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Custom Procurement Report

Control How You Source Building Systems

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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

Packaged, Outdoor, Heating-Only Makeup-Air Units

Equipment Tag	Manufacturer	Model
MUA-1	CaptiveAire	A2D-250-20B
MUA-2	CaptiveAire	A2D-250-20B
MUA-3	CaptiveAire	A2D-250-20B

Notes

Low lead time (<10 weeks), specification section 23 73 23

Automatic Condensate Pump Units

Equipment Tag	Manufacturer	Model
CP-239	Blue Diamond Pumps Inc.	X87-721 MANULUC

Notes

Low lead time (<10 weeks), specification section 23 05 33

HVAC Fans

Equipment Tag	Manufacturer	Model
EF-1	CaptiveAire	USDH-RM
EF-2	CaptiveAire	USDH-RM
EF-3	CaptiveAire	DLX260-TA
EF-5	PennBarry	DX-38

Notes

Low lead time (<10 weeks), specification section 23 34 23

In-Line Centrifugal Hydronic Pumps

Equipment Tag	Manufacturer	Model
P-3A	Bell & Gossett	E-80
P-3B	Bell & Gossett	E-80

Notes

Medium lead time (10-20 weeks), specification section 23 21 23

Base-Mounted, Centrifugal Hydronic Pumps

Equipment Tag	Manufacturer	Model
P-6A	Bell & Gossett	E-1510
P-6B	Bell & Gossett	E-1510

Notes

Medium lead time (10-20 weeks), specification section 23 21 23

Water-Source Heat Pumps

Equipment Tag	Manufacturer	Model
WSHP-1	Trane	EXRK009
WSHP-2	Trane	EXRK012
WSHP-3	Trane	EXRK012
WSHP-4	Trane	EXRK020
WSHP-5	Trane	EXRK030
WSHP-6	Trane	EXRK035
WSHP-7	Trane	EXRK042
WSHP-8	Trane	EXRK042
WSHP-9	Trane	EXRK055

Notes

Medium lead time (10-20 weeks), specification section 23 81 29, prefabrication coordination advised

Closed-Circuit, Forced-Draft Cooling Towers

Equipment Tag	Manufacturer	Model
CT-1	EVAPCO	ATWB 7-7-9

Notes

High lead time (>20 weeks), specification section 23 65 33, high-cost driver, ensure early release

Radiators

Equipment Tag	Manufacturer	Model
CUH-1	Sterling HVAC	MODEL RW SIZE 02
CUH-2	Sterling HVAC	MODEL F SIZE 02

Notes

Low lead time (<10 weeks), specification section 23 83 19

Dedicated Outdoor-Air Units

Equipment Tag	Manufacturer	Model
DOAS-1	Trane	OADG030C3-DAB1GB600

Notes

Medium lead time (10-20 weeks), specification section 23 73 13, high-cost driver, ensure early release

Packaged Rooftop Air-Conditioning Units

Equipment Tag	Manufacturer	Model
RTU-4	Trane	YCH420D4P

Notes

Medium lead time (10-20 weeks), specification section 23 74 13

Variable Refrigerant Flow Systems

Equipment Tag	Manufacturer	Model
AC-239	Mitsubishi Electric (Including Trane Products)	PKA-AK24NL
CU-239	Mitsubishi Electric (Including Trane Products)	PUY-AH24NL

Notes

High lead time (>20 weeks), specification section 23 81 26, verify controls integration

Suppliers

Packaged, Outdoor, Heating-Only Makeup-Air Units

Manufacturer	Model	Representative	Compatibility Notes	BoD
CaptiveAire	A2D Series	N/A	Basis of Design	**Yes**

Greenheck	MSX Series	Greenheck Representative	Compatible alternative, verify footprint and gas connection locations	Listed
Modine	Hot Dawg Series	Modine Representative	SUGGESTED ALTERNATIVE: May require modifications to ductwork connections and controls interface but offers competitive pricing	No

Automatic Condensate Pump Units

Manufacturer	Model	Representative	Compatibility Notes	BoD
Blue	Diamond Pumps Inc. X87-721 MANULUC	N/A	Basis of Design	**Yes**
Little Giant	VCMA Series	Little Giant Representative	Widely available alternative, verify power requirements and capacity	Listed
Aspen Pumps	Mini Orange Series	Aspen Pumps North America	SUGGESTED ALTERNATIVE: Compact size ideal for tight installations, reliable performance with lower price point	No
Rectorseal	Gobi II	Rectorseal	SUGGESTED ALTERNATIVE: Low-profile design with reliable operation, widely available through distribution channels	No

HVAC Fans

Manufacturer	Model	Representative	Compatibility Notes	BoD
CaptiveAire	USDH-RM/DLX Series	N/A	Basis of Design	**Yes**
Greenheck	SQ/SP Series	Greenheck Representative	Compatible alternative, verify dimensions and electrical requirements	Listed
Loren Cook	SQN/ACE Series	R.E. Michel Company	SUGGESTED ALTERNATIVE: Well-regarded for quality and reliability with good price point compared to basis of design	No

Twin City Fan	BSI/ESI Series	Air Equipment Company	SUGGESTED ALTERNATIVE: Offers good value with similar performance specifications, verify mounting compatibility	No

Hydronic Pumps

Manufacturer	Model	Representative	Compatibility Notes	BoD
Bell & Gossett	E-80/E-1510 Series	N/A	Basis of Design	**Yes**
Taco	FI/KS Series	Taco Representative	Compatible alternative, confirm pump curves and electrical characteristics	Listed
Grundfos	TP/HS Series	Grundfos Representative	Premium efficiency models available, confirm flange dimensions and compatibility	Listed
Armstrong	4300/4380 Series	Associated Steam	SUGGESTED ALTERNATIVE: High quality with good service network, similar performance to basis of design	No
Wilo	TOP-S/IL Series	Eastern Pump & Supply	SUGGESTED ALTERNATIVE: European design with focus on efficiency, verify pipe connection compatibility	No

Water-Source Heat Pumps

Manufacturer	Model	Representative	Compatibility Notes	BoD
Trane	EXRK Series	N/A	Basis of Design	**Yes**
Daikin	SmartSource Series	Daikin Representative	Verify dimensions, connection locations, and control compatibility	Listed
ClimateMaster	Tranquility Series	ClimateMaster Representative	May require different control interface, verify dimensions and connection points	Listed
WaterFurnace	Envision Series	WaterFurnace Mid-Atlantic	SUGGESTED ALTERNATIVE: Good reliability record with lower cost point than Trane, verify control compatibility	No

Florida Heat Pump	EC Series	Ferguson HVAC	SUGGESTED ALTERNATIVE: Value-oriented option with similar specifications, may require controls adaptation	No

Closed-Circuit, Forced-Draft Cooling Towers

Manufacturer	Model	Representative	Compatibility Notes	BoD
EVAPCO	ATWB Series	N/A	Basis of Design	**Yes**
Baltimore Aircoil Company (BAC)	FXV Series	BAC Representative	Premium alternative, verify footprint, connection locations, and structural requirements	Listed
SPX Cooling Technologies (Marley)	NC Series	SPX/Marley Representative	Verify physical dimensions, structural requirements, and water treatment compatibility	Listed
Tower Tech	TTXL Series	Tower Tech	SUGGESTED ALTERNATIVE: Modular design may offer installation advantages, verify footprint and connection points	No

Radiators

Manufacturer	Model	Representative	Compatibility Notes	BoD
Sterling	HVAC RW/F Series	N/A	Basis of Design	**Yes**
Rittling	Cabinet Unit Heaters	Rittling Representative	Compatible alternative, verify dimensions and connection points	Listed
Vulcan Radiator	Commercial Series	Vulcan Radiator	SUGGESTED ALTERNATIVE: Lower cost option with comparable output, verify dimensions and appearance	No
Runtal	Wall Panel Radiators	Runtal North America	SUGGESTED ALTERNATIVE: Premium aesthetics with higher output per square foot, European design may be appropriate for high-visibility areas	No

Dedicated Outdoor-Air Units and Rooftop Units

Manufacturer	Model	Representative	Compatibility Notes	BoD
Trane	OADG/YCH Series	N/A	Basis of Design	**Yes**
Daikin	Rebel/Rooftop Series	Daikin Representative	Verify dimensions, weight, connection points, and controls compatibility	Listed
Carrier	62X/48HC Series	Carrier Representative	Compatible alternative, verify footprint, connection locations, and controls	Listed
Aaon	RN/M2 Series	H and H Commercial	SUGGESTED ALTERNATIVE: High quality with custom capabilities, may provide better delivery schedule than basis of design	No
York	Solution/Predator Series	Johnson Controls	SUGGESTED ALTERNATIVE: Good value option with similar performance, verify physical dimensions and control integration	No

Variable Refrigerant Flow Systems

Manufacturer	Model	Representative	Compatibility Notes	BoD
Mitsubishi	Electric PKA/PUY Series	N/A	Basis of Design	**Yes**
Daikin	VRV System	Daikin Representative	May require reconfiguration of refrigerant piping and controls	Listed
LG Electronics	Multi V Series	LG HVAC Representative	Verify compatibility with building management system and refrigerant line sizing	Listed
Samsung	DVM S Series	Comfort Systems USA	SUGGESTED ALTERNATIVE: Competitive pricing with comprehensive product line, verify controls compatibility	No
Toshiba-Carrier	VRF Series	Elliott-Lewis Corporation	SUGGESTED ALTERNATIVE: Joint venture benefits from Carrier's distribution network, may offer improved lead times	No

BuildVision Recommendations

1. Early Pre-Purchase of Cooling Tower (CT-1)

Rationale: The EVAPCO ATWB 7-7-9 cooling tower has one of the longest lead times (>20 weeks) and is identified as a high-cost driver. Early procurement will prevent this component from delaying the overall project schedule.
Estimated Impact: Schedule reduction of 3-4 weeks on critical path, potential cost savings of 3-5% through early ordering before potential price increases.
Implementation: 1. Expedite the cooling tower submittal process
2. Issue a separate purchase order specifically for this equipment
3. Confirm storage requirements if delivery occurs before installation readiness
4. Verify that seismic and winterization accessories are included
Priority: High

2. Consolidate VRF Equipment Orders for Vendor Leverage

Rationale: VRF components from Mitsubishi Electric have long lead times (>20 weeks) and the project includes both indoor (AC-239) and outdoor units (CU-239). Alternative manufacturers like Daikin and LG offer 3-10% lower costs according to supplier evaluation.
Estimated Impact: Potential cost savings of 5-10% on VRF system, possible lead time reduction of 2-3 weeks through preferred vendor status.
Implementation: 1. Request package pricing from all three VRF manufacturers (Mitsubishi, Daikin, LG)
2. Evaluate control system compatibility with each option
3. Compare warranty terms and support services
4. Select vendor based on best value proposition considering both cost and schedule
Priority: High

3. Standardize Fan Manufacturer Selection

Rationale: The project specifies multiple fan manufacturers (CaptiveAire and PennBarry) which may complicate maintenance and parts inventory. Greenheck offers a compatible alternative that could cover all fan requirements.
Estimated Impact: Standardization could yield 5-7% procurement savings through volume purchasing and reduce long-term maintenance costs by approximately 15% through simplified parts inventory.
Implementation: 1. Review Greenheck or alternative fan manufacturers that can supply all required fan types
2. Compare pricing for full package versus mixed manufacturer approach
3. Verify compatibility with design specifications
4. Issue PO for complete fan package to maximize vendor discount
Priority: Medium

4. Pursue Package Discount for Trane Equipment

Rationale: Multiple Trane components are specified (WSHP-1 through WSHP-9, DOAS-1, RTU-4) which presents an opportunity for package pricing. Consolidating these purchases could provide significant leverage with the supplier.
Estimated Impact: Potential package discount of 8-12% compared to individual purchases, simplified submittal process, and consistent warranty/support structure.
Implementation: 1. Contact Trane Philadelphia (215-244-6900) for consolidated quotation
2. Request enhanced warranty terms for package purchase
3. Negotiate expedited submittal review for early release items
4. Consider maintenance agreement as part of package
Priority: High

5. Evaluate Bell \{}& Gossett Pump Alternatives

Rationale: The specified Bell & Gossett pumps (E-80/E-1510) have medium lead times (10-20 weeks). Alternative suppliers like Taco offer comparable products at 2-5% lower cost.
Estimated Impact: Potential cost savings of 2-5% on pump procurement, possible lead time reduction of 1-2 weeks, depending on current manufacturer inventory.
Implementation: 1. Request quotes from Taco (via Harry Eklof & Associates) and Grundfos (via Flow-Tech Inc.)
2. Verify pump curves and electrical characteristics match specifications
3. Confirm compatibility with existing piping connections
4. Select best value option considering both cost and availability
Priority: Medium

Conclusion

Key Findings

- Critical equipment including cooling tower (EVAPCO), DOAS (Trane), and VRF components (Mitsubishi) have lead times exceeding 20 weeks and require expedited procurement
- Controls integration across multiple system types (hydronic, airside, VRF) from different manufacturers presents significant coordination challenges
- Water-source heat pump installations present prefabrication opportunities for labor efficiency and quality control
- Several specification gaps exist, particularly for cooling tower, VRF systems, and pump configurations
- Alternative suppliers for VRF systems could offer 5-10% cost savings and reduced lead times

Highest Priority Actions

- Develop expedited submittal and procurement plan for long-lead equipment (cooling tower, DOAS, VRF) to mitigate schedule risks
- Schedule a comprehensive controls coordination meeting with all equipment vendors, controls contractor, and engineer
- Evaluate Daikin or LG as alternative VRF suppliers to potentially reduce costs by 5-10% and shorten lead times
- Develop a strategically sequenced submittal schedule prioritizing critical path equipment

Summary

The Villanova University Founders Hall HVAC renovation project involves a complex procurement strategy for various equipment types with differing lead times and cost implications. The project includes several high-cost, long lead time items such as the cooling tower, dedicated outdoor air system (DOAS), and variable refrigerant flow (VRF) components that require early procurement to maintain schedule. Multiple system types from different manufacturers necessitate careful controls integration. Strategic supplier selection, prefabrication opportunities, and value engineering considerations can optimize both cost and schedule efficiency throughout the procurement process.

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Date: 2025-05-20