

**AGENDA ITEM BRIEFING**

**Submitted by:** Michael K. Young, President  
Texas A&M University

**Subject:** Approval of the Project Scope and Budget, Appropriation for Construction Services, and Approval for Construction for the HVAC Replacement Appelt Hall Project, Texas A&M University, College Station, Texas (Project No. 2019-04001)

**Background and Prior Actions:**

The HVAC Replacement Appelt Hall Project was included as an approved project on the FY 2020 – FY 2024 A&M System Capital Plan approved by the Board at the August 2019 meeting.

**Proposed Board Action:**

- (1) Approve the project scope and budget.
- (2) Appropriate \$7,349,264 for construction services and related project costs. \$816,584 has been previously appropriated to this project.
- (3) Approve construction of the HVAC Replacement Appelt Hall Project at Texas A&M University (Texas A&M).

**Funding/Budget Amount:**

<u>Funding Source</u>	<u>Budget Amount</u>	<u>Average Estimated Annual Debt Service</u>	<u>Debt Service Source</u>
Revenue Financing System Debt Proceeds	<u>\$8,165,848</u>	\$556,512	Housing Revenue
Total Project Funds	<u><u>\$8,165,848</u></u>		

**Project Justification:**

Originally constructed in 1989, Appelt Hall is a four-story concrete structure consisting of 160 modular style dorm rooms, shared bathrooms, study rooms and common areas.

Each room is conditioned by an individual fan coil unit (FCU) served by a four-pipe Chilled Water (CHW)/Heating Water (HW) piping distribution system. Each room has a pneumatic thermostat and fan speed control switch (Hi/Med/Lo). Corridors are conditioned by floor-mounted FCUs. Each stairwell has a wall-mounted FCU located on the 2<sup>nd</sup> and 3<sup>rd</sup> floor landings. Outside Air (OA) is introduced into the building by two first-floor Air Handler Units (AHU) located at opposite ends of the building, delivering air to the rooms by way of the corridor plenum through a small 4” hole.

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Agenda Item Briefing

The HVAC system has reached the end of its useful life and is in need of replacement. Maintenance and humidity issues continue to increase resulting from the aged HVAC system.

**Scope:**

This project will replace all FCUs with new four-pipe FCUs with HW coils in the re-heat position. Each room will have a digital thermostat and humidistat to implement a humidity control strategy at the room level. A fan speed controller will be provided in each room to allow for student control of FCU. Corridor floor-mounted FCUs will be replaced. First-floor AHUs will be removed. Conditioned OA will be provided via new Roof Top Units (RTUs) with Integral Energy Recovery Unit (ERU). Existing bathroom exhaust fans will be removed. New OA and exhaust duct risers will be installed to introduce conditioned fresh air into each room. New FCUs will be provided to serve the stairwells. The existing Chilled Water Pump (CHP) and Hot Water Pump (HWP) will be replaced with Variable Frequency Driven (VFD) pumps. All thermal lines within the crawlspace will be replaced and insulated.

A new Direct Digital Control (DDC) system will be provided and will be tied into the campus-wide control system for better energy management and control by Utilities and Energy Services (UES). The Water Air Gas Electricity and Steam (WAGES) system will also be modified and upgraded to accommodate the replacement systems.

The Domestic Hot Water (DHW) main piping located in the crawlspace and valves located in the pipe chases will be replaced and re-insulated.

General construction shall consist of the removal and replacement of all existing ceiling grids and ceiling tiles to facilitate mechanical work. In lieu of cleaning and reinstalling existing light fixtures, this project will install new, more energy efficient LED light fixtures. A new safety rail will be installed at the existing roof hatch for fall protection. An alternate for the existing roof hatch will be requested if replacement is needed. An alternate for the two new floor hatches to be located in each stairwell will be issued to provide better access for future replacement and repair of mechanical and electrical components.

Due to an administrative error, construction on this project commenced in January 2020 and continued for a brief period. Upon discovery of the error, work immediately ceased and the project was placed on hold pending board approval. Construction on this project will re-commence in May 2020 with substantial completion scheduled for July 2020. The total project budget is \$8,165,848.

**Other Major Fiscal Impacts:**

None.

Agenda Item No. 6.15

**TEXAS A&M UNIVERSITY**

Office of the President

April 1, 2020

Members, Board of Regents  
The Texas A&M University System

Subject: Approval of the Project Scope and Budget, Appropriation for Construction Services, and Approval for Construction for the HVAC Replacement Appelt Hall Project, Texas A&M University, College Station, Texas (Project No. 2019-0400)

I recommend adoption of the following minute order:

**“The project scope along with a project budget of \$8,165,848 for the HVAC Replacement Appelt Hall Project is approved.**

**The amount of \$7,349,264 is appropriated from Account No. 01-083540 Revenue Financing System Debt Proceeds (Housing Revenue) for construction services and related project costs.**

**The HVAC Replacement Appelt Hall Project, Texas A&M University, College Station, Texas, is approved for construction.**

**The Board of Regents of The Texas A&M University System (Board) reasonably expects to incur debt in one or more obligations for this project, and all or a portion of the proceeds received from the sale of such obligations is reasonably expected to be used to reimburse the account(s) for amounts previously appropriated and/or expended from such account(s).**

**As required by Section 5(a) of the Master Resolution of the Revenue Financing System, the Board hereby determines that it will have sufficient funds to meet the financial obligations of The Texas A&M University System, including sufficient Pledged Revenues to satisfy the Annual Debt Service Requirements of the Revenue Financing System and to meet all financial obligations of the Board relating to the Revenue Financing System and that**

**the Participants, on whose behalf the debt is issued, possess the financial capacity to satisfy their Direct Obligations.”**

Respectfully submitted,

**[ORIGINAL SIGNED BY]**

Michael K. Young  
President

**Approval Recommended:**

**Approved for Legal Sufficiency:**

**[ORIGINAL SIGNED BY]**

John Sharp  
Chancellor

**[ORIGINAL SIGNED BY]**

Ray Bonilla  
General Counsel

**[ORIGINAL SIGNED BY]**

Billy Hamilton  
Deputy Chancellor and  
Chief Financial Officer

**[ORIGINAL SIGNED BY]**

Phillip Ray  
Vice Chancellor for Business Affairs

<b>HVAC REPLACEMENT APPELT HALL</b> <b>TEXAS A&amp;M UNIVERSITY</b> <b>PROJECT NO. 2019-04001</b>	<b>PROJECT BUDGET</b>
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1. Amount Available for Construction Contract .....	\$6,575,000
2. Architectural/Engineering Fees .....	526,000
3. Campus Services .....	22,474
4. Other Services .....	185,000
5. Contingency.....	619,534
6. SSC Fees.....	<u>237,840</u>
7. TOTAL ESTIMATED COST OF PROJECT .....	<u>\$8,165,848</u>

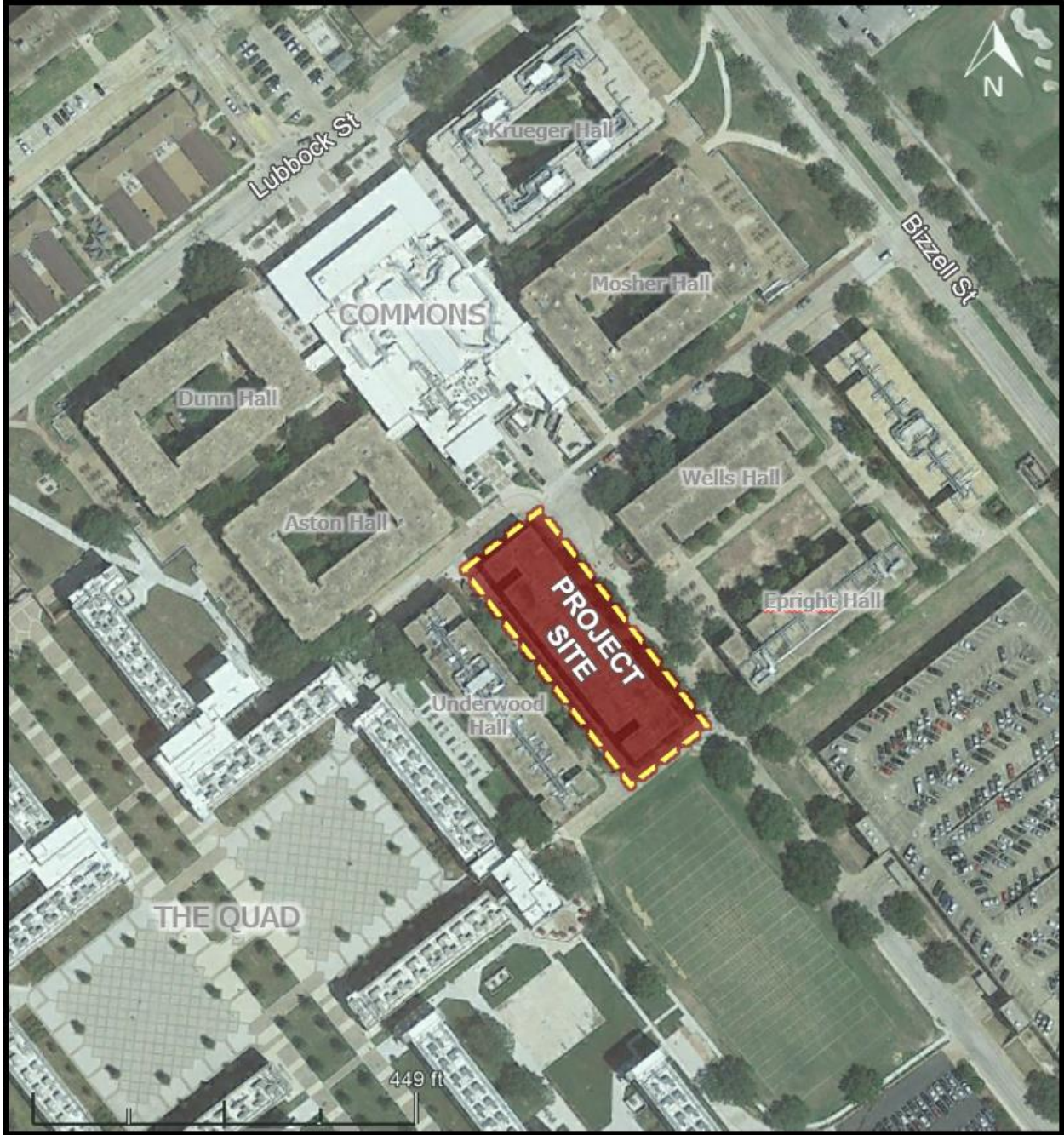
1. BOR Approval to Include in Capital Plan ..... August 16, 2018
2. Sole Source Letter Approved for A/E..... February 19, 2019
3. Execute A/E Agreement ..... March 18, 2019
4. A/E Design Kick-Off..... March 22, 2019
5. Complete Schematic Design ..... April 3, 2019
6. Complete Design Development ..... April 25, 2019
7. Complete Construction Documents ..... May 16, 2019
8. BOR Approval for Construction ..... May 14, 2020
9. Issue Construction Notice to Proceed ..... May 15, 2020
10. Full Demolition & Construction Commences ..... May 18, 2020
11. Substantial Completion ..... July 26, 2020
12. Owner Occupancy ..... July 31, 2020

**TEXAS A&M UNIVERSITY SYSTEM  
REVENUE FINANCING SYSTEM  
HVAC Replacement Appelt Hall  
Housing Revenue**

<b>Dates</b>	<b>Outstanding Principal</b>	<b>Principal Amount</b>	<b>Interest Amount</b>	<b>Annual Total</b>	<b>Coverage 1.15x</b>
BONDS	8,250,000.00				
YEAR 1	8,065,000.00	185,000.00	371,250.00	556,250.00	639,687.50
YEAR 2	7,870,000.00	195,000.00	362,925.00	557,925.00	641,613.75
YEAR 3	7,670,000.00	200,000.00	354,150.00	554,150.00	637,272.50
YEAR 4	7,460,000.00	210,000.00	345,150.00	555,150.00	638,422.50
YEAR 5	7,240,000.00	220,000.00	335,700.00	555,700.00	639,055.00
YEAR 6	7,010,000.00	230,000.00	325,800.00	555,800.00	639,170.00
YEAR 7	6,770,000.00	240,000.00	315,450.00	555,450.00	638,767.50
YEAR 8	6,520,000.00	250,000.00	304,650.00	554,650.00	637,847.50
YEAR 9	6,255,000.00	265,000.00	293,400.00	558,400.00	642,160.00
YEAR 10	5,980,000.00	275,000.00	281,475.00	556,475.00	639,946.25
YEAR 11	5,695,000.00	285,000.00	269,100.00	554,100.00	637,215.00
YEAR 12	5,395,000.00	300,000.00	256,275.00	556,275.00	639,716.25
YEAR 13	5,080,000.00	315,000.00	242,775.00	557,775.00	641,441.25
YEAR 14	4,750,000.00	330,000.00	228,600.00	558,600.00	642,390.00
YEAR 15	4,405,000.00	345,000.00	213,750.00	558,750.00	642,562.50
YEAR 16	4,045,000.00	360,000.00	198,225.00	558,225.00	641,958.75
YEAR 17	3,670,000.00	375,000.00	182,025.00	557,025.00	640,578.75
YEAR 18	3,280,000.00	390,000.00	165,150.00	555,150.00	638,422.50
YEAR 19	2,870,000.00	410,000.00	147,600.00	557,600.00	641,240.00
YEAR 20	2,445,000.00	425,000.00	129,150.00	554,150.00	637,272.50
YEAR 21	2,000,000.00	445,000.00	110,025.00	555,025.00	638,278.75
YEAR 22	1,535,000.00	465,000.00	90,000.00	555,000.00	638,250.00
YEAR 23	1,045,000.00	490,000.00	69,075.00	559,075.00	642,936.25
YEAR 24	535,000.00	510,000.00	47,025.00	557,025.00	640,578.75
YEAR 25	-	535,000.00	24,075.00	559,075.00	642,936.25
		<u>\$ 8,250,000.00</u>	<u>\$ 5,662,800.00</u>	<u>\$ 13,912,800.00</u>	<u>\$ 15,999,720.00</u>

Estimated Issuance Costs of \$84,152.00 are included in this schedule.  
 Long-term rates are assumed to be 4.50%. Rates are subject to market change.  
 Prepared by the Office of the Treasurer - Treasury Services 03/19/2020

**Rates are subject to market change. Amounts are preliminary estimates that will be revised at the time bonds are issued.**



## HVAC Replacement Appelt Hall

Texas A&M University

Project No. 2019-04001