopes where thickness of assemblies are necessary and continuity of conductive materials must be interrupted from interior to exterior in order to achieve thermal performance (eliminate/reduce thermal bridging).

One at the time issues had to be addressed with complex assembly details. Some examples:

- Thin four foot stepped cantilevered overhangs had to be thermally separated yet structurally connected at the conditioned envelope.
- Main floor elevation had to appear continuous at door thresholds with the exterior terrace at the same elevation.
- A 5' x15' chimney stack penetrated the core of the conditioned space requiring all appropriate thermal breaks between conditioned space and the exterior.
- A series of exterior planters, mirrored on the interior, had to be decoupled with only the appearance of glass dividing the interior from exterior spaces.
- Window glass had to appear frameless in places as it merged seamlessly with brick elements.
- Strategies to allow for multiple recessed lights, banes to decreased conductive values and air sealing strategies, but one of Wright's key design elements had to be resolved. Fortunately color

temperature improvements in LEDs allowed their use to duplicate the incandescent glow of Wright's buildings.

The primary heat source of a radiant system in the floor slab is similar in concept if not materials and boiler design to the one Wright put in Jacobs House 1 in 1936 and offered no special challenge. However, incorporating the additional contemporary mechanical requirements, e.g. extensive electrical wiring, hot and cold water lines, plumbing vents, data wiring, HRV supplies and returns, condensation lines, low voltage wiring, etc. in a structure that is without basement or attic and to which no soffits are allowed to interrupt the horizontal plane of the ceilings extending to the exterior soffits presented additional design challenges.

Additionally, of course as Wright would have done, attention was paid to the subtleties of approach, threshold, materiality juxtaposition, color placement, siting and fenestration for views, protection from winds, and solar optimization.

Project Status

The project was completed and occupied in September of 2016 and received a HERS Index Rating of 42. No other certification was sought.

There is no plan at the present to add a PV array, because of site limitations and aesthetics.

Annual energy data will be accumulated and we will see, if the predicted EUI of 23 kBtu/sf is achieved.