



AGENDA REPORT

Meeting Date: November 5, 2008
Item Number: F-7
To: Honorable Mayor & City Council
From: Allen Rubenstein, Project Manager *AR*
Subject: APPROVAL OF CHANGE ORDER NO. 1 TO THE CONTRACT WITH BAYLEY CONSTRUCTION, A GENERAL PARTNERSHIP, FOR THE CONSTRUCTION OF THE 331 FOOTHILL ROAD OFFICE BUILDING; AUTHORIZE THE CITY MANAGER TO SIGN CHANGE ORDER NO. 1; AND
APPROVE A CHANGE PURCHASE ORDER IN THE AMOUNT OF \$376,271 TO BAYLEY CONSTRUCTION, A GENERAL PARTNERSHIP FOR THIS WORK

Attachments: 1. Change Order No. 1

RECOMMENDATION

Staff recommends that the City Council move to approve Change Order No. 1 to the contract with Bayley Construction, a General partnership, (Agreement No. 336-08); and approve a change purchase order in the amount of \$376,271, including a contingency of \$44,000. The total contract amount will increase to \$20,883,271. This change order will provide a design-build photovoltaic solar glass silicon and thin film panel system for the generation of electrical power, including the engineering services, fabrication, and installation on the roof of the 331 Foothill Road Office Building.

INTRODUCTION

On August 5, 2008, the City Council awarded a contract to Bayley Construction to build the 331 Foothill Road Office Building. Although the building was designed prior to the new City Green Building Ordinance, it anticipated the desire for solar panels. The bid included a design-build solar panel alternative, which pursuant to staff's recommendation, was not accepted by the Council at that time in order to allow staff to evaluate the submission as well as other alternatives. This report discusses the staff's analysis and recommendation.

It should be noted that staff is concurrently preparing a much broader review of sustainable energy alternatives for presentation in a white paper in January.

DISCUSSION

Current Solar Technology

The current energy crisis has significantly renewed interest in utilizing the sun to generate electricity and many new approaches are on the horizon. However, currently there are two main types of solar systems that are commercially proven and available. These are silicon glass panels and integrated thin film technology.

Silicon glass panels have a track record of more than two decades. They generally require direct sunlight to operate efficiently, so that they are generally installed in unshaded areas on racks sharply tilted toward the south or west. These racks have to be attached to the roof structure because of wind uplift.

Integrated thin film panels are made of flexible, rubber-like composite materials that are directly adhered to a compatible roofing material. They are light weight and are walkable. Thin film panels have the advantage of being sensitive to a wider range of the sunlight spectrum than glass modules, but are half as efficient so they need approximately twice the area to generate the same power.

The net result is that, the installed cost of both technologies is approximately the same today for the same amount of electrical energy generated.

Systems Studied for 331 Foothill Road Office Building

The roof of this building is on two levels and is covered by a significant amount of air conditioning equipment and duct work. It is also shaded by parapets and screens that are code required for safety and aesthetic reasons.

Three solar panel systems were studied for feasibility, including an all silicon glass panel design, an all thin film design, and a system that combines both. These studies took into account the building orientation, the varied roof heights, the complexity of the rooftop equipment and conditions, future maintenance, the methods of installation, walk areas, technical issues, and the resulting available sunlit and shaded areas.

The minimum power generation that was considered acceptable was 28,850 kwh (AC), which represent the 2.5% of the building energy cost. This is both the LEED and the City's Green Ordinance threshold.

An analysis showed that the all thin film design could not generate enough power to meet the required power level. The all glass panel could meet the requirements, but the cost of the installation and other technical requirements made it the second choice.

The recommended alternative is the combination system that contains both panel types. This design provides tilted silicon on racks where direct west/south sunlight is available and thin film modules on the upper roof where the parapet is not high enough to shield the panels.

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The estimated electrical generation of the combined system is 34,390 kwh (AC), or approximately 3.0% of the energy cost. This is the highest electrical generation of the alternatives studied. The 331 Foothill Road Office Building will be the first City building with photovoltaic panels for electrical power generation, if approved by the City Council.

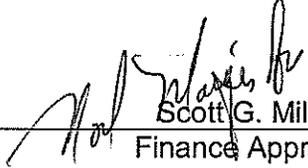
FISCAL IMPACT

The proposed solar panel system will cost \$332,271. As a comparison, the contractor's price for the solar alternative that was initially submitted with their bid was \$486,000.

A contingency of \$44,000 is recommended for unanticipated conditions.

The cost of this work is part of the FY 08-09 Capital Improvement Program (CIP) budget approved by the City Council for the 331 Foothill Road Office Building Project #0888.

Change Order No. 1 and the recommended contingency will increase the existing Purchase Order of \$21,907,000 to \$22,283,271.



Scott G. Miller
Finance Approval



David D. Gustavson
Approved By



CITY OF BEVERLY HILLS
PROJECT ADMINISTRATION
PUBLIC WORKS & TRANSPORTATION

CHANGE ORDER NO. 1

PROJECT: 331 FOOTHILL ROAD OFFICE BUILDING

TO: BAYLEY CONSTRUCTION 3730 S. Susan St., Ste 200 Santa Ana, CA 92704-3456 ATTN: Fred Garrett, Project Manager	DATE:	5-Nov-08
	RFI # or COR #	
	CONTRACT #	418-07
	INITIATED BY:	CBH

CONTRACT DOCUMENTS DATED 08/21/2008 SHALL BE CHANGED AS FOLLOWS:

1) Provide and install a complete design-build solar thin film and glass silicon roof top panel system for the generation of electrical power that will provide approximately 34,390 kwh (AC).	\$332,271
TOTAL CHANGE ORDER NO. 1	\$332,271

Payment for this change shall full compensate the contractor for all costs related in any way to this work and its effect on other work already contracted, and this change in time shall be the total for this work and any work already contracted.

CONTRACT START DATE	2-Sep-08	ORIGINAL CONTRACT AMOUNT	\$20,551,000
ORIGINAL COMPLETION DATE	6-Mar-10	PREVIOUS CHANGE ORDERS	\$0
PREVIOUS TIME CHANGES	0	CURRENT CONTRACT AMOUNT	\$20,551,000
CURRENT COMPLETION DATE	6-Mar-10	THIS CHANGE ORDER	\$332,271
THIS TIME CHANGE	0	NEW CONTRACT AMOUNT	\$20,883,271
NEW COMPLETION DATE	6-Mar-10		

Time is in calendar days

APPROVED BY CONTRACTOR:

APPROVED BY ARCHITECT:

Dan Bates, Project Manager, Bayley Construction

Tom Zahlten, Partner, Steven Ehrlich Architects
or Jacqueline Law, Designer

RECOMMENDED BY PROJECT MANAGER:

Allen M. Rubenstein, Project Manager

APPROVED BY CITY:

David D. Gustavson, Director PW&T Date

Alan Schneider, Director Proj. Admin. Date