

FY 2019
Capital Development Plan
University of Arizona

EXECUTIVE SUMMARY**Item Name: FY 2019 Capital Development Plan (UA)** Action Item**Requested Action:**

The University of Arizona asks the committee to review and recommend forwarding to the full board for approval the FY 2019 Capital Development Plan (CDP), and financing, which includes four (4) new projects and two (2) previously approved projects. The CDP total project budget is \$352 million. The financing request is \$314.7 million for the projects in the financing plan outlined in the CDP. The FY 2019 CDP does not include any third-party projects.

Previous Board Action

- Capital Improvement Plan FY 2020-2022 September 2018
- FY 2018 Capital Development Plan June 2017

Prior Year Activity

- Four capital projects totaling \$185 million were substantially completed in the last 12 months.
- Eight capital projects, totaling \$325.55 million, began or were under construction activity in the last 12 months. Additionally, a third – party project is under construction.
- One capital project of \$16 million with CDP approval has not yet started.

Overview and Alignment with Enterprise and University Goals and Objectives

- The UA FY 2019 CDP includes six projects totaling \$352 million, and no third-party projects.
- The UA has developed the CDP to align with the University's campus master plan, and the Enterprise and University strategic goals and objectives.
- The primary institutional priorities supported by the CDP include:
 - **Academic Success:** Facility investment and development are targeted toward student success, academic excellence, diversity and accessibility as measured by our strategic plan goals for enrollment, retention, graduation rates and degrees awarded. The Student Success District is specifically targeted toward these goals.
 - **Research & Development:** University research greatly contributes to the quality of life and economic vitality of our state. Sponsored research expenditures include the purchase of local goods and services which help to create new companies and employment benefits. Research and development provides hands-on experience for students while attracting top research talent and giving the state a competitive advantage in core areas such as science,

Contact Information:

Lisa Rulney, Interim Senior Vice President for Business Affairs and CFO

(520) 621-5977, lisa.rulney@arizona.edu

technology and medicine. Facilities, research faculty and sponsored grants are key to meeting the objectives of the ABOR 2025 Vision Plan. The proposed Applied Research Building and Grand Challenges Research Building are targeted to most favorably position the University to meet these goals.

- **Campus Operations and Infrastructure Priorities:** To advance our academic success and research goals, our facilities and related infrastructure must be safe, reliable and operational. Building and utility systems must be efficient to operate and maintain to reduce the burden on reduced operational funds. Spaces and systems must maximize functionality and performance while minimizing investments. As proposed, Campus Deferred Maintenance 2019 project and the Campus Research Infrastructure projects are targeted to meet these goals.
- **Life Safety & Code Compliance:** Life safety is our highest priority in ensuring a safe, functional and serviceable environment for students, faculty, staff and visitors. This priority is established for new and existing facilities alike. All of our projects are targeted to meet these goals and the Deferred Maintenance 2019 project will work to bring existing facilities into compliance as well.
- **Community Service Opportunities:** Engaging and serving Arizona communities are integral to the University's mission and land grant responsibilities. Our community outreach and service efforts are focused on the quality of life and economic prosperity in Arizona.
- **Construction Market Conditions:** The current construction market is active with increasing labor shortages and accompanying price escalations for the foreseeable future. It is advisable to proceed with projects and lock-in prices to minimize additional escalation for the University.
- **Funding Sources & Financing Options:** Project funding and financing are carefully considered on a project-by-project basis and take advantage of opportunities to minimize impacts to tuition. State appropriations, gift funding and indirect cost recovery are leveraged and maximized while fees, tuition and operational funding are carefully metered for highest yield. At all times the University's financial strength, standing and ratings are considered to ensure long term stability and success.

Capital Development Plan Projects

- The following lists the new and previously approved proposed for CDP approval. See Exhibit 5 for map.

New Projects

- Applied Research Building
- Grand Challenges Research Building (previously submitted as IRIB 2)
- Campus Deferred Maintenance 2019
- Phoenix Biomedical Sciences Partnership Building 3rd & 4th Floor Finish Shell Space

EXECUTIVE SUMMARY

Previously Approved Projects

- Student Success District (Revised)
- Campus Research Infrastructure (previously submitted as North Campus Infrastructure Phase 2)

Fiscal Impact and Management

- The UA CDP includes 4 new projects (Applied Research Building, Grand Challenges Research Building, Biomedical Sciences Partnership Building 3rd & 4th Floor Finish Shell Space, and Campus Deferred Maintenance 2019) and two revised projects (Student Success District and Campus Research Infrastructure). The UA CDP, if fully implemented, will cost a total of \$352 million.
- Of the total \$352 million CDP budget, \$314.7 million will be financed using debt. The remaining amount will be financed using \$11 million in state capital infrastructure appropriations, \$16.3 million in University local funds, and \$10 million in gifts.
- The estimated annual debt service on projects to be financed with debt totals \$22.9 million. The annual debt payments are based on financing terms of approximately 20-25 year maturities and estimated 4.35-5.85 percent interest rates. The financing terms are based on differing types of issuance, including both tax-exempt and taxable System Revenue Bonds and SPEED Revenue Bonds, final maturity, and the timing of the debt issuance. Detailed financing information is presented in Exhibits 2 & 3.
- The total operating and maintenance (O&M) cost associated with the projects in the CDP is estimated to be \$2.9 million. The UA plans to use indirect cost recovery, student fees, and space rental income to pay the O&M cost.
- UA will:
 - Sell one or more series of System Revenue Bonds and SPEED Revenue Bonds to finance the projects as outlined in the CDP, costs of issuances, and payments to a bond insurer or other credit enhancer provided such payments result in a benefit that exceeds the amount of such payments;
 - Sell bonds at a price at, above, or below par, on a tax-exempt or taxable basis, in one or more series, at a fixed or variable rate of interest; and
 - Enter into necessary agreements, including those related to bond insurance or other credit enhancement agreements.
 - The UA intends to utilize a financial advisor, a bond counsel, and bond trustee(s) for the financing. The SRBs and SPEED Bonds will be marketed and sold on a negotiated basis either to one or more investment banking firms currently in a pool of bond underwriters procured by the three State universities or by the State of Arizona or by a direct sale to a bank or banks or other financial institutions.
- **Debt Ratio Impact:** The debt service associated with projects in the CDP will increase the debt ratio to the highest level of 5.4 percent in FY 2020, excluding SPEED Bonds, and 6.6 percent, including SPEED Bonds.

EXECUTIVE SUMMARY

- The tables in Exhibits 2 and 3 provide detail project financing, funding sources and debt ratio impact.

Statutory/Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-107, each university shall submit an annual Capital Development Plan for the upcoming year in accordance with the calendar approved by the President of the Board.
- Capital Development Plans are reviewed by the Finance, Capital and Resources Committee and approved by the Board.
- Approval of the CDP allows universities to complete design, execute construction and financing agreements, and begin construction as outlined in policy.

EXECUTIVE SUMMARY

**EXHIBIT 1
THE UNIVERSITY OF ARIZONA
FY 2019 CAPITAL DEVELOPMENT PLAN
CAPITAL PROJECT STATUS REPORT**

UNIVERSITY OF ARIZONA CAPITAL PROJECT STATUS REPORT								
Project Name	Square Feet	Total Budget	Percent Work Completed*	Percent Total Expended*	Gift Target	Percent to Gift Target*	Date Last Board Approval	Original /Revised Occupancy Date
Ongoing Projects								
Bldg. 90 Deferred Maintenance	59,914	\$18,000,000	60%	49%	N/A	N/A	Jun 17	Jan 19
Health Sciences Innovation Building	247,155	\$165,000,000	85%	81%	N/A	N/A	Jun 16	Nov 18
ICA Indoor Sports Center	45,000	\$16,300,000	40%	26%	N/A	N/A	Nov 17	Jan 19
Hillenbrand Aquatic Center Improvements	29,000	\$13,250,000	56%	31%	N/A	N/A	Nov 17	Jan 19
Hillenbrand Softball Facility Improvements		\$8,000,000	24%	17%	N/A	N/A	Nov 17	Feb 19
Oro Valley Veterinarian Medical Program Improvement	27,500	\$8,000,000	3%	1%	N/A	N/A	Nov 17	May 19
College of Pharmacy Skaggs Building Addition and Renovation	30,000	\$26,000,000	12%	8%	\$10,000,000	100%	Feb 18	Jan 20
Student Success District	173,425	\$71,000,000	5%	4%	\$20,000,000	48%	Jun 17	Jun 21

EXECUTIVE SUMMARY

UNIVERSITY OF ARIZONA CAPITAL PROJECT STATUS REPORT								
Project Name	Square Feet	Total Budget	Percent Work Completed*	Percent Total Expended*	Gift Target	Percent to Gift Target*	Date Last Board Approval	Original /Revised Occupancy Date
Ongoing Third-Party Projects								
UA Honors Village		\$100,325,100	34%	34%	N/A	N/A	Jun 17	Jul 19
Completed Projects								
South Stadium Parking Structure	282,000	\$22,000,000	100%	99%	N/A	N/A	Nov 16	Sep 17
Bioscience Research Lab including infrastructure component	150,200	\$123,500,000	96%	94%	N/A	N/A	Sep 14	Dec 17
UAHS Building 201 Renovations	58,000	\$14,500,000	80%	68%	N/A	N/A	Nov 17	Apr 18
Arizona Stadium Renovation		\$25,000,000	90%	71%	\$5,000,000	100%	Nov 17	Aug 18
Projects Not Yet Started								
Campus Research Infrastructure		\$16,000,000					Jun 12	
*Value as of September 30, 2018								

EXECUTIVE SUMMARY

EXHIBIT 2
THE UNIVERSITY OF ARIZONA
FY 2019 CAPITAL DEVELOPMENT PLAN

UNIVERSITY OF ARIZONA CAPITAL DEVELOPMENT PLAN								
	Board Approval Status	Gross Square Footage	Project Cost	Amount Financed	Funding Method	Annual Debt Service	Final Maturity	Debt Ratio
New Capital Projects								
Applied Research Building	CIP FY 2020-2022	60,000 GSF	\$50,000,000	\$50,000,000	System Revenue Bonds	\$3,500,000	June 2043	.15
Grand Challenges Research Building	CIP FY 2020-2022	170,000 GSF	\$150,000,000	\$150,000,000	System Revenue Bonds	\$11,100,000	June 2043	.46
Campus Deferred Maintenance 2019	CIP FY 2020-2022	N/A	\$21,000,000	NA	State Capital Infra Approps and University Local Funds	N/A	N/A	N/A
Phoenix Biomedical Sciences Partnership Building 3rd & 4th Floor Finish Shell Space	CIP FY 2020-2022	46,100 GSF	\$34,000,000	\$34,000,000	System Revenue Bonds and SPEED Revenue Bonds	\$2,600,000	June 2044	.06
New Capital Projects Total			\$255,000,000	\$234,000,000		\$17,200,000		
Previously Approved Projects								
Student Success District (Revised)	CIP FY 2017-2019 CIP FY 2018-2020 CDP June 2017	SSD: 60,000 GSF BDG: 60,000 GSF (reno) Main Library: 56,000 GSF (reno); Science Library 19,000 GSF (reno)	\$81,000,000	\$64,700,000	System Revenue Bonds	\$4,400,000	June 2045	.18
Campus Research Infrastructure (Revised)	CDP June 2017	N/A	\$16,000,000	\$16,000,000	System Revenue Bonds and SPEED Revenue Bonds	\$1,300,000	June 2040	.05
Previously Approved Projects Total			\$97,000,000	\$80,700,000		\$5,700,000		
Total			\$352,000,000	\$314,700,000		\$22,900,000		

EXECUTIVE SUMMARY

EXHIBIT 3
THE UNIVERSITY OF ARIZONA
FY 2019 CAPITAL DEVELOPMENT PLAN
ANNUAL DEBT SERVICE BY FUNDING SOURCE

CAPITAL DEVELOPMENT PLAN – ANNUAL DEBT SERVICE BY FUNDING SOURCE									
Project	AMOUNT FINANCED	TUI	SFE	ICR	OLF	SCI	SLP	OTH	TOTAL ANNUAL DEBT SERVICE
New Capital Projects									
Applied Research Building	\$50,000,000				\$1,750,000	\$1,750,000			\$3,500,000
Grand Challenges Research Building	\$150,000,000				\$5,550,000	\$5,550,000			\$11,100,000
Campus Deferred Maintenance 2019	N/A								
Phoenix Biomedical Sciences Building – 3 rd & 4 th Floor Build-Out	\$34,000,000				\$862,500		\$950,000	\$787,500 (1)	\$2,600,000
New Capital Project Total	\$234,000,000				\$8,162,500	\$7,300,000	\$950,000	\$787,500	\$17,200,000
Previously Approved Projects									
Student Success District (Revised)	\$64,700,000		\$3,550,000		\$850,000				\$4,400,000
Campus Research Infrastructure (Revised)	\$16,000,000	\$1,225,000					\$75,000		\$1,300,000
Previously Approved Project Total	\$80,700,000	\$1,225,000	\$3,550,000		\$850,000		\$75,000		\$5,700,000
TOTAL	\$314,700,000	\$1,225,000	\$3,550,000		\$9,012,500	\$7,300,000	\$1,025,000	\$787,500	\$22,900,000

Debt Service Funding Source Codes

(TUI) Tuition (SFE) Student Fees (ICR) Indirect Cost Recovery (OLF) Other Local Funds (SCI) State Capital Infrastructure Appropriations HB2547 (SLP) State Letter Allocation Proceeds (OTH) Other

(1) The (OTH) for BSPB is space rental income

EXECUTIVE SUMMARY

**EXHIBIT 3
FY 2019 CAPITAL DEVELOPMENT PLAN
ANNUAL OPERATION AND MAINTENANCE BY FUNDING SOURCE**

CAPITAL DEVELOPMENT PLAN - OPERATION AND MAINTENANCE BY FUNDING SOURCE									
Project	TOTAL ANNUAL O&M	TUI	SFE	ICR	OLF	GFA	FGT	DFG	OTH
New Capital Project									
Applied Research Building	\$518,400			\$518,400					
Grand Challenges Research Building	\$1,529,120			\$1,529,120					
Campus Deferred Maintenance 2019	N/A								
Phoenix Biomedical Sciences Building – 3 rd & 4 th Floor Build-Out	\$416,000			\$208,000 (1)					\$208,000 (1)
New Capital Project Total	\$2,463,520			\$2,255,520					\$208,000
Previously Approved Projects									
Student Success District (Revised)	\$478,400		\$478,400						
Campus Research Infrastructure (Revised)	N/A								
Previously Approved Project Total	\$478,400		\$478,400						
TOTAL	\$2,941,920		\$478,400	\$2,255,520					\$208,000

Operation and Maintenance Funding Source Codes
 (TUI) Tuition (SFE) Student Fees (ICR) Indirect Cost Recovery (OLF) Other Local Funds (GFA) General Fund Appropriations (FGT) Federal Grant (DFG) Debt Financed by Gifts (OTH) Other
 (1) The (OTH) for BSPB is space rental income

EXECUTIVE SUMMARY

**EXHIBIT 4
 Debt Capacity Report**

PURPOSE

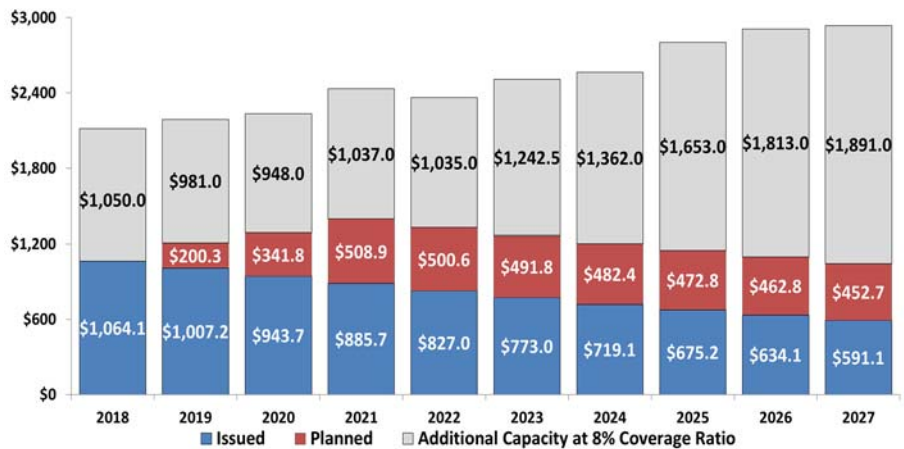
To demonstrate The University of Arizona’s ability to finance additional capital investment through debt instruments and to fund the related debt service (principal and interest).

PROJECTED DEBT CAPACITY

<i>Maximum Projected Debt Service to Total Expenditures Excluding/ Including SPEED debt</i>
5.4% / 6.6%

This debt capacity report includes five projects from this Capital Development Plan (CDP): Applied Research Building, Grand Challenges Research Building, Campus Research Infrastructure, Biomedical Sciences Partnership Building 3rd & 4th Floor Finish Shell Space, and Student Success District. With the financing of the projects listed, the projected highest debt ratio is 5.4 percent in FY 2020, relative to the ABOR policy and statutory debt limit of 8 percent. The University outstanding debt in that year is projected to be \$1.61 billion. The year with the highest debt service will be FY 2022 at \$121.8 million. The 5.4 percent ratio is within the range used by the bond rating firms to judge an institution’s creditworthiness to service debt.

The UA projects outstanding debt (issued) to decline from \$1.1 billion in FY 2018 to \$591.1 million in FY 2027 as debt is retired. Planned debt includes financing of the projects listed in the table below. Additional debt capacity represents debt that can be issued in any given year based on the statutory 8 percent debt ratio limit.



EXECUTIVE SUMMARY**FUTURE PROJECTS**

Future debt-financed projects include five projects from the current CDP. These planned projects are included in the future Debt Capacity assumptions.

	Project Budget	Amount to be Financed
Grand Challenges Research Building*	150,000,000	150,000,000
Student Success District	81,000,000	64,700,000
Applied Research Building*	50,000,000	50,000,000
Biomedical Sciences Partnership Building 3 rd & 4 th Floor Build Out	34,000,000	34,000,000
Campus Research Infrastructure	16,000,000	16,000,000
Total	\$ 331,000,000	\$ 314,700,000

* State Capital Appropriation HB2547

CREDIT RATINGS

UA's current credit rating is Aa2 (Moody's) and AA- (S&P). Positive rating factors include the UA as the flagship and land-grant institution, as well as its important role in the provision of medical education for the State of Arizona. UA continues to see robust tuition revenue growth, sizable sponsored research funding with diverse sources, and substantially improved philanthropic support.

Offsetting factors include high leverage; low spendable cash and investments to debt compared to comprehensive universities median, relatively weak state operating and capital support, and increasingly competitive researching funding environment.

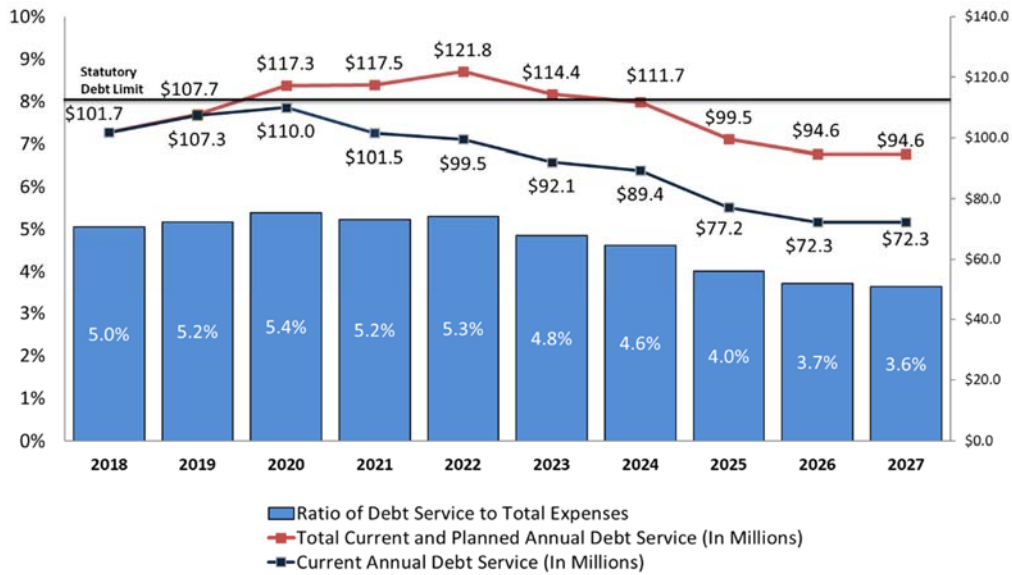
Fiscal Year	Moody's		Standard & Poor's (S&P)	
	Rating	Outlook	Rating	Outlook
2014	Aa2	Negative	AA-	Stable
2015	Aa2	Stable	AA-	Stable
2016	Aa2	Stable	AA-	Stable
2017	Aa2	Stable	AA-	Stable
2018	Aa2	Stable	AA-	Stable

RATIO OF DEBT SERVICE TO TOTAL EXPENSES

Annual debt service on System Revenue Bonds (SRBs) and Certificates of Participation (COPs) is projected to increase from \$101.7 million in FY 2018 to a maximum of \$121.8 million in FY 2022. The ratio of debt service to total expenses is projected to peak in FY 2020 at 5.4 percent relative to the 8 percent statutory limit. The peak planned debt ratio includes debt service for the projects listed on the previous page.

EXECUTIVE SUMMARY

The Stimulus Plan for Economic and Educational Development (SPEED) bonds are funded up to 80 percent by state lottery revenues, with the balance funded by the University. SPEED debt service is excluded from the statutory debt ratio. If SPEED debt were included, the year with the highest debt ratio would be FY 2020 at 6.6 percent of total projected expenditures. The year with the highest annual debt service would be FY 2022 at \$149.5 million.



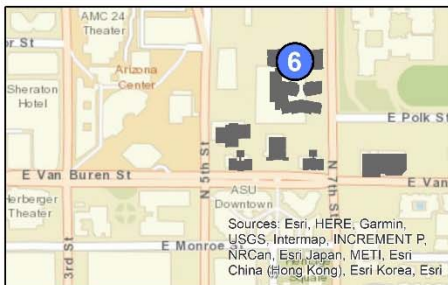
EXECUTIVE SUMMARY

**Exhibit 5
Project Site Map**

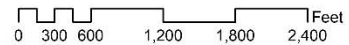
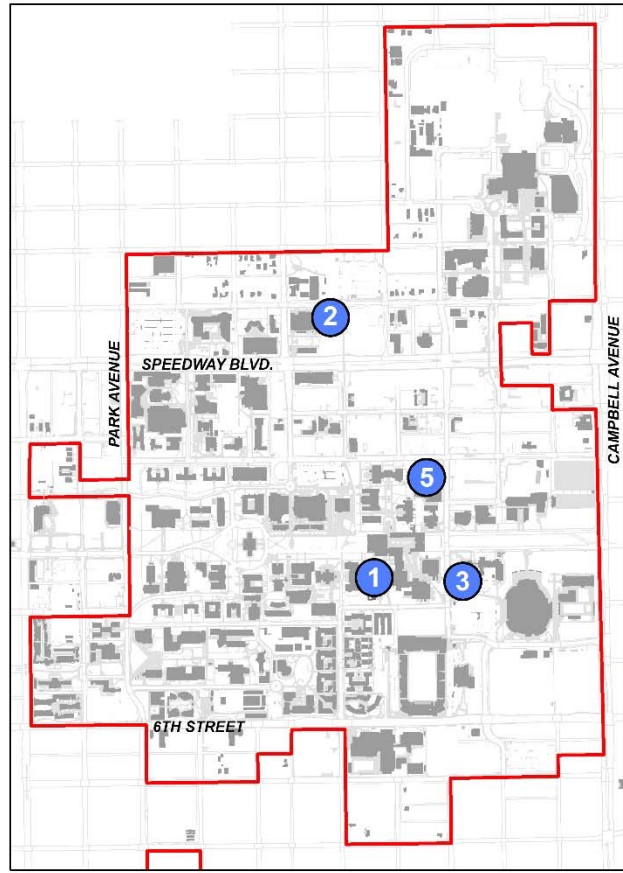


New Projects

1	Student Success District	\$81.0M
2	Applied Research Building	\$50.0M
3	Grand Challenges Research Building	\$150.0M
4	Campus Research Infrastructure (Multiple Sites)	\$16.0M
5	Campus Deferred Maintenance 2019 (Steward Observatory and Other Sites)	\$20.0M
6	Phoenix Biomedical Sciences Building 3rd and 4th Floor Build-Out (Phoenix)	\$34.0M



Phoenix Biomedical Campus



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

Applied Research Building (ARB)

Previous Board Action

- Capital Improvement Plan FY 2020-2022 (submitted as IRIB1) September 2018

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- A new \$50 million building that is critically needed for the continued success of, and grant revenue generation related to, cross-campus research programs focused on applied research. This facility will consolidate a number of strategic interdisciplinary programs in one location, including the University of Arizona Applied Research Corporation (UA-ARC), advanced manufacturing, cubesat design and testing, long-duration balloon payload integration, high performance materials, and human performance optimization. The program will benefit by being located adjacent to the existing Aerospace and Mechanical Engineering building and near other interdisciplinary programs in the Keating Bioresearch and Medical Research buildings.
- This 60,000 GSF facility is envisioned as a multi-story building with a mix of space types including high bay and secure access to accommodate export controlled and classified projects to facilitate cubesat fabrication/testing, advance manufacturing and payload integration research.

The primary institutional priorities supported by this project are:

- **Academic and Research Needs**

The new Applied Research Building (ARB) will improve competitiveness and research revenues while driving new industry partnerships and regional economic development. It expands interdisciplinary applied physical sciences and engineering research focused on imaging, space systems, additive manufacturing, sensors, and targeted applications in the defense and biomedical sectors. At the same time, it will become a central asset in UA's ability to both

EXECUTIVE SUMMARY

recruit and retain high-performing faculty whose research is focused on systematic study of specific, practical challenges.

The ARB will include advanced facilities such as clean rooms, vacuum controlled chambers, and advanced fabrication, prototyping, testing, and characterization facilities with high precision equipment to support research for use by industry. The building will also be home to the new University of Arizona Applied Research Corporation, a non-profit corporation formed for the purposes of furthering the University's research mission in areas that would be impracticable to accomplish in traditional University Labs, and that will strategically expand upon and further the University's existing research expertise and resources.

Project Delivery Method and Process

- This project is being delivered through a Design-Build (D-B) delivery method. This approach was selected for this project because it can provide early cost control, save time through project scheduling while providing contractor constructability and design input and coordination throughout the project, improving potentially adversarial project environments and still allowing for the selection of the most qualified architect-contractor team for this project. Through peer review of the D-B's cost estimate at each phase, and low-bid subcontractor work for the actual construction work, this method also provides a high level of cost and quality control.
- The Design-Builder provides a Guaranteed Maximum Price (GMP) based on the amount previously agreed upon in the Design-Build agreement. In the selection of major subcontractors, the Design-Builder uses a qualification-based selection process prescribed by the ABOR Procurement Code to allow major subcontractors a design-assist role during the design phase. All remaining subcontractor work is awarded on the basis of the lowest responsive and responsible subcontractor bids. For this work, a minimum of three subcontractor bids will be required, except for specialty items or instances where proprietary systems are required.
- The Design-Build Team will be selected through the appropriate project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor will be included on the selection committee as required by ABOR Policy.

Project Status and Schedule

- Programming is underway. This project is scheduled to commence design in the winter of 2018.
- Project construction is scheduled to commence in summer of 2020 and scheduled to be completed in fall of 2021.

EXECUTIVE SUMMARY

Project Cost

- The total project budget is \$50 million, with a construction cost of \$35.5 million.
- The construction budget for this project was developed by in-house University professionals using cost data from industry-standard cost databases and from completed comparable projects. As the project progresses, peer reviews of the Design-Builder's estimates will be reconciled by the Project Team.

Fiscal Impact and Financing Plan

- The University plans to issue \$50 million of System Revenue Bonds (SRBs) to fund the Applied Research Building. The annual debt service payments on the SRBs is estimated to be \$3.5 million. The UA plans to use state appropriations tied to the Capital Infrastructure Fund established in ARS 15-1671 to pay for half of the debt service, and UA local matching funds to pay the other half.
- The estimated operations and maintenance (O&M) cost for the Applied Research Building is \$518,400. The UA plans to fund the O&M with indirect cost recovery revenues.

Debt Ratio Impact:

- The estimated annual debt service of \$3.5 million on this project SRBs would increase the UA debt ratio by 0.15 percent.

Occupancy Plan

- This facility will provide new space for new researchers, it is not anticipated that space will be released.

EXECUTIVE SUMMARY**Capital Project Information Summary****University:** The University of Arizona**Project Name:** Applied Research Building**Project Description / Location:**

This project will create a new applied research facility, and will be located adjacent to the Aerospace & Mechanical Engineering Building lot north of Speedway Blvd.

**FY 2019 Capital
Development Plan**

Planning	Winter 2018
Design	Spring 2019
Construction	Summer 2020
Occupancy	Fall 2021

Total Project Cost	\$ 50,000,000
Total Project Cost per GSF	\$ 833
Direct Construction Cost - New	\$ 35,500,000
Construction Cost per GSF - New	\$ 592
Change in Annual Oper. / Maint. Cost	
Utilities	\$ 208,400
Personnel	\$ 207,500
Other	\$ 102,500

Capital:

- System Revenue Bonds \$ 50,000,000
(Debt service paid by State Appropriations and UA Local Matching Funds)

Operation/Maintenance:

- Indirect Cost Recovery \$ 518,400

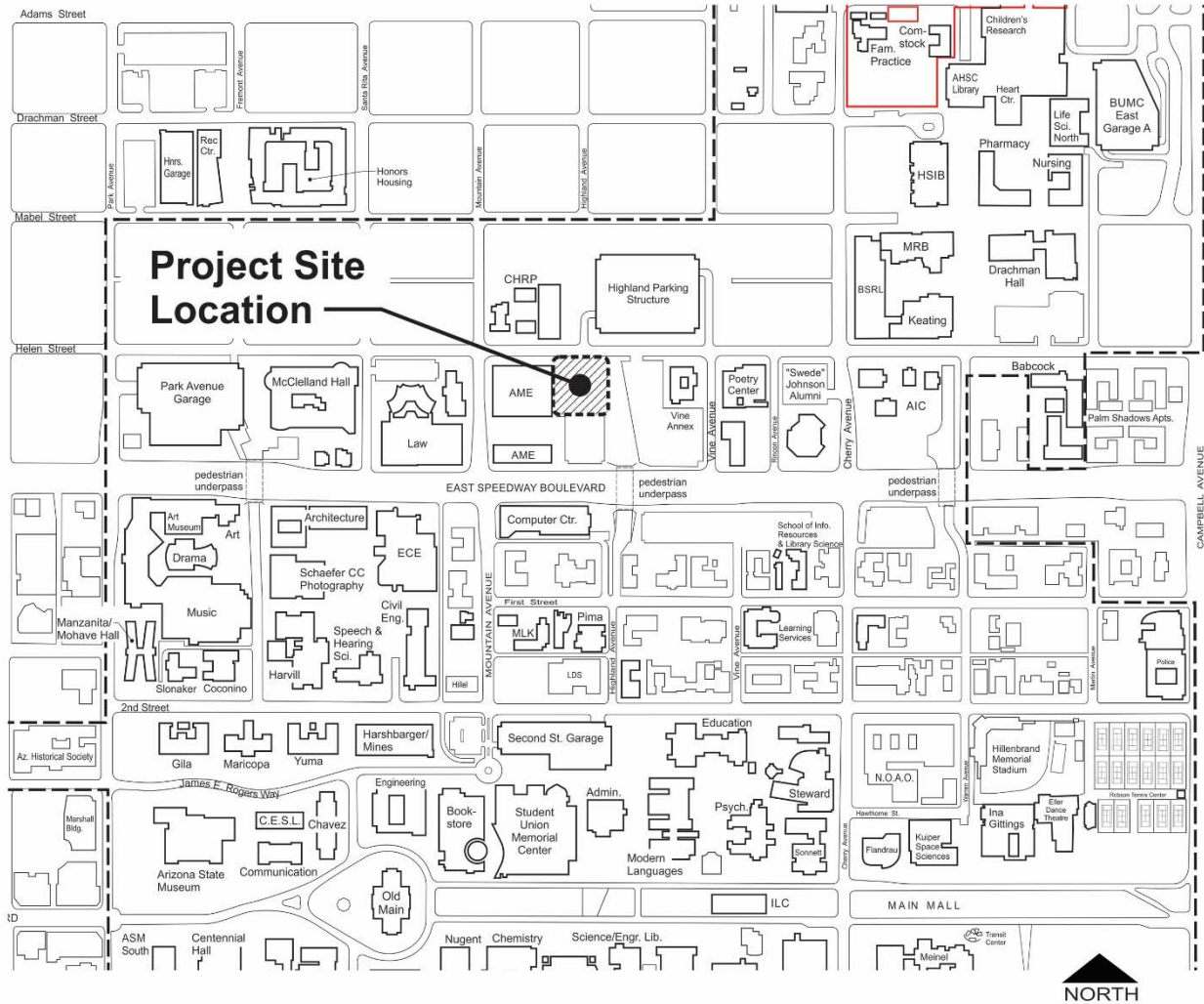
EXECUTIVE SUMMARY**Capital Project Budget Summary****University:** The University of Arizona**Project Name:** Applied Research Building

<u>Date of Budget Estimate</u>	<u>FY 2019 Capital Development Plan</u>
	<u>November 2018</u>
1. Land	\$ 0
2. Construction Cost	
A. New Construction	\$ 34,300,000
B. Renovation	\$ 0
C. Fixed Equipment	\$ 700,000
D. Site Development (exclude 2.E.)	\$ 100,000
E. Parking & Landscaping	\$ 200,000
F. Utilities Extensions	\$ 200,000
G. Other (asbestos only)	\$ 0
Subtotal Construction Cost	\$ 35,500,000
3. Consultant Fees	
A. Construction Manager	\$ 800,000
B. Architect/Engineering Fees	\$ 3,600,000
C. Other (Programming, Special Const.)	\$ 400,000
Subtotal Consultant Fees	\$ 4,800,000
4. Furniture Fixtures and Equipment	\$ 2,200,000
5. Contingency, Design Phase	\$ 1,800,000
6. Contingency, Construction Phase	\$ 1,800,000
7. Parking Reserve	\$ 900,000
8. Telecommunications Equipment	\$ 800,000
Subtotal Items 4-8	\$ 7,500,000
9. Additional University Costs	
A. Surveys and Tests	\$ 250,000
B. Move-in Costs	\$ 100,000
C. Public Art	\$ 0
D. Printing/Advertisement	\$ 10,000
E. Univ. Facilities & Project Management	\$ 1,540,000
F. State Risk Mgt. Ins	\$ 300,000
Subtotal Additional University Costs	\$ 2,200,000
TOTAL CAPITAL COST	\$ 50,000,000

EXECUTIVE SUMMARY

Project Site Map

Applied Research Building



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

Grand Challenges Research Building (GCRB)

Previous Board Action

- Capital Improvement Plan FY 2020-2022 (submitted as IRIB2) September 2018

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- A new \$150 million interdisciplinary research facility within the overall theme of tackling critical problems at the edge of human endeavor. Supporting research strengths at the core of UA's 2018 strategic plan, this new building will leverage both public and private sector engagements providing space for new researchers and new sponsored projects.
- This 170,000 square foot facility is envisioned as a 10 story facility (2 level basement, 8 stories above grade) in close proximity to other research entities to foster additional collaboration.

The primary institutional priorities supported by this project are:

- **Academic and Research Needs**

Rapid advances in mobile digital processing, sensing, imaging, medicine, networked informatics, artificial intelligence, and machine learning are converging to dramatically impact the human experience in the 4th Industrial Revolution.

The University of Arizona will leverage its core strengths in astronomy, space and optical sciences, biosciences, medicine, and the study of the earth's environment through a strategic investment in this new building to drive high-impact interdisciplinary research programs that will broadly benefit the UA mission and the state of Arizona. By fostering new and sustainable collaboration

EXECUTIVE SUMMARY

in these strategic domains, this building will accelerate the University's impact on our economy through advances in medicine and public health, defense and national security, financial and cybersecurity, communications networking and mobility, education and lifestyle technologies, transportation, agriculture, manufacturing, and basic science.

UA's Grand Challenges Research Building will bring together students and faculty from engineering, physical and health sciences, and other programs to position Arizona as a national leader in space, natural and built environments, precision health, and the nexus of human and intelligent systems. Consistent with UA's long-term strategic imperatives, the colocation synergy of this building will support application demonstrators, translational research and cooperative commercial application development partnerships, and education.

The GCRB will provide a **strong return on investment** in research awards, as well as human and intellectual capital. The broadly recognized impact and potential of the advances at the core of UA's strategic research initiatives have resulted in a highly favorable investment climate for public and private sector extramural research partnerships that will provide an outstanding venue for **student research experiences** and **workforce development** at the cutting edge of science and technology. In addition to advancing mathematics and science, the building will have major reputational impact on the University by bringing leading thinkers to our campus and fostering collaborations between scientists, engineers, and members of the health science community.

The majority of the GCRB facility will be dedicated to interdisciplinary and collaborative laboratory space to execute these, and other, research partnerships, with highly-efficient faculty and shared student spaces for the participating colleges and potential visiting private-sector partners. Potential programming initiatives may include:

- High-impact growth areas in networked imaging technologies, including applications in medicine and remote healthcare for underserved populations, astronomy, mobile systems, AR/VR, spatial computing and AI-supported autonomous systems.
- UA's new Quantum Information Science (QIS) team, which is addressing applications in secure communications and networking, sensing, and computing, and has already secured \$4M in one year towards the goal of large-scale national QIS awards.
- A precision aging center that will leverage faculty expertise and modern computational meta-omics to drive advances in cognitive aging, and develop and commercialize novel diagnostic tools designed to match an individual's risk profile with a customized therapeutic plan.

EXECUTIVE SUMMARY

- Innovative advanced materials technologies, with targets including a major NSF STC award for the Science of Sound providing new chip functionality based on vibrational properties of integrated solid-state materials.
 - An advanced mathematics research institute focused on quantitative solutions to the grand challenges detailed in UA's strategic plan: water, energy, climate change, precision medicine, neuroscience, space exploration, quantum information, and material science.
- **Student Support Requirements**

Infrastructure to support research is critical to providing students with research educational experiences and is essential to workforce development. A principal function of the research laboratory and student office and cubicle space is providing the project venue for hands-on student participation and innovation. Students with strong experience working on multidisciplinary, and often application-driven project teams, are unquestionably the most highly sought after students in today's economy.

Project Delivery Method and Process

- This project is being delivered through a Design-Build (D-B) delivery method. This approach was selected for this project because it can provide early cost control, save time through project scheduling while providing contractor constructability and design input and coordination throughout the project, improving potentially adversarial project environments and still allowing for the selection of the most qualified architect-contractor team for this project. Through peer review of the D-B's cost estimate at each phase, and low-bid subcontractor work for the actual construction work, this method also provides a high level of cost and quality control.
- The Design-Builder provides a Guaranteed Maximum Price (GMP) based on the amount previously agreed upon in the Design-Build agreement. In the selection of major subcontractors, the Design-Builder uses a qualification-based selection process prescribed by the ABOR Procurement Code to allow major subcontractors a design-assist role during the design phase. All remaining subcontractor work is awarded on the basis of the lowest responsive and responsible subcontractor bids. For this work, a minimum of three subcontractor bids will be required, except for specialty items or instances where proprietary systems are required.
- The Design-Build Team will be selected through the appropriate project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor will be included on the selection committee as required by ABOR Policy.

EXECUTIVE SUMMARY

Project Status and Schedule

- Programming is underway. This project is scheduled to commence design early 2019.
- Project construction is scheduled to commence mid-2020 and scheduled to be completed late-2022.

Project Cost

- The total project budget is \$150 million, with a construction cost of \$109 million.
- The construction budget for this project was developed by in-house University professionals using cost data from industry-standard cost databases and from completed comparable projects. As the project progresses, peer reviews of the CM@Risk's estimates will be reconciled by the Project Team.

Fiscal Impact and Financing Plan

- The University plans to issue \$150 million of System Revenue Bonds (SRBs) to fund the Grand Challenges Research Building. The annual debt service payments on the SRBs is estimated to be \$11.1 million. The UA plans to use state appropriations tied to the Capital Infrastructure Fund established in ARS 15-1671 to pay for half of the debt service, and UA local matching funds to pay the other half.
- The estimated operations and maintenance (O&M) cost for the Grand Challenges Research Building is \$1.5 million. The UA plans to fund the O&M with indirect cost recovery revenues.

Debt Ratio Impact:

- The estimated annual debt service of \$11.1 million on this project would increase the UA debt ratio by 0.46 percent.

Occupancy Plan

- This facility will provide new space for new researchers, it is not anticipated that space will be released.

EXECUTIVE SUMMARY

Capital Project Information Summary**University:** The University of Arizona**Project Name:** Grand Challenges Research Building**Project Description / Location:**

This project will create a new interdisciplinary research facility, and will be located along Cherry Avenue just south of the main mall and the Meinel Optical Sciences Building.

**FY 2019 Capital
Development Plan**

Planning	Early 2019
Design	Mid 2019
Construction	Mid 2020
Occupancy	Late 2022

Total Project Cost	\$ 150,000,000
Total Project Cost per GSF	\$ 882
Direct Construction Cost - New	\$ 109,000,000
Construction Cost per GSF - New	\$ 641
Change in Annual Oper. / Maint. Cost	
Utilities	\$ 619,920
Personnel	\$ 608,600
Other	\$ 300,600

Capital:

- System Revenue Bonds \$ 150,000,000
(Debt service paid by State Appropriations and UA Local Matching Funds)

Operation/Maintenance:

- Indirect Cost Recovery \$ 1,529,120

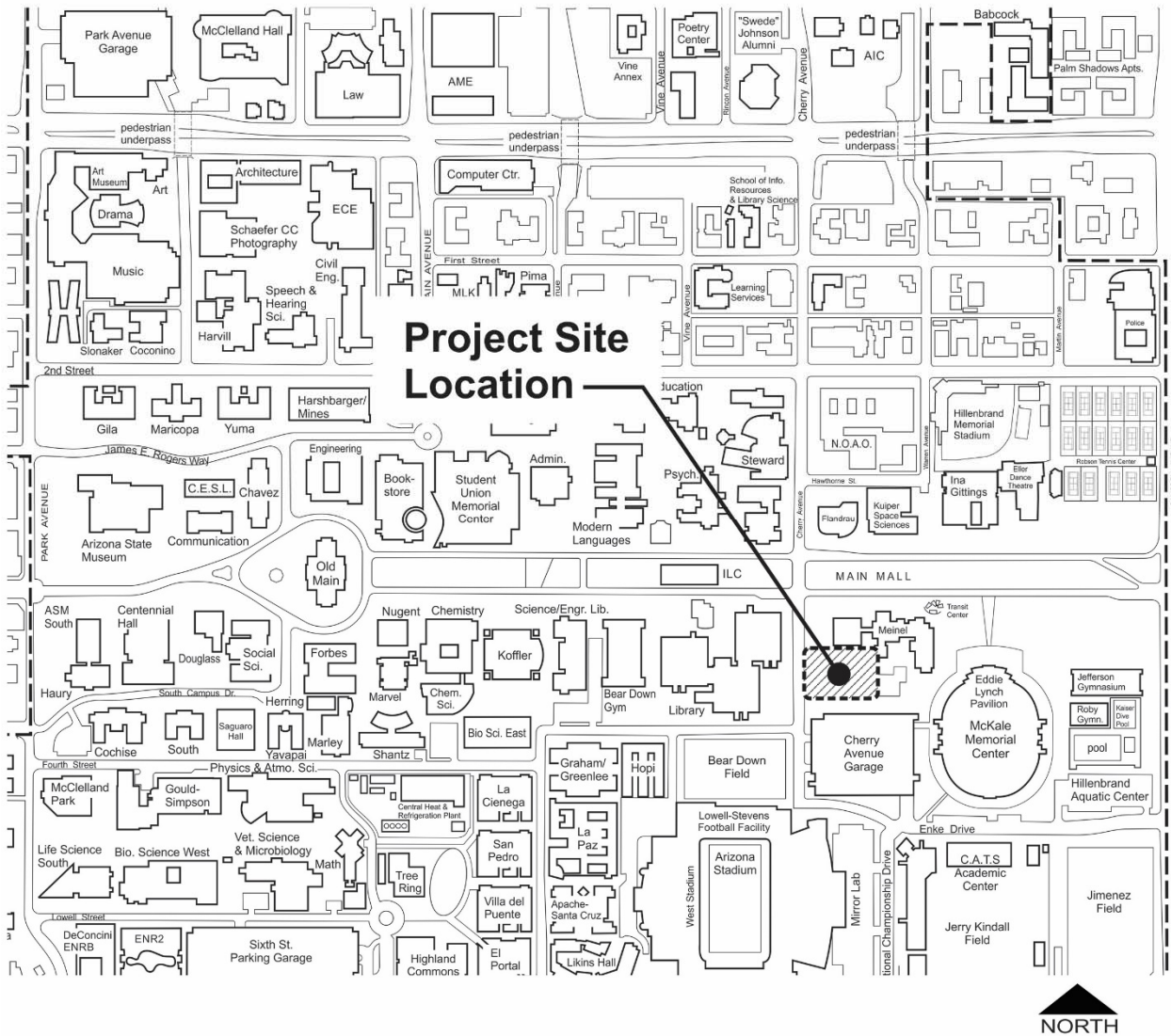
EXECUTIVE SUMMARY**Capital Project Budget Summary****University:** The University of Arizona**Project Name:** Grand Challenges Research Building

<u>Date of Budget Estimate</u>	<u>FY 2019 Capital Development Plan</u>
	<u>November 2018</u>
1. Land	\$ 0
2. Construction Cost	
A. New Construction	\$ 105,500,000
B. Renovation	\$ 0
C. Fixed Equipment	\$ 2,000,000
D. Site Development (exclude 2.E.)	\$ 500,000
E. Parking & Landscaping	\$ 500,000
F. Utilities Extensions	\$ 500,000
G. Other (asbestos only)	\$ 0
Subtotal Construction Cost	\$ 109,000,000
3. Consultant Fees	
A. Construction Manager	\$ 1,100,000
B. Architect/Engineering Fees	\$ 11,100,000
C. Other (Programming, Special Const.)	\$ 800,000
Subtotal Consultant Fees	\$ 13,000,000
4. Furniture Fixtures and Equipment	\$ 8,000,000
5. Contingency, Design Phase	\$ 5,500,000
6. Contingency, Construction Phase	\$ 5,500,000
7. Parking Reserve	\$ 500,000
8. Telecommunications Equipment	\$ 2,500,000
Subtotal Items 4-8	\$ 22,000,000
9. Additional University Costs	
A. Surveys and Tests	\$ 800,000
B. Move-in Costs	\$ 350,000
C. Public Art	\$ 0
D. Printing/Advertisement	\$ 50,000
E. Univ. Facilities & Project Management	\$ 4,000,000
F. State Risk Mgt. Ins	\$ 800,000
Subtotal Additional University Costs	\$ 6,000,000
TOTAL CAPITAL COST	\$ 150,000,000

EXECUTIVE SUMMARY

Project Site Map

Grand Challenges Research Building



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

Campus Deferred Maintenance 2019

Previous Board Action

- Capital Improvement Plan FY 2020-2022 September 2018

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- This \$21 million project prioritizes \$11 million to address deferred maintenance in the Steward Observatory Building and \$10 million in critical system replacements across campus.
- Steward Observatory Deferred Maintenance Project - Critical deferred maintenance needs will be addressed throughout the entire building. These needs include replacing aging mechanical, electrical and plumbing infrastructure that are beyond their serviceable life. These needs were prioritized through a building Facility Condition Assessment.
- Campus Wide Deferred Maintenance Upgrades – Will address critical life safety needs on campus along with replacements of mechanical, electrical and plumbing infrastructure that are beyond their serviceable lives. These needs were prioritized through a ten-year plan.
- Addressing this deferred maintenance will allow for a more effective and efficient operation reducing unplanned breakdowns and enhancing the overall indoor air quality within various campus buildings and restoring the functionality of the buildings.

EXECUTIVE SUMMARY

Project Delivery Method and Process

- This project is being delivered through a Design-Build (D-B) delivery method. This approach was selected for this project because it can provide early cost control, save time through fast-track project scheduling while still providing contractor design input and coordination throughout the project, improving potentially adversarial project environments and still allowing for the selection of the most qualified architect-contractor team for this project. Through peer review of the D-B's cost estimate at each phase, and low-bid subcontractor work for the actual construction work, this method also provides a high level of cost and quality control.
- The Design-Builder provides a Guaranteed Maximum Price (GMP) based upon the amount previously agreed upon in the Design-Build agreement. In the selection of major subcontractors, the Design-Builder uses a qualification-based selection process prescribed by the ABOR Procurement Code to allow major subcontractors a design-assist role during the design phase. All remaining subcontractor work is awarded on the basis of the lowest responsive and responsible subcontractor bids. For this work, a minimum of three subcontractor bids will be required, except for specialty items or instances where proprietary systems are required.
- The Design-Build Team will be selected through the capital project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor will be included on the selection committee as required by ABOR Policy.

Project Status and Schedule

- Programming is underway. This project is scheduled to commence design during fall of 2018.
- Project construction is scheduled to commence during winter of 2018, and will be completed winter 2019.

Project Cost

- The total project budget is \$21 million, with a construction cost of \$17.7 million.
- The construction budget for the Steward Observatory Deferred Maintenance project was developed by in-house University professionals and outside engineering firms conducting detailed Facility Condition Assessments using cost data from industry-standard cost databases and from completed comparable projects. As the project progresses, peer reviews of the Design-Builder's estimates will be reconciled by the Project Team.

EXECUTIVE SUMMARY

Fiscal Impact and Financing Plan

- The University plans to finance the Campus Deferred Maintenance 2019 project using \$11 million in state appropriations tied to the Capital Infrastructure Fund established in ARS 15-1671 and \$10 million in UA local matching funds.
- The operations and maintenance (O&M) cost for the space effected is already included in the UA's current budget.

Debt Ratio Impact:

- This project will have no impact on the University's debt ratios because no debt will be issued to finance the project.

EXECUTIVE SUMMARY

Capital Project Information Summary**University:** The University of Arizona**Project Name:** Campus Deferred Maintenance 2019**Project Description / Location:**

This project will address deferred maintenance needs and critical life safety needs on campus

**FY 2019 Capital
Development Plan**

Planning	Fall 2018
Design	Winter 2018
Construction	Early 2019
Occupancy	Winter 2019

Total Project Cost	\$ 21,000,000
Total Project Cost per GSF	\$ N/A
Direct Construction Cost - New	\$ N/A
Construction Cost per GSF - New	\$ N/A
Change in Annual Oper. / Maint. Cost	
Utilities	\$ N/A
Personnel	\$ N/A
Other	\$ N/A

Capital:

- State Appropriations \$ 11,000,000
- UA Local Funds \$ 10,000,000

Operation/Maintenance:

- N/A \$ N/A

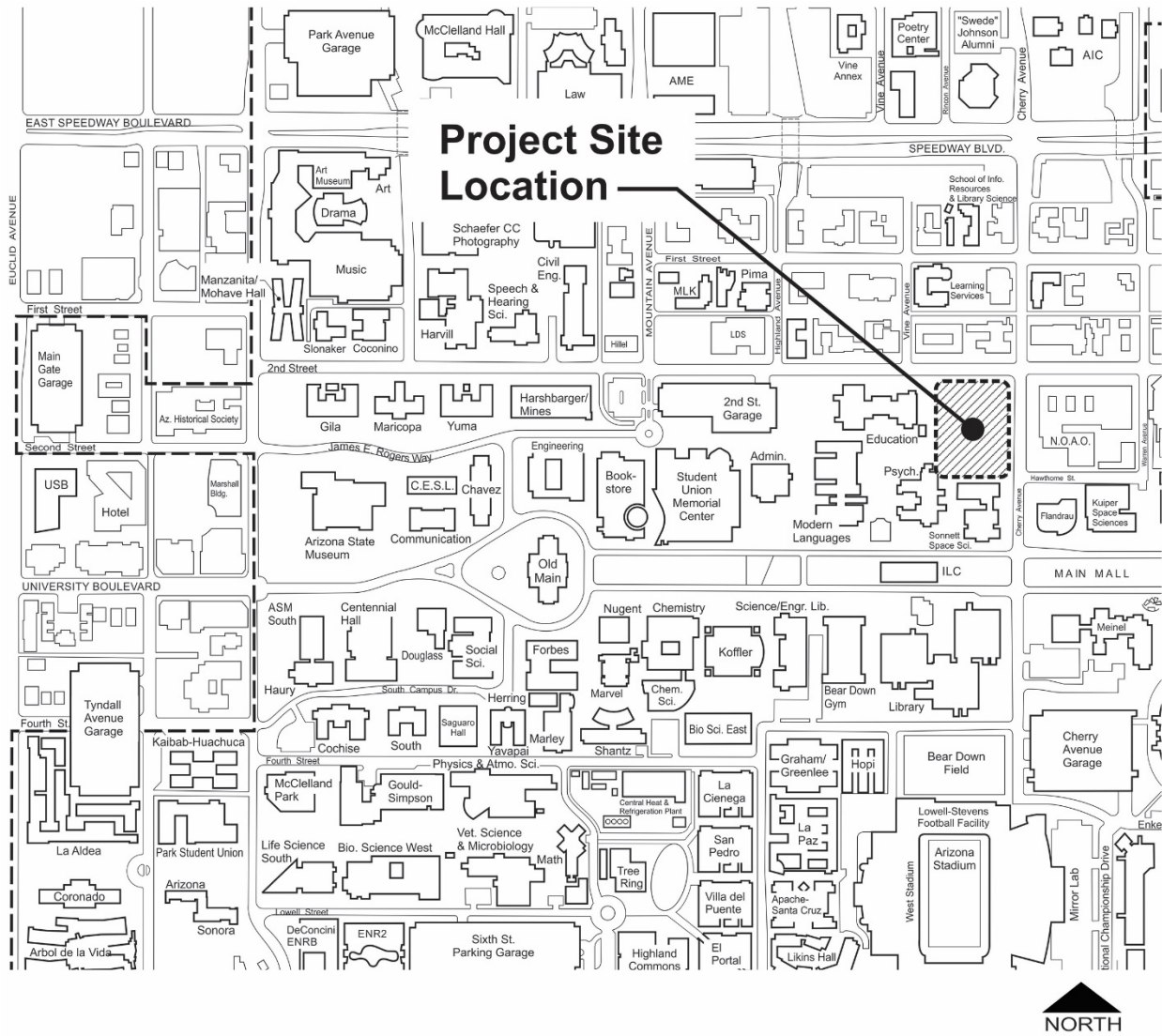
EXECUTIVE SUMMARY**Capital Project Budget Summary****University:** The University of Arizona**Project Name:** Campus Deferred Maintenance 2019

<u>Date of Budget Estimate</u>	<u>FY 2019 Capital Development Plan</u>
	<u>November 2018</u>
1. Land	\$ 0
2. Construction Cost	
A. New Construction	\$ 0
B. Renovation	\$ 15,700,000
C. Fixed Equipment	\$ 0
D. Site Development (exclude 2.E.)	\$ 0
E. Parking & Landscaping	\$ 0
F. Utilities Extensions	\$ 2,000,000
G. Other (asbestos only)	\$ 0
Subtotal Construction Cost	\$ 17,700,000
3. Consultant Fees	
A. Construction Manager	\$ 180,000
B. Architect/Engineering Fees	\$ 1,861,000
C. Other (Programming, Special Const.)	\$ 0
Subtotal Consultant Fees	\$ 2,041,000
4. Furniture Fixtures and Equipment	\$ 0
5. Contingency, Design Phase	\$ 538,000
6. Contingency, Construction Phase	\$ 538,000
7. Parking Reserve	\$ 0
8. Telecommunications Equipment	\$ 0
Subtotal Items 4-8	\$ 1,076,000
9. Additional University Costs	
A. Surveys and Tests	\$ 0
B. Move-in Costs	\$ 0
C. Public Art	\$ 0
D. Printing/Advertisement	\$ 0
E. Univ. Facilities & Project Management	\$ 94,500
F. State Risk Mgt. Ins	\$ 88,500
Subtotal Additional University Costs	\$ 183,000
TOTAL CAPITAL COST	\$ 21,000,000

EXECUTIVE SUMMARY

Project Site Map

Campus Deferred Maintenance 2019
Steward Observatory and Campus Wide



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

**Phoenix Biomedical Sciences Partnership Building (BSPB)
3rd and 4th Floor Finish Shell Space**

Previous Board Action

- Capital Improvement Plan FY 2020-2022 September 2018

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- This \$34 million project will build out the 3rd and 4th floors of current 'shell space' of the Biomedical Sciences Partnership Building (BSPB) for wet lab and administrative research spaces to support additional faculty recruitment for the College of Medicine-Phoenix (COM-P). These floors were constructed as shell space with the objective of building out the space as needed. Building out the 3rd and 4th floors at the same time will provide us with economies of scale and reduce the duration of impacts to current occupants of the building.
- In keeping with the partnership intent of BSPB, the Phoenix Veterans Affairs Medical Center is seeking to lease the existing research space on the 7th floor of BSPB. Leasing the already built out BSPB 7th floor laboratory and support spaces will allow the VA to relocate their existing research operations which will free up space on their landlocked campus so they can improve access to clinical services there. In addition, the lease to the VA, and co-location with COM-P researchers and faculty, provides partnership opportunities and will foster improved collaborative relationships. As was originally envisioned, the utilization of the existing BSPB built out research space for partnerships triggers the need to build out current shell space to allow for growing the COM-P research enterprise.

EXECUTIVE SUMMARY

- COM-P is actively recruiting 30 research faculty and has plans for additional 39 faculty recruitments by 2020. The build out of the two floors (46,100 GSF) of research space will accommodate these pending and future recruitments. The VA lease, increased indirect cost recovery funds from sponsored research, and a modest investment from COM-P and UA will support the debt service for the use of SPEED and System Revenue Bonds.

Project Delivery Method and Process

- This project is being delivered through the Construction Manager at Risk (CM@Risk) method. This approach was selected for the project because it can save time and cost through fast-track project scheduling, provides contractor design input and coordination throughout the project, improves potentially adversarial project environments and allows for the selection of the most qualified contractor leadership team for this project. Through peer-review of the CM@Risk's cost estimates at each phase, and low-bid subcontractor pricing for the actual construction work, this method also provides a high level of cost and quality control.
- The CM@Risk was selected through the appropriate project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor was on the selection committee as required by ABOR policy. The design team has been selected through a similar ABOR process.

Project Status and Schedule

- This project was reviewed by the PBC Coordinating Council on October 16, 2018, and no issues or concerns were identified in this review. Any input that might result from future EEC discussions of the project will be reported to the Board at that time
- Programming is underway. This project is scheduled to commence design during November 2018.
- Project construction is scheduled to commence during June 2019, and scheduled to be completed during February 2020.

Project Cost

- The total project budget is \$34 million, with a construction cost of \$29 million.
- The construction budget for this project was developed by in-house University professionals and outside consultants, using cost data from industry-standard

EXECUTIVE SUMMARY

cost databases and from completed comparable projects. As the project progresses, peer reviews of the CM@Risk's estimates will be reconciled by the Project Team.

Fiscal Impact and Financing Plan

- The University plans to issue \$18.6 million of System Revenue Bonds (SRBs) and \$15.4 million of SPEED Revenue Bonds to fund the BSPB 3rd and 4th Floor Finish Shell Space project. The annual debt service payments on the SRBs is estimated to be \$1.4 million. The UA plans to fund the debt service payments on the SRBs with University local funds and space rental income. The annual debt service payments on the SPEED Bonds is estimated to be \$1.2 million. Up to 80% of the SPEED debt service is planned to be paid using State Lottery Proceeds and not less than 20% is planned to be paid using University local funds.
- The estimated operations and maintenance (O&M) cost for the BSPB 3rd and 4th Floor Finish Shell Space project is \$416,000. The UA plans to fund the O&M with indirect cost recovery funds and space rental income.

Debt Ratio Impact:

- The total estimated annual debt service of \$2.6 million on this project would increase the UA debt ratio by 0.06 percent.

Occupancy Plan

- This facility will provide new space for new researchers, it is not anticipated that space will be released.

EXECUTIVE SUMMARY**Capital Project Information Summary****University:** The University of Arizona**Project Name:** Phoenix Biomedical Sciences Partnership Building (BSPB) – 3rd and 4th Floor Finish Shell Space**Project Description / Location:**

This project will finish the shell space into wet lab space in the existing BSPB building on the 3rd and 4th floors, and will be located on the Phoenix Biomedical Campus at 475 N. 5th Street, Phoenix, AZ 85004.

**FY 2019 Capital
Development Plan**

Planning	September 2018
Design	November 2018
Construction	June 2019
Occupancy	March 2020

Total Project Cost	\$34,000,000
Total Project Cost per GSF	\$738
Direct Construction Cost - New	\$29,000,000
Construction Cost per GSF - New	\$629
Change in Annual Oper. / Maint. Cost	
Utilities	\$ 193,600
Personnel	\$ 148,900
Other	\$ 73,500

Capital:

- SPEED / System Revenue Bonds \$ 34,000,000
(Debt service paid by UA Local Funds, State Lottery Proceeds, and Space Rental Income)

Operation/Maintenance:

- Indirect Cost Recovery \$208,000
- Space Rental Income \$208,000

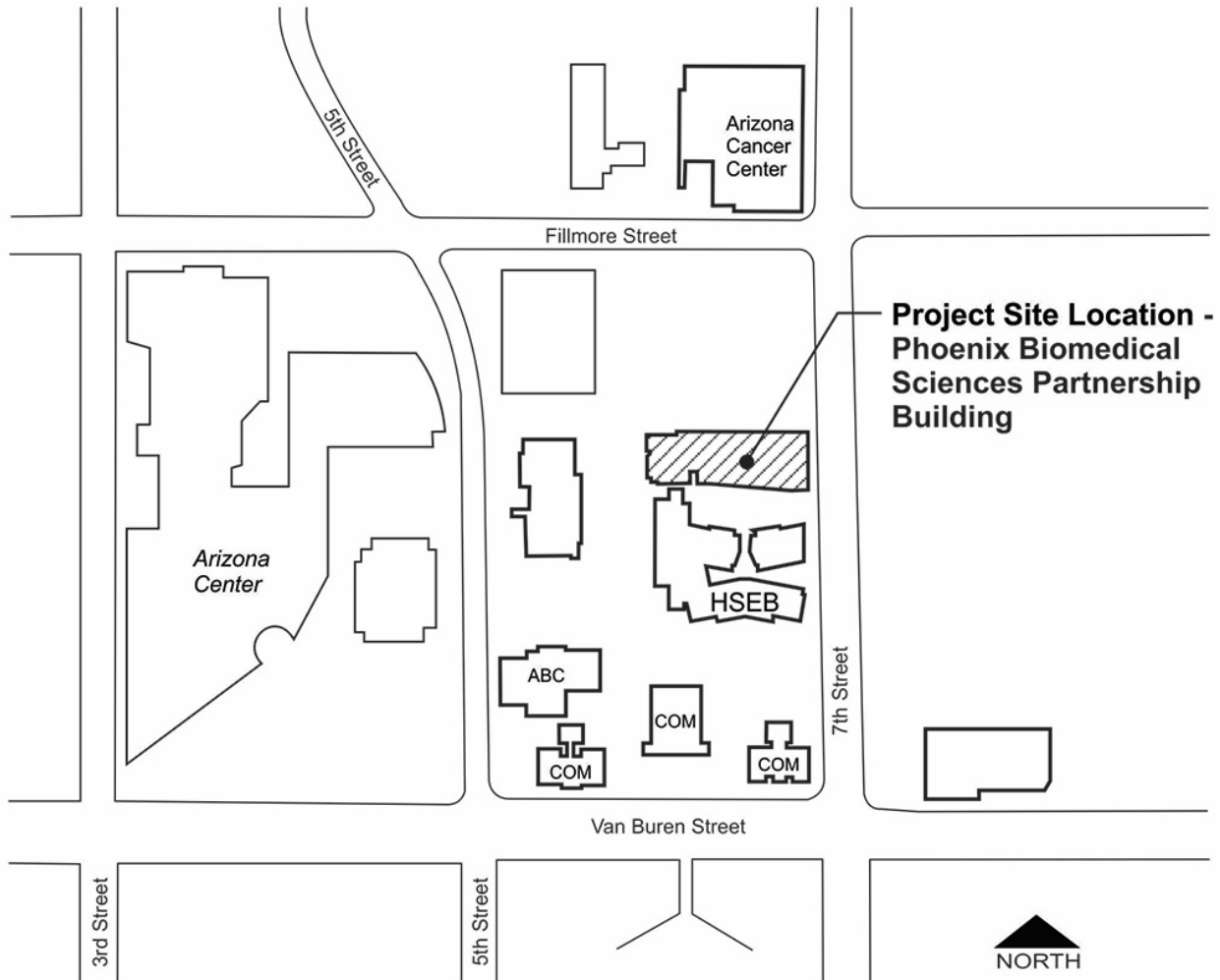
EXECUTIVE SUMMARY**Capital Project Budget Summary****University:** The University of Arizona**Project Name:** Phoenix Biomedical Sciences Partnership Building (BSPB) – 3rd and 4th Floor Finish Shell Space

<u>Date of Budget Estimate</u>	<u>FY 2019 Capital Development Plan</u>
	<u>November 2018</u>
1. Land	\$ 0
2. Construction Cost	
A. New Construction	\$ 28,700,000
B. Renovation	\$ 0
C. Fixed Equipment	\$ 300,000
D. Site Development (exclude 2.E.)	\$ 0
E. Parking & Landscaping	\$ 0
F. Utilities Extensions	\$ 0
G. Other (asbestos only)	\$ 0
Subtotal Construction Cost	\$ 29,000,000
3. Consultant Fees	
A. Construction Manager	\$ 235,000
B. Architect/Engineering Fees	\$ 1,450,000
C. Other (Programming, Special Const.)	\$ 150,000
Subtotal Consultant Fees	\$ 1,835,000
4. Furniture Fixtures and Equipment	\$ 750,000
5. Contingency, Design Phase	\$ 615,000
6. Contingency, Construction Phase	\$ 615,000
7. Parking Reserve	\$
8. Telecommunications Equipment	\$ 350,000
Subtotal Items 4-8	\$ 2,330,000
9. Additional University Costs	
A. Surveys and Tests	\$ 50,000
B. Move-in Costs	\$ 50,000
C. Public Art	\$ 0
D. Printing/Advertisement	\$ 10,000
E. Univ. Facilities & Project Management	\$ 550,000
F. State Risk Mgt. Ins	\$ 175,000
Subtotal Additional University Costs	\$ 835,000
TOTAL CAPITAL COST	\$ 34,000,000

EXECUTIVE SUMMARY

Project Site Map

Phoenix Biomedical Sciences Partnership Building (BSPB) – 3rd and 4th Floor Finish Shell Space



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

Student Success District

Previous Board Action

- Capital Improvement Plan FY 2017-2019 September 2015
- Capital Improvement Plan FY 2018-2020 September 2016
- Capital Development Plan FY 2018 June 2017

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- This revised CDP for the Student Success District project increases the project budget by ten million dollars and adds 16,000 gross square feet to incorporate additional student service programs under the Office of the Provost. The revised project has a total budget of \$81,000,000, and is approximately 200,000 gross square feet.
- The Student Success District is a project that redefines a central area of the main campus at the University of Arizona with a focus on our students. The Office of the Provost and the University Libraries have collaborated to create this District, an integrative approach to supporting student achievement by weaving together revitalized services in upgraded and new facilities. The intent of creating this District is to improve student success through direct connections between student services, academic support, and amenities in the heart of campus near other important student centered activities. The Student Success District will be a distinctive element of the UA experience, supporting student engagement and playing an important role in attracting and retaining students.
- Facility improvements within the Science & Engineering Library, Main Library and Bear Down Gym, coupled with a new Student Success Building will strategically co-locate a range of services at the students point-of-need. This will improve

EXECUTIVE SUMMARY

utilization and access and create a student hub to meet, learn, engage and innovate.

- The project includes the following physical facilities improvements:
 - renovations to Bear Down Gym
 - renovations to the Main Library, portions of levels one and two
 - renovations and an entry addition to the Science-Engineering Library, portions of levels two and three
 - a new 60,000 gsf student services building for Office of the Provost programs and advising services
 - redevelopment of adjacent exterior areas in a half block area into student focused outdoor environments
 - new linkages between buildings
- The Libraries programs support all students. Improvements to the Main Library and the Science-Engineering Library include a new and larger makerspace to provide students access to a variety of equipment and technologies for physical project development. Study areas within the two libraries will be enhanced, including reallocating floor area adjacent to outdoor environments to student study and collaboration spaces.
- Office of the Provost programs provide direct student academic support through tutoring, advising and services from other academic focused units that will now all be centrally located within the District. This direct connection to students will develop a more streamlined and seamless delivery of services.
- Programs in the Office of the Provost provide direct student academic support through tutoring, advising and services from other academic focused units that will now all be centrally located within the District. This direct connection to students will develop a more streamlined and seamless delivery of services. Advising services and special programs from some of the colleges will have a presence in the Student Success District as well. Co-locating these functions with the programs from the Office of the Provost will create a complementary relationship to the other services within the District.
- The District will also include Student Recreation programming, healthy food choices, Campus Health programs and student gathering/lounge areas. This combination of services and the creation of a central space on campus that is open and welcoming to all students provides student support related to wellness and community.
- Re-development of outdoor space is a key component to the District. The exterior environment will contribute to a cohesive zone on campus that will clearly communicate the connections between buildings and services, as well as

EXECUTIVE SUMMARY

provide additional student centered spaces. Quiet meditative spaces, study zones and larger gathering areas will provide a variety of spaces to allow for different student experiences.

- Centralizing student support is the focus of creating the Student Success District. The location, services, amenities and visibility all contribute to the goal of creating an environment that nurtures the success of University of Arizona students.

Project Delivery Method and Process

- This project is being delivered through a Design-Build (D-B) delivery method. This approach was selected to provide early cost control, save time through fast-track project scheduling, provide contractor design input and coordination throughout the project, improve potentially adversarial project environments and still allow for the selection of the most qualified architect-contractor team for this project. Through peer review of the D-B's cost estimate at each phase, and low-bid subcontractor work construction work, this method also provides a high level of cost and quality control.
- The Design-Builder provides a Guaranteed Maximum Price (GMP) based on the amount previously agreed upon in the Design-Build agreement. In the selection of major subcontractors, the Design-Builder uses a qualification-based selection process prescribed by the ABOR Procurement Code to allow major subcontractors a design-assist role during the design phase. All remaining subcontractor work is awarded on the basis of the lowest responsive and responsible subcontractor bids. For this work, a minimum of three subcontractor bids will be required, except for specialty items or instances where proprietary systems are required.
- The Design-Build Team was selected through the appropriate capital project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor was included on the selection committee as required by ABOR Policy.

Project Cost

- The total project budget is \$81.0 million, with a construction cost of \$55.2 million.
- The construction budget for this project was developed by outside construction professionals. As the project progresses, peer reviews of the Design-Builder's estimates will be reconciled with the Project Team.

EXECUTIVE SUMMARY

Project Status and Schedule

- Design phase work is underway per previous CDP approval.
- Construction of Phase I is scheduled to commence January, 2019 and Phase II in May 2020, with all work scheduled to be completed for late 2021 occupancy.

Fiscal Impact and Financing Plan

- The University plans to issue \$64.7 million of System Revenue Bonds (SRBs) to finance the Student Success District project. The remaining \$16.3 million will be financed with gifts of \$10 million and University local funds of \$6.3 million. The annual debt service payments on the SRBs is estimated to be \$4.4 million. The UA plans to use student fees and University local funds to pay the debt service.
- The estimated operations and maintenance (O&M) cost of the 60,000 new square feet for the Student Success District project is \$478,400. The UA plans to fund the O&M with student fees. The additional 135,000 square feet of effected space is already included in the UA's current budget.

Debt Ratio Impact:

- The estimated annual debt service of \$4.4 million on this project SRBs would increase the UA debt ratio by 0.18 percent.

EXECUTIVE SUMMARY**Capital Project Information Summary****University:** The University of Arizona**Project Name:** Student Success District**Project Description / Location:**

This project will provide centrally located student services, located in the area between Fourth Street and University Avenue, and Cherry and Highland Avenues.

	<u>FY 2018 Capital Development Plan</u>	<u>FY 2019 Capital Development Plan Revised</u>
<u>Project Schedule (Beginning Month/Year):</u>		
Planning	March 2017	March 2017
Design	June 2017	June 2017
Construction Phase One	July 2018	January 2019
Construction Phase Two	August 2019	August 2020
Occupancy Phase One (multiple increments)	July 2019	February 2020
Occupancy Phase Two	July 2020	September 2021
<u>Project Budget:</u>		
Total Project Cost	\$ 71,000,000	\$ 81,000,000
Total Project Cost per GSF	\$ 409	\$ 405
Direct Construction Cost/GSF - New	\$ 386	\$ 410
Direct Construction Cost/GSF -Renovation	\$ 178	\$ 179
Direct Construction Cost per GSF - Site	\$ 24	\$ 24
Change in Annual Oper. / Maint. Cost		
Utilities	\$ 173,000	\$ 189,000
Personnel	\$ 175,000	\$ 193,700
Other	\$ 84,000	\$ 95,700

Funding Sources:**Capital:**

- | | | |
|--|---------------|---------------|
| • System Revenue Bonds
(Debt service paid by student fees and UA local funds) | \$ 68,000,000 | \$ 64,700,000 |
| • Gifts | \$ 3,000,000 | \$ 10,000,000 |
| • University Local Funds | | \$ 6,300,000 |

Operation/Maintenance:

- | | | |
|----------------|------------|------------|
| • Student Fees | \$ 432,000 | \$ 478,400 |
|----------------|------------|------------|

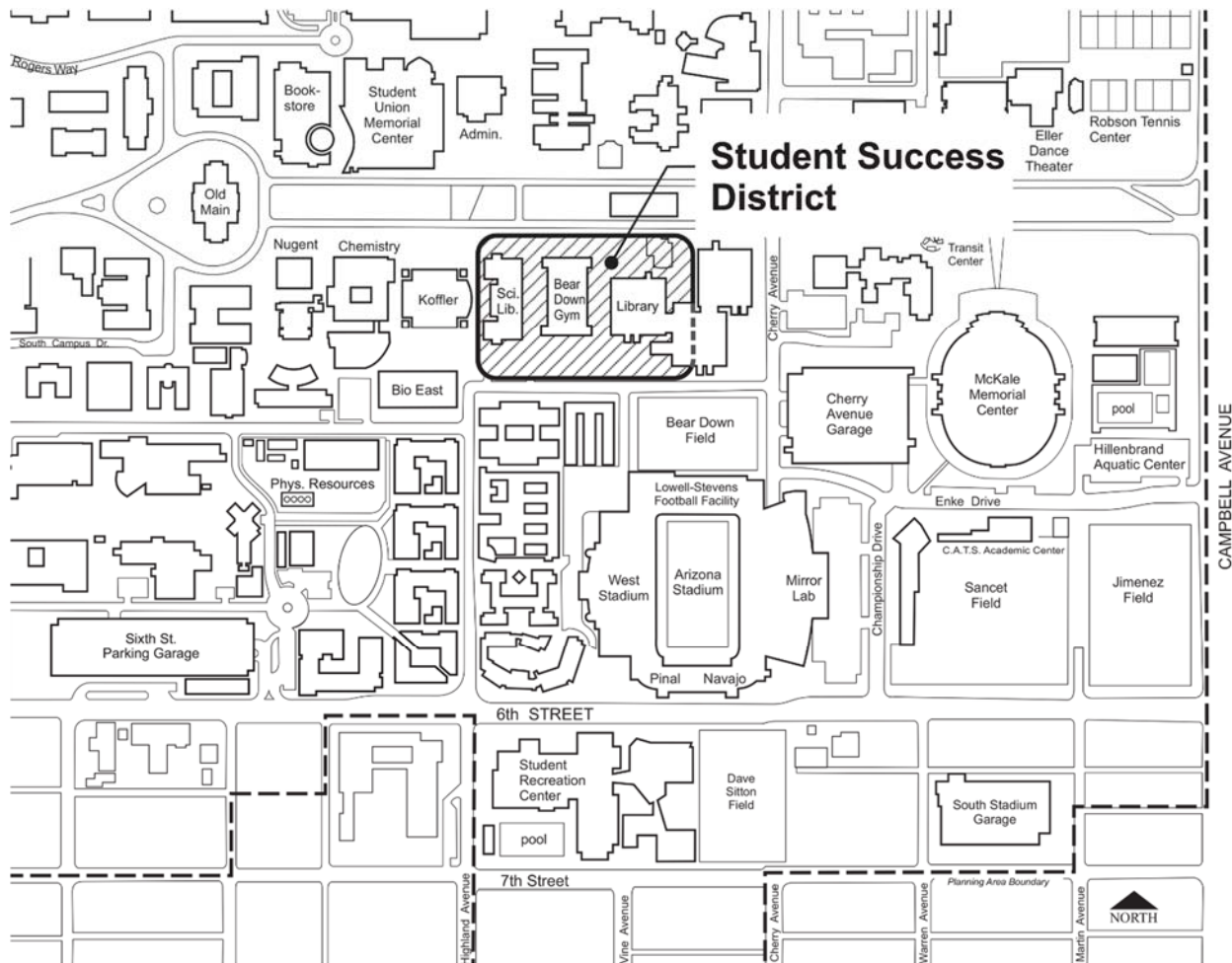
EXECUTIVE SUMMARY**Capital Project Budget Summary****University:** The University of Arizona**Project Name:** Student Success District

<u>Date of Budget Estimate</u>	<u>FY 2018 Capital Development Plan</u>	<u>FY 2019 Capital Development Plan Revised</u>
	<u>June 2017</u>	<u>November 2018</u>
1. Land	\$ 0	\$ 0
2. Construction Cost		
A. New Construction	\$ 18,300,000	\$ 24,500,000
B. Renovation	\$ 22,400,000	\$ 23,000,000
C. Fixed Equipment	\$ 200,000	\$ 250,000
D. Site Development (exclude 2.E.)	\$ 7,100,000	\$ 7,100,000
E. Parking & Landscaping	\$ Included in 2D	\$ Included in 2D
F. Utilities Extensions	\$ Included in 2D	\$ Included in 2D
G. Other (asbestos only)	\$ 100,000	\$ 350,000
Subtotal Construction Cost	\$ 48,100,000	\$ 55,200,000
3. Consultant Fees		
A. Construction Manager	\$ 700,000	\$ 800,000
B. Architect/Engineering Fees	\$ 5,820,000	\$ 6,600,000
C. Other (Programming, Special Conslt.)	\$ 150,000	\$ 200,000
Subtotal Consultant Fees	\$ 6,670,000	\$ 7,600,000
4. Furniture Fixtures and Equipment	\$ 6,600,000	\$ 7,400,000
5. Contingency, Design Phase	\$ 2,500,000	\$ 2,000,000
6. Contingency, Construction Phase	\$ 2,500,000	\$ 3,000,000
7. Parking Reserve	\$ 300,000	\$ 600,000
8. Telecommunications Equipment	\$ 1,200,000	\$ 1,500,000
Subtotal Items 4-8	\$ 13,100,000	\$ 14,500,000
9. Additional University Costs		
A. Surveys and Tests	\$ 100,000	\$ 200,000
B. Move-in Costs	\$ 150,000	\$ 180,000
C. Public Art	\$	\$
D. Printing/Advertisement	\$ 20,000	\$ 20,000
E. Univ. Facilities & Project Management	\$ 2,500,000	\$ 2,900,000
F. State Risk Mgt. Ins	\$ 360,000	\$ 400,000
Subtotal Additional University Costs	\$ 3,130,000	\$ 3,700,000
TOTAL CAPITAL COST	\$ 71,000,000	\$ 81,000,000

EXECUTIVE SUMMARY

Project Site Map

Student Success District



EXECUTIVE SUMMARY

**Arizona Board of Regents
The University of Arizona
FY 2019 Capital Development Plan (CDP)
Project Justification Report**

Campus Research Infrastructure

Previous Board Action

- Capital Improvement Plan FY 2013-2015 (previously submitted as North Campus Infrastructure Phase 2) September 2011
- Capital Development Plan FY 2013, 14, 15, 16, 17, 18 May 2012

Statutory and Policy Requirements

- Pursuant to Arizona Board of Regents Policy Chapter 7-102 (B)(1), all capital projects with an estimated total project cost of \$10,000,000 or more, including information technology and third-party projects, shall be included in the Capital Development Plan.

Project Justification, Description and Scope

- The proposed \$16 million Campus Research Infrastructure project is a multi-element expansion of the UA's existing infrastructure capacity. The project will ensure that the necessary infrastructure systems are provided to support and accommodate the planned research growth.
- Major elements will include capacity upgrades and expansion of existing chilled water, steam, electrical, storm drainage, sewer and tele data systems. The project will be designed in accordance with the UA Design & Specification Standards and will maximize operational and maintenance efficiencies.

Project Delivery Method and Process

- This project is being delivered through the Construction Manager at Risk (CM@Risk) method. This approach was selected for the project because it can save time and cost through fast-track project scheduling, provides contractor design input and coordination throughout the project, improves potentially adversarial project environments and allows for the selection of the most qualified contractor leadership team for this project. Through peer-review of the CM@Risk's cost estimates at each phase, and low-bid subcontractor pricing for the actual construction work, this method also provides a high level of cost and quality control.
- The CM@Risk was selected through the capital project selection committee process prescribed by the ABOR Procurement Code. A licensed contractor was included on the selection committee as required by ABOR policy. The design team has been selected through a similar ABOR process.

EXECUTIVE SUMMARY

Project Status and Schedule

- Programming is underway. This project is scheduled to commence design during the spring of 2019.
- Project construction is scheduled to commence during the spring of 2020 and scheduled to be completed during the spring of 2021.

Project Cost

- The total project budget is \$16,000,000, with a construction cost of \$12.55 million.
- The construction budget for this project was developed by in-house University professionals and outside consultants, using cost data from industry-standard cost databases and from completed comparable projects. As the project progresses, peer reviews of the CM@Risk's estimates will be reconciled by the Project Team.

Fiscal Impact and Financing Plan

- The University plans to issue \$14.9 million of System Revenue Bonds (SRBs) and \$1.1 million of SPEED Revenue Bonds to fund the Campus Research Infrastructure project. The annual debt service payments on the SRBs is estimated to be \$1.2 million. The UA plans to fund the debt service payments on the SRBs with tuition revenues. The annual debt service payments on the SPEED Bonds is estimated to be \$0.1 million. Up to 80% of the SPEED debt service is planned to be paid using State Lottery Proceeds and not less than 20% is planned to be paid using tuition revenues.
- The operations and maintenance (O&M) cost for the space effected is already included in the UA's current budget.

Debt Ratio Impact:

- The total estimated annual debt service of \$1.3 million on this project would increase the UA debt ratio by 0.05 percent.

EXECUTIVE SUMMARY**Capital Project Information Summary**

University: The University of Arizona
Project Name: Campus Research Infrastructure

Project Description / Location:

This infrastructure project will include capacity upgrades and expansion of existing chilled water, steam, electrical, storm drainage, sewer and tele-data systems across main campus.

	<u>FY 2013 Capital Development Plan Phase I and II</u>	<u>FY 2019 Capital Development Plan Revised – Phase II</u>
<u>Project Schedule (Beginning Month/Year):</u>		
Planning	June 2012	Fall 2018
Design	August 2012	Spring 2019
Construction	August 2013	Spring 2020
Occupancy	August 2014	Spring 2021
<u>Project Budget:</u>		
Total Project Cost	\$ 32,000,000	\$ 16,000,000
Total Project Cost per GSF	\$ N/A	\$ N/A
Direct Construction Cost - New	\$ 24,400,000	\$ 12,550,000
Construction Cost per GSF - New	\$ N/A	\$ N/A
Change in Annual Oper. / Maint. Cost		
Utilities	\$ N/A	\$ N/A
Personnel	\$ N/A	\$ N/A
Other	\$ N/A	\$ N/A
<u>Funding Sources:</u>		
Capital:		
• System Revenue Bonds & SPEED Bonds (Debt service paid by tuition revenues and State Lottery Proceeds)	\$ 32,000,000	\$ 16,000,000
Operation/Maintenance:		
• N/A	\$ N/A	\$ N/A

EXECUTIVE SUMMARY**Capital Project Budget Summary**

University: The University of Arizona
Project Name: Campus Research Infrastructure

<u>Date of Budget Estimate</u>	<u>FY 2013 Capital Development Plan Phase I and II May 2012</u>	<u>FY 2019 Capital Development Plan Revised Phase II November 2018</u>
1. Land	\$ 0	\$ 0
2. Construction Cost		
A. New Construction	\$ 23,000,000	\$ 12,450,000
B. Renovation	\$ 0	\$ 0
C. Fixed Equipment	\$ 0	\$ 0
D. Site Development (exclude 2.E.)	\$ 1,000,000	\$ 0
E. Parking & Landscaping	\$ 0	\$ 0
F. Utilities Extensions	\$ 0	\$ 0
G. Other (asbestos only)	\$ 400,000	\$ 100,000
Subtotal Construction Cost	\$ 24,400,000	\$ 12,550,000
3. Consultant Fees		
A. Construction Manager	\$ 244,000	\$ 125,000
B. Architect/Engineering Fees	\$ 2,440,000	\$ 1,200,000
C. Other (Programming, Special Const.)	\$ 414,800	\$ 50,000
Subtotal Consultant Fees	\$ 3,098,800	\$ 1,375,000
4. Furniture Fixtures and Equipment	\$	\$
5. Contingency, Design Phase	\$ 1,220,000	\$ 627,500
6. Contingency, Construction Phase	\$ 1,977,000	\$ 627,500
7. Parking Reserve	\$ 0	\$ 0
8. Telecommunications Equipment	\$ 200,000	\$ 55,000
Subtotal Items 4-8	\$ 3,397,000	\$ 1,310,000
9. Additional University Costs		
A. Surveys and Tests	\$ 400,000	\$ 112,000
B. Move-in Costs	\$ 0	\$ 0
C. Public Art	\$ 0	\$ 0
D. Printing/Advertisement	\$ 36,000	\$ 10,000
E. Univ. Facilities & Project Management	\$ 488,000	\$ 553,000
F. State Risk Mgt. Ins	\$ 180,200	\$ 90,000
Subtotal Additional University Costs	\$ 1,104,200	\$ 765,000
TOTAL CAPITAL COST	\$ 32,000,000	\$ 16,000,000