

**CALIFORNIA STATE POLYTECHNIC UNIVERSITY,  
POMONA**

**LIBRARY ADDITION AND RENOVATION**

Final Report

May 12, 2008

**CONSTRUCTION PROJECT EVALUATION**  
**CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA**  
**LIBRARY ADDITION AND RENOVATION**

May 12, 2008

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*This report and all associated analysis contained herein are based upon information made available to KPMG LLP. KPMG LLP is not responsible for incomplete or inaccurate information provided during the preparation of this report. This report only presents and summarizes factual data and does not represent an opinion or attestation to the position, approach or representation of information made by any other party involved with this evaluation.*

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# EXECUTIVE SUMMARY

## Summary of Findings

Based upon our evaluation, the Library Addition and Renovation project at California State Polytechnic University, Pomona (“CSPUP”) was administered consistent with our expectations of a project of this size, scope, and complexity. We uncovered certain minor discrepancies and control issues that should be addressed by CSPUP going forward.

Our observations, associated risks, and recommendations are summarized below. Examples of specific action steps are further detailed in the body of this report.

	<b>Observation</b>	<b>Risk</b>	<b>Recommendation</b>
1.	In several instances, professional services were performed prior to the formal execution of a written contractual agreement with the Architect.	Allowing work to be performed prior to a written contractual agreement exposes CSPUP to unnecessary contractual risks in the event of a later dispute.	Contractual agreements should be fully executed and effective prior to any work being performed on a project.  (Ownership: CSPUP)
2.	The CM at Risk Construction Services Agreement could be improved to better describe scoping and administration of allowances.	Limitations and inconsistencies in the contract documents may lead to scope and pricing discrepancies, overcharges, and additional unintended cost exposure.	2a. In the future, CSPUP should take additional care to ensure contractual amounts are correctly stated and allowances are clearly described prior to the execution of an Agreement.  (Ownership: CSPUP)  2b. In the future, CPDC should provide requirements for the scoping and administration of allowances.  (Ownership: CPDC)
3.	Changes to the base inspection Service Agreement were not executed with a Service Agreement Amendment as required by SUAM Section 9786.03.	By using a purchase order in lieu of a Service Agreement Amendment, CSPUP may not be appropriately protected against later disputes over scope and cost and may be exposed to unnecessary contract risk.	In the future, CSPUP should follow SUAM and use the required forms to issue changes and additions to Service Agreements.  (Ownership: CSPUP)

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## **INTRODUCTION**

### **Purpose**

KPMG LLP (“KPMG”) was retained by California State University’s (“CSU”) Office of the University Auditor on October 29, 2004 and subsequent amendment dated August 16, 2007 to perform an independent project evaluation of California State Polytechnic University, Pomona (“CSPUP”) Library Addition and Renovation project (“the Project”).

The overall objective of the construction evaluation was to assess construction management practices for the Project and to substantiate that it was managed in accordance with law, Trustee policy, generally accepted business practices, and industry practices.

To the extent they were uncovered as part of our work, this report provides conclusions and recommendations addressing necessary process improvement and recovery of project costs. Recommendations are listed and numbered sequentially throughout this report.

### **Scope**

While the basic scope of our work matches that required by CSU’s Request for Proposal (“RFP”) and that which KPMG has performed in prior years, we also included additional items that we believe may provide benefit to CSU. This includes assessing methodologies utilized in verifying reasonableness of contractor change requests, help ensuring that a meaningful submittal review procedures were followed, and a review of project accounting and cost reporting. KPMG identified specific areas within the scope listed below that present the potential for substantive loss or liability for CSPUP’s Library Addition and Renovation project. The various scope categories are outlined in CSU’s request for proposal, dated July 14, 2004 and KPMG’s proposal, dated July 27, 2004 and contains the following sections:

- Project Background
- Design Cost
- Construction Bid Process
- Construction Change Orders
- Project Management or Inspection Services
- Major Equipment and Materials
- Close-Out Documentation
- Liquidated Damages
- Accounting

## Methodology

KPMG's approach to this engagement incorporates a work plan shared with the University Auditor's Office as outlined in our agreement with CSU. During the course of our work, we expanded on tasks related to scope sections with the greatest potential risk exposure, in our opinion. The work performed by KPMG was conducted in accordance with our aforementioned methodology, but is not limited to, the following tasks:

- Examine financial records, reports, written CSU procedures, CSU contract documents and other material related to the Project and compare current practices and procedures with CSU requirements and leading practices in the industry;
- Conduct a preliminary review to determine project emphasis;
- Interview key individuals involved in the Project;
- Identify significant deficiencies, if any;
- Recommend changes that may result in streamlining the design/construction process, assuring adequate project controls and reducing costs; and
- Prepare a written report of our findings and recommendations.

## Exclusions

The services, fees, and delivery schedule for this engagement are based upon the following assumptions, representations, or information supplied by CSU.

1. KPMG is not responsible for and will not make management decisions relating to this Project or any other aspect of CSU's business. CSU shall have responsibility for making all decisions with respect to the management and administration of its real estate and capital projects.
2. CSU management accepts responsibility for the substantive outcomes of this engagement and, therefore, has a responsibility to be in a position in fact and appearance to make an informed judgment on the results of this engagement.
3. Our work under this engagement did not include technical opinions related to engineering, operations, and maintenance.
4. KPMG's work under this engagement did not include a review, audit, or evaluation of financial statements, tax services, or other services of KPMG not listed in this Statement.
5. We have, and will continue to consider the effect of this engagement on the ongoing, planned, and future audits, as required by *Government Auditing Standards* and have determined that this engagement will not impair KPMG's independence.

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## PROJECT BACKGROUND

The CSPUP Library Addition and Renovation Project (“the Project”) consisted of the construction of additional library space and renovation of the existing ground library floor to provide new telecommunication infrastructure, additional instructional, lecture and office space, a new 100-seat amphitheater, and classrooms. The space was designed and constructed to improve operational efficiency and provide better working environments for faculty and staff. Since the library remained open during construction, it was important to complete the Project with minimal disruption to students and faculty during this process. As such, the Project required close work with library operations and entailed a considerable amount of coordination efforts.

From March 3 through March 7, 2008, KPMG conducted fieldwork at the CSPUP. During fieldwork, KPMG reviewed records from the following entities involved with the Project:

Architect	Carrier Johnson Architects
General Contractor	Rudolph & Sletten, Inc.
Inspector of Record	Quality Assurance Inspections, Inc.
Project Management and Administration	CSPUP Office of Facilities Design and Construction

Follow-up discussions to clarify issues and supplement supporting documentation were conducted through the completion of this report.

### Delivery Methodology

This Project was delivered using a Construction Manager at Risk (“CM at Risk”) Guaranteed Maximum Price (“GMP”) contract, where the CM at Risk took part in the efforts of establishing the GMP prior to finalizing the design and subsequently acted as the general contractor during construction, assuming the risk of subcontracting the work, and guaranteeing completion of the Project.

### Timeline

The design of the Project started when Carrier Johnson Architects (“Carrier Johnson”) were selected in August 2003 to provide architect and engineering services. CSPUP elected to involve the contractor in the design process and retained Rudolph & Sletten, Inc. (“R&S”) through a competitive selection process to serve as the CM at Risk on the Project. A service agreement for preconstruction services was executed with R&S on September 8, 2003. After the design was completed, an agreement for construction services was executed with R&S on February 9, 2006. The construction began when the Notice to Proceed was issued on February 21, 2006. The Project progressed in a timely manner until its completion on January 11, 2008 as marked by the Notice of Completion.

## Project Costs

Schematic design for the Project started in 2003 after approval by the Board of Trustees for an estimated Project budget of \$33,209,000. The schematic plans were finalized and approved at the March 2004 Board of Trustees Committee on Campus Planning, Buildings, and Grounds meeting with a revised estimated Project budget amount of \$35,597,000. Due to an increase in scope for seismic strengthening and abatement conditions as well as escalated construction costs, the approved amount of the Project was increased to \$64,200,000 in March 2005. Project costs were increased again in March 2007 due to cost escalation for Group II (Department) Equipment. At this time the amount of funding provided for Group II Equipment was increased from \$5,660,000 to \$5,863,000 bringing the total Board approved Project budget to \$64,403,000.

As of the end of January 2008, there were \$57,432,962 in commitments on the Project and \$52,627,002 had been expended in actual costs. At the time of this review, the budget on the Project exceeded commitments by \$6,970,038 and it was projected by CSPUP that the Project would finish below budget.

The following table represents the Project costs:

Description	Budget (2-7)	Commitments	Actual	Variance (Budget - Commitments)
Construction	\$ 47,875,000	\$ 47,300,465	\$ 43,925,427	\$ 574,535
Architect and Engineering	3,460,000	2,528,959	1,966,907	931,041
Contract Management	3,351,000	1,511,177	1,412,015	1,839,823
Contingency	2,310,000			2,310,000
Required Additional Services	1,544,000	3,019,043	2,249,335	(1,475,043)
Group II Equipment	5,863,000	3,073,318	3,073,318	2,789,682
<b>Total</b>	<b>\$ 64,403,000</b>	<b>\$ 57,432,962</b>	<b>\$ 52,627,002</b>	<b>\$ 6,970,038</b>

### *Recommendation:*

None

## DESIGN COSTS

CSPUP executed a Service Agreement in the amount of \$90,000 on August 8, 2003 to retain Carrier Johnson to perform schematic design services on the Project. A subsequent Extra Services Authorization (“ESA”) increased this initial agreement by \$12,000. A formal Project Architect/Engineer Agreement was executed in the amount of \$1,976,791 retaining Carrier Johnson as the Project Architect on October 27, 2003, after completion of the schematic design. Subsequently, 25 ESA’s were executed to this agreement bringing the total architectural and engineering contract value to \$3,228,871. The following table details the total Carrier Johnson contractual amounts:

Description	Date	Amount
Service Agreement for Schematic Design	8/26/2003	\$ 90,000
ESA #1 - Additional workshops	10/6/2003	12,000
<b>Subtotal Schematic Design Services</b>		<b>\$ 102,000</b>
Project A/E Agreement	10/27/2003	1,976,791
ESA #1 - Schematic design revised project scope fee schedule	1/22/2004	104,000
ESA #2 - Elevator consultant	3/3/2004	11,220
ESA #3 - Acoustical consultant	3/24/2004	16,830
ESA #4 - Security consultant	4/5/2004	2,200
ESA #5 - Audio visual consultant	4/15/2004	2,200
ESA #6 - Additional security consultant services	4/7/2004	37,400
ESA #7 - Additional audio visual consultant	5/14/2004	23,100
ESA #8 - Scope reductions	9/3/2004	6,000
ESA #9 - Services related to Ground Motion Geotechnical Analysis	1/25/2005	12,100
ESA #10 - Phase 2 A/E basic service fee adjustment for re-scoping	2/11/2005	259,000
ESA #11 - Adjustment for revised Phase 1 scope of work	3/7/2005	281,000
ESA #12 - Thin shell pre-cast concrete panel additive alternate	6/10/2005	24,000
ESA #13 - Potholing surveying services	7/7/2005	11,299
ESA #14 - Reinstatement of specific scope at the toilet rooms	7/19/2005	4,980
ESA #15 - Additional potholing and surveying services	8/23/2005	8,542
ESA #16 - Additional elevator consultant services	10/6/2005	8,500
ESA #17 - Added scope construction administration services	2/15/2006	104,500
ESA #18 - Reinstatement of the south skylight	4/3/2006	56,300
ESA #19 - Cable tray insertion & toilet occupancy indicators	6/15/2006	5,540
ESA #20 - Security video surveillance system re-design	8/15/2006	39,424
ESA #21 - Exit Alarm Door sounders	8/31/2006	7,050
ESA #22 - Re-routing/extending hot water riser at 4th floor	11/16/2006	2,000
ESA #23 - Universal access restoration (Olive lane)	3/8/2007	109,395
ESA #24 - Temporary lighting in room N107	3/9/2007	3,500
ESA #25 - 4th floor addition of steel deck deflection	3/27/2007	10,000
<b>Total Architect and Engineering Agreement</b>		<b>\$ 3,228,871</b>

Based on a review of a sample of invoices from Carrier Johnson, KPMG noted that professional services totaling \$367,981 were rendered prior to the full formal execution of a Service Agreement or ESA. The following table represents the sample of the invoices and contractual agreements tested and the corresponding dollar amount invoiced prior to the execution of the respective agreements. No payments were made by CSPUP prior to the execution of a contractual document.

Description	Execution Date	Billing Date	Value of Work
A/E Service Agreement 10509	8/26/2003	8/9/2003	\$ 49,650
A/E Service Agreement 10509	8/26/2003	9/16/2003	32,004
Project A/E Agreement	10/27/2003	11/3/2003	56,014
ESA#1	1/22/2004	2/4/2004	96,200
ESA #10	2/11/2005	3/4/2005	116,550
ESA #11	3/7/2005	4/4/2005	17,563
<b>Total</b>			<b>\$ 367,981</b>

The amount of work performed by Carrier Johnson prior to execution of a contract document may be higher, since only a portion of the contract documents and corresponding invoices were tested.

**Observation:**

In several instances, professional services were performed prior to the formal execution of a written contractual agreement with the Architect.

**Risk:**

Allowing work to be performed prior to a written contractual agreement exposes CSPUP to unnecessary contractual risks in the event of a later dispute.

**Recommendation:**

1. Contractual agreements should be fully executed and effective prior to any work being performed on a project.

(Ownership: CSPUP)

**Campus Response:**

1. We concur. Contractual agreements will be fully executed and effective prior to any work performed on a project. Our project schedules are now inclusive of the time and activities reflecting the entire agreement process including the issuance of the campus' Notice to Proceed.

Timeline: Completed

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## CONSTRUCTION BID PROCESS

The Project was bid according to the normal CSU procurement process through CSPUP's Office of Facilities Design and Construction. A Request for Proposal ("RFP") was issued in June 2003 to find a suitable CM at Risk for the Project.

CSPUP held a pre-proposal conference and site visit on June 17, 2003. The meeting was attended by 32 individuals including representation from R&S.

Technical and cost proposals were submitted by the prospective bidders on or before June 30, 2003. First, the technical proposals were evaluated by the CSPUP selection panel and points were awarded for technical competency. Second, the cost proposals were opened and a bid fee for preconstruction services was determined. In order to establish the successful bidder, a bid fee per quality point calculation was performed. The successful bidder determination was made on July 9, 2003 where R&S was the apparent lowest responsive and responsible bidder with 90 total quality points and a bid fee for preconstruction services of \$2,299,771. This calculated to \$33,454 total bid fee per quality point, which was \$5,227 bid fee per quality point less than the next closest bidder.

Since this Project was delivered using a CM at Risk approach, R&S was retained to perform preconstruction services and participate in the design efforts with Carrier Johnson before the execution of a construction agreement. CSPUP executed a standard Service Agreement with R&S for the preconstruction services on September 8, 2003. After completion of the design, CSPUP executed a standard Construction Services Agreement for the construction portion of the work with R&S on February 9, 2006 in the amount of \$44,156,660. Construction commenced with the issuance of the Notice to Proceed on February 21, 2006.

### The GMP Amount

A review of the Construction Services Agreement ("Agreement") and the proposed GMP amount revealed a typographical error on the face of the Agreement resulting in an additional \$1,000 of contract value for R&S. The table below shows the amounts for the various categories are identical in the proposal and the Agreement, but there is a \$1,000 variance between the totals, with the total amount noted in the Agreement incorrectly computed. R&S added this \$1,000 of additional funds to the contingency amount in the invoice schedule of values making the funds available for their use.

Description	Per GMP Proposal	Per Agreement	Variance	Per Schedule of Values
Construction Budget	\$ 39,359,467	\$ 39,359,467	\$ -	\$ 39,359,467
Construction Services	3,025,017	3,025,017	-	3,025,017
Construction Contingency	688,791	688,791	-	689,791
Profit & Overhead	1,082,385	1,082,385	-	1,082,385
<b>Total</b>	<b>\$ 44,155,660</b>	<b>\$ 44,156,660</b>	<b>\$ (1,000)</b>	<b>\$ 44,156,660</b>

## Potential Cost Savings

One of the benefits of a GMP compensation structure is the potential for a cost savings for CSPUP if the Project is completed below the GMP. The GMP on this Project consisted of five main budget categories: (1) cost of the work, (2) general conditions, (3) allowances, (4) contingency, and (5) the CM at Risk's overhead and profit.

The greatest risk for potential overbillings exist in the allowance cost categories and R&S self performed work, since the other GMP categories were billable as lump sum amounts, including subcontracts (the majority of the cost of work consisted of subcontracts, the remainder was R&S self performed work), or were calculations based upon contracted percentages, such as the general conditions and CM at Risk's overhead and profit.

The allowance GMP amount in the Agreement was \$2,142,514. In accordance with the Agreement, if the total charges against the allowance budget were less than \$2,142,514, CSPUP would realize the savings. R&S charged the allowance category in full and as a result, there were no savings.

The allowance category is comprised of several individual allowance items. Exhibit A of the Agreement describes the cost of the work included with each allowance item. Testing of costs charged against the individual allowance items revealed some instances where potential cost savings may have been available to CSPUP through clearer definition of allowable costs and stricter adherence to estimated hours, monthly rates, among other things. The following table summarizes the potential for cost savings identified:

- Three of the allowance items tested were included in the Agreement based on an estimated amount of weekly labor hours multiplied by the prevailing wage rate. For each of these three allowance items the actual number of hours charged to the Project were consistently in line with the budgeted hours stated in the Agreement until about a year into the Project, at which time the number of hours began increasing beyond the estimated amount. In total, \$45,423 was charged to the Project for such excess hours. In the end, the corresponding charges amounted to just over the allowance amount included with the Agreement for these items.
- R&S did not charge CSPUP the monthly rates stated in Exhibit A of the Agreement for certain pieces of Equipment. In lieu of using the monthly rate stated in the Agreement, R&S calculated a daily rate from the monthly rate by dividing the monthly rate by a 28-day month, and charging this daily rate for each calendar day of the month. This resulted in an additional \$4,316 in costs over the monthly rate stated in Exhibit A.
- The purchase and subsequent sale of a street sweeper was intended to provide savings over renting the unit for the duration of the Project. R&S confirmed it would purchase the sweeper for \$31,500, but a credit was issued for \$29,000.

- In the Forklift and Operator allowance category, there were \$14,407 in fuel and repair charges that were not included in the contractual description of the allowable costs. The Agreement does not expressly state whether such charges should be included in the rental costs, although this is customary by industry standards to have them included with the rental rates charged.
- The Temporary Road Access Maintenance allowance item includes a description of costs for a street sweeper and an operator, but \$73,447 in other charges were permitted against this allowance item including charges for pedestrian walkways, repairs to the sprinkler main, and installation of stop sign and striping. CSPUP explained that it was the intent of the contract to cover temporary road access items under this allowance item and not be limited to the street sweeper.

***Observation:***

The CM at Risk Construction Services Agreement could be improved to better describe scoping and administration of allowances.

***Risk:***

Limitations and inconsistencies in the contract documents may lead to scope and pricing discrepancies, overcharges, and additional unintended cost exposure.

***Recommendation:***

- 2a. In the future, CSPUP should take additional care to ensure contractual amounts are correctly stated and allowances are clearly described prior to the execution of an Agreement.

(Ownership: CSPUP)

- 2b. In the future, CPDC should provide requirements for the scoping and administration of allowances.

(Ownership: CPDC)

***Campus Response:***

- 2a. We concur. The campus will be guided by the requirements provided by CPDC for the scoping and administration of allowances. Future contracts will correctly state contractual amounts and scope of allowances.

Timeline: December 31, 2008

***Management Response:***

2b. We agree, and have amended the CM at Risk Model and Guidelines and posted the revised document to our website.

**Subcontractor Substitution**

One subcontractor substitution occurred on the Project. Flintridge Landscape Company (“Flintridge”) was originally selected to perform the landscaping and irrigation work on the Project. Flintridge performed a portion of the work by relocating sprinklers at the beginning of the Project, but due to cancellation of the company’s insurance and a labor related dispute with another party, R&S requested that Flintridge be removed from the Project. CSU issued a letter to Flintridge on January 24, 2007 explaining that R&S had requested a substitution and the substitution would be granted if Flintridge did not respond within five days, as required. As a result, Valley Crest Landscape Development was appropriately retained to perform the remaining landscaping and irrigation scope of work for the Project.

***Recommendation:***

None

## CONSTRUCTION CHANGE ORDERS

At the time of fieldwork, 50 R&S change orders in the amount of \$2,299,706 had been executed on the Project. The following table summarizes the executed change orders:

C/O	Description	Date	Amount
1	Toilet Partition Occupancy Indicator	9/12/2006	\$ 1,941
2	Addition of South Facing Skylight	9/12/2006	-
3	Correction of a mathematical error in FI 309 and 315 lump sum amount	10/27/2006	19,599
4	Additional Cable Tray & Electrical Modifications	10/27/2006	55,912
5	Security Cabling & Conduits (CRB 511 & 511R1)	10/27/2006	218,409
6	Security Cabling & Conduits (CRB 511 & 511R1)	10/27/2006	88,875
7	Door Hardware Clarifications (RFIs 124 thru 1380)/Modifications	10/17/2006	21,215
8	Additional Security Conduit for Exit Door Alarm Devices	10/17/2006	23,767
9	Add Required Power for Copier/Anchorage for Water Heater	10/17/2006	(9,810)
10	Security Cabling & Conduits (CRB 511 & 511R1)	10/17/2006	10,431
11	Modify height of Duct at 3rd Floor	1/29/2007	5,674
12	Attach Concrete Runners for Duct Supports	1/26/2007	17,069
13	Floor Boxes at existing 2nd Floor	1/26/2007	5,184
14	Projection Screens	1/26/2007	1,775
15	North Wall Pre-cast Infill Revisions/Sewer Piping at 1st Floor Bathroom	2/22/2007	40,850
16	Toilet Accessories/Perforated Steel added to Circulation Reserves	2/23/2007	(7,498)
17	Library Mechanical Equipment Building 16 Re-roofing	3/20/2007	205,525
18	Existing 8" Water Main Repair/Slab On Grade Extension Grid Line J	3/20/2007	74,754
19	Storm Drain Elevation Discrepancy	3/20/2007	18,113
20	Speaker Back Cans and 1/2" EMT in Restrooms	3/21/2007	(30,504)
21	Security Equipment Package #1	4/9/2007	346,945
22	Reroute Hot Water Supply	4/9/2007	10,696
23	Starbucks Coordination	4/9/2007	1,671
24	Emergency Power to Occupied Floors/Ceiling Closure Strips	4/23/2007	29,396
25	Existing Conditions at Site Plumbing/Existing Deck Gaps	5/17/2007	71,960
26	Settlement between R&S and Cal Poly Pomona	5/31/2007	147,000
27	Ceiling Light/Theft Detection Panels & Floor Boxes/Restroom Wall Tile	6/6/2007	27,583
28	Stair Tread and Landing Floor Preparation Stair #1/Install VCT and Base	6/6/2007	40,592
29	Upgrade Site Concrete	6/6/2007	21,263
30	Existing Pipes to be Relocated/Ceiling Framing	7/30/2007	45,424
31	Revised Panic Hardware at Existing Storefront Door	7/31/2007	11,037
32	Universal Access Restoration/Service Points Lighting Revisions	7/31/2007	160,062
33	Provide Temporary Entry at existing 1st Floor	8/20/2007	23,665
34	N107 Modification/Round House Louvers & Sheet Metal Panel	8/20/2007	55,744
35	Exposed Conduit within Stair #2/F27 Roof Fixture	8/20/2007	45,569
36	Painting of Existing Concrete Columns, beams and New plaster Infill	8/20/2007	109,826
37	Exposed Precast Clips/Tie in New Water Line	9/25/2007	4,162
38	Full Height Wall at IDF Rooms/Floor Box Relocation/Tube Steel Box Out	9/25/2007	3,925
39	Fire Department Connection/Box Out Tube Steel/Standpipe Locks	9/25/2007	41,307
40	Generator Discharge Duct/Supports at Roundhouse Opening	10/26/2007	30,390
41	Roundhouse Roofing Scope Clarifications/Roundhouse Counter Flashing	10/26/2007	9,374
42	Precast Clarifications/Concealed Deluge System at Lobby Entrance	11/2/2007	43,488
43	Power to N109 Fixtures/Soffit Framing at Existing Elevator Lobby	11/2/2007	30,830
44	Fire Alarm System/Millwork Reveals	11/15/2007	5,060
45	Existing 2 Hr. Rated Walls & Columns/Conceal all exposed Conduits	11/16/2007	46,855
46	Retest Fire Pump	11/16/2007	2,718
47	HVAC for Security Room S240/Deeper Trench for CHWS Lines	12/19/2007	91,546
48	Pendant Light Dimensions/Main Lobby Wind Girt	1/7/2008	28,829
49	4' Water Line Break/Tube Steel Post to Match Knee Wall Height	1/16/2008	29,934
50	Touch-up paint/Dedicated Circuit for UPS	2/4/2008	21,574
<b>Total</b>			<b>\$ 2,299,706</b>

## **Signature Authority**

The signature authority at CSPUP is established in a chart in the Capital Outlay Management Plan Delegation of Authority. Additionally, CSPUP utilizes signature authorization forms, which contain the names, titles, effective dates, project, and the actual signature of each individual with the authority to sign and a description of items they may authorize.

Testing of the signature authority on the change orders indicate that the CSPUP established authority is followed.

## **Mark-up**

Mark-up testing was performed on a sample of change order line items, and KPMG found one set of circumstances that consistently resulted in mark-up error. This occurred in transactions involving R&S and “Rudolph and Sletten – Concrete,” a competitively retained subcontractor, to perform work on the Project. This related party situation is permitted, but section 6.01c(4) of the Contract General Conditions for Construction Manager at Risk with Guaranteed Maximum Price Projects states, “if the trade contractor is owned, partially owned, or has a shared profits arrangement with the CM, any mark-up otherwise applicable to a change shall be reduced in proportion with the shared profits.”

Since Rudolph and Sletten – Concrete is related to R&S, mark-up is permitted to be taken once, but there may be no additional mark-up taken. The total amount of error found from the sample taken was \$2,608, which is not a significant amount to the contract.

## **Change Order Report Analysis**

CSU has historically considered change order costs incurred due to errors and omissions by the architect of up to 3% of the initial award construction cost as falling within the architect’s ‘standard of care’.

CSPUP provided a spreadsheet with the amounts and classifications of various change order line items for the Project. CSPUP distinguished the errors from the omissions by tracking them under classifications 4.1.1 and 4.1.2 respectively.

The following table represents the errors and omissions data as calculated by KPMG based on the data CSPUP provided.

CONSTRUCTION CHANGE ORDERS

Class	Type of Change	Amount	Percent of Total CO	Percent of Original Contract
4.1.1	Error in the contract documents	\$ 99,676	4.3%	0.2%
4.1.2	Omission from the contract documents	404,022	17.6%	0.9%
4.2	Unforeseeable job site condition	472,957	20.6%	1.1%
4.3	Change in the requirements of a regulatory agency	4,292	0.2%	0.0%
4.4	Change originated by the University	1,305,263	56.8%	3.0%
4.5	Changes in specified work due to the unavailability of specified materials	-	0.0%	0.0%
4.6	Other	13,496	0.6%	0.0%
<b>Total Change Orders</b>		<b>\$ 2,299,706</b>	<b>100.0%</b>	<b>5.2%</b>
Original Contract Amount		\$ 44,156,660		
<b>Total</b>		<b>\$ 46,456,366</b>		

Based on the information provided, change orders attributable to errors are calculated to be 0.2% of the original contract value and change orders attributable to omissions are calculated to be 0.9% of the original contract value. These values amount to less than the 3% threshold both individually and in aggregate. As such, no action to recover damages for errors and omissions is warranted.

Based on our testing, CSPUP also provided sufficient back-up documentation to justify the change orders on this Project, including pricing support.

***Recommendation:***

None

**Contingency Usage**

CSPUP administered the usage of CM's contingency through authorization letters. R&S submitted a request for contingency usage to CSPUP and received CSPUP authorization before proceeding with any related work. At the time of our fieldwork, there was \$52,055 left of the contingency. Any unused contingency contractually reverts back to CSPUP at 100% at the end of the Project.

The following table details the contingency usage by R&S, as approved by CSPUP.

CONSTRUCTION CHANGE ORDERS

Item No.	Description	Contingency Amount
1	Construction and Removal of the First Floor Plywood Barricade (R&S missed scope)	\$ 38,142
2	Site Access Road Maintenance, maintain landscape area, (R&S missed scope)	43,855
3	Rerouting of existing 3" Sewer Line (R&S missed scope)	2,367
4	Structural Steel Procurement through warehouse ILO mill order (R&S project scheduling issue)	144,584
5	Added Hub Drains per RFI 067 (R&S missed scope)	13,751
6	Reinforcing Steel for Man Lift Pads (R&S missed scope)	2,691
7	Hoisting of Rebar (unloading) by Bragg Crane in lieu of using forklift (R&S missed/corrected scope)	17,670
8	Fire Extinguishers & Cabinets (R&S missed scope)	16,048
9	Owner Copier Service (R&S missed scope)	734
10	Rerouting of Sprinkler Lines (R&S project scheduling issue)	12,801
11	Fifth Floor Protective Wall required for abatement (R&S missed scope)	3,903
12	Crane Erection Pads (required to address R&S revised steel erection schedule)	7,020
13	Window Washing System - USA Sales Tax (R&S missed scope)	2,992
14	Safety Cabling Steel Post Removal (R&S missed scope)	12,238
15	Miscellaneous Rough Carpentry required to complete the project (R&S missed scope)	16,433
16	Storage Lockers (R&S submittal/scheduling issue)	4,722
17	Landscape & Irrigation Work, required re-bid of landscape trade contractor	45,109
18	Structural Steel Beam at Escalator (R&S missed scope)	5,430
19	Ceiling Repair at Existing Stairs #1 and #2 (R&S missed scope)	3,206
20	Existing Roof Repair due to Standby Piping Installation (R&S missed scope)	4,589
21	Relocation of Standby Piping (R&S missed scope)	2,403
22	Lobby Stair #7 Tread Revision (R&S missed scope)	18,775
23	Existing Ceiling Replacement at Existing 4th and 5th Floors (R&S missed scope)	5,325
24	Skylight Architectural Sheet Metal Expansion Cover (R&S missed scope)	2,582
25	Flashing at Pre-cast and Slab Edge (R&S missed scope)	6,085
26	Exterior Accessibility Directional Signage (R&S missed scope)	11,885
27	Fire Sprinkler Curtain Wall System (R&S missed scope)	14,207
28	Existing Site Light Poles (R&S missed scope)	13,210
29	Round House Area Asphalt Required (R&S missed scope)	11,375
30	Exterior Scaffolding (R&S missed scope/schedule revision)	12,767
31	Furnish and Install Removal Panel at elevator equipment room (R&S missed scope)	2,169
32	Missing Scope and Coordination issues associated with Structural Steel - (R&S missed scope)	119,845
33	Larger Joint between Pre-cast Panels and Glazing System (R&S missed scope)	5,826
34	Installation of the Glass Mullion System - Drywall coordination (R&S missed scope)	7,928
35	Repair of Damaged Doors	5,069
	<b>Total CM Use of CM Contingency to date</b>	<b>\$ 637,736</b>
	<b>CMR Contingency</b>	<b>\$ 689,791</b>
	<b>Cost Delta</b>	<b>\$ 52,055</b>

R&S missed scope = R&S did not include contract document scope of work in the trade contractor bid packages.

R&S project schedule issues = R&S' revisions to the schedule and or trade contractor scope to complete the project on schedule.

**Recommendation:**

None

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## INSPECTION SERVICES

A standard Service Agreement was executed between Quality Assurance Inspections (“QAI”) and CSPUP for inspection and testing services on April 11, 2006. Subsequently two changes were authorized bringing the total contract amount to \$208,913. The following table summarizes the total commitments for the inspection and testing services:

Description	Date of Execution	Amount
Base Contract	4/11/2006	\$ 153,553
Purchase Order	4/27/2007	25,360
Purchase Order	6/27/2007	30,000
<b>Total</b>		<b>\$ 208,913</b>

While the base contract was issued utilizing a standard CSU Service Agreement, the changes to the contract were issued through the use of purchase orders. SUAM Section 9786.03 states that Service Agreement Amendments should be used to increase the contract amount or adjust the term of the contract.

### ***Observation:***

Changes to the base inspection Service Agreement were not executed with a Service Agreement Amendment as required by SUAM Section 9786.03.

### ***Risk:***

By using a purchase order in lieu of a Service Agreement Amendment, CSPUP may not be appropriately protected against later disputes over scope and cost and may be exposed to unnecessary contract risk.

### ***Recommendation:***

3. In the future, CSPUP should follow SUAM and use the required forms to issue changes and additions to Service Agreements.

(Ownership: CSPUP)

### ***Campus Response:***

3. We concur. The campus has provided additional training to all project managers and project coordinators highlighting the necessity for the issuance of timely ESA’s for all changes to Service Agreements.

Timeline: Completed

## **Invoices**

The invoices tested from QAI contained hourly rates in agreement with those presented in Attachment C of the Service Agreement. Signatures indicating approval for payment were present on the tested invoices, but KPMG found half of the tested invoices contained labor charges not contractually allowable and reimbursable expenses not specifically listed in the price list in Attachment C. These charges were later reversed, but should have been discovered and appropriately processed at the time they occurred.

## MAJOR EQUIPMENT/MATERIALS REVIEW

KPMG selected and reviewed a sample of materials and equipment based on construction cost and accessibility to the installed items. As this Project was partially a functional facility at the time of KPMG's fieldwork, consideration was given to equipment and materials located in occupied areas in order not to interrupt any student, staff, or faculty activities.

CSPUP allowed access to drawings, specifications, and submittals. The equipment and materials located in the field were compared to submittals approved by the architect and/or engineer and were verified against performance specifications, submittals, and drawings.

The following equipment items were approved by the architect and/or engineer and visually confirmed as installed on the Project:

Division	Drawing No.	Brand	Model No./ Capacity	Description
15725	M0.2	Energy Labs	50,000 CFM	AHU-1 Air Handling Unit
15515	M0.2	Parker	Model T1460LR	B-1 Hot Water Boiler
15185	M0.2	Armstrong Pumps	#4030 6x4x13, 40HP,1800 RPM, 650 GPM	Chilled Water Pump
16310	E6.1	General Electric	15000 kVA	Substation Unit MSA
16720	E6.1	Fire Control Instruments	FCI Model 7100	Fire Alarm Control Panel
16620	E6.1	Kohler	277/480 V, 361A, Model 230REOZDD	Emergency Generator
16420	E5.1	General Electric	Panel L1B 225A, 208yY/120V	Electrical Panel
14200	E3.1BL	Fujitec	350 FPM, geared traction	Elevator 5 or 6
9685	A4.2B	C&A Floor coverings	Twisted Suede, Misty Blue 36" x 36"	CP-3, Carpet tile, Second Floor, by elevators
14310	A8.15	Fujitec	100 FPM, 40", Stainless Steel, glass balustrade	Escalators
11054	A5.2AP	Montel Inc.	Aetnastak, Custom	High Density Mobile Filing System
6400	A7.22	Custom	Custom, per plan	Millwork, reserves desk
5300			Metal Decking	
16460	E6.1		Transformer	Transformer T-EL1

The equipment and materials observed in the field conformed to the specified requirements, specifications, and submittals based on a visual inspection of equipment labeling, and comparison to manufacturer specifications provided and approved by the architect.

### ***Recommendation:***

None

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## **CLOSE-OUT PROCESS**

CSPUP was granted occupancy of the Project on December 13, 2007 when the Certificate of Occupancy was issued by the Office of the State Fire Marshall. This allowed CSPUP to begin installation of owner provided items including library furniture and campus computer systems. Completion of the R&S construction portion of the Project occurred on January 11, 2008 after the Project punch list items were complete and the final Notice of Completion was issued. At the time of our fieldwork, CSPUP was in the process of installing remaining owner provided items and preparing the library for opening in the fall of 2008.

The California State University Project close-out checklist was used to track close-out items. KPMG checked and reviewed operation and maintenance manuals, warranties, training reports, operating permits, final inspection reports, as-built drawings and other relevant Project close-out documentation for compliance established by the contract General Conditions and SUAM. Nothing came to KPMG's attention indicating any discrepancies with the close-out process.

***Recommendation:***

None

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## **LIQUIDATED DAMAGES**

According to the Notice to Proceed, the construction portion of this Project began on February 21, 2006 and was expected to be complete 675 days later on December 28, 2007. Liquidated damages were contractually established in the amount of \$2,500 per day and required to finish the Project beyond the scheduled completion date.

A total of 14 days were added to the duration of the Project through the change order process extending the contract completion date to January 11, 2008. The Project was complete on January 11, 2008 per the Notice of Completion, and as such, liquidated damages are not warranted.

***Recommendation:***

None

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## **ACCOUNTING**

KPMG reviewed the accounting process for the Project with CSPUP, including invoice processing and accounts payable process. As noted previously in this report, KPMG found instances where invoices were paid without being checked against a contractual obligation. Aside from these discrepancies, the accounting reporting system utilized tracked contractual obligations and payments in a fashion similar to what has been observed at other campuses.

CSPUP provided a reconciliation of Project expenditures and encumbrances to the approved Project budget as of January 31, 2008. KPMG verified this information was downloaded from the CSPUP mainframe accounting system and appropriately showed how the expenditures and remaining encumbrances reconciled to the amounts in the approved budget. The reconciliation tracked the purchase orders, funding sources, and remaining encumbrances, but did not include Group II Equipment. Group II Equipment information was provided separately. KPMG tested a sample of transactions from the spreadsheet and found no exceptions.

CSPUP also provided a separate spreadsheet, also downloaded from the mainframe accounting system, containing additional details on the expenditures for the Project. This spreadsheet clearly tracked pertinent information about the expenditures including the voucher, account, the invoice number amount, and detailed line descriptions among other information. KPMG used this spreadsheet to trace a physical sample of invoices to the accounting information and found no exceptions.

### ***Recommendation:***

None



## Memorandum

June 11, 2008

Mr. Larry Mandel, University Auditor  
Office of the Auditor  
The California State University  
400 Golden Shore, Suite 210  
Long Beach, CA 90802



**Subject: Campus Response to Recommendations of Library Addition and Renovation Construction Project**

Dear Mr. Mandel:

Enclosed is California State Polytechnic's campus response to the Library Addition and Renovation Construction Project. We appreciate the effort your staff and KPMG have made to indicate areas where our procedures or internal controls could be strengthened. We will take the necessary actions to address the report's recommendations.

Please direct questions concerning the response to Darwin Labordo, Associate Vice President of Finance and Administrative Services at 909-869-2008 or [dlaboro@csupomona.edu](mailto:dlaboro@csupomona.edu).

Sincerely,

Edwin A. Barnes III,  
Vice President, Administrative Affairs

Cc: J. Michael Ortiz, President  
Darwin Labordo, Associate Vice President, Finance & Administrative Services  
Michael Sylvester, Associate Vice President, Facilities Planning and Management

Enclosure

**CONSTRUCTION PROJECT EVALUATION**  
**CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA**  
**LIBRARY ADDITION AND RENOVATION**

**DESIGN COSTS**

***Recommendation:***

1. Contractual agreements should be fully executed and effective prior to any work being performed on a project.

(Ownership: CSPUP)

***Campus Response:***

1. We concur. Contractual agreements will be fully executed and effective prior to any work performed on a project. Our project schedules are now inclusive of the time and activities reflecting the entire agreement process including the issuance of the campus' Notice to Proceed (NTP).

Timeline: Completed

**CONSTRUCTION BID PROCESS**

***Recommendation:***

- 2a. In the future, CSPUP should take additional care to ensure contractual amounts are correctly stated and allowances are clearly described prior to the execution of an Agreement.

(Ownership: CSPUP)

***Campus Response:***

- 2a. We concur. The campus will be guided by the requirements provided by CPCD for the scoping and administration of allowances. Future contracts will correctly state contractual amounts and scope of allowances.

Timeline: December 31, 2008

## **INSPECTION SERVICES**

### ***Recommendation:***

3. In the future, CSPUP should follow SUAM and use the required forms to issue changes and additions to Service Agreements.

(Ownership: CSPUP)

### ***Campus Response:***

3. We concur. The campus has provided additional training to all Project Managers and Project Coordinators highlighting the necessity for the issuance of timely ESA's for all changes to service agreements.

Timeline: Completed




**Business and Finance**  
401 Golden Shore, 5th Floor  
Long Beach, CA 90802-4210

[www.calstate.edu](http://www.calstate.edu)

**Richard P. West**  
Executive Vice Chancellor/CFO

562-951-4600  
Fax 562-951-4970  
rwest@calstate.edu

**MEMORANDUM**

**Date:** June 24, 2008  
**To:** Larry Mandel  
University Auditor  
**From:**  Richard P. West -  
Executive Vice Chancellor & Chief Financial Officer  
**Subject:** Audit Report  
Library Addition and Renovation  
California State Polytechnic University, Pomona

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JUN 27 2008  
THE CALIFORNIA STATE  
UNIVERSITY

I am pleased that the overall theme of this audit report continues in a positive vein and that it finds general compliance with established procedures. I have reviewed the report with my Capital Planning, Design and Construction (CPDC) staff, and have attached our response to the auditors' findings and recommendation to CPDC.

RPW:ESJ:bn

Attachment

cc: Ms. Elvyra F. San Juan  
Mr. Larry Piper  
Mr. Thomas M. Kennedy  
Mr. James Sowerbrower

CSU Campuses  
Bakersfield  
Channel Islands  
Chico  
Dominguez Hills  
East Bay

Fresno  
Fullerton  
Humboldt  
Long Beach  
Los Angeles  
Maritime Academy

Monterey Bay  
Northridge  
Pomona  
Sacramento  
San Bernardino  
San Diego

San Francisco  
San José  
San Luis Obispo  
San Marcos  
Sonoma  
Stanislaus

**CONSTRUCTION PROJECT EVALUATION**  
**CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA**  
**LIBRARY ADDITION AND RENOVATION**

**CONSTRUCTION BID PROCESS**

***Recommendation:***

2b. In the future, CPDC should provide requirements for the scoping and administration of allowances.

(Ownership: CPDC)

***Management Response:***

2b. We agree, and have amended the CM at Risk Model and Guidelines and posted the revised document to our web site.

THE CALIFORNIA STATE UNIVERSITY  
OFFICE OF THE CHANCELLOR



BAKERSFIELD

July 3, 2008

CHANNEL ISLANDS

CHICO

**MEMORANDUM**

DOMINGUEZ HILLS

EAST BAY

TO: Mr. Larry Mandel  
University Auditor

FRESNO

FROM: Charles B. Reed  
Chancellor

A handwritten signature in black ink that reads "Charles B. Reed".

FULLERTON

HUMBOLDT

SUBJECT: KPMG Draft Final Report on the *Library Addition and Renovation*  
Construction Project at California State Polytechnic University,  
Pomona

LONG BEACH

LOS ANGELES

In response to your memorandum of July 3, 2008, I accept the response as submitted with the draft final report on the *Library Addition and Renovation* construction project at California State Polytechnic University, Pomona.

MARITIME ACADEMY

MONTEREY BAY

CBR/jt

NORTHRIDGE

Enclosure

POMONA

cc: Ms. Erika Alvord, KPMG

SACRAMENTO

Dr. Edwin A. Barnes, III, Vice President, Administrative Affairs and  
Chief Financial Officer, CSPUP

SAN BERNARDINO

Ms. Colleen Nickles, Assistant Vice Chancellor, Financial Services

SAN DIEGO

Dr. J. Michael Ortiz, President, CSPUP

SAN FRANCISCO

Ms. Elvyra San Juan, Assistant Vice Chancellor, CPDC

Mr. Richard P. West, Executive Vice Chancellor and Chief Financial Officer

SAN JOSÉ

SAN LUIS OBISPO

SAN MARCOS

SONOMA

STANISLAUS