

Reynolds Center for American Art and Portraiture, Smithsonian Institution

Washington, DC

Owner

Smithsonian Institution

Client

Hartman-Cox Architects

Historic Preservation Architect

Oehrlein & Associates

Contractor

Hensel Phelps Construction Company

Completion Date

2006

Construction Cost

\$283 million

Total Area

382,000 sf



Thornton Tomasetti provided structural investigation, analysis and design for the renovation of this 1867 National Historic Landmark building. The museum includes gallery space, conservation labs and meeting/lecture space.

The refurbishment of the Greek Revival building began with the exterior: restoration of external stone; replacement of the standing-seam copper roof, which included restoration of original skylights closed in an earlier renovation; and the installation of new windows.

The project continued with a complete renovation of the interior that included replacement of MEP, communications and life-safety systems. The masonry structure afforded limited plenum spaces in which to route building services. We used historical documents, non-destructive testing and limited exploratory demolition to find room to conceal the new equipment inside former ventilation and chimney shafts located within walls and piers and under original floors. Structural modifications to existing chases and building structure were required to accommodate new ductwork, piping, and utilities.

The renovation also involved construction of a 346-seat multi-purpose auditorium below the central courtyard. Reinforced concrete retaining walls, long-span structural steel beams and reinforced concrete flat slabs support the reconstructed courtyard above. The design incorporated framing and support structure for an enclosure structure built separately.