

Living and Sustainability: An Environmental Critique of Design and Building Practices, Locally and Globally

Abstract / Initial Proposal Form:

1. Paper / Proposal Title:

The courtyard as a sustainable generator for affordable social housing

2. Format:

Verbal presentation accompanied with written paper.

3. Author(s) Name:

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4. University or Company Affiliation:

University of Southern California

5. Abstract (300 words):

The courtyard is a typology with an extensive history in Los Angeles. In the 1920s, Arthur and Nina Zwebell developed a series of courtyard housing projects in response to the mediterranean climate of Southern California. (Polyzoides, Sherwood, and Tice) Quasi-public, quasi-private, the courtyard is a partially shaded, contained outdoor space that serves as a transition between the public street and the private dwelling units. The courtyard encourages social interaction and provides both a sense of safety and privacy for the residents.

Sustainable: sun

A general sustainable interpretation is that Southern California has too much sun and too little water. A north-south orientated courtyard maximizes solar access in winter and provides solar shading in summer. (Ralph Knowles) The two external facades of each unit allow through-ventilation which provides environmental-friendly cooling.

Sustainable: water

New sustainable conservation strategies and technologies substantially reduce water consumption. A recognition of the importance of sustainable development has served as a basis of design for several social affordable housing projects in Los Angeles. The desert climate and low levels of precipitation make the consumption of water a high priority.

Case Study

The Courtyard at La Brea is a recent mixed-use affordable housing project for formerly homeless LGBT youth and people living with disabilities and AIDS.

The north / south orientation courtyard is designed for maximum sun access in the winter with minimal shade. A photovoltaic panel system on the roof supplies 75% of the electricity demand for the building. A hydronic solar system preheats the water to provide a majority of the hot water for the residents which further reduces energy demand. The single loaded dwelling units are naturally ventilated.

To reduce water consumption, the building incorporates several strategies. All plumbing fixtures are equipped with low-flow restrictors. It has the first gray water system in West Hollywood, where mechanically filtered gray water irrigates landscape areas of native and xeriscape plantings with moisture-sensitive controllers. Rain water runoff is channeled through a planter filtration system, and excess rain water is collected in storage containers.

6. Author(s) Biography (200 words each):

Professor John V. Mutlow FAIA, AA Dip. (TP), M.Arch (UD) UCLA, is a teacher, researcher and architect who has focused a majority of his academic and professional life on the design of affordable housing and community settings for the less economically advantaged. He is a Professor of Architecture at the University of Southern California, where he was Chair of Graduate Studies from 2008 - 2012 and was the Director of the Advanced Undergraduate Program from 1991- 1994. He also practices architecture in Los Angeles where his office specializes in affordable housing for the less advantaged with emphasis on the social consideration of its occupants. Professor Mutlow is

nationally known for his leadership, work, and lectures on Affordable Housing and related social issues, an area he has specialized in for the past 35 years.