Bellaire Porch House

Houston, TX

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Designed to withstand a wide range of environmental factors this residence also minimizes its impact on its surroundings by utilizing methods such as highly efficient irrigation, rain chains for rainwater collection, landscape as filtration for runoff water, and native planting. Both the architecture and landscape are LEED certified and highly sustainable.

The Bellaire house adopted the idea of using simple, vernacular architectural forms with custom porches and covered walkways that serve as the connective tissue of the detached rooms. The outcome is an integrated, site specific design that fosters a close relation with the landscape. The design provides seclusion for the three separate living areas while also nurturing a sense of connection in the communal areas. Outside, hedges begin to create small and large gathering spaces at grassy lawn areas while rain gardens and cedars are provided as backdrops. The property line is buffered by a stand of bamboo, and colorful perennials acting as a continuation of the linear pool that stretches out from the central porch.

Client

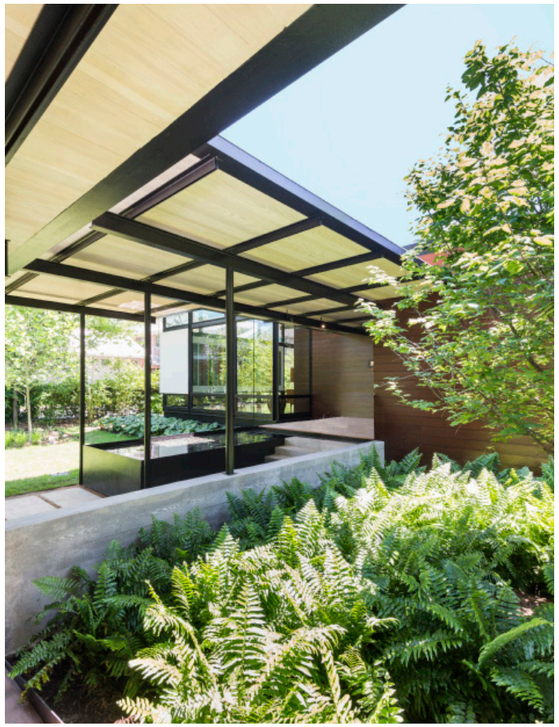
Private Residential Client

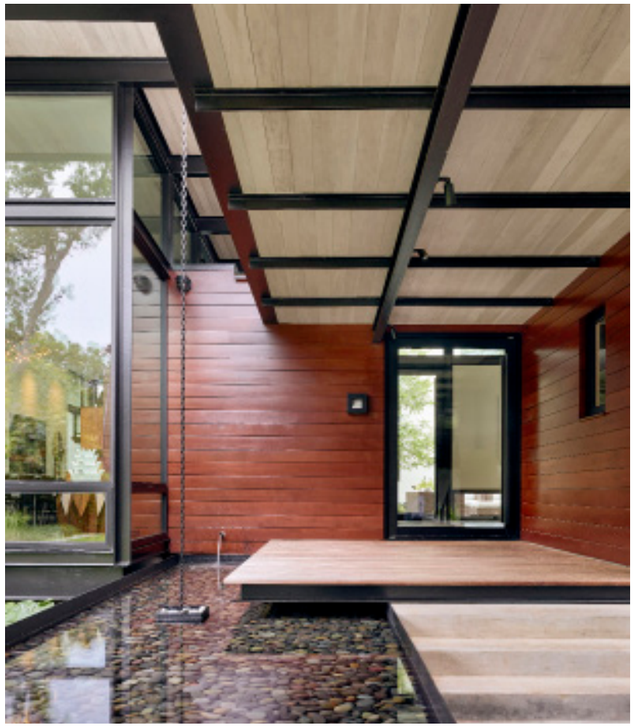
Team

Lake/Flato,
Natalye Appel + Associates
Karen Rose Engineering & Surveying

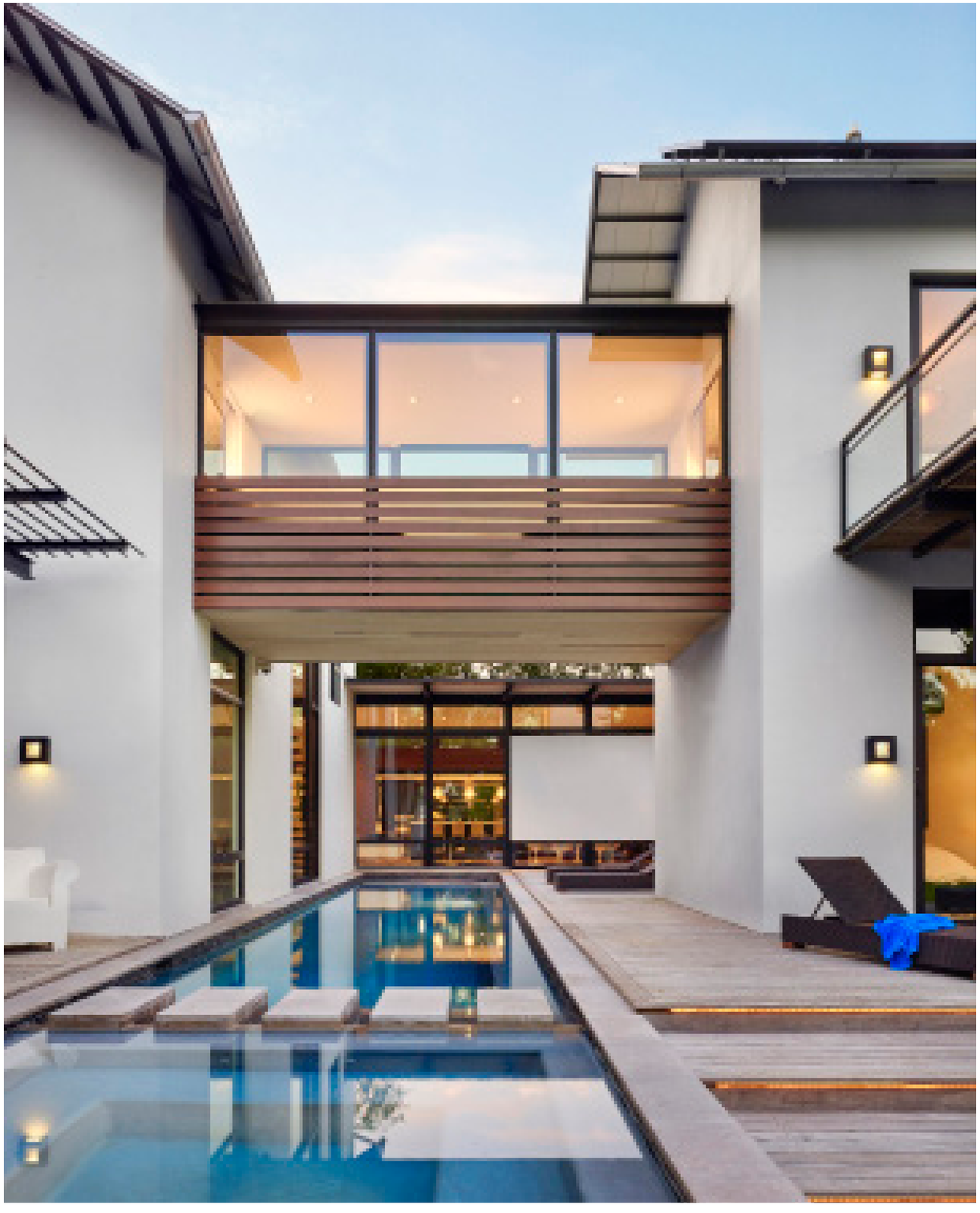
Cost

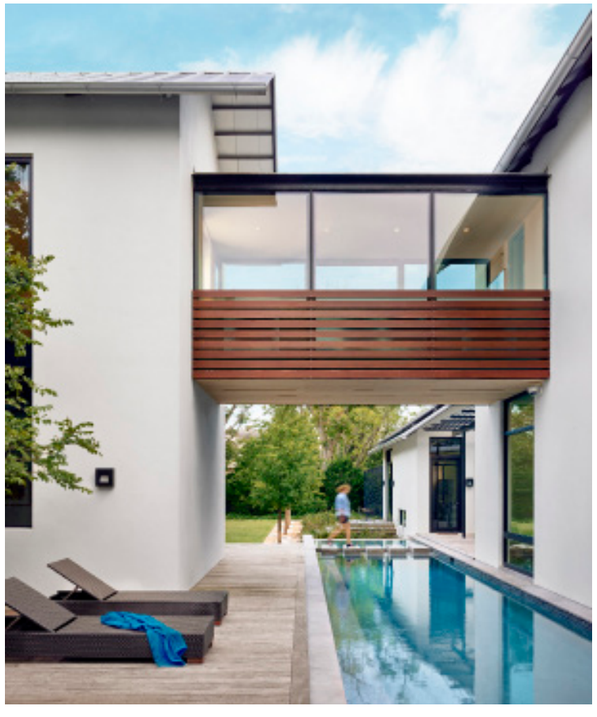
Confidential



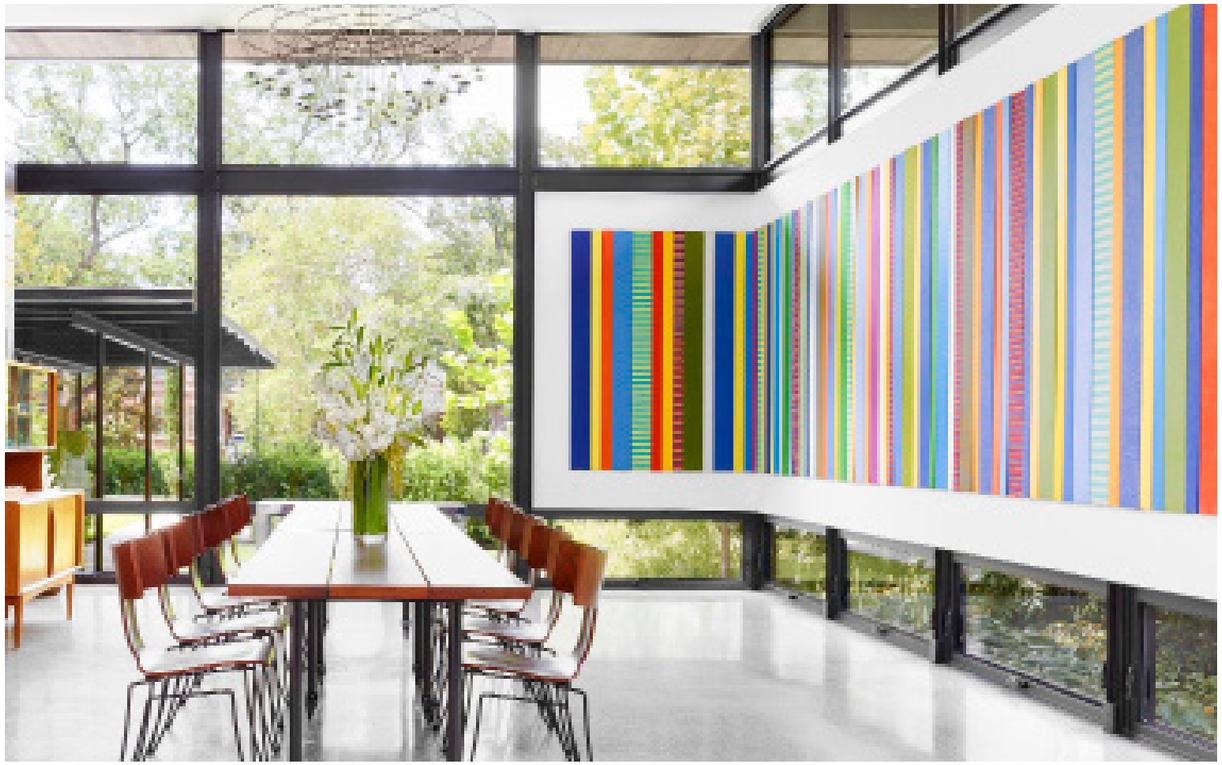


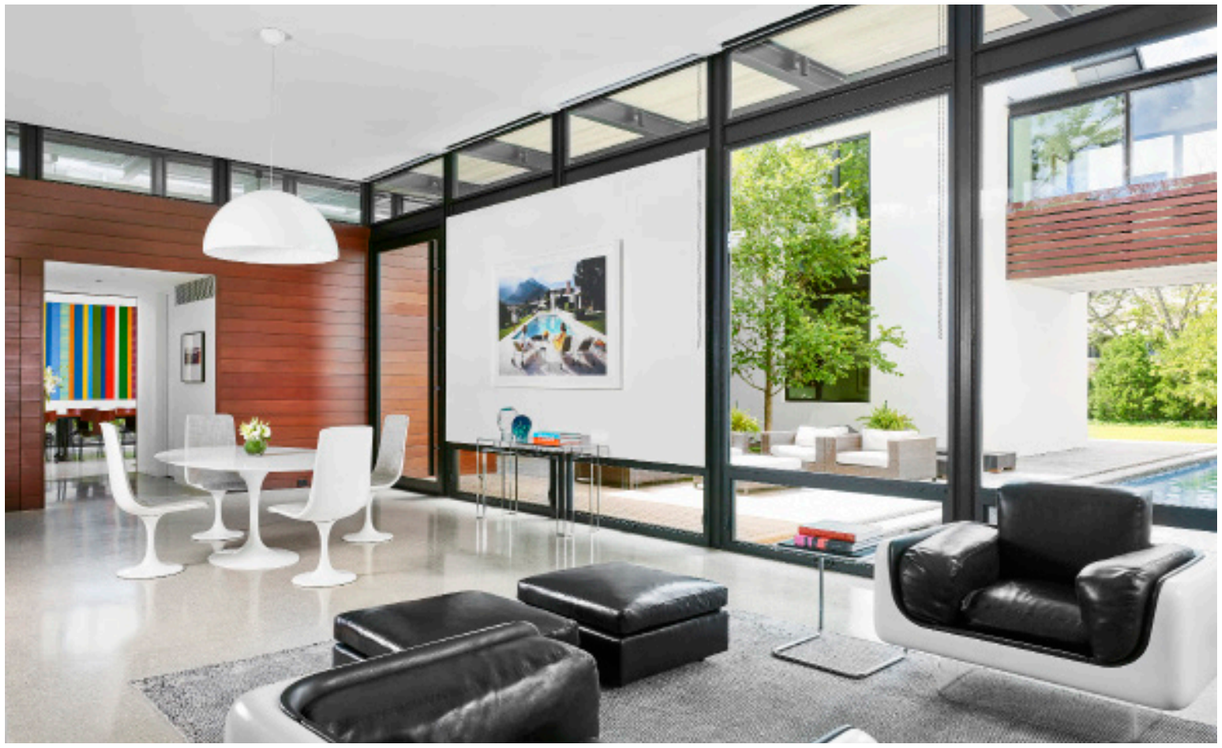
Intricate covered walkways shade residents and guests while roaming the property.





A luxurious linear pool stretches along the the length of the structure to provide optimal gathering opportunities.





Sustainability

Curated plantings and architectural planters provide layered sensory experiences. The design plays with reflective pools and plants to foster a tranquil green space.

LAND

The house was designed 3 ft. above the ground to protect the interior from a major flood event.

Retaining walls are placed to support the change in elevation and divert water.

WATER

Water is captured in a tank underneath the building and used for cooling.

The site is 60% permeable, due to the indoor outdoor values of the home, which creates many courtyards throughout the building.

Storm water features are designed into amenities, like the rain chains which prevent the need for downspouts, becoming a water feature during a storm.

The site design mitigates runoff.

The rain garden holds water while offering natural infiltration to the ground source.

Trees have the potential for intercepting 15,000 gallons of water. *

Located in an area that floods, the project responds well to a major event.

PLANTING

3 trees were saved at the front of the house

27 new trees planted. American sycamore live in the rain garden and adjacent to the back porch. A Mexican Plum trees stands artistically in a small courtyard full of macho ferns. Cedar Elms line a walk way in the back yard. Eastern Red Cedars serve as a buffer adjacent to the fence in the back yard. Giant Timber Bamboo also creates a wall along the east side of the building.

All plants used are native and adaptive, including inland sea oats, butterfly iris, ligularia and frog fruit.

The project minimizes pesticide and fertilizer use.

Plants are allowed to go to seed/flower life.

The project avoids annual planting.

CARBON, ENERGY & AIR

The project uses regional materials.

FSC certified

The project used renewable sources, with the roof covered in solar panels.

A water feature is introduced to reduce temperatures and create a calming environment upon entry.

The planting strategy reduce temperatures for the occupant in the exterior environment.

During construction, pollutants were controlled and retained.

*The tree average for water interception is 500 gallons. American's use an average of 100 gallons of water per day (EPA's water trivia facts).

**120 pounds of CO2 per tree annually (This number is based on an average from the National Tree Benefits Calculator) One car produces an average of 8,320 pounds of CO2 per year (The Code of Federal Regulations - 40 CFR 600.113).