

**South Dakota Bureau of Administration  
Office of the State Engineer**

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# **High-Performance Green Building Projects**

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CY2019 Annual Project Report

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# High Performance Green Buildings

## State Building Projects Designed to Higher Standard

### Background

Designing buildings to be resource-efficient can save energy, water, reduce waste and pollution, thereby reducing operating costs, improving the indoor quality for occupants, and benefit the environment.

Recognizing the opportunity to reduce costs, save resources, and make the indoor and outdoor environment better, the State of South Dakota began its green building initiative in 2008.

### Green Building in State Law

Senate Bill 188 was introduced at the request of the Office of the Governor during the 2008 Legislative Session. As amended, the bill was passed by the Legislature and signed into law.

The new laws, codified as SDCL §§ 5-14-32 through 36, established requirements that any new construction or renovation of a state building with HVAC (heating, ventilation, and air conditioning systems) that has a cost of \$500,000 or more or includes 5,000 square feet or more of space shall meet or exceed a high-performance green building standard.

The law also recognizes that meeting a high-performance green building standard may not always be feasible and allows the requirement to be waived by the Office of the State Engineer. The circumstances which allow a waiver are described in the Building Project Waivers section of this report.

The law provides the option to select from three rating systems to meet the high-performance green building requirement:

- 1) A silver standard rating under the USGBC's Leadership in Energy and Environmental Design (LEED) rating system; or
- 2) A two globe rating under the Green Building Initiative's Green Globes rating system; or
- 3) A comparable numeric rating under a certification program recognized by the American National Standards Institute.

Administrative rules detailing the steps necessary to certify a project as a high-performance building are found in ARSD Chapter 10:09:02.

House Bill 1011 was introduced in the 2010 Legislative Session on behalf of the Bureau of Administration to update the version of LEED referenced in SDCL 5-14-32 to the current version.

## **About LEED**

LEED – Leadership in Energy and Environmental Design – is a voluntary rating system published by the non-profit organization United States Green Building Council (USGBC) that provides a framework for the design, construction and operation of green buildings.<sup>i</sup>

LEED is an internationally recognized certification system that provides third-party verification that a building uses strategies to improve performance in key categories of: site sustainability, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in design.

Credits within each category are earned for each building project, and the amount of credit points earned defines the certification level achieved. A building project must satisfy all prerequisites and earn a minimum number of points to be certified. There are four levels of certification possible: Certified, Silver, Gold, and Platinum.

LEED-certified buildings are designed to:

- 1) Lower operating costs and increase asset value;
- 2) Conserve energy and water;
- 3) Reduce waste sent to landfills; and
- 4) Be healthier and safer for occupants;

## **Annual Report**

SDCL § 5-14-37 requires this annual report to the Legislature, including a list of state building projects granted a waiver or that failed to achieve a high-performance green building standard.

## **High Performance Green Building Projects**

### **Certification Earned in CY2019**

Dakota State University Beacom Institute of Technology was certified LEED Silver in CY 2019

Black Hills State University Bordeaux Hall was certified LEED Silver in CY 2019

### **Projects Registered, not yet Certified**

**SD School of Mines and Technology CBEC**

Currently being reviewed by USGBC

**SD School of Mines and Technology Wellness Center**

Currently being reviewed by USGBC

**SDSU Harding Hall**

Submitted to USGBC June 2019  
Currently being reviewed by USGBC

**SDSU Wellness Center**

Submitted to USGBC October 2019  
Currently being reviewed by USGBC

**Northern State University Residence Hall #2**

Submitted to USGBC on 9 December 2019  
Currently being reviewed by USGBC

**Northern State University Wolves Memorial Suites**

Submitted to USGBC on 9 December 2019  
Currently being reviewed by USGBC

**SDSU PAC**

Submitted to USGBC July 2019  
Currently being reviewed by USGBC

**SD University Neighborhood Redevelopment, SDSU**

Project substantially complete, fall 2019  
Project not yet submitted

**Dakota State University Madison Cyber Labs**

Project substantially complete, fall 2019  
Project not yet submitted

**Northern State University Science Center**

Project substantially complete, fall 2019  
Project not yet submitted

**South Dakota State University American Indian Student Center**

Construction on going

**Animal Disease Research Diagnostic Lab**

Construction on going

**Dakota State University Residence Village**

Construction on going

**Precision Ag SDSU**

Construction on going

## **Building Project Waivers**

### **Waiver Summary**

SDCL § 5-14-34 allows waivers from the high-performance green building standard to be granted by the Office of the State Engineer for state building projects if:

- 1)** The building will have minimal human occupancy;
- 2)** The increased costs of achieving a high-performance green building standard cannot be recouped from decreased operational costs within fifteen years;
- 3)** A building is on the national register of historic places and achieving a high-performance green building standard would result in noncompliance with standards for historic

preservation as set forth in the secretary of the interior's Standards for the Treatment of Historic Properties in effect as of January 1, 2008;

- 4) The square footage of the renovation project is less than fifty percent of the total square footage of the building being renovated. If the renovation project is being done in phases, the total square footage of all intended phases combined shall be used in making this calculation; or
- 5) The Bureau of Administration determines that extenuating circumstances exist to make impractical high-performance green building standard certification.

The conditions and procedures for granting waivers are detailed in ARSD Chapter 10:09:03.

A waiver does not mean that principles of sustainable design are ignored. State building projects are designed and constructed to be as energy and water efficient as feasible even if the project is not a LEED registered project.

### Waivers Granted by the State Engineer in CY2019

Campus	Building	Waiver Reason
DSU	Heston Hall Renovation	Less than 50% of Total Building Square Footage
SDSMT	McLaury Building Renovation	Historic Building
NSU	Sports Complex	20 or fewer people will permanently occupy the building in a 24-hour period
SDSD	TCF Remodel of Office Space	Not in the best interest of the State
USD	National Music Museum	Renovation cannot meet a 15-year payback
DOA	State Fair Grand Stand	20 or fewer people will permanently occupy the building in a 24-hour period
USD	Service Center Renovation	Building is under 10,000 sf being renovated
USD	Knutson/Colton Renovation	Less than 50% of Total Building Square Footage

- A key for the campus and agency abbreviations is included in the endnotes.

### Projects Not Achieving LEED

No projects met this criteria for CY2019.

### Changes Made to the Green Building State and Administrative Rules

During the 2015 legislative session, HB1029 was passed into law which does the following:

- 1) Required the implementation of the newest USGBC standard, v4.
- 2) Increased the threshold from \$500,000 / 5,000 square feet to \$1 million and 10,000 square feet for buildings that must meet the standard. This was done because 29%

of all waivers were for building projects within the range differences and not projects within the range differences achieved LEED Silver certification.

In addition to this, the administrative rules ARSD 10:09 were amended to ensure state government building projects using LEED focus on energy efficiency. These:

- 1) Require a minimum energy performance that exceeds the LEED v4 prerequisite by a 5%;
- 2) Require enhanced commissioning that includes building envelope commissioning;
- 3) Require architects/engineers verify project design prior to completion of construction documents;
- 4) Prohibit the use of green power and carbon offset credits, green parking credits, and limits use of bicycle facilities credits so design focus remains on better building construction to increase energy efficiency;
- 5) Requires the Owner's Project Requirements (OPR) to state energy efficiency as a goal for the building;
- 6) Requires the Basis of Design (BOD) document to reflect the Owner's energy goals and requirements for the building as stated in the OPR prior to design development; and
- 7) Deletes obsolete sections of administrative rules.

## More Information

Information about the State's high-performance green building projects is available from:

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<sup>1</sup> Information about the USGBC and the LEED rating system is available at [www.usgbc.org](http://www.usgbc.org)