

Evaluating and Documenting Traditional Cultural Properties, by Patricia L. Parker and Thomas F. King, (Washington, D.C., 1990); *National Register Bulletin 40: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields*, by Patrick W. Andrus, (Washington, D.C., 1992); *National Register Bulletin 41: Guidelines for Evaluating and Registering Cemeteries and Burial Places*, by Elisabeth Walton Potter and Beth Boland, (Washington, D.C., 1992); and *National Register Bulletin 42: Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties*, by Bruce J. Noble, Jr., and Robert Spude, (Washington, D.C., 1992).

- ² *The Secretary of the Interior's Standards for Historic Preservation Projects*, revised in 1992, were codified as 36 CFR Part 68 in the 12 July 1995 *Federal Register* (Vol. 60, No. 133). A brochure on the standards is also published by the National Park Service.
- ³ U.S. Department of the Interior, National Park Service, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and*

Reconstructing Historic Buildings, by Kay D. Weeks and Anne Grimmer, (Washington, D.C., 1996); and *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, by Charles Birnbaum with Christine Capella Peters, (Washington, D.C., 1996).

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John Richardson

Preserving the Baha'i House of Worship

Unusual Mandate, Material, and Method

The Baha'i House of Worship is located in Wilmette, Illinois. It is owned and maintained by the National Spiritual Assembly of the Baha'i of the United States. Expressly free of religious service or pageantry, the building and its grounds are dedicated to all mankind as a quiet place for prayer and meditation. The owner intends that the House of Worship fulfill this function for 1,000 years.

The temple's construction began in 1920 and was finished in 1953. In 1978, the House of Worship was entered in the National Register of Historic Places. A building investigation in 1983 initiated a 10-year restoration program. Upon completion of the restoration, the owner created an in-house group to design and carry out a long-term program of conservation.

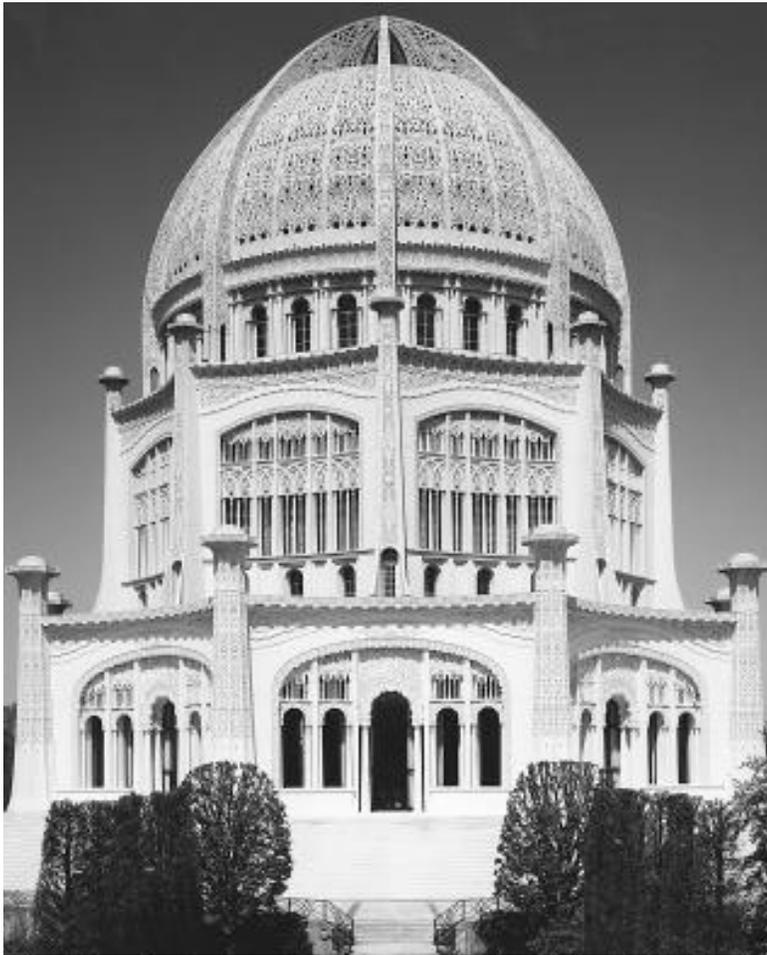
This conservation group has assembled and codified all historic and recent records pertaining to the building. It now approves, specifies, and documents the details of any in-house or contracted work undertaken. Utilizing a rigorous

inspection regime, it regularly monitors the condition of the building. In workshops on site, the group's members carry out specialized maintenance, materials research, and restoration of the historic concrete.

Crystal Concrete

Ornate architectural concrete covers the exterior and interior surfaces of the building. This cladding is pierced by tens of thousands of openings and is accented with innumerable highly sculpted bas-reliefs. The surface finish on the concrete is known as "exposed aggregate," a subtle texturing that leaves the facets of sub-surface aggregate and sand visible. Made entirely from crushed white and clear quartz crystals, the concrete is brilliant white in color and glistens.

The adaptation of concrete into an aesthetically beautiful material was revolutionary when construction began. The process was invented and perfected by John Early, an architectural sculptor in Washington, DC, whose firm designed, fabricated, and installed the cladding. The House of Worship was the most ambitious of Early's many



Baha'i House of Worship. Photo by Bill Lemke.

projects and remains a marvelous example of his rare and original detailing technology.

Development of Artisans

Over a decade of investigation, refinement and execution by expert practitioners has yielded the procedures necessary to conserve this unprecedented historic fabric. These practices combine skills from several disciplines. *In situ* restoration, a delicate and exacting process, requires sculptural finesse.

Wholesale replacement, a heavy industrial art, involves replicating, casting, and installing exact reproductions. Access to the facade for monitoring and cleaning requires steeple-jack prowess.

The owner is ready to institutionalize the capacity to perpetuate this care. Men and women recruited and trained in these skills will constitute a very specialized work force. As the conservation ethic and sciences become a routine aspect of the building's maintenance, preservation of the structure is assured.

In the milieu of architectural traditions, artistic exposed aggregate concrete is a sub-specialty with a very recent history. Within this class, the House of Worship is peerless. It is curious, yet fitting, that the temple itself should foster and house the resources to complete its own unique mission.

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Larry E. Stearns

Sheet Metal Craftsmanship – Pass It On

Sheet metal roofing is the most challenging discipline of the sheet metal trades. Heights, weather, and an infinite variety of architectural conditions quickly weed out the faint of heart. For those remaining, the rewards are substantial. Certainly the money is good, but more important for me is the opportunity to work on monumental buildings and see my work in place, knowing it will last long beyond my lifetime.

Good sheet metal craftsmanship requires seven basic tools: hammer, measuring tape, scratch awl, dividers, straight edge, snips, and hand seamers. Each of these can be expanded and added to as much as budget or a penchant for gad-

gets allows. And, each one can be improvised in a pinch. In addition to the tools, a copy of *Copper and Common Sense*, published by Revere Copper, is indispensable. Although somewhat limited and generic, the drawings and photographs demonstrate all the basic roof details and layout.

Additionally, there are excellent reference materials and tables outlining mechanical properties and specifications. Missing is any description of how to form and join the materials. Some text books introduce common fabrication techniques, but there is no substitute for hands-on training.

The International Preservation Trades Workshop sponsored by the National Park Service is an excellent place to begin the hands-on experience. Those interested in sheet metal need this type of venue to learn traditional skills, that for years, have been considered "trade secrets." Europeans are willing to invest years in training apprentice sheet metal roofers and yet here, in the United States, an individual is considered a master roofer with a mere 90 hours of sheet metal; 50