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February 9, 2012

ACTION UNDER PRESIDENT'S AUTHORITY– APPROVAL OF THE BUDGET FOR CAPITAL IMPROVEMENTS AND THE CAPITAL IMPROVEMENT PROGRAM AND APPROVAL OF EXTERNAL FINANCING, BGI @ UC DAVIS JOINT GENOMICS CENTER, DAVIS CAMPUS

EXECUTIVE SUMMARY

This item addresses the proposed development of 9,531 gross square feet (GSF) of wet laboratory and supporting storage, processing, and office space to accommodate the BGI @ UC Davis Joint Genomics Center for high throughput genomics and bioinformatics research (the “Center”). The Center would be built out within existing shelled space at the Institute for Regenerative Cures building on the UC Davis Sacramento campus.

Previous Actions

- Adoption in March 2007 of Initial Study/Mitigated Negative Declaration (February 2007) for the Institute for Regenerative Cures building and Design Approval of phase 1 improvements (Presidential)

Related Actions

- Master Agreement/Affiliation (Regents)
- Lease of space in Institute for Regenerative Cures building on the UC Davis Sacramento campus/CEQA determination (Chancellor/Campus)

Proposed Actions

- Approve the budget of \$6,103,000
- Approve external financing of \$6,103,000

Project Drivers

Collaboration. Beijing Americas Corporation (BGI)¹ is a premier genome sequencing company with a demonstrated history of providing comprehensive sequencing and bioinformatics services

¹ BGI (formerly known as Beijing Genomics Institute) was founded in Beijing in September 1999. BGI's US presence was established with the April 2010 founding of BGI Americas Corporation in Boston, MA.

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for medical, agricultural and environmental applications worldwide. The BGI @ UC Davis Joint Genomics Center will foster collaboration between UC Davis and BGI to further the University's commitment to better understand, treat, and/or prevent disease in humans, animals, and agriculture.

Cost Sharing. BGI will make payments toward rent and operating expenses to cover approximately fifty percent of the annual debt service and operating costs. UC Davis will fund operating costs and debt service in excess of BGI's support. The collaboration will allow UC Davis to benefit from reduced expenses for gene sequencing. The project scope and funding plan reflect the program elements outlined in the Master Agreement and Lease.

RECOMMENDATION

Pursuant to Standing Order 100.4(q)(1)

- (1) The President amends the 2011-12 Budget for Capital Improvements and the Capital Improvement Program to include the following project:

Davis: BGI @ UC Davis Joint Genomics Center – preliminary plans, working drawings, construction, and equipment– \$6,103,000 to be funded from external financing.

Pursuant to Standing Order 100.4(nn)(1)

- (2) The President approves external financing not to exceed \$6,103,000 to finance the BGI @ UC Davis Joint Genomics Center. The Davis campus shall satisfy the following requirements:
 - a. Interest only, based on the amount drawn down, shall be paid on the outstanding balance during the construction period.
 - b. As long as the debt is outstanding, general revenues of the Davis campus shall be maintained in amounts sufficient to pay the debt service and meet the related requirements of the authorized financing.
 - c. The general credit of the Regents shall not be pledged.
- (3) The actions authorized in (1) and (2) above are revoked in the event the Master Agreement/Affiliation and lease are not executed by UC Davis and BGI on or before February 29, 2012 (or such later date as the parties may agree upon).

BACKGROUND

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Agriculture, biological sciences, and medicine are among the strengths of the Davis campus. UC Davis is home to one of the world's largest concentrations of biological expertise, with more than 800 faculty dedicated to biology and life sciences. UC Davis is also a national leader in experimental animal and plant research, with facilities for more than 300,000 animals as well as several plant and microbial germplasm collections. Scientists, students, and researchers across a broad number of programs are currently engaged in genomics-focused research.

UC Davis does not currently have a central facility that serves programs producing and analyzing genome information. The proposed BGI @ UC Davis Joint Genomics Center would allow UC Davis to partner with the BGI, the largest genomics center in the world, to provide comprehensive sequencing and bioinformatics services for medical, agricultural, and environmental applications. The Center would allow UC Davis to consolidate genomics-focused programs and to facilitate collaboration between faculty and graduate students engaged in programs focused on important public health and disease issues. The BGI @ UC Davis facility would create a launch space to keep UC Davis at the center of future development of medical genetics initiatives.

Project Overview

The Center will expand the University's capacity for advanced genomics research, support expanded graduate programs (i.e., human genetics, bioinformatics, and medical informatics), enable the introduction of future technologies, and foster collaboration with other Universities and the private sector. Through this partnership, BGI will provide gene sequencing and analysis at a cost lower than the campus is currently able to secure for similar services.

The affiliation between BGI and the Davis campus contemplates a ten-year space lease of 9,531 GSF in the Institute for Regenerative Cures building. The Affiliation further contemplates the payment by BGI of \$500,000 per year in rent and operating support for the Center. BGI would provide and operate the sequencers, computation units, and other necessary lab equipment as well as provide staff and professional expertise to run the facility. UC Davis will finance and build out the facility at a cost of \$6,103,000, and fund operating costs and debt service in excess of BGI's support. The projected total debt service and operating costs are approximately \$1,000,000 per year for the ten-year term. In addition, BGI may also support the Clinical Laboratory Improvement Amendments facility for clinical diagnostics.

Project Description

This project will build out 9,531 GSF of shelled space within the existing UC Davis Institute for Regenerative Cures building to create a state-of-the-art wet laboratory space of approximately 8,869 assignable square feet (ASF) to house the BGI @ UC Davis Joint Genomics Center on the Sacramento campus. The Center will function as research space for high throughput genomics and bioinformatics and will house faculty and student research projects from new or growing research programs. Specific improvements to meet the needs for programmed space within the Center

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include specialized laboratory space as well as space for administrative, laboratory, and technology support. The specific types of spaces and the function each would serve are outlined below:

Administrative Support Space (546 ASF): an office suite for seven open-plan workstations, waiting area, and kitchenette to support the accounting and administrative staffing needs of the BGI program.

Laboratory Support Space (427 ASF): sample receiving and storage room and temporary waste holding room.

Laboratory Space (4,355 ASF): laboratory spaces divided between pre-Polymerase Chain Reaction (PCR) activities (2,242 ASF) and post-PCR activities (2,113 ASF).

HiSEQ 2000 Lab (1,320 ASF): infrastructure to support up to twenty Illumina 2000 HiSEQ sequencers, eight cBot processing instruments, and two of the ABI 5500 sequencers.

Computer Room and Support Spaces (979 ASF): HiSEQ sequencers are connected to the dedicated Server Room (416 ASF) which is also supported by a UPS Control Room (130 ASF) and a UPS Battery Room (129 ASF). The program also requires a dedicated electrical room (229 ASF) and Fire Riser Room (75 ASF).

Internal Circulation Spaces (1,242 ASF): internal corridor spaces include a “Public Corridor” (217 ASF) and a “Laboratory Corridor” (1,025 ASF).

The project is estimated to commence construction in July 2012 and be completed by March 2013.

Policy Compliance

UC Davis Sacramento Campus 2010 Long Range Development Plan (LRDP). The UC Davis Sacramento Campus LRDP designates the project site for “Education and Research Development” use. As a research laboratory, the project is consistent with the LRDP.

Capital Financial Plan. The *2011-21 Consolidated State and Non-State Capital Financial Plan* for the Davis campus accepted by the Regents in November 2011 includes this project as the “UC Davis Institute for Regenerative Cures Phase 3 (Beijing Genomics Institute),” with a project cost of \$6,100,000.

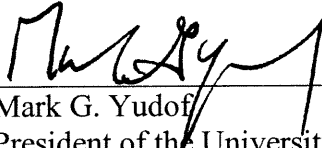
Sustainable Practices. As required by this policy, the project would implement principles of energy efficiency and sustainability to the fullest extent possible, consistent with budgetary constraints, and regulatory and programmatic requirements.

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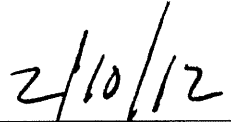
The project is anticipated to achieve a minimum LEED™ Silver certification, using LEED-CI™ and Labs21 criteria. Sustainable features of the project design include enhanced building systems commissioning, CFC and HCFC reduction, recycled materials, construction waste diversion, and low VOC adhesives, sealants, and carpets.

California Environmental Quality Act Classification. Actions related to the creation of the affiliation in addition to this budget action include: 1) authorization to enter into the Master Agreement/Affiliation, and 2) the lease of space and approval to renovate space in 2921 Stockton Boulevard (Institute for Regenerative Cures) to accommodate this use. Approval of the proposed budget and external financing that is the subject of the this Item does not constitute authorization to develop, lease or occupy the 9,531 GSF of wet laboratory and supporting storage, processing, and office space to create the BGI @ UC Davis Joint Genome Center. Rather, authorization to implement the improvements and BGI's occupancy of the space are the subject of future University actions in the context of which the University will make a determination of CEQA compliance.

Approved:



Mark G. Yudof
President of the University



Date

ATTACHMENTS:

Attachment 1: Project Budget

Attachment 2: Summary of Financial Feasibility

**PROJECT BUDGET
CCCI 5668**

Category		%
Site Clearance	0	0.0%
Building	4,164,000	73.9%
Exterior Utilities	0	0.0%
Site Development	0	0.0%
AE/Fees	626,000	11.1%
Campus Administration ²	155,000	2.7%
Surveys, Tests, Plans	45,000	0.8%
Special Items (excluding financing) ³	20,000	0.5%
Financing Costs	212,000	3.6%
Contingency	416,000	7.4%
Total	5,638,000	100.0%
Group 2 & 3 Equipment	465,000 ⁴	
Project Cost	6,103,000	

Project Statistics

GSF	9,531
ASF	8,869
Efficiency Ratio: ASF/GSF	93%
Building Cost/GSF	\$437

Comparable Project:

The project scope includes built out of 9,531 gross square feet of shelled space within an existing building on the UC Davis Sacramento campus to create a state-of-the art laboratory space. The campus has identified the Stockton Boulevard Research Center Phase 2B (SBRC Phase 2B) project as a comparable project. This project, also located on the Sacramento campus, included build out of existing shelled space for research use.

	BGI @ UC Davis	SBRC Phase 2B
GSF	9,531	15,722
Escalated Building Cost	\$4,164,000	\$6,522,641
Building Cost/GSF	\$437	\$415

² Campus administration includes project and contract management staff.

³ Special Items include: commissioning (\$10,000) and in-house support (\$10,000).

⁴ BGI will provide additional sequencing and computations equipment with a fair market value of over \$5 million.

ATTACHMENT 2

SUMMARY FINANCIAL FEASIBILITY ANALYSIS

Davis Campus	
Project Name	BGI @ UC Davis Joint Genomics Center
Project ID	9559070
Total Estimated Project Costs	\$6,103,000
Estimated Interest During Construction	\$202,000

Proposed Sources of Funding	
Total: 100% External Financing	\$ 6,103,000

Below are results of the financial feasibility analysis for the proposed project using the campus' debt affordability model. The financial projections take into consideration market conditions, new sources of revenue and all previously approved projects.

Financing Assumptions	
Anticipated Repayment Sources	General Revenues of the Davis Campus
Anticipated Fund Source	Facilities and Administrative cost recovery available to the Davis campus or discretionary funds available to the Chancellor
Amount	\$6,103,000
Financial Feasibility Rate	6.00%
Term	Taxable 10 year
First Years of Principal	FY2013
Final Maturity	FY2023
Estimated Average Annual Debt Service	\$820,000

Measure	Campus Financing Benchmarks	
	10 Year Projections (as of 11/8/11)	Approval Threshold
Debt Service to Operations	3.0% (max in FY 2013)	6.0%
Debt Service Coverage	4.56x (min in FY 2013)	1.75x
Expendable Resources to Debt	n/a	1.0x

Financing approval requires the campus to meet the debt service to operations benchmark and one of the two other benchmarks for approval.

Measure	Definition
<i>Debt Service to Operations (%)</i>	$\frac{\text{Annual Debt Service}}{\text{Total Operating Expenses}}$
<i>Debt Service Coverage (x)</i>	$\frac{\text{Operating Income} + \text{Depreciation} + \text{Interest}}{\text{Annual Debt Service}}$
<i>Expendable Resources to Debt (x)</i>	$\frac{\text{Expendable Financial Resources (unrestricted net assets + temporarily restricted net assets - net investment in plant)}}{\text{Total Debt Outstanding}}$

Note: Fund sources for external financing shall adhere to University policy on repayment for capital projects.