



# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** February 5, 2008

**TO:** Mayor and Councilmembers

**FROM:** Facilities Division, Waterfront Department

**SUBJECT:** Contract With R&M Technologies To Design And Install A Solar Thermal Unit At The Marina One East Restroom

**RECOMMENDATION:** That Council:

- A. Authorize the Waterfront Director to execute a contract with R&M Technologies in the amount of \$23,645 to design and install a solar thermal unit at the Marina One east restroom; and
- B. Authorize the Waterfront Director to approve expenditures up to \$2,365 for extra services that may result from necessary changes in the scope of work.

### DISCUSSION:

The Marina One east restroom is equipped with an electric water heater that provides hot water for six showers and sinks. An electric submeter was installed in June 2007 to determine how much electricity the water heater consumes. The electrical consumption is greater than previously assumed—the heater uses approximately 7% of all electricity in Marina One (including its 592 vessels). Solar thermal units that augment electrical water heaters are considered one of the most cost effective sources of renewable energy.

### Project Description

The project involves the installation of three 4' x 10' panels on the south facing roof that will provide hot water through an open loop system plumbed to a 175 gallon tank attached to the existing water heater. Depending on climatic conditions such as cloud cover or fog, the solar thermal unit can heat the water up to 160° F. The existing electric water heater will only use electricity when consumption exceeds the capacity of the tanks or when climatic conditions do not allow the solar panels to heat the water sufficiently. The solar thermal unit is expected to offset the water heater's electrical use by at least 50%.

REVIEWED BY: \_\_\_\_\_ Finance \_\_\_\_\_ Attorney

Agenda Item No. \_\_\_\_\_

### Contractor Services

Staff recommends that Council authorize the Waterfront Director to execute a contract with R&M Technologies in the amount of \$23,645 for the design and installation of a solar thermal unit on the Marina One east restroom. Staff recommends that Council authorize change order authority of \$2,365, or 10%, for unforeseen changes in the scope of work. A Request for Proposal was submitted to eight reputable solar companies and two proposals were received. R&M Technologies is a local firm that specializes in the design and installation of solar projects.

### ESTIMATED TOTAL PROJECT COST

Design and Installation of Solar Thermal Unit (Consultant Contract)	\$23,645.00
Change Order Allowance	\$2,365.00
<b>TOTAL</b>	<b>\$26,010.00</b>

*\*Note: values shown in italics are an estimate pending actual project costs*

There are sufficient funds in the Facilities Maintenance Operating budget to cover these costs.

### SUSTAINABILITY IMPACT

Electrical use in Marina One is the highest in the Waterfront at approximately 950,000 kW hours annually. The Marina One east restroom water heater is projected to use more than 60,000 kW hours of electricity annually. The solar thermal unit for this facility is expected to offset at least 50% of the existing water heater's electrical use. This reduction is the equivalent of reducing carbon emissions by 10.9 metric tons annually. Waterfront staff will evaluate this solar thermal installation and consider possible applications for the other marina restrooms in the harbor.

**ATTACHMENT:** Marina One Vicinity Map

**PREPARED BY:** Karl Treiberg, Waterfront Facilities Manager

**SUBMITTED BY:** John Bridley, Waterfront Director

**APPROVED BY:** City Administrator's Office

