



ROCKY
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BYRON G. ROGERS FEDERAL OFFICE BUILDING

DENVER, CO

PROJECT DESCRIPTION

Currently home to 11 federal agencies, the Byron G. Rogers (BGR) Federal Office Building is undergoing a significant deep energy retrofit. Thanks to \$129 million in funding from the American Recovery and Reinvestment Act, the General Services Administration (GSA) is turning this historic 1960s structure into a high-performing green building with state-of-the-art cooling systems, a super-insulated envelope and other innovative features. Slated for completion in 2013, the project is expected to cut energy use by 70 percent, pushing the building closer to its NetZero by 2030 target and serving as an example for other federal building retrofits nation-wide.

RMI ROLE

As the high performance building consultant, RMI is serving as the innovation driver, facilitating integrative, whole systems design – including tenant behavior and leasing policy. Following goal setting exercises with the owner and design team, we provided comprehensive life cycle cost analysis (LCCA), reviewed and assisted with the whole building energy modeling and reviewed all aspects of the design to ensure that we stayed on track to meet our aggressive targets. We also provided educational information to GSA and all tenant agencies throughout the project, championing the concept of chilled beams through the GSA review, conducting tenant energy workshops and plug load audits, and developing tenant sustainability guidelines.

PROJECT HIGHLIGHTS

The design team devised innovative solutions to deal with historic requirements and the building's less than ideal southwest orientation. Using whole building DOE-2.2 energy simulations, we predict this building will save between 60-70% in annual energy costs as compared to the pre-renovation utility bills. These energy reductions can be achieved with a net present value of \$556,700 over 20 years. Key energy saving features include the use of LED lighting throughout the building, active chilled beams integrated with a heat recovery and thermal storage system, an insulated building envelope, high performance glazing, and solar thermal for service water heating. With a predicted EUI between 28-38 kBtu/sf-yr, this will be one of the most efficient office buildings in the U.S., new or existing.



Project Team

Owner: GSA

General Contractor: Mortenson Construction

Architect: Bennett Wagner & Grody, HOK

MEP Engineer: The RMH Group, Inc.

Sustainability Consultant: RMI

Key Metrics

Capital Cost: \$129 Million

Projected Net Present Value: \$556,700 over 20 years

Building Size: 18-stories, 494,156 sf

Projected Annual Energy Use: 28-38 kBtu/sf-yr

Projected Annual Energy Use Reduction (from 2009): 60-70%

Projected Indoor Potable

Water Use: 730 kgal/yr (41% reduction from IPC/UPC)

Project Certification

Targeting LEED Platinum NC