

AGENDA ITEM BRIEFING

Submitted by: Billy Hamilton, Deputy Chancellor and Chief Financial Officer
The Texas A&M University System

Subject: Approval to Amend the FY 2020-FY 2024 Texas A&M University System Capital Plan to Add the Ballistic Aero-Optics and Materials Facility Project (Project No. 28-3321) for Texas A&M Engineering Experiment Station with a FY 2020 Start Date

Proposed Board Action:

- (1) Amend the approved FY 2020-FY 2024 Texas A&M University System Capital Plan to add the Ballistic Aero-Optics and Materials (BAM) Facility Project for Texas A&M Engineering Experiment Station (TEES) with an FY 2020 start date and a total planning amount of \$25,000,000.
- (2) Appropriate \$2,500,000 for pre-construction services and related project costs, contingent upon the completion of a Program of Requirements (POR) scoped to the approved budget. The project will not move forward until the POR is complete.
- (3) Approve the following exception to system policy required by Item (1) above: Add the project to the Capital Plan prior to completion of a POR.

Funding/Planning Amount:

<u>Funding Source</u>	<u>Planning Amount</u>	<u>Average Estimated Annual Debt Service</u>	<u>Debt Service Source</u>
Revenue Financing System Debt Proceeds	\$15,000,000	\$3,380,000	Contract Revenue/ Indirect Cost Recoveries
Revenue Financing System Debt Proceeds	\$ 2,000,000	\$131,717	Indirect Cost Recoveries
Cash (General Revenue)	<u>\$ 8,000,000</u>	N/A	N/A
Total Project Cost	<u>\$25,000,000</u>		

Project Justification:

TEES has formally executed a cooperative agreement with the Combat Capabilities Development Command (CCDC)-Army Research Laboratory (ARL) to conduct research that

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will discover and mature technologies leading to an ecosystem capable of generating novel approaches which will accelerate technology transfer across disparate science and technology fields specifically for the Army Futures Command (AFC) modernization mission. This is a five-year, \$65M research agreement. Included in the agreement is \$15M in funding for TEES to equip and operate a unique Ballistic Aero-Optics and Materials (BAM) Facility at the RELLIS Campus. In addition, the 86th Texas State Legislature appropriated \$50M to the Governor to transfer to TEES for Army Futures Command efforts. These funds were to be used for the purpose of engaging this state's public institutions of higher education with private sector industries to establish and equip a proving ground site and to commercialize and manufacture critical emerging technologies for infrastructure networks, public safety, and national defense. \$8M of the \$50M will be used for the BAM facility.

The BAM facility will be an integral part of the research efforts being built at the Bush Combat Development Complex (BCDC) and the ongoing research efforts with the Army Futures Command. It will provide TEES and TEES' clients a contained test environment to bridge the gap between "lab-scale" research and development and national/government scale testing and evaluation.

Scope:

The proposed BAM facility will house two highly instrumented 1 kilometer long and 2-meter diameter closed steel tubes to provide opportunities to conduct research pertaining to (a) aerodynamic effects on high-energy laser propagation, (b) realistic hypersonic flight conditions, and (c) large-scale hypervelocity impacts. The facility will also incorporate a space for a smaller existing 12-meter light gas gun, small office suite, fabrication shop, restrooms, and storage and mechanical rooms to support the facility and research tubes. Once operational, the BAM facility will be the largest and most capable of its kind in the world.

Other Major Fiscal Impacts:

None.

Strategic Plan Imperative(s) this Item Advances:

Approval of this agenda item will advance the Texas A&M University System's Strategic Imperative #4 of increasing the A&M System's prominence by developing a state of the art hypersonic research facility that will enhance defense and industry based research.

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THE TEXAS A&M UNIVERSITY SYSTEM
FACILITIES PLANNING AND CONSTRUCTION
Office of the Deputy Chancellor and Chief Financial Officer
April 6, 2020

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

Subject: Approval to Amend the FY 2020-FY 2024 Texas A&M University System Capital Plan to Add the Ballistic Aero-Optics and Materials Facility Project (Project No. 28-3321) for Texas A&M Engineering Experiment Station with a FY 2020 Start Date

I recommend adoption of the following minute order:

“The request to amend the FY 2020-FY 2024 Texas A&M University System Capital Plan to add the Ballistic Aero-Optics and Materials Facility Project for Texas A&M Engineering Experiment Station with an FY 2020 start date and a total planning amount of \$25,000,000 is approved. The exception to system policy is approved to add the project to the Capital Plan prior to completion of a Program of Requirements.

Contingent upon the completion of the Program of Requirements scoped to the approved budget, the amount of \$2,500,000 is appropriated from Account No. 28-810076, AFC BAM Funding, for pre-construction services and related project costs.

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]

Billy Hamilton
Deputy Chancellor and
Chief Financial Officer

Approval Recommended:

Approved for Legal Sufficiency:

[ORIGINAL SIGNED BY]

John Sharp
Chancellor

[ORIGINAL SIGNED BY]

Ray Bonilla
General Counsel

[ORIGINAL SIGNED BY]

Phillip Ray
Vice Chancellor for Business Services

[ORIGINAL SIGNED BY]

M. Katherine Banks, Ph.D., P.E.
Vice Chancellor of Engineering and National Laboratories
The Texas A&M University System
Director, Texas A&M Engineering Experiment Station

[ORIGINAL SIGNED BY]

Kelly Templin, Director
The Texas A&M University System
RELLIS Campus

**TEXAS A&M ENGINEERING EXPERIMENT STATION
REVENUE FINANCING SYSTEM
Ballistic Aero Optics Materials Facility
Contract Revenue/Indirect Cost Recoveries**

Dates	Outstanding Principal	Principal Amount	Interest Amount	Annual Total	Coverage 1.15x
Coml Paper	15,000,000.00				
YEAR 1	14,000,000.00	1,000,000.00	525,000.00	1,525,000.00	1,753,750.00
YEAR 2	13,000,000.00	1,000,000.00	490,000.00	1,490,000.00	1,713,500.00
YEAR 3	8,000,000.00	5,000,000.00	455,000.00	5,455,000.00	6,273,250.00
YEAR 4	4,000,000.00	4,000,000.00	280,000.00	4,280,000.00	4,922,000.00
YEAR 5	-	4,000,000.00	150,000.00	4,150,000.00	4,772,500.00
		<u>\$ 15,000,000.00</u>	<u>\$ 1,900,000.00</u>	<u>\$ 16,900,000.00</u>	<u>\$ 19,435,000.00</u>

Short-term rates are assumed to be 3.50% for years 1-4 and 3.75% for year 5. Rates are subject to market change.

Assuming that project will remain in commercial paper until paid off in five years.

Principal will be repaid with Contract Revenue and interest will be repaid with Indirect Cost Recoveries.

Prepared by the Office of the Treasurer - Treasury Services 3/25/2020

Rates are variable and subject to market change.

**TEXAS A&M ENGINEERING EXPERIMENT STATION
REVENUE FINANCING SYSTEM
Ballistic Aero Optics Materials Facility
Indirect Cost Recoveries**

Dates	Outstanding Principal	Principal Amount	Interest Amount	Annual Total	Coverage 1.15x
BONDS	2,020,000.00				
YEAR 1	1,990,000.00	30,000.00	101,000.00	131,000.00	150,650.00
YEAR 2	1,960,000.00	30,000.00	99,500.00	129,500.00	148,925.00
YEAR 3	1,925,000.00	35,000.00	98,000.00	133,000.00	152,950.00
YEAR 4	1,890,000.00	35,000.00	96,250.00	131,250.00	150,937.50
YEAR 5	1,855,000.00	35,000.00	94,500.00	129,500.00	148,925.00
YEAR 6	1,820,000.00	35,000.00	92,750.00	127,750.00	146,912.50
YEAR 7	1,780,000.00	40,000.00	91,000.00	131,000.00	150,650.00
YEAR 8	1,735,000.00	45,000.00	89,000.00	134,000.00	154,100.00
YEAR 9	1,690,000.00	45,000.00	86,750.00	131,750.00	151,512.50
YEAR 10	1,645,000.00	45,000.00	84,500.00	129,500.00	148,925.00
YEAR 11	1,595,000.00	50,000.00	82,250.00	132,250.00	152,087.50
YEAR 12	1,545,000.00	50,000.00	79,750.00	129,750.00	149,212.50
YEAR 13	1,490,000.00	55,000.00	77,250.00	132,250.00	152,087.50
YEAR 14	1,435,000.00	55,000.00	74,500.00	129,500.00	148,925.00
YEAR 15	1,375,000.00	60,000.00	71,750.00	131,750.00	151,512.50
YEAR 16	1,310,000.00	65,000.00	68,750.00	133,750.00	153,812.50
YEAR 17	1,245,000.00	65,000.00	65,500.00	130,500.00	150,075.00
YEAR 18	1,175,000.00	70,000.00	62,250.00	132,250.00	152,087.50
YEAR 19	1,100,000.00	75,000.00	58,750.00	133,750.00	153,812.50
YEAR 20	1,025,000.00	75,000.00	55,000.00	130,000.00	149,500.00
YEAR 21	945,000.00	80,000.00	51,250.00	131,250.00	150,937.50
YEAR 22	860,000.00	85,000.00	47,250.00	132,250.00	152,087.50
YEAR 23	770,000.00	90,000.00	43,000.00	133,000.00	152,950.00
YEAR 24	675,000.00	95,000.00	38,500.00	133,500.00	153,525.00
YEAR 25	575,000.00	100,000.00	33,750.00	133,750.00	153,812.50
YEAR 26	470,000.00	105,000.00	28,750.00	133,750.00	153,812.50
YEAR 27	360,000.00	110,000.00	23,500.00	133,500.00	153,525.00
YEAR 28	245,000.00	115,000.00	18,000.00	133,000.00	152,950.00
YEAR 29	125,000.00	120,000.00	12,250.00	132,250.00	152,087.50
YEAR 30	-	125,000.00	6,250.00	131,250.00	150,937.50
		<u>\$ 2,020,000.00</u>	<u>\$ 1,931,500.00</u>	<u>\$ 3,951,500.00</u>	<u>\$ 4,544,225.00</u>

Estimated Issuance Costs of \$20,000.00 are included in this schedule.
Long-term rates are assumed to be 5.00%. Rates are subject to market change.
Prepared by the Office of the Treasurer - Treasury Services 03/25/2020

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



BAM SITE PLAN –RELLIS

RELLIS Ballistic Aero-Optics and Materials Facility

Texas A&M Engineering Experiment Station

Project No. 28-3321

Ballistic Aero-Optics and Materials

Texas A&M Engineering Experiment Station
Bryan, Texas



**TEXAS A&M ENGINEERING
EXPERIMENT STATION**

Project No. 28-3321

May 2020



Russell E. Wallace
Executive Director
Office of Facilities Planning & Construction

The Texas A&M University System

Site Location Map

