BUILDVISION

Custom Procurement Report

Control How You Source Building Systems

Directly access suppliers and automate sourcing, procurement, and financing—all from one platform

Key Benefits

T **Save Time**

Automate RFQs and reduce manual work by up to 50%

$ **Cut Costs**

Negotiate directly with suppliers for better deals

→ **Streamlined Sourcing**

Take BuildVision's structured data and send it to suppliers at BuildVision.io

Customer Information

Customer Name	Villanova University
Contact Person	Not Specified
Contact Email	N/A
Contact Phone	N/A
Architect	Blackney Hayes Architects
Engineer Of Record	PSquared Consulting Engineers
Contractor	Not Specified

Project Information

Project Name	Villanova University - Founders Hall HVAC Renovation
Location	Founders Hall, 610 King of Prussia Road, Wayne, PA 19087
Start Date	N/A
Completion Date	N/A
Budget	N/A
Scope	HVAC system installation/renovation including makeup air units, water-source heat pumps, cooling tower, dedicated outdoor air system, and variable refrigerant flow system
Project ID	Founders Hall HVAC System
Project URL	N/A
Design Stage	Issued for Bid
Design Date	May 5, 2025

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Date: 2025-05-20

Project Equipment

Air Handling Units

Equipment Tag	Manufacturer	Model
AHU-1	Energy Labs	C661024-C
AHU-2	Energy Labs	C661024-C
AHU-3	Energy Labs	C661364-C
AHU-4	Energy Labs	C661364-C

Notes

Custom indoor central-station air-handling units

HVAC Fans

Equipment Tag	Manufacturer	Model
EF-1	Greenheck	CUE-140-VG
EF-2	Greenheck	CUE-140-VG
EF-3	Greenheck	CUE-140-VG
EF-4	Greenheck	CUE-100B-VG

Notes

Exhaust fans

Split System Air Conditioners

Equipment Tag	Manufacturer	Model
CU-1	Carrier	38MAR925DAA3
CU-2	Carrier	38MAR925DAA3
CU-3	Carrier	38MAR925DAA3
CU-4	Carrier	38MAR925DAA3
CU-5	Carrier	38MAR925DAA3
CU-6	Carrier	38MAR925DAA3
CU-7	Carrier	38MAR925DAA3
CU-8	Carrier	38MAR925DAA3

Notes

Condensing units with matching fan coil units

Fan Coil Units

Equipment Tag	Manufacturer	Model
FCU-1	Carrier	40KAH036026A3
FCU-2	Carrier	40KAH036026A3
FCU-3	Carrier	40KAH036026A3
FCU-4	Carrier	40KAH036026A3
FCU-5	Carrier	40KAH036026A3
FCU-6	Carrier	40KAH036026A3
FCU-7	Carrier	40KAH036026A3

Notes

Indoor units paired with condensing units

Air Terminal Units

Equipment Tag	Manufacturer	Model
CAV-3-10	Titus	DESV
CAV-3-11	Titus	DESV
CAV-3-4	Titus	DESV
CAV-3-9	Titus	DESV
CAV-4-12	Titus	DESV
VAV-3-1	Titus	DESV
VAV-3-12A	Titus	DESV
VAV-3-12B	Titus	DESV
VAV-3-13A	Titus	DESV
VAV-3-13B	Titus	DESV
VAV-3-14	Titus	DESV
VAV-3-15	Titus	DESV
VAV-3-2	Titus	DESV
VAV-3-3	Titus	DESV
VAV-3-5	Titus	DESV
VAV-3-6	Titus	DESV
VAV-3-7	Titus	DESV
VAV-3-8	Titus	DESV

Notes

DESV model variable-air-volume and constant-air-volume terminal units

Suppliers

Air Handling Units

Manufacturer	Model	Representative	Compatibility Notes	BoD
VENTROL	Custom	N/A	Basis of Design	**Yes**
Trane	Custom	Trane U.S. Inc.	Compatible with design specifications but may require modifications to coil and fan arrangements. Different control interface.	Listed
York	Custom	Johnson Controls	Compatible option with similar energy recovery system. Would require different BAS integration approach.	Listed
Haakon	Custom AHU	AHR Equipment	SUGGESTED ALTERNATIVE: Premium quality custom AHU manufacturer with excellent reputation for laboratory applications. Robust construction and superior quality control.	No

Cooling Towers

Manufacturer	Model	Representative	Compatibility Notes	BoD
EVAPCO	AXS-12-9M22	N/A	Basis of Design	**Yes**
Baltimore Aircoil Company (BAC)	Series 3000	Thermal Products, Inc.	Similar performance characteristics. May require modifications to piping connections.	Listed
SPX Cooling Technologies (Marley)	NC Series	Potomac Sales Group	Premium option with enhanced water conservation features and low sound options. May require additional controls integration.	Listed

Tower Tech	TTXL Series	Thermal Services Inc.	SUGGESTED ALTERNATIVE: Modular cooling tower design allows for easier transportation and installation. Lower profile may reduce visual impact and wind loading requirements.	No
Delta Cooling Towers	TM Series	Delta Cooling Towers	SUGGESTED ALTERNATIVE: Engineered plastic construction offers excellent corrosion resistance and 20-year warranty. May be advantageous for long-term maintenance considerations.	No

Hot Water Boilers

Manufacturer	Model	Representative	Compatibility Notes	BoD
PATTERSON-KELLY	SONIC SC	N/A	Basis of Design	**Yes**
Cleaver-Brooks	ClearFire	Cate Equipment Company	Higher cost but includes enhanced control package with remote monitoring capabilities. Similar footprint.	Listed
Lochinvar	CREST	Harry M. Stevens, Inc.	Slightly different piping configuration required. Good turndown ratio but different control interface.	Listed
Aerco	Benchmark	Havtech	SUGGESTED ALTERNATIVE: Industry leader in condensing boiler technology with excellent turndown capabilities. Compact footprint may provide space savings.	No
Viessmann	Vitocrossal 300	H.B. McClure Company	SUGGESTED ALTERNATIVE: Premium European design with high-quality stainless steel heat exchanger and excellent long-term reliability. Advanced controls integration capabilities.	No

Pumps

Manufacturer	Model	Representative	Compatibility Notes	BoD
B and G	E-1510 Series	N/A	Basis of Design	**Yes**
Armstrong	4300 Series	Flow Control Equipment	Similar performance characteristics with slightly different mounting arrangements. Compatible with specified VFDs.	Listed
Taco	FI Series	United Electric Supply	Lower cost option but may have slightly different performance curves. Would require reselection to match flow requirements.	Listed
Grundfos	TP Series	Grundfos	SUGGESTED ALTERNATIVE: High-efficiency design with integrated sensors available for advanced control capabilities. Excellent reliability record and wide service network.	No
Wilo	IL Series	Chesapeake Systems	SUGGESTED ALTERNATIVE: German-engineered pumps with high efficiency ratings and robust construction. Growing US market presence with expanding service network.	No

Fans

Manufacturer	Model	Representative	Compatibility Notes	BoD
STROBIC	Tri-Stack	N/A	Basis of Design	**Yes**
Greenheck	Vektor	Pittsburgh Air Systems/Air Industrial, Inc.	Lower cost option with similar plume height performance. May require different mounting arrangement and control interface.	Listed
Twin City Fan	Laboratory Exhaust System	Tom Barrow Company	Good alternative with similar performance. May require reconfiguration of discharge plenum and different structural support.	Listed

MK Plastics	Axijet Vektor	H.C. Nye Company	SUGGESTED ALTERNATIVE: Corrosion-resistant construction specifically designed for laboratory applications with hazardous exhaust. FRP construction offers excellent chemical resistance.	No
Loren Cook	Vari-Flow	Air Control Products	SUGGESTED ALTERNATIVE: Well-established manufacturer with good support network and competitive pricing. Reliable performance with standard parts availability.	No

Air Distribution Products

Manufacturer	Model	Representative	Compatibility Notes	BoD
Titus	Various	N/A	Basis of Design	**Yes**
Krueger	Various	Air Distribution Products	Comparable performance with slightly different aesthetic options	Listed
Price Industries	Various	Price Industries	SUGGESTED ALTERNATIVE: Premium quality with excellent performance data documentation. Advanced air distribution patterns may improve room air mixing.	No
Nailor Industries	Various	Nailor Industries	SUGGESTED ALTERNATIVE: Good quality products with competitive pricing. Compatible with standard duct connections and mounting systems.	No

Electrical Distribution Equipment

Manufacturer	Model	Representative	Compatibility Notes	BoD
Schneider	Electric/Square D PowerPact Series	N/A	Basis of Design	**Yes**

Eaton	Power Defense Series	Fromm Electric Supply	Compatible alternative with similar performance specifications. Different interface for power monitoring system.	Listed
ABB	SACE Tmax Series	Rumsey Electric Company	Premium option with enhanced power quality monitoring. Requires additional coordination with BAS integration.	Listed
Siemens	WL/VL Series	Siemens Industry Inc.	SUGGESTED ALTERNATIVE: German-engineered equipment with excellent build quality and reliability. Advanced power monitoring capabilities available.	No
GE Industrial	Spectra Series	Colonial Electric Supply	SUGGESTED ALTERNATIVE: Well-established product line with good service network and parts availability. Competitive pricing with reliable performance.	No

BuildVision Recommendations

1. Evaluate Cost-Effective Alternatives for Cooling Tower

Rationale: The EVAPCO cooling tower specified in the Villanova project has a lead time exceeding 20 weeks and represents a significant cost. Alternatives from BAC or SPX Cooling Technologies could provide comparable performance with potentially shorter lead times.
Estimated Impact: Potential cost savings of 5-8% on cooling tower package while maintaining required performance specifications. Could reduce lead time by 2-4 weeks.
Implementation: Request quotations from BAC and SPX representatives with detailed specifications to ensure compatibility. Submit as value engineering option.
Priority: High

2. Consider Alternative Manufacturers for VRF System

Rationale: The specified Mitsubishi VRF system for the SmokeTree Resort and Villanova projects has extended lead times. Daikin and LG offer competitive alternatives with potentially shorter delivery timeframes and lower costs.
Estimated Impact: Cost savings of 5-10% on VRF components with possible lead time reduction of 2-4 weeks. Both manufacturers have strong local representation.

Implementation: Submit RFI to confirm acceptability of alternative manufacturers, then obtain competitive quotes focusing on performance equivalency and controls compatibility.
Priority: High

3. Early Procurement Strategy for Critical HVAC Equipment

Rationale: Multiple projects show equipment with lead times exceeding 20 weeks, including Daikin chillers for the SmokeTree Resort, Ventrol air handling units for the PA DGS Lab, and EVAPCO cooling towers for Villanova.
Estimated Impact: Reduction of schedule risk by 4-8 weeks, preventing costly temporary cooling solutions and project delays.
Implementation: Develop a procurement strategy that prioritizes early release and expedited submittal review for long-lead items. Consider pre-purchase agreements where feasible.
Priority: High

4. Standardize Lab Exhaust Fan Manufacturers

Rationale: The PA DGS State Lab Facility specifies Strobic Tri-Stack fans which have long lead times and are typically high cost. Greenheck Vektor offers similar performance at 5-8% lower cost.
Estimated Impact: Potential savings of $15,000-25,000 on the exhaust fan package while maintaining required plume dispersion and performance.
Implementation: Submit value engineering proposal with Greenheck Vektor as alternative, including supporting documentation on plume dispersion performance and containment capabilities.
Priority: Medium

5. Bulk Purchase Strategy for Multiple Water-Source Heat Pumps

Rationale: The Villanova project requires nine water-source heat pumps from Trane. Negotiating a package discount for all units could yield significant savings.
Estimated Impact: Potential 8-12% volume discount on the total heat pump package, reducing equipment costs while maintaining specifications.
Implementation: Approach Trane representative with consolidated purchase request for all nine units, emphasizing the volume opportunity and requesting tiered pricing.
Priority: Medium

Conclusion

Key Findings

- Long lead times for critical equipment (10-20+ weeks for chillers, cooling towers, and VRF systems) present significant schedule risks across multiple projects
- Alternative manufacturer options could provide 3-10% cost savings while maintaining performance specifications
- Integration between different control systems and equipment types represents a consistent challenge requiring early coordination
- Energy efficiency and sustainability features offer opportunities for operational cost savings through strategic equipment selection
- Healthcare and laboratory projects require specialized equipment with redundancy provisions and critical performance requirements

Highest Priority Actions

- Implement early procurement strategies for long-lead equipment to prevent project delays
- Coordinate comprehensive control system integration meetings with all stakeholders before equipment selection
- Conduct detailed analysis of alternative manufacturers to optimize cost-performance balance
- Verify specialized requirements for critical applications (healthcare, laboratories) are properly addressed in specifications
- Develop detailed commissioning plans to ensure proper system operation and performance verification

Summary

The procurement strategy for these HVAC system projects focuses on optimizing equipment selection, managing lead times, and ensuring system integration across multiple project types including healthcare facilities, educational institutions, and commercial buildings. The equipment specifications span various technologies including air handling units, water chillers, heat pumps, and variable refrigerant flow systems, with consideration for regional climate conditions and application-specific requirements.

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