

**RIVERSIDE: AUDIT & ADVISORY SERVICES**

April 9, 2012

To: Timothy Ralston, Associate Vice Chancellor  
Capital Programs

Subject: Internal Audit of Construction

Ref: Audit Report Number R2012-22

We have completed an audit of Construction in accordance with the UC Riverside Audit Plan. Our report is attached for your review.

We appreciate the cooperation and assistance provided by your division. Should you have any questions concerning the report, please do not hesitate to contact me.

Michael R. Jenson  
Director

xc: UCR Audit Committee Members  
Associate Vice Chancellor Carlson  
Capital Programs, A&E Executive Director Racicot  
Capital programs, CFRE Executive Director Lee  
Capital Programs, CFRE Director of Finance Koenig  
Capital Programs, CFRE Director of Contracts Administration Saito

UNIVERSITY OF CALIFORNIA AT RIVERSIDE  
AUDIT & ADVISORY SERVICES  
MEMBER OF ASSOCIATION OF COLLEGE & UNIVERSITY AUDITORS

INTERNAL AUDIT REPORT R2012-22

INTERNAL AUDIT OF CONSTRUCTION

APRIL 2012

Approved by:

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Noahn Montemayor  
Principal Auditor

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Rodolfo L. Jeturian, Jr.  
Assistant Director

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Michael R. Jenson  
Director

**UC RIVERSIDE  
INTERNAL AUDIT OF CONSTRUCTION  
INTERNAL AUDIT REPORT R2012-22  
APRIL 2012**

**I. MANAGEMENT SUMMARY**

Based upon the results of work performed within the purpose and scope of the audit, it is our opinion that, overall, construction management policies and procedures and internal controls and processes related to the administration of construction activities – specifically, the bid and award process, change order execution, and compliance with funding requirements – are operating satisfactorily and generally in compliance with applicable University policies and procedures.

Positive observations included:

- \* In August 2011, the Capital Programs division was organized to foster administrative efficiencies and maximize the operational effectiveness of the planning, design, and construction enterprise on campus. The division consists of four major units: Capital Resource Management, Capital Finance & Real Estate, Architects & Engineers, and Sustainability.
- \* Capital Programs is developing and implementing financial and administrative processes and procedures that will provide more effective controls over construction management processes.
- \* Progress is continuing with the implementation of Capital Projects management information systems to meet the needs of providing more detailed and accurate financial reporting for capital projects and improve controls over construction contracting processes.

Minor items that were not of a magnitude to warrant inclusion in the report were discussed verbally with management.

**II. INTRODUCTION**

**A. PURPOSE**

UC Riverside Audit & Advisory Services (A&AS), as part of its Audit Plan, performed an audit of construction management activities to evaluate compliance with certain University policies and procedures, efficiency and effectiveness of selected operations, and adequacy of certain internal

controls. This audit is a systemwide effort under the direction of the Office of Ethics, Compliance and Audit Services.

**B. BACKGROUND**

The University operates an extensive design, construction, and renovation program. The University makes a substantial investment in each capital project and has instituted policies and procedures to guide project construction.

The UC Facilities Manual (FM) is intended to allow easy access to important policies, procedures, and guidelines for facilities management and operation, including construction contracting, construction documents, bidding, and construction administration. Each Campus within the UC System is encouraged to develop its own procedures manual that expands on and complements FM content.

Operating within the UCR Capital Programs division, Capital Resource Management is responsible for the development of the Capital Improvement Program, physical planning, and campus-wide space management and inventory. Also within Capital Programs, Architects & Engineers (A&E) is responsible for the design and construction of new buildings, renovation of existing buildings, renewal of building systems and facilities and deferred maintenance, and seismic retrofit projects on campus.

The UCR ten-year (2009-19) capital improvement program includes about 25 major construction projects and has an estimated total value of more than \$800 million.

**C. SCOPE**

Audit procedures were performed to evaluate the effectiveness of construction management policies and procedures and internal controls and processes related to the administration of construction activities, specifically: the bid and award process, change orders execution, and compliance with funding requirements.

The scope of the audit was principally limited to the review of Capital Programs activities to manage major construction projects active during the fiscal year (FY) 2008-09 through FY 2011-12.

**D. INTERNAL CONTROLS AND COMPLIANCE**

As part of the review, internal controls were examined within the scope of the audit.

Internal control is a process designed to provide reasonable, but not absolute, assurance regarding the achievement of objectives in the following categories:

- \* effectiveness and efficiency of operations
- \* reliability of financial reporting
- \* compliance with applicable laws and regulations

Substantive audit procedures were performed during January through April 2012. Accordingly, this evaluation of internal controls is based on our knowledge as of that time and should be read with that understanding.

**III. OBSERVATIONS**

Based on results of procedures performed within the scope of the audit, in our opinion, construction management policies and procedures and internal controls and processes related to the bid and award process, change orders execution, and compliance with funding requirements are operating satisfactorily and generally in compliance with applicable University policies and procedures.

**Overall Business Operations Review**

- Reviewed University policy and procedures pertaining to facilities management, in general; and bidding and construction administration policies, construction contracting, construction documents, contract modifications, and capital budget and finance, in particular.
- Reviewed relevant capital program documents including UCR's Ten Year Capital Financial Plan for FYs 2009-10 to 2018-19, Campus Master Plans, Capital Planning Processes, selected Detailed Project Programs (DPPs), and other relevant records.
- Discussed significant capital improvement program activities with Capital Programs management and staff and selected campus department personnel.

**Bidding and Contract Awards**

The evaluation and selection of contractors leading to the award of construction contracts is a vital part of the construction process. California State law requires University projects that exceed a cost of \$100,000 to be publicly advertised for competitive bidding and the construction contract to be awarded to the bidder

submitting the lowest dollar bid who is qualified and deemed to have the ability to satisfactorily perform the work.

- Reviewed Capital Programs' bidding and contract award process and available documentation, including prescribed bid package documents and pro-forma records for compliance with University policy and procedures.
- Selected the Glen Mor 2 Student Apartments project (Project No. 956334);
  - This Project was advertised for contractor prequalification and for competitive bidding by prequalified bidders;
  - A Construction Manager (CM)/Contractor was selected for a CM at Risk engagement involving 2 phases – preconstruction services (Phase 1) and construction (Phase 2).
- Reviewed advertisements for contractor prequalification and for bids (after prequalification), prequalification submittals, including questionnaires, associated documents, and evaluation records, prequalified contractors' submittals, bidding and contract award documents, and related records, notes, and correspondence provided by Capital Programs, A&E.

### **Change Orders**

A change order is a post-award modification to the contract. A change order may revise, add to, or delete previous requirements of the work, adjust the contract sum, or adjust the contract time.

A contract may require substantial changes to the work after award. If the cost of a change in the scope of work to be accomplished by a change order or series of change orders exceeds \$100,000 (the dollar value for formal competitive bidding), or if the proposed changes in design are not incidental to the scope of the work as bid, the work may only be performed by change order if FM provisions for substantial change orders are met. It is UCR's responsibility to maintain, as part of contract files, written records of the facts and conditions which justify the determination that a change order is justifiable in accordance with FM guidelines.

- Selected the Material Science and Engineering Building project (Project No. 950450);
  - This Project was completed in December 2010;
  - The contract was modified by 34 Change Orders, for a combined (net) additive amount of \$3,577,107;
  - 7 Change Orders were for amounts exceeding \$100,000; the combined additive amount of these 7 substantial change orders is \$2,678,942 (75% of all Change Orders);
  - In Internal Audit Report R2010-04, Limited Review of Suspended Construction Projects, completed in January 2010, 3 Change Orders (a combined additive amount of \$1,523,122 or 43% of all Change Orders) were reviewed; No exceptions were noted.

- Selected 4 Change Orders exceeding \$100,000 (the combined additive amount of this sample is \$1,133,726 or 32% of all Change Orders);
  - Change Order No. 17 for \$402,311;
  - Change Order No. 20 for \$103,793 (this Change Order is for a series of 12 individual Change Orders);
  - Change Order No. 24 for \$507,622;
  - Change Order No. 25 for \$120,000.
- Reviewed Change Order supporting documents including change order justification / cost verification records, project management and design team review notes and correspondence, contractor/subcontractor cost proposals, estimates, and other cost information details provided by Capital Programs, A&E.

#### **Restrictions / Requirements Attached to Funding**

- Reviewed the UCOP Capital Markets Finance Guide and major capital improvement Project Approval Process.
- Discussed Campus finance, debt, and capital budgeting principles, policies, and procedures as well as related funding requirements and restrictions with Resource Planning & Budget and Capital Programs management and staff and selected campus department personnel.
- Reviewed and evaluated the adequacy of departmental practices, procedures, and control structure to monitor compliance with funding restrictions and requirements for construction projects.