



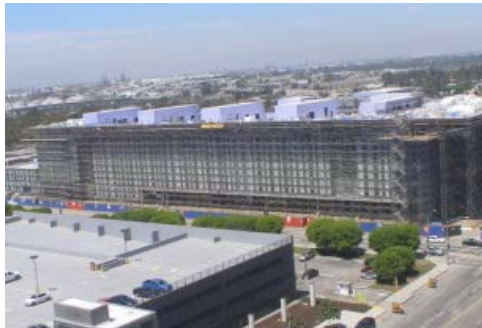
# Governor George Deukmejian Courthouse

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AN EVALUATION OF PROJECT  
AGREEMENT IMPLEMENTATION  
DURING DESIGN  
& CONSTRUCTION

A PERFORMANCE-BASED  
INFRASTRUCTURE PROJECT,  
LONG BEACH, CA

APRIL 1, 2012 - AUGUST 31, 2012



ADMINISTRATIVE OFFICE  
OF THE COURTS

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OFFICE OF COURT CONSTRUCTION  
AND MANAGEMENT



## 1.0 IMPLEMENTATION OF PROJECT AGREEMENT

This is the second in a series of evaluations of implementation of the Project Agreement, during the closure of the design phase and construction phase<sup>1</sup>; this report covers the period from April 1, 2012 thru August 31, 2012. While the evaluation topics presented herein were developed in collaboration with the AOC OCCM, this report is provided as an independent, objective evaluation. The observations presented herein come from the overall monitoring of the project by the author<sup>2</sup> as the independent building expert (IBE). Interviews were conducted with six key stakeholders consisting of representatives from the AOC, Long Beach Judicial Partners (LBJP) who is the Project Company, Clark Construction (general contractor and design-builder), AECOM (architect and designer of record), and the IOR (inspector of record). Comments received by the author from additional participants, including the professionals who evaluated the design for compliance with codes, the Performance and the Trial Court Standards, who have been active through the construction inspection, have been incorporated into the narrative as appropriate. A similar evaluation report will be provided quarterly through the end of the project to provide feedback on the implementation of the Project Agreement.

### 1.1 Construction Status Overview

The project continues to proceed extremely well in comparison with other PPP and design-build projects of which the author has knowledge of. On a scale of 1 to 10, with 10 being best, the six stakeholders<sup>3</sup> that were interviewed have rated the project with an average score of 8.9<sup>4</sup>. The project has made significant progress with the following milestone highlights: the issuance of the 100% Conformed Set of construction documents; construction of a courtroom mock-up intended for the design-builder's constructability and trades coordination review; completion of the structural steel erection; installation of curtain wall on the exterior of the building; placement of rooftop equipment and the emergency generator; starting installation of mechanical, electrical, and plumbing systems within the Court Building; and completion of the Parking Structure. The number of on-site workers has increased from 200 at the beginning of the evaluation period to approximately 360 workers at the end of the period. In spite of this increase in workforce the project continues to be well organized. All members of the project team have continued to work well together and have proven that they can perform successfully on some very difficult tasks. One of these tasks involved the installation of the tensioned cable supported monumental glass

<sup>1</sup> See AOC Evaluation Report, September 2012 for the first increment and for the list of abbreviations used in this report;

<sup>2</sup> The lead author of this section is Ron Sheldon P.E., a principal with TTG Engineers, the independent building expert for the project.

<sup>3</sup> Stakeholders interviewed: Freddy Rayes: day-to-day Project manager – Project Company; Chip Hastie: Project manager – Design-builder; Henry Pittner: Project manager – Architect/Engineer of Record; Zach Abrego: Lead Construction Inspector (IOR) – IBE; Roberta Lawrence: day-to-day Project manager – AOC; Clifford Ham: Principal Architect - AOC

<sup>4</sup> The question asked: "On a scale of 1-10 what is your overall rating of design and construction?" 8.9 is the mean of all the responses.



walls enclosing east & west side of the main lobby.

Completion of the Parking Structure provided very valuable lessons in process of developing that punch list and close out in accordance with the Project Agreement, from which the Court Building close out process will be derived.

The following aerial photographs beginning March 2012 through the end of August 2012 show monthly progress during the construction period evaluated in this report.

### Photographs



March 2012



June 2012



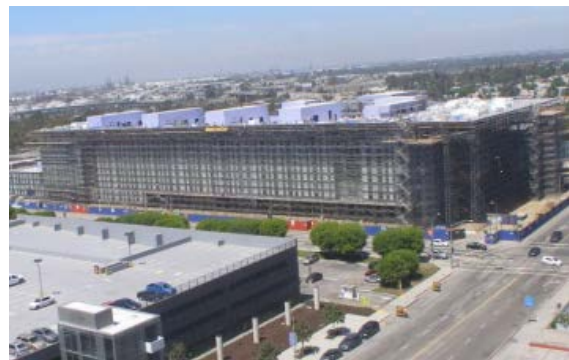
April 2012



July 2012



May 2012



August 2012



## 1.2 Evaluation Summary: Project Agreement Implementation during Construction

An evaluation summary of the Project Agreement implementation during this period is presented in the table below. The graphical ratings are derived from the interviews with the principal construction phase participants and the summary is keyed to the more detailed topic paragraphs on the following pages.

Ratings:

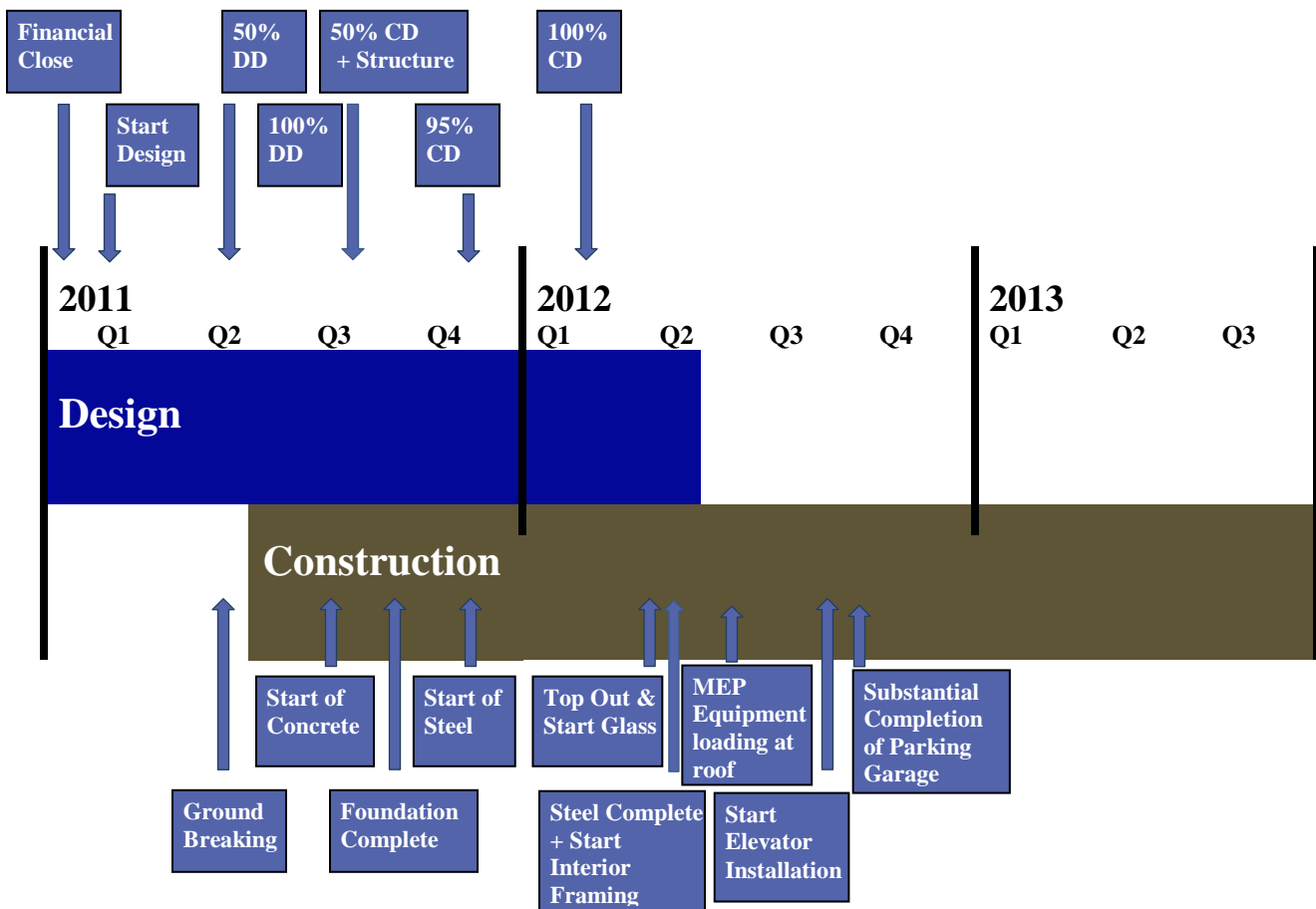
- Objectives Satisfied
- Minor Issues Encountered
- ▲ Significant Concerns

Paragraph	Title	Rating
<b>1.3</b>	<b>Summary of Design and Construction Activity</b>	
a.	Summary of Construction Schedule	○
b.	Quality of Materials and Workmanship	○
c.	Project Change Orders	○
d.	Correction of Deficiencies and Unsatisfactory Work	○
f.	Testing Results	○
<b>1.4</b>	<b>Design and Construction (Project Agreement, Article 7)</b>	
a.	Design-Build Governmental Approvals and Governmental Agencies	○
b.	Construction Inspections, Testing and Observations	○
c.	Correction of Design-Build Work	○
d.	Furniture, Fixtures and Equipment	○
e.	Warranties on Design-Build Work	○
f.	Commissioning and LEED NC Silver Certification	○
<b>1.5</b>	<b>Performance Standards</b>	
a.	Technology Systems	○
b.	Existing Parking Structure	—
<b>1.6</b>	<b>Risk Allocations</b>	
a.	County and Third party Lease Revenue	○
<b>1.7</b>	<b>Construction Phase Report</b>	
a.	Construction Meetings and Reports	—
b.	Coordination between Parties	○
c.	Quality Management	○
d.	Project Schedule	○
e.	Site Safety	○
f.	Project Company Commissioning Management	○
g.	Inspector of Record (IOR)	○
h.	Project Company Tests and Inspections	○



### 1.3 Summary of Design and Construction Activity

As of August 31, 2012 the Parking Structure overall construction is estimated to be 98 percent complete and 62 percent complete on the Court Building. The fast-track construction schedule is being monitored carefully and has been yielding outstanding results in terms of delivery as programmed. The fast-track design and construction schedule for the project is diagrammed below:



#### a. Summary of Construction Schedule

The entire team has maintained as-scheduled milestone performance throughout this evaluation period. By careful management of the construction schedule, the Design-builder is taking steps to secure milestone deliverables ahead of schedule. An example of this proactive approach is the obtaining of permanent electrical power, from the utility company, three months ahead of schedule. Project planning has dovetailed all the trades to complete tasks on time. Completion of the Parking Structure took longer than anticipated because close out procedures had to be



developed that were viable, efficient and consistent with Project Agreement terms; with this exercise lessons were learned that be valuable in the close out and completion for the Court Building.

Substantial Completion is conservatively scheduled to be achieve August 15, 2013 and Occupancy Readiness on August 31; the Design-Builder recently announced a plan to reach those milestones one month earlier.

The project construction schedule is issued officially on a monthly basis and continues to be monitored carefully by all team members through attendance at the biweekly owners' review meeting. A 30-day look-ahead schedule "snapshot" is reviewed at the meeting.

### ***b. Quality of Materials and Workmanship***

The quality of materials and workmanship continues to be carefully reviewed by the Quality Management team, Clark management staff, and the IOR team to ensure that contract requirements are being met. The court room mock-up revealed some quality issues. This was addressed quickly by Clark to provide the level of quality required. The curtain wall was well crafted and without major problems. Quality of the detention wall panels for the holding cells turned out to be very good quality. The concrete flat work at the parking garage was exceptional. The stripping and marking of the parking stalls was unacceptable quality, and rejected; Clark quickly replaced that subcontractor and subsequently acceptable quality stripping and marking were provided by the replacement subcontractor.

### ***c. Project Change Orders***

The change order process is decent, honest, but complicated because it involves issues related to the operation and maintenance of the building; as well as the construction contract. There have been very few change orders for a project of this size and cost; approximately 75 percent of those processed for approval have been owner requested. The other 25 percent is comprised of designer recommendations, updating the Performance Standards, constructability and code issues. The Project Change Order table below shows the total amounts in the first Report (dated September 2012 and covering the period to March 31). The change orders from the most recent period covered by this Report are enumerated in the list and the total of all is provided. In the April 1 to August 31 period, an additional 12 change orders were approved, bringing the total number to 33. The total value of all change orders (to August 31) is \$3,251,174 and represents 32.5% of the owner change order allowance in the Project Agreement.



***Project Change Orders Table:***

CHANGE ORDER NO.	DATE Approved	DESCRIPTION	AMOUNT	REASONS	STATUS	COMMENTS
		<b>March 31, 2012 Report #1 Subtotal</b>	<b>\$772,463</b>			
810007	4/4/12	Added Confiscation Desk at security screening, main lobby	\$55,568	2	Approved	LASD
CHANGE ORDER NO.	DATE Approved	DESCRIPTION	AMOUNT	REASONS	STATUS	COMMENTS
810032	4/4/12	Audio Visual System Infrastructure	\$528,491		Approved	AV Equipment is included in FF&E Allowance
810043c	4/4/12	Auditorium Seating in lieu of Bench Seating Courtrooms 206	\$24,752	2	Approved	LASC
810045	4/4/12	Add Jury Boxes in Courtrooms 206	\$279,802	2	Approved	LASC
810066	4/4/12	Infrastructure for Security Screening Equipment Infrastructure in main lobby	\$13,393		Approved	Security Equipment is included in FF&E Allowance
CHANGE ORDER NO.	DATE Approved	DESCRIPTION	AMOUNT	REASONS	STATUS	COMMENTS
810073	4/4/12	Consultant Report for DSA Variance: Parking Garage Interior Height-	\$2,686	5	Approved	Code Consultant request for variance to DSA request to retrofit vertical clearance within the existing structure
810069	4/17/12	Raise Handrails in Parking Garage to ADA-required height	\$105,106	5	Approved	DSA mandated retrofit of existing exit stair handrails to new code height requirements



810072	5/21/12	Raise height of Glass Guardrail on Bridges over main lobby	\$16,802	1	Approved	Life Safety enhancement
810010	7/2/12	Enhancements to interior design of Jury Assembly spaces	\$454,333	2, 3	Approved	Designers' recommendation & LASC
810077	7/2/12	Add Cabinets in Column Flanges at Clerk's public counters	\$8,981	1	Approved	Designers' recommendation
810088	7/2/12	Additional Directional Signage at Parking Garage & all fabricated to match the project-designed signs	\$37,485	1	Approved	Parking Garage operator signage
810034	7/30/12	Add News Media Feed Infrastructure and Equipment	\$767,297	2	Approved	LASC
810083	7/30/12	Revisions to UPS-Add Central UPS and Delete Racked UPS (additional panels and conduit not covered in 810014)	\$184,015	1, 3, 9	Approved	Engineering Best Practice
		<b>August 31 Subtotal</b>	<b>\$2,478,711</b>			
		<b>Total to Date</b>	<b>\$3,251,174</b>			

Legend of Reasons:

1. Owner Request
2. Superior Court Request (Court/Sheriff)
3. Designer Recommendation
4. Project Company Request for Change to Design Requirements
5. Due to Code Update/Request from Code Authorities
6. Constructability Issues
7. Field Changes Reviewed by IBE/IOR
8. Changes Due to Relief Events
9. Update/Change to Performance Standards

***d. Correction of Deficiencies and Unsatisfactory Work***

By virtue of the logs and quality management reports the number of non-compliance notices issued is well below average for a project of this type and size. During this period 150 corrective notices or deviations were issued for non-compliance with design, workmanship failures, or improper assembly. Of these only 11 items remained open at the end of the period. When there





are deficiencies, the whole team works together to correct the problem promptly to avoid schedule impact. An example is the mock-up of the seal of the State of California over the judge's bench where the wording in the seal was not legible enough to be seen throughout the court room.

#### *e. Testing Results*

Testing results have been generally excellent. All concrete is coming out within specifications. Steel welding ultra-sound testing is normal or standard from a quality management perspective. All testing results are properly documented and saved as historical project documents.

### **1.4 Design and Construction (Project Agreement, Article 7)**

#### *a. Design-Build Governmental Approvals and Governmental Agencies*

The team is working closely with all the governmental agencies to achieve timely approvals. An example is Clark and AECOM being proactive in their invitation to the CSA to walk the detention facility for early comments or issues that might be corrected early and thus not impede the schedule. This period, DSA final approval was received on both the parking garage and the new court building. Working with SCE to secure permanent power ahead of schedule has paid off in that SCE has been cooperative and the project is in line to achieve the milestone ahead of schedule as planned. The City of Long Beach had a turnover of staff which resulted in requests for more public improvements than were originally agreed upon. This was quickly handled by the Design-builder who agreed to certain expansion to the scope of the public improvement. The increased construction costs were borne entirely by the Design-Builder. As another proactive measure weekly meetings and site visits are being held with the State Fire Marshall who is also reviewing change documents and providing comments.

#### *b. Construction Inspections, Testing and Observations*

As a whole, given the fast track schedule, there is a very strong spirit of cooperation and objective focus on the processes, means and methods, and communication to stay on top of project issues. The Parking Structure roof level flood tests showed deficiencies which required repeated corrective action until all were resolved. When the required amount of tension was applied to the tension wall cables the amount of deflection passed the first time with excellent results. The EOR and IOR observation reports have been coming at a slower rate than anticipated but this has improved. The IOR is no longer holding reports with open items because these are being corrected quickly. The IOR team is doing an excellent job of coordinating with Clark, the subcontractors, and the team and the entire procedure is working successfully because of the interaction between the IOR and the Quality Management team.



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***c. Correction of Design-Build Work***

Required corrections have been addressed immediately. An example of the proactive approach to preclude costly and time consuming corrections in the future which would have impacted the schedule follows. The Quality Management team performed a complete on-site ADA survey of all areas in the building for clearances. Noted concerns were addressed immediately by the subcontractors. AECOM has provided more staff on-site to assist in the resolution of questions. Also, the RFI process helps bring prompt issue resolution.

***d. Furniture, Fixtures and Equipment***

LBJP provided excellent management of the FF&E process. There was significant progress during bidding, and costing to provide an end product that is below the FF&E allowance set in the Project Agreement. The process of selection seemed to take longer than anticipated; however, all the stakeholders participated in the process to yield the desired end result. The competitive bidding resulted in approximately 25% of the furniture purchased from one dealer/manufacturer and 75% from another which allowed the team to pick the best product, at the most advantageous pricing, for each application.

***e. Warranties on Design-Build Work***

Clark did an excellent job of assembling the file of required warranties for the parking garage and close out.

***f. Commissioning and LEED NC Silver Certification***

The Design Build team has been working diligently to achieve the required LEED silver certification. Incorporated into the project are the requirements for recycling of 75 percent of the construction waste, optimized permanent energy performance, enhanced refrigeration management, 50 percent less water use, water-efficient landscaping and the use of low emitting materials.

There is a very strong endeavor by Johnson Controls Inc., the IBE, Clark, and the commissioning agent (CT Energetic) to foster a highly effective successful commissioning process. There was a kickoff meeting held in August, attended by all team members. Drafts of pre-functional sheets, schedules, and plans were presented and discussed.

## **1.5 Performance Standards**

(Project Agreement-Appendix 3 and California Trial Court Facilities Standards)



### ***a. Technology Systems***

One of the biggest achievements that the design-builder made during this period was the finalization and incorporation into work of all of the low voltage (LV) systems. The team worked diligently to resolve all questions and issues and maintain deadlines. The LV equipment is paid for from the FF&E Allowance.

### ***b. Existing Parking Structure***

Renovation of and new construction on the existing parking structure, during continuous use by court staff and public, was safely and successfully completed with very few problems and concerns. There was a tremendous amount of work to provide a much more functional, appealing, and safe structure. The structure exceeds the standards in the new pedestrian and vehicular entrances, circulation, and landscaping. The top deck meets the performance standard of keeping the building dry and the new entrance was designed and constructed to match the character of the new court building.

## **1.6 Risk Allocations**

### ***a. County and Third Party Lease Revenue***

LBJP did an excellent job in obtaining the fully executed Los Angeles County lease in May. The leases on the retail food court are still in negotiation but resolutions are expected in the next quarter. The public improvement agreements with the City of Long Beach are handled by the design-builder without risk to the AOC.

## **1.7 Construction Phase Report**

### ***a. Construction Meetings and Reports***

Construction meetings are well coordinated and meeting minutes are issued in a timely manner. The weekly Quality Management meetings, as well as the bi-weekly Owners meetings, are used to track and resolve items. The reports include schedule overviews and updates. As a tool to better monitor progress, various other meetings were added throughout with different forums and logs. The key to the success of these meetings is participation in person. The communication required for a fast track project of this nature cannot be accomplished effectively by calls and emails.



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***b. Coordination between Parties***

Coordination is well integrated among all team members. The follow-through from design into construction with the same team members has assisted in building a strong team that works well together. Dissemination of information to the AOC has been excellent and meeting minutes are issued in a timely manner. No tension has been observed on-site between the subcontractors and the general contractor.

***c. Quality Management***

Previous concerns about the Quality Management team field participation have been addressed and Quality Management is more efficient. DI is keeping a log of all pre-inspection observations which has been valuable in correcting items before inspection. Clark field managers are making a diligent effort to ensure that items are truly ready for inspection prior to the IOR review of the item in the field. Pre-construction meetings help to set the requirement for submittals by the subcontractors to ensure timely approval before construction.

***d. Project Schedule***

The overall completion schedule is on track and includes initiating building systems commissioning 3 to 4 months before the occupancy readiness milestone in September 2013.

***e. Site Safety***

There have been 718,000 construction person hours since the start of the project to August 31. The national average for recordable incidence rates is 3.5. The project stands at 1.2 which is excellent. Having on-site medical assistance has been valuable in treating minor issues so that they do not worsen into major ones, and thus maintaining a safe workplace.

***f. Project Company Commissioning Management***

The project commissioning agent has done an effective job of preparing the commissioning plan and holding team meetings to cover procedures and schedules for commissioning. The commissioning process is well under way and on schedule and includes IBE checks and balances for commissioning oversight.

***g. Inspector of Record (IOR)***

The day to day team effort coordinated by the IOR has been with DI, the design-builder, and the Fire Marshall. The IOR is doing a great job considering the amount of work to be done. There has been a close collaboration between the IOR and State Fire Marshall in order to follow up on



issues and comments and ensure that the SFM closes them out. The IOR has provided adequate support; however, as the construction effort increases it is anticipated that additional support from the IBE design reviewers will be needed on a regular basis as was originally programmed by the IBE.

***h. Project Company Tests and Inspections***

There has been a concentrated effort by all parties to pre-inspect field conditions and completed work to ensure that all items are ready for their scheduled inspection and are approved the first time. This is an example of adjustments made from lessons learned from the previous 12 months. Designer of Record site visits must also increase as the volume of construction increases.