Ames Research Center Building N288 Bioscience Collaborative Laboratory

LEED for New Construction

44% Recycled Content

44% Reduced Potable Water Use

95% Construction Waste Diverted

80% Reduced Potable Landscape WaterUse

29% Less Energy

LEED® Facts

Ames Research Center
Building N288
Moffett Field, CA

LEED® for New Construction – Version 2.2
Certification Awarded July 16, 2020

Gold	64*
Sustainable Sites	25/26
Water Efficiency	6/10
Energy & Atmosphere	7/35
Materials & Resources	4/14
Indoor Environmental Quality	12/15
Innovation & Design	6/6

*Out of a possible 110 points

PROJECT PROFILE

Ames Research Center Building N288
LEED Gold Facility

PROJECT DESCRIPTION

A 40,300 square foot modern science laboratory at Ames Research Center supports biological research in support of NASA's Mission. This new facility consolidates Center-wide labs and researchers in Fundamental Space Biology, Astrobiology/Exobiology, and Synthetic Biology to improve collaboration and foster an environment for innovation and breakthrough science. The new facility consists primarily of laboratory and laboratory support spaces. The laboratories are open plan spaces to optimize collaboration, flexibility and efficiency. The narrow floor plate provides excellent daylighting and views throughout the open laboratory and office spaces. The office wing includes conference rooms, break areas, phone rooms, a mother's room and various support spaces. The majority of the offices are open landscape cubicles to encourage interaction among the research teams.

SUSTAINABLE SITES (25/26)

The Biosciences Laboratory encourages walking, bicycling and has access to the county bus and light rail system,and the Center's ride sharing shuttle stops. The facility provides bicycle rack and shower facilities for the occupants. The facility also provides preferred parking spaces for low-emitting and fuel-efficient vehicles. The project has provided over 39,000 sq. ft. of vegetated open space using native vegetation, including bioswales to treat storm runoff from the roof and parking lot. The Development density and community connectivity is also achieved. 100% of the building roof has a high Solar Reflectance Index and most of the site hardscape consists of highly reflective concrete pavers.

WATER EFFICIENCY (6/10)

Indoor potable water use has been reduced by 44% through the installation of low-flow faucets, shower heads, toilets, and urinals. The landscaping and irrigation system reduce the total water used for irrigation by 80%.

ENERGY & ATMOSPHERE (7/35)

The facility reduced energy consumption by 29.38% from ASHRAE 90.1-2007 requirements through the use of high-efficiency glazing, 100% LED lighting with smart lighting controls, energy efficient fume hoods with self-closing sashes, and efficient HVAC systems. No CFC-based refrigerant were used in the HVAC system. The facility also underwent an enhanced commissioning process. Additionally, the Center has allocated renewable energy credits for 100% of the building electrical power for two years.

MATERIALS & RESOURCES (4/14)

The project diverted 94.5% of the on-site generated construction waste from landfills and 20.75% of the total building materials content, by value, has been manufactured using recycled materials. Nearly 80% of wood-based building materials are certified by the Forest Stewardship Council.

INDOOR ENVIRONMENTAL QUALITY (12/15)

The facility incorporates carbon dioxide sensors in densely occupied spaces. The facility provides 30% more fresh air than required by ASHREA 62.1-2007 and low emitting materials such as adhesives, paints, and flooring were used throughout. Requirements for daylighting and direct line of sight views are met in 95% and 98% of regularly occupied areas respectively. Occupants thermal comfort is maintained in accordance with ASHREA 55-2004. Building occupants can control the lighting and motorized window shades and the enclosed offices have operable windows.

INNOVATION IN DESIGN (6/6)

The project performed in-depth wind tunnel studies to design the exhaust system to prevent impacts to nearby buildings due to the laboratory emissions. The building design provides daylight and views in 95% of regularly occupied spaces. The project design was developed to provide a walkable site. The project also earned Regional Credits for Alternative Transportation, Non-Roof Heat Island Effect, Water Use Reduction, and Daylight and Views.

"The laboratory's open design is intended to encourage and facilitate inter-disciplinary research across biosciences and bioengineering groups. The modern design, reliance on natural lighting, and LEED certification are points of pride for the resident scientists."

Dr. Michael Bicay, Director For Science, NASA AMES Research Center

Open plan laboratory spaces to optimize collaboration, flexibility and efficiency

Ames Biosciences Laboratory looking northwest

Owner: NASA Ames Research Center
Architect of Record: AECOM
Commissioning Authority: 3Qc Inc.
Contractor: S.J.Amoroso Construction Co.
Project Size: 40,300 SF
Completion: February 2020

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 Northern California Chapter of USGBC at www.usgbc-ncc.org to learn more about how you can make LEED work for you.