

**6.01.23 - APPENDIX: SUPPLEMENTAL MATERIAL FOR SECTION 4.02 - LCC Sample B
DESIGN AND CONSTRUCTION STANDARD**

Project Level Entries

General Information	
Project Name:	Garrison Hall Variation - Dorm
Location:	Texas
Analyst Name:	Travis Alexander
Discounting Convention:	End-of-Year
Discount Rate:	6%

Key Dates	
Base Date:	1-Jan-08
Length of Study Period:	25 Years

Life-Cycle Analysis Description:
This LCC was performed to determine which type of HVAC system would best support a new dorm on campus.

Summary of Results:
After reviewing the results from the three LCC performed, the FP VAV scenario proved to have the lowest life cycle cost. Considerations for individual occupant control may require a closer look at individual fan coil option based project needs.

Alternate Name: FP VAV
Alternate Description:
This alternate explored the use of a single duct, variable air volume, central air-handling units with parallel fan powered VAV boxes with hot water reheat coils, zoned for individual living suite control. In this alternate building ventilation would be provided by dedicated outside air pre-treatment units.

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Alternative Level Entries	
Alternate Name:	FP VAV
OM&R Replacement Cost	
Cost Name:	Capital Cost
Calculated Annual Simple:	\$168,445
Cost Name:	Maintenance
Calculated Annual Simple:	\$21,255
Electricity Costs	
Annual Consumption:	204,000
Units:	kWh
Price/Unit:	\$0.077
Chilled Water Costs	
Annual Consumption:	45,453
Units:	Therm
Price/Unit:	\$0.8875
Steam Costs	
Annual Consumption:	350
Units:	Therm
Price/Unit:	\$0.914
Water Costs	
Annual Water Usage:	N/A
Units:	N/A
Price/Unit:	N/A
Price Escalation Rates:	N/A
Non-Annually Recurring O&M and Repair Cost	
Years/Months:	N/A
Amount:	N/A
Annual Rate of Increase:	N/A

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Alternative Level Entries	
Alternate Name:	Dual Duct
OM&R Replacement Cost	
Cost Name:	Capital Cost
Calculated Annual Simple:	\$180,301
Cost Name:	Maintenance
Calculated Annual Simple:	\$17,327
Electricity Costs	
Annual Consumption:	193,000
Units:	kWh
Price/Unit:	\$0.077
Chilled Water Costs	
Annual Consumption:	45,100
Units:	Therm
Price/Unit:	\$0.8875
Steam Costs	
Annual Consumption:	300
Units:	Therm
Price/Unit:	\$0.914
Water Costs	
Annual Water Usage:	N/A
Units:	N/A
Price/Unit:	N/A
Price Escalation Rates:	N/A
Non-Annually Recurring O&M and Repair Cost	
Years/Months:	N/A
Amount:	N/A
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Alternative Level Entries	
Alternate Name:	Fan Coil
OM&R Replacement Cost	
Cost Name:	Capital Cost
Calculated Annual Simple:	\$211,396
Cost Name:	Maintenance
Calculated Annual Simple:	\$21,969
Electricity Costs	
Annual Consumption:	157,000
Units:	kWh
Price/Unit:	\$0.077
Chilled Water Costs	
Annual Consumption:	30,969
Units:	Therm
Price/Unit:	\$0.8875
Steam Costs	
Annual Consumption:	1,060
Units:	Therm
Price/Unit:	\$0.914
Water Costs	
Annual Water Usage:	N/A
Units:	N/A
Price/Unit:	N/A
Price Escalation Rates:	N/A
Non-Annually Recurring O&M and Repair Cost	
Years/Months:	N/A
Amount:	N/A
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Alternate Name: Dual Duct

Alternate Description:

The alternate explored the use of dual duct, variable air volume terminal units. In this alternate building ventilation would be provided by dedicated outside air pre-treatment units.

Alternate Name: Fan Coil

Alternate Description:

This alternate explored the use of individual four-pipe fan coil units for each dorm room or suite may. In this alternate building ventilation would be provided by dedicated outside air pre-treatment units.

Alternate Name:

Alternate Description:

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