Health Sciences Innovation Building Construction Contract

Report FY20 - #03
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Submitted to:
Peter Dourlein, Assistant Vice President, University Architect
Ralph Banks, Executive Director, Engineering, Design and Construction
Lorna Gray, Director, Construction

Copies to:
Institutional Internal Audit Review Board
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Stacey Lemos, Assistant Vice President/Comptroller, Financial Management
Ilya Smith, Chief Compliance Officer

Issued by: Sara J. Click, CPA, Chief Auditor
Internal Audit Department

Summary

Our audit of the Health Sciences Innovation Building (HSIB) construction contract was included in our approved Fiscal Year (FY) 2020 Audit Plan. The University of Arizona (University) contracted for construction of the HSIB with a construction phase Guaranteed Maximum Price (GMP) of $129.4 million. This construction project was part of the approved Campus Master Plan initiative within the Strategic Plan's Institutional Excellence Pillar.

Construction projects have been identified as strategic, high-risk areas for the universities. Charges to the project may not comply with the negotiated contract, resulting in overcharges and cost overruns. Construction administration and project monitoring is provided by Planning, Design & Construction (PD&C). Since 2009, we have completed 19 audits of construction contracts administered by PD&C.

Background: The Health Sciences Innovation Building is a new state-of-the-art instructional space located on the University of Arizona Health Sciences (UAHS) Campus. It is a 220,000 square foot structure that offers flexible, large, medium, and small group/team learning areas and clinical labs and simulation centers for a broad spectrum of instructional applications.[1] The building is a multidisciplinary, inter-professional education and simulated practice building fostering transdisciplinary collaborations and serving as a cutting-edge platform for multidisciplinary teams of health professional, student and faculty in medicine, nursing, pharmacy, and public health. Inter-professional health education and practice have been declared a national priority to improve healthcare quality and safety.[2]

The contractor was selected through the capital project selection committee process prescribed by the Arizona Board of Regents (ABOR) Procurement Code. Kitchell Contractors Inc. of Arizona (Kitchell) was awarded the Construction Manager at Risk (CMAR) contract that included pre-construction phase services as well as construction phase management.

At its November 2015 meeting, ABOR granted Project Approval for the HSIB project for a total budget of $163 million. The project was funded with System Revenue Bonds and Stimulus Plan for Economic and Educational Development (SPEED) bonds.

[1] https://uahs.arizona.edu/scheduling/tucson-hsib
[2] ABOR Meeting Minutes, November 2015

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Notice to Proceed was issued June 27, 2016, for initial construction work. The contract and subsequent amendments and change orders called for substantial completion by August 17, 2018, for the Basement and May 10, 2019, for Levels 1-9. PD&C was satisfied with the quality of the work and issued a *Certificate of Substantial Completion* on July 18, 2018, for the Basement and May 10, 2019, for Levels 1-9.

Substantial completion for Levels 1-9 was delayed for several reasons, mainly due to the University's request for changes. The HSIB was a complex structure set for completion on a fast-track schedule. However, the construction project team was requested to build out the basement shell five months after construction started in order to accommodate relocation of other medical departments. In addition, there were resource issues with one major subcontractor filing for bankruptcy during construction while the CMAR experienced staff transitions with project managers. In spite of the project delays, the HSIB has been recognized by the architectural industry by winning two national awards for the building's unique design.

The HSIB project had an initial construction phase GMP of $18,052,973 plus five amendments totaling $106,235,766 and 19 change orders totaling $5,113,015, bringing the total construction phase final GMP to $129,401,754. See the chart below for details:

GMP Description	Amount
Initial Pre-Construction Phase Fee	$772,937
Amendments 2, 5 and *8*[3]	453,926
Final Pre-Construction Phase Fee	**$1,226,863**
Initial Construction Phase GMP, *Amendment 3*	$18,052,973
Amendments 4 and 6 through 9	106,235,766
Change Orders 1 through 19	5,113,015
Final Construction Phase GMP	**$129,401,754**
Total Pre-Construction and Construction GMP	**$130,628,617**

[3] *Amendment 1* did not change the contract dollar amount.

Audit Objectives: Our audit objective was to determine whether financial transactions relating to construction activity complied with the terms of the contract. Based on prior audit results and our risk assessment of this contract, our audit objectives included whether:

- the GMP was paid in full and did not exceed the agreed upon GMP amount;
- General Conditions and General Requirements (GC&GR) expenses, to include direct labor, equipment rental, and job-owned equipment costs, were adequately supported and charged to the project in accordance with contract provisions;
- contractor billings agreed with actual costs incurred;
- bond and insurance coverage during construction complied with the terms of the contract;
- change orders were priced according to the contract terms and represented an actual change in scope;
- contingency funds were managed in accordance with contract requirements;
- subcontracts were competitively bid, subcontractor change orders were in accordance with contract documents, backcharges and allowances were appropriately handled, specified bonds and insurance were obtained, and subcontractors were properly licensed;
- project close out documents were complete, and overhead, profit, and fees were applied as specified by the construction contract; and
- opportunities for process improvements exist.

Scope: Our audit of the HSIB project included all construction phase expenses paid to the CMAR contractor from the start of the construction phase in July 2016 through the payment application processed in September 2020. A final pay application will be processed by PD&C once project final reconciliation is complete.

We relied on PD&C's expertise for the construction technical aspects and, therefore, our scope of work did not include any on-site inspections to assess construction methods, materials, or compliance with design specifications. We also did not include any costs associated with the project that were not part of the CMAR construction phase contract, including architectural fees or PD&C internal costs.

Methodology: Based on the audit risk assessment, selected sections of the Arizona University System Standard Construction Audit Program were utilized to achieve our stated audit objectives and included:

- preparing a control schedule of the initial and final GMP amounts, all budget adjustments, and all construction phase payment applications to ensure payments to the CMAR contractor did not exceed the approved total GMP;

- reconciling payments made to the contractor against a control schedule of contractor applications for payment;
- reviewing GC&GR costs supporting documentation in 7 (14%) of 49 judgmentally selected (based on dollar amount) payment applications that represented $1,147,104 (22%) of the total $5,200,232 GC&GR expenses;[4]
- reconciling the job cost ledger against CMAR pay applications;
- comparing direct labor time reported to contractually established labor rates;
- examining equipment rental costs and the rent vs. buy analysis;
- reviewing job-owned equipment logs for completeness;
- verifying all bond and insurance requirements were maintained during the project;
- recalculating 3 (16%) of 19 change orders with a total absolute value of $3,291,608 to ensure accuracy;[5]
- examining supporting documentation for sample change orders to ensure the amounts agreed to subcontractor quotes, changes were reasonable, and indirect costs were accurately calculated;
- reviewing CMAR contractor contingency fund expenditures to ensure that all uses of the contingency fund were made in accordance with the contract;
- reviewing subcontractor bids for the top three subcontracts (by total dollar amount) and two self-performed work subcontracts to ensure the bidding process was performed in compliance with contract terms;
- researching the Arizona Registrar of Contractors to ensure subcontractors were licensed;
- examining project close-out documents for completeness; and
- discussing the project with representatives from PD&C and Kitchell.

Conclusions: Based on our audit work, we found that the financial transactions relating to construction activity generally complied with the terms of the contract. The agreed upon GMP was paid in full; however, actual total construction costs exceeded the GMP. The excess costs were absorbed by the contractor’s fee. Contractor billings agreed with actual costs incurred, GC&GR expenses were charged to the project in accordance with contract provisions, bond and insurance coverage was maintained as required, and change orders were accurately priced and represented actual changes in scope. Additionally, contingency funds were adequately managed, and the subcontractor selection process and subcontractor documents were in compliance with the contract. Lastly, required project closeout documents were complete.[6]

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[4] Does not include supervision costs reviewed separately under the Direct Labor audit procedure.
[5] Two change orders were judgmentally selected based on highest absolute dollar value, and one was reviewed at the request of PD&C.
[6] Includes Substantial Completion Certificates, punch lists, and contractor performance evaluation.

We noted during the audit that accountability of job-owned equipment could be further defined and improved. It should be noted that this issue was identified in prior audits, and PD&C has worked to improve the process. This issue is further discussed on pages 7 and 8.

According to the Institute of Internal Auditors International Professional Practices Framework, an organization is expected to establish and maintain effective risk management and control processes. These control processes are expected to ensure, among other things, that:

- the organization's strategic objectives are achieved;
- financial and operational information is reliable and possesses integrity;
- operations are performed efficiently and achieve established objectives;
- assets are safeguarded; and
- actions and decisions of the organization are in compliance with laws, regulations, and contracts.

Our assessment of these control objectives as they relate to the HSIB construction contract is on the following page.

General Control Objectives	Control Environment	Audit Result No.	Audit Result Page
Achievement of the Organization's Strategic Objectives			
• Strategic objectives were met by supporting the Campus Master Plan initiative within the Strategic Plan's Institutional Excellence Pillar.	Reasonable to Strong Controls in Place		
Reliability and Integrity of Financial and Operational Information			
• The GMP was paid in full and did not exceed the agreed upon GMP amount.	Reasonable to Strong Controls in Place		
• Contractor billings agreed with actual costs incurred.	Reasonable to Strong Controls in Place		
• GC&GR expenses were adequately supported and charged in accordance with contract provisions.	Reasonable to Strong Controls in Place		
• Job-owned equipment accountability could be improved.	Opportunity for Improvement	1	7
• Change orders were priced and approved according to contract requirements.	Reasonable to Strong Controls in Place		
Effectiveness and Efficiency of Operations			
• Contingency funds were managed in accordance with contract requirements.	Reasonable to Strong Controls in Place		
Safeguarding of Assets	Not Applicable		
Compliance with Laws and Regulations			
• Insurance and bond coverage during construction complied with the terms of the contract.	Reasonable to Strong Controls in Place		
• The subcontractor selection process and subcontractor documents complied with the contract.	Reasonable to Strong Controls in Place		
• Project close-out documents were complete.	Reasonable to Strong Controls in Place		

We appreciate the assistance of both PD&C and Kitchell representatives during the audit.

Deborah S Corcoran

Deborah S. Corcoran, CCA, CIA
Auditor-In-Charge
corcorand@arizona.edu

Sara J Click

Sara J. Click, CPA
Chief Auditor
clicks@arizona.edu

Audit Results, Recommendations, and Responses

1. Job-owned equipment accountability could be further defined and improved.

Condition: Job-owned equipment items were not fully accounted for by the CMAR. While 50 items totaling $40,086 on the CMAR's final job-owned equipment log were accounted for in accordance with contract requirements, an additional 51 job-owned equipment items costing $13,586 were not included on the log and, therefore, were not properly accounted for in the CMAR's final equipment inventory.

Audit identified five job-owned equipment items by comparing the job-owned equipment log submitted with Pay Application 36 (the last pay application that included a job-owned equipment log) to the final log submitted by the CMAR. During the audit, PD&C reviewed all pay applications and identified 46 job-owned equipment items that were not included on the CMAR's final job-owned equipment log. The 51 items identified were questioned and discussed with PD&C. The discussion resulted in 9 items (totaling $3,175) resolved and 42 (totaling $10,411) remaining open for further discussion. The ensuing discussion resulted in a decision to further define job-owned equipment for accountability requirements.

Criteria: According to paragraph 7.12.2 of the contract, "…Purchased equipment shall be considered "job owned". At the completion of the project, the CM@Risk shall transfer title and possession of all remaining job-owned equipment to the Owner, or CM@Risk may keep any such equipment for an appropriate fair market value credit to job cost, which will be mutually agreed to by Owner and CM@Risk."

Additionally, paragraph 7.12.5 states, "...When the aggregate rental charge for each piece of CM@Risk-owned tools or equipment matches the fair market value of said equipment, said equipment may become "job owned" but only if the new value of such equipment exceeds $5,000."

Finally, paragraph 7.12.8 says, "The CM@Risk shall be required to maintain a detailed equipment inventory of all job owned equipment (either purchased and charged to job cost or job-owned through aggregate rentals) and such inventory shall be submitted either electronically or hard copy (at Owner's election) to Owner each month. For each piece of equipment, such inventory should contain at minimum (1) original purchase price or acquisition cost (2) acquisition date (3) approved fair market value at the time the piece of equipment was first used on the job and (4) final disposition."

Cause: Existing procedures for identification and accountability of job-owned equipment were not clear to the CMAR and, therefore, could be improved.

Effect: The University could incur loss of assets.

Recommendations:

1. The 42 outstanding items identified should be turned over, or the University should be compensated at fair market value.

2. Project managers should review pay application supporting documentation to ensure all job-owned equipment purchases are recorded on the job-owned equipment log.

3. In a previous audit, we identified an opportunity to improve the process for monitoring and disposing of job-owned equipment. As a result, PD&C developed a tracking mechanism; however, clarification may be needed to further define job-owned equipment to assure all items of value are accounted for and their disposition properly recorded.

Management Response:

PDC is in general agreement regarding the need for continuing improvement in the area of identifying job-owned equipment and with the need to develop clear communications to assure the CMAR has a shared understanding of the requirements.

Regarding the listed recommendations:

1. PDC agrees that the University is entitled to compensation for items identified through the project reconciliation and audit process. PDC is developing a deductive change order to the CMAR for reimbursement at fair market value.
(**Target Implementation Date**: December 2021.)

2. Project managers currently review pay applications monthly to assure job-owned equipment purchases are properly recorded. Moving forward, project managers will be required to re-review/reconcile these purchases to ensure they are properly and consistently recorded. (**Target Implementation Date**: January 2022.)

3. We agree that a collective understanding of what should be considered as job-owned equipment is needed among the PDC project managers and that understanding needs to be more clearly communicated to the CMARs. We will conduct training to improve the understanding and the communication process.
(**Target Implementation Date**: January 2022.)

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