

**6.01.22 - APPENDIX: SUPPLEMENTAL MATERIAL FOR SECTION 4.02 - LCC Sample A  
DESIGN AND CONSTRUCTION STANDARD**

**Project Level Entries**

**General Information**

<b>Project Name:</b>	Garrison Hall
<b>Location:</b>	Austin, Tx
<b>Analyst Name:</b>	Travis Alexander
<b>Discounting Convention:</b>	End-of-Year
<b>Discount Rate:</b>	6%

**Key Dates**

<b>Base Date:</b>	1-Jan-08
<b>Length of Study Period:</b>	25 Years

**Life-Cycle Analysis Description:**

This LCC was performed to determine which type of HVAC system would best support a new student building on campus.

**Summary of Results:**

The results of this LCC showed that Scenario D is the University's best option when building a new classroom/offices building; however due to University's need to limit electrical demand, Scenario C is recommended.

**(Add as many alternates as are needed)**

**Alternate Name:** Scenario A

**Alternate Description:**

This alternate explored the use of separate hot and cold deck AHUs with dual duct and mixing laterals. Base on the old UT standard.

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<b>Alternative Level Entries</b>	
<b>Alternate Name:</b>	Scenario A
<b>OM&amp;R Replacement Cost</b>	
<b>Cost Name:</b>	Contract Cost
<b>Calculated Annual Simple:</b>	\$215,279
<b>Cost Name:</b>	OM&R Cost
<b>Calculated Annual Simple:</b>	\$19,002
<b>Electricity Costs</b>	
<b>Annual Consumption:</b>	61,000
<b>Units:</b>	Watt-Hour
<b>Price/Unit:</b>	\$0.077
<b>Chilled Water Costs</b>	
<b>Annual Consumption:</b>	33,885
<b>Units:</b>	Therm
<b>Price/Unit:</b>	\$0.8875
<b>Steam Costs</b>	
<b>Annual Consumption:</b>	2,100
<b>Units:</b>	Therm
<b>Price/Unit:</b>	\$0.914
<b>Water Costs</b>	
<b>Annual Water Usage:</b>	N/A
<b>Units:</b>	N/A
<b>Price/Unit:</b>	N/A
<b>Price Escalation Rates:</b>	N/A
<b>Non-Annually Recurring O&amp;M and Repair Cost</b>	
<b>Years/Months:</b>	N/A
<b>Amount:</b>	N/A
<b>Annual Rate of Increase:</b>	N/A

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<b>Alternative Level Entries</b>	
<b>Alternate Name:</b>	Scenario B
<b>OM&amp;R Replacement Cost</b>	
<b>Cost Name:</b>	Contract Cost
<b>Calculated Annual Simple:</b>	\$202,641
<b>Cost Name:</b>	OM&R Cost
<b>Calculated Annual Simple:</b>	\$17,321
<b>Electricity Costs</b>	
<b>Annual Consumption:</b>	65,000
<b>Units:</b>	Watt-Hour
<b>Price/Unit:</b>	\$0.077
<b>Chilled Water Costs</b>	
<b>Annual Consumption:</b>	31,567
<b>Units:</b>	Therms
<b>Price/Unit:</b>	\$0.8875
<b>Steam Costs</b>	
<b>Annual Consumption:</b>	3,570
<b>Units:</b>	Therms
<b>Price/Unit:</b>	\$0.914
<b>Water Costs</b>	
<b>Annual Water Usage:</b>	N/A
<b>Units:</b>	N/A
<b>Price/Unit:</b>	N/A
<b>Price Escalation Rates:</b>	N/A
<b>Non-Annually Recurring O&amp;M and Repair Cost</b>	
<b>Years/Months:</b>	N/A
<b>Amount:</b>	N/A
<b>Annual Rate of Increase:</b>	N/A

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<b>Alternative Level Entries</b>	
<b>Alternate Name:</b>	Scenario C
<b>OM&amp;R Replacement Cost</b>	
<b>Cost Name:</b>	Contract Cost
<b>Calculated Annual Simple:</b>	\$192,446
<b>Cost Name:</b>	OM&R Cost
<b>Calculated Annual Simple:</b>	\$23,309
<b>Electricity Costs</b>	
<b>Annual Consumption:</b>	82,000
<b>Units:</b>	Watt-Hour
<b>Price/Unit:</b>	\$0.077
<b>Chilled Water Costs</b>	
<b>Annual Consumption:</b>	34,103
<b>Units:</b>	Therm
<b>Price/Unit:</b>	\$0.8875
<b>Steam Costs</b>	
<b>Annual Consumption:</b>	820
<b>Units:</b>	Therm
<b>Price/Unit:</b>	\$0.914
<b>Water Costs</b>	
<b>Annual Water Usage:</b>	N/A
<b>Units:</b>	N/A
<b>Price/Unit:</b>	N/A
<b>Price Escalation Rates:</b>	N/A
<b>Non-Annually Recurring O&amp;M and Repair Cost</b>	
<b>Years/Months:</b>	N/A
<b>Amount:</b>	N/A
<b>Annual Rate of Increase:</b>	N/A

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<b>Alternative Level Entries</b>	
<b>Alternate Name:</b>	Scenario D
<b>OM&amp;R Replacement Cost</b>	
<b>Cost Name:</b>	Contract Cost
<b>Calculated Annual Simple:</b>	\$168,142
<b>Cost Name:</b>	OM&R Cost
<b>Calculated Annual Simple:</b>	\$20,173
<b>Electricity Costs</b>	
<b>Annual Consumption:</b>	158,000
<b>Units:</b>	Watt-Hour
<b>Price/Unit:</b>	\$0.077
<b>Chilled Water Costs</b>	
<b>Annual Consumption:</b>	34,103
<b>Units:</b>	Therms
<b>Price/Unit:</b>	\$0.8875
<b>Steam Costs</b>	
<b>Annual Consumption:</b>	N/A
<b>Units:</b>	N/A
<b>Price/Unit:</b>	N/A
<b>Water Costs</b>	
<b>Annual Water Usage:</b>	N/A
<b>Units:</b>	N/A
<b>Price/Unit:</b>	N/A
<b>Price Escalation Rates:</b>	N/A
<b>Non-Annually Recurring O&amp;M and Repair Cost</b>	
<b>Years/Months:</b>	N/A
<b>Amount:</b>	N/A
<b>Annual Rate of Increase:</b>	N/A

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**Alternate Name:** Scenario B

**Alternate Description:**

This alternate explored the use of combined hot and cold deck AHUs with dual duct and mixing laterals. Base on the old UT standard.

**Alternate Name:** Scenario C

**Alternate Description:**

This alternate explored the use of a cooling only AHU, single duct VAV fan powered box with hot water reheat. Based on the industry standard.

**Alternate Name:** Scenario D

**Alternate Description:**

This alternate explored the use of a cooling only AHU, single duct VAV fan powered box with electric preheat and electric reheat. Based on the industry standard.

**Alternate Name:**

**Alternate Description:**

**Alternate Name:**

**Alternate Description:**

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