

PROJECT PROFILE

LEED® Facts

Glenn Research Center
Logistics and Maintenance Building 351
Cleveland, OH

LEED® for New Construction - Version 2.2
Certification Awarded May 28, 2013

Gold 40*

Sustainable Sites 6/14

Water Efficiency 4/5

Energy & Atmosphere 9/17

Materials & Resources 6/13

Indoor Environmental Quality 12/15

Innovation & Design 3/5

*Out of a possible 69 points

Glenn Research Center

Logistics and Maintenance Building 351
Cleveland, Ohio

LEED for New Construction

30% Recycled Content

42% Reduced Potable Water Use

35% Less Energy

34% Materials Manufactured Locally

81% Construction Waste Diverted

100% Reduced Landscape Water Use



NASA GLENN RESEARCH CENTER
WAREHOUSE 351
Cleveland, Ohio

HAS FULFILLED THE REQUIREMENTS OF THE FOLLOWING LEVEL OF CERTIFICATION ESTABLISHED BY THE U.S. GREEN BUILDING COUNCIL
IN THE LEED GREEN BUILDING RATING SYSTEM™ AND VERIFIED BY THE GREEN BUILDING CERTIFICATION INSTITUTE.

LEED FOR NEW CONSTRUCTION

GOLD

R. ...
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U.S. GREEN BUILDING COUNCIL

May 2013

M. ...
MANAGING PRESIDENT
GREEN BUILDING CERTIFICATION INSTITUTE

PROJECT PROFILE

Logistics and Maintenance Building 351 Reusing and Recycling NASA's Property



PROJECT DESCRIPTION

Building 351 is a storage and processing space for the excess property of Glenn Research Center (GRC), and includes office space for associated logistics personnel. This warehouse was the first phase of consolidating GRC's warehouse, maintenance, and shop functions to a single location on GRC's Lewis Field Campus, and is an important first step toward implementing GRC's Master Plan. The facility has achieved Design to Earn ENERGY STAR® certification and is currently in the process of obtaining ENERGY STAR® certification. This LEED Gold facility includes the following sustainable features: bio-swales and bio-retention basin, electric car recharging stations, ground source heat pump, and a heat recovery wheel.

SUSTAINABLE SITES (6/14)

The facility promotes the use of alternative transportation by providing bicycle storage and a charging station for electric vehicles. Open space double the size of the building footprint is located adjacent to the building, which will be conserved for the life of the facility.

WATER EFFICIENCY (4/5)

Potable water usage in the facility has been reduced by 42% compared to the calculated baseline through the installation of low-flow urinals, faucets, as well as dual-flush water closets. Outdoors, the landscape design utilizes native plants which do not require an irrigation system, therefore reducing potable irrigation water usage by 100%.

ENERGY & ATMOSPHERE (9/17)

The facility reduced energy consumption by 35% from the ASHRAE 90.1-2004 requirements through an increased thermal envelope, efficient HVAC components, a ground source heat pump, outdoor air heat recovery (enthalpy wheel), and reduced interior and exterior lighting power densities. The facility also underwent an enhanced commissioning process. Additionally, no CFC-based refrigerants were used in the HVAC system and the total refrigerant impact score is 97 per ton – less than the 100 per ton limit.

MATERIALS & RESOURCES (6/13)

The project diverted 81% of on-site generated construction waste from landfills and 30% of construction materials contained recycled content. 34% of all building materials consist of local materials made less than 500 miles from the site.

INDOOR ENVIRONMENTAL QUALITY (12/15)

The facility incorporates carbon dioxide monitoring in internal workspaces and direct airflow carbon dioxide measurements in the non-occupied areas to monitor ventilation. The facility provides 30% more fresh air than required by ASHRAE 62.1-2004. Occupants are ensured thermal comfort in accordance with ASHRAE Standard 55-2004 and lighting controls allow all occupants to make adjustments to suit individual preferences. Additionally, 93% of all regularly occupied areas have direct line of sight views. Low-emitting paints, carpets, and adhesives were used throughout the building.

INNOVATION IN DESIGN (3/5)

The project received exemplary ratings and recognition for its potable water reduction, and maximum utilization of outdoor spaces.

“We follow NASA and federal government requirements for processing excess property. This involves making the items available for reuse by other NASA centers, government agencies, or the public through General Services Administration Auctions.”

**FRANK DeANGELO (RETIRED),
PROPERTY DISPOSAL OFFICER,
LOGISTICS AND TECHNICAL
INFORMATION DIVISION**



This interior high bay area provides the necessary space to hold excess items that constantly move into and out of the facility.

Owner: NASA Glenn Research Center
Architect: Stantec
Structural Engineer: Thorson Baker & Associates, Inc.
MEP Engineer: Stantec
Commissioning Authority: Horizon Engineering
Contractor: KBJ, Inc.
Project Size: 18,000 SF
Project Cost: \$3,955,856
Completion: October 2011
Photography: NASA

ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org and the Northeast Ohio Chapter of USGBC at www.usgbc.org/chapters/northeast-ohio-chapter to learn more about how you can make LEED work for you.