

**WAYNE N. ASPINALL FEDERAL BUILDING AND U.S. COURTHOUSE
Grand Junction, Colorado**

Partial Modernization and High Performing Green Building Renovation

DESIGN FACT SHEET

Project: **Wayne N. Aspinall Federal Building and U.S. Courthouse
Modernization and High Performing Green Building Renovation**

Location: Grand Junction, Colorado

Area and Size: 41,562 gross square feet

Project Cost: \$15 million total project cost

Project Timeline: June 2010 Start Design
March 2011 Start Construction
January 2013 Completion

Owner: **U. S. General Services Administration
Rocky Mountain Region**
Susan Damour, Rocky Mountain Regional Administrator
Jason S. Sielcken, LEED AP BD+C, Project Manager

Design-Build Partners: **The Beck Group**, Atlanta, Austin, Dallas, Denver, Fort Worth, Houston,
Mexico City, San Antonio, Tampa
Design-Build Contractor and Architect-of-Record
Todd A. Berry, LEED AP, CHC, Project Executive
Michael Murray, AIA, LEED AP, Principal-in-Charge
Louis Sierra, AIA, LEED AP BD+C, Project Leader

Westlake Reed Leskosky, Cleveland, Los Angeles, New York, Phoenix,
Washington D.C.
*Lead Design Architect, Integrated Engineer, Sustainable Design and Historic
Preservation Consultant*
Paul E. Westlake, Jr., FAIA, Managing Principal, Principal-in-Charge, Lead
Architectural Designer, Historic Preservation Expert
Lawrence A. Hennessey, Jr., AIA, Project Director
Elicia Keebler Gibbon, AIA, LEED AP, BD+C, Project Architect
Roger Chang, PE, Assoc. AIA, ASHRAE BEMP, LEED AP, Principal, Director
of Sustainability, High Performance Green Building Consultant
V. Mitchell Lyles, PE, LEED AP, Principal, Director of Engineering,
Mechanical Project Engineer, Lead Mechanical Designer
Robert J. Smolinski, PE, LEED AP, Associate Principal, Manager of Electrical
Engineering, Electrical Project Engineer, Lead Electrical Designer
Stephanie Banfield, PE, Associate, Structural Design Engineer, Lead Structural
Designer
Fonda Hosta, NCIDQ, Associate Principal, Interior Designer
Ruth Albertelli, RA, CSI, CCS, Associate, Specification Writer
Carmen Mazzant, PE, Electrical Engineer
Raymond E. Heintel, P.E., RCDD, Associate, Information Technology,
Technology Designer

- Civil Engineer:** **Del-Mont Consultants**, Montrose, Colorado
James Roberts, PE, CFM, Vice-President
- Blast Consultant:** **Weidlinger Associates**, New York, New York
Timothy J. Beach, P.E.
- Fire Protection:** **Protection Engineering Group**, Chantilly, Virginia
Thomas W. Gardner, PE, FSFPE, LEED AP, Principal
- Construction Manager:** **Jacobs Technology, Inc.**, St. Louis, Missouri
Janet Goodman, AIA, CCM
Michael Hogan, AIA
Dana Squires
- Commissioning Agent:** **ME Group**, Denver, Colorado
Ravi Maniktala, LEED AP, CxA, ASHRAE HBDP
Carrie Nordby, LEED AP, QCxPSM, CPMP

GSA Statements:

"This project is one of our crown jewels in the Rocky Mountain Region. It's been a unique project in that we've converted the building into a model of energy efficiency and sustainability, while preserving its original character. We're thrilled to have had the opportunity to give this building new life and have it continue to be an integral part of the Grand Junction community."

-- Susan Damour, GSA Rocky Mountain Regional Administrator

"The Wayne N. Aspinall Federal Building & US Courthouse strikes a successful balance between sustainable design and the historic preservation of this 95 year old structure. The innovative building systems incorporated into this project have allowed the building's prominent spaces to be preserved and showcased, while drastically reducing energy consumption. The modernization of this building has not only provided modern office space for public interaction and a glimpse into past for the building's visitors, but it has transformed this historic structure into a model of sustainable design and energy efficiency."

--Jason S. Sielcken, LEED AP BD+C, GSA Rocky Mountain Regional Project Manager

Design-Build Partner Statements:

"How very appropriate it is that the Wayne Aspinall Federal Courthouse building in Grand Junction, Colorado be chosen to be an example of historical preservation and exemplary energy conservation. The state of Colorado has long been one of the leading states in the commitment to energy and natural resources conservation. The Wayne Aspinall renovation/modernization project sets new and bold standards for the preservation and efficient use of natural resources, (energy), for historical building renovations. The LEED Platinum and Net Zero programs utilized on the renovation of the 95-year old Wayne Aspinall Federal Courthouse building demonstrates what can be done with clear vision and leadership. The GSA had tasked the design/build team with the ultimate goal of creating a building that is more that energy efficient, but energy independent. This project will be a model for all future GSA projects."

-- Frank X. Eppink, Regional Manager, The Beck Group

"It is our goal that the modernization of the Wayne Aspinall Federal Building and U.S. Courthouse be a model of the aspirations of the American Recovery and Reinvestment Act, and a symbol of American innovation in energy independence. And it is stimulating to express these values in the rehabilitation of a legacy federal building that honors traditions of the past, celebrates technologies of the present, and advances sustainability for the future. There is an eloquent dialogue between the complementary contemporary work and the carefully preserved historic fabric. Our design team has a proven and collaborative partner in The Beck Group, due to The Beck Group's integrated platform and its progressive application of technology to building science and construction."

-- Paul E. Westlake, Jr., FAIA, Managing Principal and a Lead Designer, Westlake Reed Leskosky

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Executive Design Summary

The modernization of the historic Wayne N. Aspinall Federal Building and U.S. Courthouse in Grand Junction, Colorado preserves the building's historic character while transforming the landmark structure into one of the most energy efficient, sustainable federal buildings in the country.

Using funds provided by the American Recovery and Reinvestment Act (ARRA), the U.S. General Services Administration (GSA) Rocky Mountain Region has preserved historic volumes and finishes within the public and agency spaces and replaced the entire building's infrastructure with modern, high performing, energy efficient systems. The Wayne N. Aspinall Federal Building and U.S. Courthouse is designed to be the GSA's first Site Net Zero Energy building on the National Register of Historic Places and targeted to achieve LEED® Platinum, the highest level of certification from the U.S. Green Building Council (USGBC).

GSA awarded the partial modernization and High Performing Green Building (HPGB) renovation as a Design-Build contract to The Beck Group serving as design-build contractor and architect-of-record, with Westlake Reed Leskosky as designer, engineer, high performing green building consultant and partner in the design-build process. Construction for the project began in March 2011, with completion January 2013.

Originally designed under the supervision of James Wetmore, the Wayne N. Aspinall Federal Building and U.S. Courthouse was first constructed as a U.S. Post Office and U.S. Courthouse in 1918. In 1939, a substantial addition extended the building to the east. The three-story structure is a multi-tenant professional office building housing the U.S. District Courts and various federal agencies. The building houses nine federal agencies upon completion. It remained fully occupied during construction with some temporary relocations taking place during key phases of the construction.

Balancing modernization and new technologies with historic preservation, the project scope includes structural analysis, energy efficient roof replacement and upgrades to the building's exterior, HVAC, electrical, power, lighting, voice/data and low voltage technologies, life safety systems, security system and accessibility, along with renovation of nearly all of the interior spaces. Building physics analysis was used to study space thermal comfort, natural ventilation and daylighting potential, envelope thermal performance, renewable energy potential, and whole building energy performance. Sustainable strategies include a 123 kW roof and canopy mounted photovoltaic array, GeoExchange coupled variable refrigerant flow system, wireless lighting controls, receptacle-level energy metering, and heat recovery with evaporative cooling. The project was designed and implemented using the latest in 3D BIM technology, including Revit, NavisWorks and Innovaya.

The Beck Group is a fully integrated design-build company, providing architecture and construction services for the Wayne Aspinall project. Westlake Reed Leskosky served as lead designer for architecture, interior design, mechanical, electrical, plumbing engineering, Leadership in Energy and Environmental Design (LEED) consulting, high-performance green building and historic preservation programs.

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Design Concept

Exterior Upgrades and Roof Replacement

The design concept for the modernization of the Wayne N. Aspinall Federal Building and U.S. Courthouse preserves the character of the registered historic building and the highest preservation requirements of its historic exterior façades, while modernizing the structure with state-of-the-art sustainable and energy efficient technologies. The project scope includes roof replacement featuring EP/DOE ENERGY STAR certified membrane system to reduce heat island effects and contribute to LEED certification. In addition to employing demand side technologies to drive down energy consumption, a roof mounted photovoltaic array will generate the electrical energy required to power electrical and HVAC systems for the building on an annual basis. Roofing interface with the historic façade has been sensitively designed to not alter the original appearance of the exterior elements.

Exterior upgrades respect the historical component of the limestone and brick masonry façades of the original 1918 building and 1939 addition that contribute to the building's historic significance. These include masonry pointing and mortar compatible with the existing brick masonry, upgrades to existing historic lighting fixtures with energy efficient lamps, cleaning and refurbishment of existing exterior metals, and new ABAAS compliant entrance ramps, including a new ramp at the south entry to provide a greater sense of dignity and efficiency of security functions at the front door entry.

Lobby Renovation and Public Space Interior Upgrades

Public space interior upgrades include the renovation of the existing south entrance vestibule and lobby, where only a fraction of the ceilings and articulation of the original post office lobby was visible before the renovation. The renovation restores the full extent of the 1939 lobby spaces that stretch along the south face of the building from west entry and the original stair in the southwest corner to the elevator lobby built in the 1939 addition. All of the lobby space is utilized and reconnected with the 1918 staircase, one of the few fully intact interior elements of the original construction. The WPA mural *Harvest*, created in 1940 by Mary Louise Harrington Emerson Ronnebeck, and commissioned by the Treasury Relief Art Program, a federal art program enacted during the New Deal era, is returned to its original location near the elevator lobby.

New elements in the lobby area are designed to harmonize with historic fabric, yet make a clear distinction between the new and historic features, which were restored and preserved. Security equipment is located in the wider elevator lobby on the first floor to keep them from clogging the narrower portion of the original post office lobby along the south wall. The entry vestibule and the screening equipment occupy the east half of the historic lobby, making the remainder of the lobby space available for a variety of uses.

An informational touchscreen display serves as an energy education space for the building employees and visitors, with a furnished seating area under the south facing arched windows. This display is intended to give real time data on energy consumption, allowing tenants in the building to see their usage and adjust behavior to help achieve the net zero energy goal.

The original post office lobby ceilings are returned to their original heights and the decorative plaster detailing is repaired and refinished. The arched openings, which defined the north wall of the original post office lobby and separated it from the more utilitarian work room, are kept open. Restored marble and terrazzo still define the floor area of the post office lobby and original maple flooring defines the area of the

work room. The more modest flooring and ceiling structure of the postal work room lent itself to the expression of a more a contemporary approach to detailing, with colors, textures and materials all carefully selected for visual harmony, yet clearly differentiating new space from existing historic fabric. A contemporary glass wall creates a new edge to the lobby which encompasses the original lobby and portions of the workroom. The location of the wall allows more room for circulation, while it permits light from the restored windows to penetrate deep into the tenant space. Visual screening is provided by areas of frosted glazing. New interior signage is provided throughout the building.

New mechanical, electrical and life safety systems for the lobby are also differentiated from the original. Mechanical distribution is sensitively integrated to not disturb the historic zone and/or feed those spaces from below. New ductwork in the area previously part of the postal workroom is exposed and more industrial in appearance. Appropriate period lighting is installed within the historic spaces and more modern fixtures in the new circulation zone. Fire sprinklers are concealed type or sidewall thrown. Public restroom upgrades include repairs and refinishing to existing spaces, walls, and flooring, new accessible restrooms, installation of low-flow fixtures to reduce water consumption, sensor controlled lighting, and finishes and colors selected to compliment original materials.

Tenant Space Reconfiguration

The technical approach and design intent for the tenant space reconfiguration at the Wayne Aspinall Federal Building and U.S. Courthouse Partial Modernization project respects the historic structure while providing modern tenant amenities and an efficient workplace environment.

The work includes removal of existing suspended ceilings in tenant spaces on the top three floors and exposing original plaster ceilings, replacement of HVAC and lighting systems, modifications to life safety systems, new power, infrastructure, and telecom as required, and construction of new tenant layouts. Color palette and materials are selected to be consistent and compatible with the building wide modernization. New HVAC systems and utilities are located within tenant spaces to keep public corridors clean of mechanical and electrical infrastructure to the greatest extent possible. New ductwork and utilities are installed just inside of the corridor walls and enclosed rooms are kept inboard to keep the perimeter spaces high and open to the exterior windows. Open office areas are located near the windows to allow maximum natural light for tenants.

Forensic work and sampling of original paint finishes was undertaken to research the original finish scheme as a basis of selecting an appropriate color scheme which was reviewed and approved by the GSA Historic Preservation Officer. The shell of the interior tenant spaces is restored and refinished. The design of new tenant layouts, lighting, furnishings, finishes, and color palette are selected to be consistent with the building wide modernization and, where not historic, differentiated from the historic fabric.

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