

Frank G. Matero

Professor of Architecture and Historic Preservation, University of Pennsylvania

Biography

Frank G. Matero is Professor of Architecture and Chair of the Graduate Program in Historic Preservation. He is Director and founder of the Architectural Conservation Laboratory (1991) and a member of the Graduate Group in the Department of Art History and Research Associate of the University Museum of Archaeology and Anthropology. He is founder and editor-in-chief of *Change Over Time*, the international journal on conservation and the built environment published by Penn Press. His teaching and research are focused on historic building technology and the conservation of building materials, with an emphasis on masonry and earthen construction, the conservation of archaeological sites, and issues related to preservation and appropriate technology for traditional societies and places.

Underwood's 'Shadowood'

Of the many new materials showcased in the 20th century, reinforced concrete is without equal in its versatility of form and application methods. Central to its use as a structural material has been the question of its surface treatment. With the steady rise in the use of reinforced concrete for commercial and residential structures, architects experimented with a variety of integral and applied surface finishes. Jackson Lake Lodge is a massive mid century tourist facility located in Wyoming's Grand Teton National Park, designed in 1955 by Gilbert Stanley Underwood.



Jackson Lake lodge, Grand Tetons National Park. Built 1955.

Photo credit: Rockefeller Archive Center

Underwood was a pioneer in using modern fireproof materials – particularly textured and stained concrete – in his work for the National Parks. With the design of Jackson Lake Lodge, the use of concrete as a wood substitute became abstracted in the extreme as a tautly stretched gridded wooden “skin” that Underwood named “Shadowood.” A version of board finished or “fair-face” concrete, Underwood’s ‘Shadowood’ utilized sandblasted, Douglas Fir-plywood lined formwork to impart a pronounced wood-grain texture and overall pattern on the cast concrete and was then finished with various colors of acid stains, creating a variegated finish that closely resembled redwood. This finish was integral to the lodge’s aesthetic and to Underwood’s spare design. The current exterior concrete and finish at Jackson Lake Lodge were recently investigated through historical research, material characterization and analysis, and performance testing to determine the feasibility to recover or even reproduce the now degraded and overpainted acid stain finish.