

D06E02UM
Board of Public Works – PAYGO
University of Maryland, College Park

Physical Science Complex (Prince George’s County)

PAYGO SF **\$4,000,000** **Recommendation: Approve**

Project Description: Construct phase I of the new physical science complex to provide modern laboratory and office space for the Department of Physics, the Department of Astronomy, and the Institute for Physical Sciences and Technology (IPST). The new building will be completed in three phases. The departments that will occupy the new building currently reside in three aged and poorly conditioned buildings that do not meet all current safety standards and requirements. The three buildings are the Physics building built in 1950 whose electrical system is obsolete; the IPST building constructed in 1955; and the Computer and Space Sciences building built in 1963.

Comments: The Physical Science Complex is scheduled to be constructed in three phases with phase I designed to provide laboratory and office space for three departments – the Department of Physics, the Department of Astronomy, and the Institute for Physical Sciences and Technology. Each of these departments currently occupies space in three buildings which have outlived their useful lives as laboratory and research facilities. The buildings were built in the 1950s and 1960s and are in poor condition and unable to support the requirements and needs of researchers and faculty.

Phase I will address the issues of inadequate and poor laboratory facilities, which constrain the ability for the departments to grow and attract high quality/caliber researchers and faculty. This in turns affects the ability of the departments to compete and win research grants and awards. The total annual sponsored research awards of the three departments increased from \$23.6 million in fiscal 2000 to \$34.4 million in fiscal 2007. It is projected that awards could increase to \$47.5 million in fiscal 2014. However, due to the constraint of research space, the departments will not be able to accommodate additional or new sponsored research.

Phase I of the physical sciences complex will help the University of Maryland, College Park (UMCP) address its shortfall of research space. In fiscal 2006, the campus shortfall in research space was 753,156 net assignable square footage (NASF). Space guidelines allowances, which are currently under review by the Maryland Higher Education Commission, for these units are 162,500 NASF. The three departments – Physics, Astronomy, and IPST – currently occupy 89,351 NASF of research space. Phase I will add approximately 39,000 NASF in research space for the three departments and will include offices and conference rooms.

D06E02UM – BPW – University of Maryland, College Park – PAYGO

Phase I is sized at 142,400 gross square foot (GSF)/75,100 NASF; phase II is 123,100 GSF/64,927 NASF; and phase III is 102,400 GSF/53,900 NASF. More than half of the NASF in phases I and II will be dedicated to research laboratories. Phase III will be dedicated to new teaching laboratories, shop facilities, and general purpose classrooms, which will primarily be used for physical science classes. Phase I is being designed to meet the Leadership in Energy and Environmental Design silver certification, consistent with the Administration’s proposed high performance buildings program (SB 208/HB 376 of 2008). A 2% green building premium has been included in the construction cost estimate.

Plans for the existing buildings include renovation of the Physics building and East Wing of the Computer and Space Science building. While these projects are included in UMCP’s facilities master plan, they are not in the five-year *Capital Improvement Program*. Until they are funded for renovation, the Physics and the Computer and Space Science buildings will be maintained with urgent problems being corrected through UMCP’s facility renewal efforts. The IPST building will be demolished during phase II.

In fiscal 2007, the General Assembly accelerated this project by authorizing \$1.0 million for the initial design. The fiscal 2009 allowance provides \$4.0 million of the Higher Education Investment Funds to continue with the design of phase I. The funding schedule for phase I is as follows: from fiscal 2009 to 2010 – design funds; fiscal 2011 – construction funds; and fiscal 2012 – equipment funding. Phase I is scheduled for completion in fiscal 2013. Total cost for phase I is estimated at \$107 million. The Department of Budget and Management has approved part I and II facility program for phase I.

Project Data

(\$ in Millions)

<i>Description</i>	<i>Prior Authorization</i>	<i>2009 Request</i>	<i>2010 Estimate</i>	<i>2011 Estimate</i>	<i>2012 Estimate</i>	<i>2013 Estimate</i>
Planning	\$1.000	\$4.000	\$4.400	\$0.000	\$0.000	\$0.000
Construction	0.000	0.000	0.000	87.900	0.000	0.000
Equipment	0.000	0.000	0.000	0.000	10.300	0.000
Total	\$1.000	\$4.000	\$4.400	\$87.900	\$10.300	\$0.000

Total Project Cost:	\$107,553,523	Cost Per Square Foot – Base:	\$371
Gross Square Footage:	142,400	With Escalation & Contingencies:	\$523
Green Building:	Yes	Net Usable Square Footage:	75,100
Approved Program Plan:	Yes	Building Efficiency:	52.7%
		Estimated Completion Date:	2013

Recommended Actions

1. Concur with Governor’s allowance.

Executive’s Operating Budget Impact Statement

(\$ in Millions)

	<i>FY 2009</i>	<i>FY 2010</i>	<i>FY 2011</i>	<i>FY 2012</i>	<i>FY 2013</i>
Estimated Operating Cost	\$0.000	\$0.000	\$0.000	\$0.000	\$1.216
Estimated Staffing	0	0	0	0	24

The estimated operating cost of \$1.2 million in 2013 includes funding for 24 new positions to staff the building and utility costs. The building is scheduled to open in 2013, at which time the request for the 24 positions will be re-evaluated to determine if the staffing level is appropriate for maintaining the additional square footage.

The 24 new positions for phase I of the Physical Science Complex are shown in **Exhibit 1**.

Exhibit 1 New Positions for Phase I of the Physical Science Complex

<u>Position Title</u>	<u>FTE</u>
Groundskeeper	0.84
Housekeeper	9.49
Maintenance Structural Trade Chief II	0.88
Heating, Ventilation, and Air Conditioning Mechanic	1.54
Electrician	1.54
Steamfitter	1.54
Plumber	1.54
Carpenter	0.86
Area Maintenance	0.86
Painter	0.86
Protective Covering Mechanic	0.86
Roofing Mechanic	0.86
Maintenance Supervisor III	1.47
Postal Services Processor	0.80
Total Full-time Equivalent (FTE)	23.92

Source: University of Maryland, College Park

Capital Project Cost Estimate Worksheet

Department: University of Maryland, College Park
Project Number: D06E02UM
Project Title: Physical Sciences Complex, Phase I
Analyst: Sara J. Baker

Structure

New Construction:	142,400 Sq. Ft. X	\$371.00 Sq. Ft. =	\$52,830,400
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment			0
Demolition			0
Information Technology	142,400 GSF X	\$0.00 GSF =	0
Telecommunications			0
Miscellaneous – Other	Connection to SCUB		300,000
Miscellaneous – Other	Interior Demolition		110,000
Subtotal			\$53,240,400
Regional Factor:	100.0%		0
Subtotal			\$53,240,400
Escalation to Mid-point:	4.75 Yrs. X	6.7% =	31.75% 16,903,827
Total Cost of Structure (Bid Cost)			\$70,144,227

Site Work and Utilities

Site Improvements:	1,100,000 + regional factor + mid-point escalation	\$1,449,250
Utilities:	3,505,000 + regional factor + mid-point escalation	4,617,838
Project Subtotal (Bid Cost)		\$76,211,315

Fees and Miscellaneous Costs

Green Building Premium	2.0%	\$1,524,226
Total Construction Contingency	5.0%	3,810,566
Inspection Cost:	2.2%	1,676,649
Miscellaneous: Construction Management		2,400,656
Miscellaneous: Equipment Commissioning		2,104,300
Miscellaneous: Movable Equipment		10,300,000
Miscellaneous: CPM Schedule / WSSC Fee		151,800
A/E Fee through construction phase @	11.3%	9,374,011
Total Cost of Project		\$107,553,523

Base Cost Per New Square Foot	\$371
Adjusted Cost Per New Square Foot (incl. escalation, contingencies & Green Bldg.)	\$523
Base Cost Per Renovated Square Foot	\$0
Adjusted Cost Per Renovated Square Foot (incl. escalation, conting. & Green Bldg.)	\$0