B-1-23-2-04

PURDUE UNIVERSITY

Office of the Chief Financial Officer and Treasurer

August 11, 2022

The Honorable Eric J. Holcomb
Governor of the State of Indiana
Statehouse
Indianapolis, IN 46204

Dear Governor Holcomb:

At its meeting on August 5, 2022, the Purdue University Board of Trustees approved the planning, financing, construction and award of construction contracts for the Northwest Chiller Plant System Improvements on the West Lafayette campus.

This project will replace three condenser water pumps and supporting equipment in the Northwest Chiller Plant. The system improvements will increase the amount of chilled water that can be produced to help meet current demand. Fewer chillers will need to be rented throughout the summer when chilled water demand is at its highest, resulting in greater efficiency and cost savings to the University.

The estimated total project cost is $2,250,000 and is funded by Operating Funds – Reserves. This project is included in Purdue's approved FY23 Repair and Rehabilitation budget.

Subject to review by the Commission for Higher Education and recommendation by the State Budget Committee and the Budget Agency, we request your approval to proceed with this project. Attached are the completed forms that the Commission has prescribed for its review of such projects. We will be happy to answer any questions you or your staff may have or to provide any additional information that is needed.

Sincerely,

Christopher A. Ruhl
Chief Financial Officer and Treasurer

Attachments

c: Seth Hinshaw, Chief Financial Officer, Indiana Commission for Higher Education
Zachary Jackson, Director, Indiana State Budget Agency
Jasmine Williams, Assistant Director, Indiana State Budget
Kathleen Thomason, Comptroller, Purdue University
Anne Hazlett, Senior Director, Government Relations, Purdue University

Hovde Hall of Administration – 610 Purdue Mall – West Lafayette, IN 47907 – (765) 494-9705

PROJECT COST SUMMARY

Northwest Chiller Plant System Improvements

Institution:	Purdue University	**Budget Agency Project No.:**	B-1-23-2-04
Campus:	West Lafayette	**Institutional Priority:**	N/A
Previously approved by General Assembly:	No	**Previously recommended by CHE:**	No
Part of the Institution's Long-term Capital Plan:	Yes		

Project Size:	N/A	GSF (1)	N/A	ASF (2)	N/A ASF/GSF
Net change in overall campus space:	N/A	GSF	N/A	ASF	

Total cost of the project (3):	$ 2,250,000	**Cost per ASF/GSF:**	N/A GSF
Total cost of the demolition:	$ -		N/A ASF

Funding Source(s) for project (4):	Amount	Type
	$ 2,250,000	Operating Funds – Reserves

Estimated annual debt payment (6):	$0
Are all funds for the project secured:	Yes

Project Funding:

The purchase is being funded by Operating Funds – Reserves, and all of the funds are secured.

Project Cost Justification

Since the project is utilities based, there is not a ASF or GSF associated with the work. This project scope and cost are similar to the projects listed in the comparable project section.

Estimated annual change in cost of building operations based on the project:	$ (215,156)
Estimated annual repair and rehabilitation investment (5):	$ 33,750

(1) Gross Square Feet (GSF)- Sum of all area within the exterior envelope of the structure.

(2) Assignable Square Feet (ASF)- Amount of space that can be used by people or programs within the interior walls of a structure. Assignable square feet is the sum of the 10 major assignable space use categories: classrooms, laboratories, offices, study facilities, special use facilities, general use facilities, support facilities, health care facilities, residential facilities and unclassified facilities. For information on assignable space use categories, see Space-Room Codes tab.

(3) Projects should include all costs associated with the project (structure, A&E, infrastructure, consulting, FF&E, etc.)

(4) Be consistent in the naming of funds to be used for projects. If bonding, note Bonding Authority Year (1965, 1929, 1927, etc.)

(5) Estimate the amount of funding the institution would need to set aside annually to address R&R needs for the project. CHE suggests 1.5% of total construction cost

(6) If issuing debt, determine annual payment based on 20 years at 4.75% interest rate

- If project is a lease-purchase or lease, adjust accordingly. Note the total cost of the lease in the project cost, and annual payments in project description

PROJECT DETAILED DESCRIPTION - ADDITIONAL INFORMATION

Northwest Chiller Plant System Improvements

Institution:	Purdue University	**Budget Agency Project No.:**	B-1-23-2-04
Campus:	West Lafayette	**Institutional Priority**:	N/A

Description of Project

This project will replace three condenser water pumps and supporting equipment in the Northwest Chiller Plant on the West Lafayette campus. Supporting equipment includes variable frequency drives, feeders and controls.

Need and Purpose of the Program

The current chilled water production and distribution infrastructure is incapable of meeting the campus demand for chilled water during a portion of the peak cooling season. Currently temporary equipment is rented to supplement existing systems. The projected cost to rent, install and operate the temporary equipment for the 2022 cooling season is approximately $1.5M. These costs will continue to escalate in future years, and there is a limit to the amount of temporary cooling that can be implemented and supported by current infrastructure. Failure to meet the campus cooling demand means building temperatures and humidity levels will increase. This jeopardizes research, building health and occupant comfort.

The condenser system improvements will increase the amount of chilled water that can be produced to help meet current demand. Fewer chillers will need to be rented throughout the summer when chilled water demand is at its highest. Additionally, more chilled water will be produced by existing chillers, which are approximately twice as efficient as rental chillers. This project will result in greater efficiencies and cost savings to the University.

This project is included in Purdue's approved FY23 Repair and Rehabilitation budget.

Space Utilization

Since this is a utilities project, there will be no significant space impact.

Comparable Projects

Wade South Cooling Tower Upgrades Phase I, 2018
- $1,750,000
- Replaced three of six condenser water pump motors and supporting equipment

Wade South Cooling Tower Upgrades Phase II, 2019
- $1,500,000
- Replaced remaining three condenser water pump motors and supporting equipment

These comparable projects replaced parts of the condenser water pumps at the Wade South Cooling Tower, while the current project will replace condenser water pumps in their entirety at the Northwest Chiller Plant. The cost of new condenser water pumps is approximately twice as much as the motors.

Background Materials

CAPITAL PROJECT REQUEST FORM
INDIANA PUBLIC POSTSECONDARY EDUCATION
INSTITUTION CAMPUS SPACE DETAILS FOR NORTHWEST CHILLER PLANT SYSTEM IMPROVEMENTS

	Current Campus Totals				Capital Request		
(INSERT PROJECT TITLE AND SBA No.)	Current Space in Use	Space Under Construction (1)	Space Planned and Funded (1)	Subtotal Current and Future Space	Space to be Terminated (1)	New Space in Capital Request (2)	Net Future Space
A. OVERALL SPACE IN ASF							
Classroom (110 & 115)	336,545	-	(211)	**336,334**			**336,334**
Class Lab (210,215,220,225,230,235)	755,112	72,943	256	**828,311**			**828,311**
Non-class Lab (250 & 255)	1,660,895	16,022	32,432	**1,709,349**			**1,709,349**
Office Facilities (300)	2,385,957	17,570	7,784	**2,411,311**			**2,411,311**
Study Facilities (400)	392,685	14,337	664	**407,686**			**407,686**
Special Use Facilities (500)	1,218,311	-	12,709	**1,231,020**			**1,231,020**
General Use Facilities (600)	1,008,003	3,335	21,390	**1,032,728**			**1,032,728**
Support Facilities (700)	2,875,731	(860)	(69)	**2,874,802**			**2,874,802**
Health Care Facilities (800)	216,011	-	-	**216,011**			**216,011**
Resident Facilities (900)	2,489,928	-	254,158	**2,744,086**			**2,744,086**
Unclassified (000)	15,282	-	-	**15,282**			**15,282**
B. OTHER FACILITIES (Please list major categories)							
TOTAL SPACE	**13,354,459**	**123,347**	**329,113**	**13,806,919**		**-**	**13,806,919**

Notes:
- Space/Room codes based on Postsecondary Ed Facilities Inventory and Classification Manual (2006)

(1) Identify in a footnote the specific facilities that are included in the data in these columns. Do not include pending approval, non-submitted projects or non-funded projects

Space under construction includes:
- Gateway Complex
- Hypersonics Building
- Schleman/Stewart Renovation
- Whistler Mechanical Project

Space planned and funded includes:
- Life Sciences Phenotyping Greenhouse Building
- Mackey Locker Rooms Renovation
- Ross-Ade Stadium Renovation
- Max W & Maileen Brown Family Hall Renovation
- Vawter Hall Electrical Enhancements and Replacement

There is no space to be added or terminated as part of this capital project.
N/A

CAPITAL PROJECT COST DETAILS

Northwest Chiller Plant System Improvements

Institution:	Purdue University	**Budget Agency Project No.:**	B-1-23-2-04
Campus:	West Lafayette	**Institutional Priority**:	N/A

ANTICIPATED CONSTRUCTION SCHEDULE

	Month	Year
Bid Date	October	2022
Start Construction	October	2023
Occupancy (End Date)	June	2024

ESTIMATED CONSTRUCTION COST FOR PROJECT

	Cost Basis (1)	Estimated Escalation Factors (2)	Project Cost
Planning Costs			
a. Engineering	$ 30,000		N/A
b. Architectural			N/A
c. Consulting			N/A
Construction			
a. Structure			N/A
b. Mechanical (HVAC, plumbing, etc.)	$ 1,200,000		N/A
c. Electrical	$ 190,000		N/A
Movable Equipment			N/A
Fixed Equipment	$ 500,000		N/A
Site Development/Land Acquisition	$ -		N/A
Other (Please list)	$ 330,000		N/A
TOTAL ESTIMATED PROJECT COST	**$ 2,250,000**	**$ -**	**N/A**

(1) Cost Basis is based on current cost prevailing as of: (INSERT MONTH AND YEAR)

(2) Explain in the Description of Project Section of the "Cap Proj Details" schedule the reasoning for estimated escalation factors

CAPITAL PROJECT OPERATING COST DETAILS

Northwest Chiller Plant System Improvements

Institution:	Purdue University	**Budget Agency Project No.:**	B-1-23-2-04
Campus:	West Lafayette	**Institutional Priority:**	N/A

GSF OF AREA AFFECTED BY PROJECT N/A

ANNUAL OPERATING COST/SAVINGS (1)

	Cost per GSF	Total Operating Cost	Personal Services	Supplies and Expenses
1. Operations	$ -	**$ -**		
2. Maintenance	$ -	**$ (174,073)**		$ (174,073)
3. Fuel	$ -	**$ -**		
4. Utilities	$ -	**$ (41,083)**		$ (41,083)
5. Other	$ -	**$ -**		
TOTAL ESTIMATED OPERATIONAL COST/SAVINGS	**$ -**	**$ (215,156)**	**$ -**	**$ (215,156)**

Description of any unusual factors affecting operating and maintenance costs/savings.

(1) Based on figures from "Individual Cap Proj Desc" schedule