REVISED

Agenda Item No. 3.4

AGENDA ITEM BRIEFING

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

Subject: Approval of the Revised Project Scope and Budget, Appropriation for Construction Services, and Approval for Construction for the Ballistic Aero-Optics and Materials Facility Project, Texas A&M Engineering Experiment Station, Bryan, Texas (Project No. 28-3321)

Background and Prior Actions:

The Ballistic Aero-Optics and Materials Facility Project was approved by the Board to be added to the FY 2020 – FY 2024 A&M System Capital Plan for $25,000,000 at the May 2020 meeting. The project was approved for construction and was included as an approved project on the FY 2021 – FY 2025 A&M System Capital Plan approved by the Board at the August 2020 meeting.

Proposed Board Action:

(1) Approve the revised project scope and budget.

(2) Appropriate $13,600,000 for construction services and related project costs. $25,000,000 has been previously appropriated.

(3) Approve for construction the additional work scope outlined in this agenda item for the Ballistic Aero-Optics and Materials Facility Project for Texas A&M Engineering Experiment Station (TEES).

Funding/Budget Amount:

Funding Source	Project Budget	Proposed Adjustment	Proposed Budget	Average Estimated Annual Debt Service	Debt Service Source
Revenue Financing System Debt Proceeds	$15,000,000	$0	$15,000,000	$3,380,000	Contract Revenue/ Indirect Cost Recoveries
Revenue Financing System Debt Proceeds	$2,000,000	$3,600,000	$5,600,000	$416,370	Indirect Cost Recoveries
Cash (General Revenue)	$8,000,000	$10,000,000	$18,000,000	N/A	N/A
Total Project Funds	$25,000,000	$13,600,000	$38,600,000		

Project Justification:

On September 30th, the Secretary of the Army visited the RELLIS campus to review progress on Army Futures Command projects. After discussing current Army needs during his visit, TEES has reevaluated the current scope and funding on both Innovation Proving Grounds (IPG) projects – Ballistic Aero-Optics and Materials Facility (BAM) and the BCDC: Innovation Proving Grounds (IPG). The Army has a need for a BAM with a more extended length than is currently planned. TEES has ascertained that the Mobility Challenge Course and Off Road Test Area being planned as part of the BCDC: IPG project are not in as high demand as the BAM. Therefore, TEES proposes a shift in funding and a change in project scope for both projects which are all part of the larger IPG.

- Shift $10M in funding from the Governor's Office from the IPG road courses to the IPG BAM project.
- Add $3.6M in funding to the IPG BAM project to cover an omission made during design by Jacobs Engineering, the firm who is doing the planning for this project.

Scope:

Additional scope is attributed to design fees and the addition of Alternate 1 – *Extend the Aero Optics Range and the hypersonic Ballistic Range*. This increases Phase 1 capabilities by extending the tube length up to 500 meters long.

Construction on this project is scheduled to start in April 2021 with substantial completion scheduled for December 2022. The total project budget is $38,600,000.

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 (A&M System) 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.

Agenda Item No. 3.4

THE TEXAS A&M UNIVERSITY SYSTEM
FACILITIES PLANNING AND CONSTRUCTION
Office of the Deputy Chancellor and Chief Financial Officer
October 14, 2020

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

Subject: Approval of the Revised Project Scope and Budget, Appropriation for Construction Services, and Approval for Construction for the Ballistic Aero-Optics and Materials Facility Project, Texas A&M Engineering Experiment Station, Bryan, Texas (Project No. 28-3321)

I recommend adoption of the following minute order:

"The project scope along with a project budget of $38,600,000 for the Ballistic Aero-Optics and Materials Facility Project is approved.

The amount of $3,600,000 is appropriated from Account No. 01-083538, Revenue Financing System Debt Proceeds (Indirect Cost Recoveries), and the amount of $10,000,000 is appropriated from Account No. 28-810076, AFC BAM Funding for construction services and related project costs.

The Ballistic Aero-Optics and Materials Facility Project, Texas A&M Engineering Experiment Station, Bryan, 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]

Billy Hamilton
Deputy Chancellor and
Chief Financial Officer

Approval Recommended:

[ORIGINAL SIGNED BY]

John Sharp
Chancellor

[ORIGINAL SIGNED BY]

Phillip Ray
Vice Chancellor for Business Affairs

[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

Approved for Legal Sufficiency:

[ORIGINAL SIGNED BY]

Ray Bonilla
General Counsel

BALLISTIC AERO-OPTICS AND MATERIALS FACILITY **PROJECT BUDGET**
TEXAS A&M ENGINEERING EXPERIMENT STATION
PROJECT NO. 28-3321

1.	Construction	$30,277,000
2.	Project Contingency	1,139,000
3.	Program of Requirements	327,700
4.	Pre-Construction Services	4,756,000
5.	Commissioning Services	50,000
6.	Construction Testing	284,000
7.	Campus Services & Technology	412,000
8.	Furnishings	113,000
9.	Equipment	50,000
10.	Other Project Costs	168,300
11.	FPC Management	1,023,000
12.	TOTAL PROJECT COST	$38,600,000

BALLISTIC AERO-OPTICS AND MATERIALS FACILITY **PROJECT SCHEDULE**
TEXAS A&M ENGINEERING EXPERIMENT STATION
PROJECT NO. 28-3321

1. BOR Approval to Include in Capital Plan ..... May 14, 2020
2. Issue A/E Request for Qualifications (RFQ) ..... June 30, 2020
3. Issue Construction Manager at Risk (CMAR) RFP ..... July 7, 2020
4. Receive A/E RFQ Response ..... July 14, 2020
5. Shortlist A/E Firms ..... July 21, 2020
6. Select A/E Firms ..... July 21, 2020
7. Receive CMAR RFP Response ..... July 28, 2020
8. Chancellor Approval of A/E Rank Order ..... August 11, 2020
9. Shortlist CMAR Firms ..... August 11, 2020
10. BOR Approval for Construction ..... August 20, 2020
11. Interview CMAR Firms ..... August 26, 2020
12. CMAR Ranked Order Approved by Chancellor ..... September 25, 2020
13. Execute A/E Agreement ..... October 23, 2020
14. Execute CMAR Agreement ..... October 28, 2020
15. A/E Design Kick-Off ..... October 29, 2020
16. Complete Schematic Design ..... January 29, 2021
17. Receive GMP from CMAR ..... March 30, 2021
18. Submit THECB Application ..... April 1, 2021
19. Notice to Proceed ..... April 5, 2021
20. Complete Design Development ..... May 14, 2021
21. Complete Construction Documents ..... August 27, 2021
22. Substantial Completion ..... December 2022

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
		$ 15,000,000.00	$ 1,900,000.00	$ 16,900,000.00	$ 19,435,000.00

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 10/14/2020

Rates are variable and subject to market change.

TEXAS A&M ENGINEERING EXPERIMENT STATION
REVENUE FINANCING SYSTEM
28-3321 Ballistic Aero Optics Materials Facility
Indirect Cost Recoveries

Dates	Outstanding Principal	Principal Amount	Interest Amount	Annual Total	Coverage 1.15x
BONDS	5,660,000.00				
YEAR 1	5,470,000.00	190,000.00	226,400.00	416,400.00	478,860.00
YEAR 2	5,270,000.00	200,000.00	218,800.00	418,800.00	481,620.00
YEAR 3	5,065,000.00	205,000.00	210,800.00	415,800.00	478,170.00
YEAR 4	4,850,000.00	215,000.00	202,600.00	417,600.00	480,240.00
YEAR 5	4,625,000.00	225,000.00	194,000.00	419,000.00	481,850.00
YEAR 6	4,395,000.00	230,000.00	185,000.00	415,000.00	477,250.00
YEAR 7	4,155,000.00	240,000.00	175,800.00	415,800.00	478,170.00
YEAR 8	3,905,000.00	250,000.00	166,200.00	416,200.00	478,630.00
YEAR 9	3,645,000.00	260,000.00	156,200.00	416,200.00	478,630.00
YEAR 10	3,375,000.00	270,000.00	145,800.00	415,800.00	478,170.00
YEAR 11	3,095,000.00	280,000.00	135,000.00	415,000.00	477,250.00
YEAR 12	2,800,000.00	295,000.00	123,800.00	418,800.00	481,620.00
YEAR 13	2,495,000.00	305,000.00	112,000.00	417,000.00	479,550.00
YEAR 14	2,180,000.00	315,000.00	99,800.00	414,800.00	477,020.00
YEAR 15	1,850,000.00	330,000.00	87,200.00	417,200.00	479,780.00
YEAR 16	1,510,000.00	340,000.00	74,000.00	414,000.00	476,100.00
YEAR 17	1,155,000.00	355,000.00	60,400.00	415,400.00	477,710.00
YEAR 18	785,000.00	370,000.00	46,200.00	416,200.00	478,630.00
YEAR 19	400,000.00	385,000.00	31,400.00	416,400.00	478,860.00
YEAR 20	-	400,000.00	16,000.00	416,000.00	478,400.00
		$ 5,660,000.00	$ 2,667,400.00	$ 8,327,400.00	$ 9,576,510.00

Estimated Issuance Costs of $60,000.00 are included in this schedule.
Long-term rates are assumed to be 4.00%. Rates are subject to market change.
Prepared by the Office of the Treasurer - Treasury Services 10/14/2020

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

Ballistic Aero-Optics and Materials Facility

Texas A&M Engineering Experiment Station **Project No. 28-3321**