

## IDAHO STATE DEPARTMENT OF AGRICULTURE DIAGNOSTIC LABORATORY

BOISE, IDAHO, UNITED STATES

### INTRODUCTION

Established in 1919 to regulate and safeguard the agriculture industry in Idaho, the [Idaho State Department of Agriculture \(ISDA\)](#) oversees agricultural inspections, resources, market development, animal and plant industries, and administration for the state as well as seven labs for animal health, dairy, seeds, feed and fertilizer, food quality assurance, plant pathology, and metrology.

In 2021 the ISDA opened a new building at its Boise campus that houses the department's animal health, dairy, and plant pathology labs. The labs play a vital role in monitoring plant, animal, and public health in Idaho, including prevention of mass outbreaks of animal disease.



**MARKET SEGMENT**  
Government

**PROJECT TYPE**  
New construction

**INSTALLATION TYPE**  
HVAC

**TOTAL AREA**  
1,714 m2 (18,450 ft2)

**PROTOCOL**  
BACnet

**INSTALLED EQUIPMENT**  
25 MACH-ProAir<sup>™</sup> controllers  
4 MACH-ProSys<sup>™</sup> controllers  
3 MACH-Zone<sup>™</sup> controllers  
28 SMART-Sensor<sup>™</sup> EPD devices  
RC-Archive<sup>®</sup> software  
RC-RemoteAccess<sup>®</sup> software  
RC-Studio<sup>®</sup> software  
RC-Toolkit<sup>®</sup> software

**INTEGRATED EQUIPMENT**  
Danfoss variable frequency drives,  
Raypak boilers with ProtoNode  
gateway, Critical Room Control  
integrated room controllers, Nortek  
air-handling units

**TOTAL SYSTEM OBJECTS**  
3,160

**RELIABLE CONTROLS**  
AUTHORIZED DEALER

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## PROJECT DETAILS

Authorized Dealer [Sunbelt Controls](#) Idaho expanded the existing Reliable Controls building automation system during construction of the new building.

The existing system controlled three buildings on the Boise campus and one in Twin Falls, roughly 200 kilometers (125 miles) away. As part of this project, Sunbelt upgraded the firmware on existing Reliable Controls devices as well as the RC-Studio and RC-Archive software versions being used.

The flexibility of RC-Studio allowed Sunbelt to smoothly integrate vital mechanical equipment in the new building, including variable air volume terminal units, custom air-handling units, and air valves in critical lab spaces. RC-RemoteAccess BACnet Secure Network software allowed Sunbelt to simplify IT management and improve data communications for ISDA in a way that's scalable, secure, and affordable. And to optimize network communications and integrate open protocols, Sunbelt used RC-Toolkit software.

Today, with the use of RC-Archive software, ISDA has full control and ownership of its building data, with continuous downloads of data logs that provide a solid, dependable record of performance.

For variable air volume control, Sunbelt installed 25 MACH-ProAir controllers with airflow sensors and onboard damper motors that provide incredible environmental comfort in administrative offices and common areas. Four MACH-ProSys and three MACH-ProZone BACnet Building Controllers control the water-heating system and the reverse-osmosis, deionized-water system and integrate the custom-built air-handling units. The new Reliable Controls devices also provide control and monitoring of a range of other mechanical equipment, including hydronic boilers, pumps, flow meters, expansion-tank pressure, unit heaters, a heat exchanger, liquid levels, heat-recovery equipment, and exhaust fans. Twenty-eight SMART-Sensor EPD devices deliver a modern networked-sensor solution that allows facility operators to easily connect with up to 10 configurable parameters related to space.

Sunbelt was pleased to provide custom programming and sequences of operation in the new ISDA lab that save the State of Idaho energy and properly use the temperate air conditions of a system in equilibrium. "The Boise Sunbelt team was given the opportunity to be the premier installers and master system integrators for a Critical Room Control laboratory system in the State of Idaho," said Casey Crown, project manager at Sunbelt. "Critical Room Control is a leading innovator of safe, energy-efficient critical-environment solutions, and Sunbelt Controls was pleased to have been invited by the Critical Room Control distributor, Robertsons, LLC, to partner with them on this project."

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