

Authorized dealer

PRITCHETT
CONTROLS

Market segment
Manufacturing

Location
Washington, DC, United States

Project type
New Construction

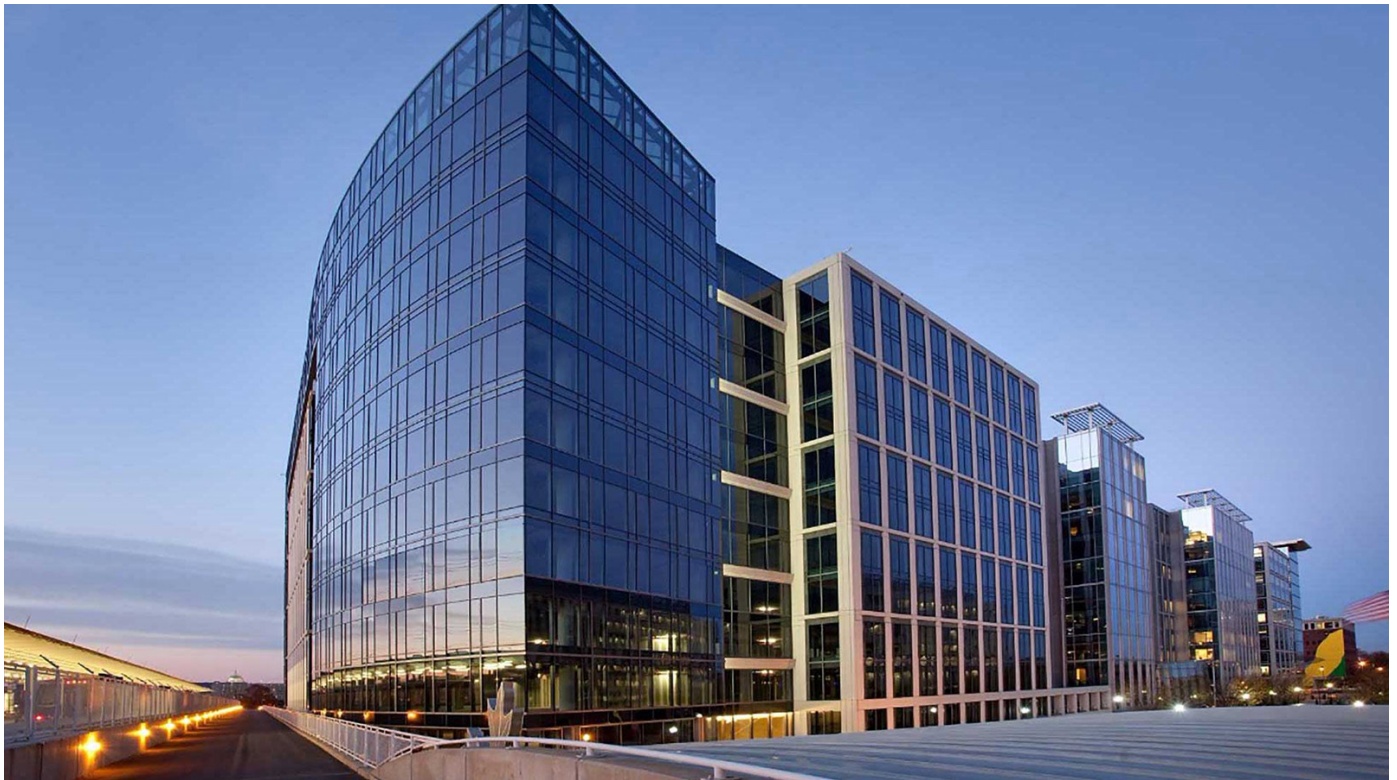
Installation type
HVAC

Total area
176,516 m²
(1.9 million ft²)

Constitution Square

Project Profile

Constitution Square covers a full city block just north of Union Station and the US Capitol Building in Washington, DC. Three 12-story office LEED-certified buildings accommodate thousands of government and private-sector employees, several Sensitive Compartmented Information Facility (SCIF) rooms, and Class A office space for a mix of private-sector tenants with green space and integration to the adjacent Metro rapid transit station. All three buildings include first-floor retail space and below-grade parking.



Authorized Dealer Pritchett Controls installed a Reliable Controls building automation system to control the base buildings and tenant mechanical systems in buildings two, three, and four at Constitution Square over six massive construction projects that began in 2008 and were completed in 2019.

The span of development for this project highlights the benefit of backward compatibility built into all Reliable Controls products; over the course of 11 years, Pritchett Controls seamlessly integrated two generations of Reliable Controls devices without the need to replace thousands of existing controls simply because a newer-generation product wasn't compatible.

Pritchett Controls installed more than 4,200 Reliable Controls devices to control 176,516 m² (1.9 million ft²) of floor space in the three buildings. Earlier-generation controls in the facility include MACH1, MACH2, and MACH-Air controllers along with SMART-Sensor devices. As the project progressed, Pritchett Controls integrated hundreds of second-generation MACH-Pro controllers and expansion modules. Each of the buildings has a large chilled-water plant that serves enormous custom rooftop units as well as variable air volume units with electric heat. Every tenant floor has two integrated units that serve computer rooms. In building four, Pritchett Controls integrated a third-party airflow measurement station to monitor airflow for each fan in the fan wall. In addition, buildings three and four have rainwater cisterns that harvest, store, and reuse rainwater to keep the cooling tower water sumps full.

Protocol
BACnet, Modbus

Integrated equipment
Chillers, air-conditioning units, variable frequency drives, heat pumps, air-handling units, water-source heat pumps, airflow measurement station, electrical switchgear

Total system objects
16,000

Installed software



Pritchett Controls used the power of RC-Studio software to integrate all mechanical equipment into the building automation system and optimize control strategies for comfort and energy efficiency. An easy-to-learn, easy-to-use BACnet Advanced Operator Workstation, RC-Studio provides real-time fault detection and diagnostics so facility managers can resolve issues in this complex system before they become a problem.

Today facility operators access the automation system using RC-WebView software, a time-saving browser-based building management solution that combines the power and accountability of enterprise tools with a simple interface. RC-WebView provides scalable visibility and system control at a glance. And with RC-Archive software, stakeholders fully own and control building data and benefit from a robust, dependable record of performance.



Three Constitution Square was recognized with a U.S. Green Building Council National Capital Region Award of Excellence for Core and Shell and a NAIOP Maryland/DC Best Urban Office Award. Building two achieved LEED Gold certification, and buildings three and four are expected to be certified LEED Platinum. To achieve LEED certification, a project earns points (60–79 points for Gold, 80+ points for Platinum) by adhering to prerequisites and credits that address carbon, energy, waste, water, transportation, materials, health, and indoor environmental quality.

Installed equipment



67 MACH1™ controllers



9 MACH2™ controllers



15 MACH2™ expansion cards



931 MACH-Air™ controllers



3 MACH-Pro1™ controllers



2 MACH-Pro2™ controllers



1,086 MACH-ProAir™ controllers



28 MACH-ProCom™ controllers



47 MACH-ProPoint™ Input/Output expansion modules



11 MACH-ProSys™ controllers



1 MACH-ProWebSys™ controller



80 MACH-ProZone™ controllers



1,988 SMART-Sensor™ devices



13 SMART-Space™ Controller devices

"The Constitution Square project was a large installation that required numerous subnetworks," said Peter Haber, vice president of business development at Pritchett Controls. "The scalability and architecture of Reliable Controls helped us provide the customer with a system that operates easily and efficiently."

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