

**MEMORANDUM
DEPARTMENT OF FACILITY SERVICES
COUNTY OF PLACER**

To: **BOARD OF SUPERVISORS**

Date: **MAY 22, 2007**

From: *MP*
JAMES DURFEE / MARY DIETRICH

Subject: **THERMAL ENERGY STORAGE ICE TANKS FOR THE FINANCE
ADMINISTRATION BUILDING, PROJECT NO. 4802**

ACTION REQUESTED / RECOMMENDATION: It is recommended that your Board take the following actions associated with the installation of thermal energy storage ice tanks for the Finance Administration Building (FAB), located at the Placer County Government Center in north Auburn:

1. Approve Plans and Specifications and authorize staff to solicit bids for the Thermal Energy Storage Ice Tanks for the Finance Administration Building, Project No. 4802.
2. Approve a Resolution authorizing the Director of Facility Services to execute the resulting construction contract in an amount not-to-exceed \$350,000, upon review and approval by County Counsel and Risk Management, and providing authority to approve any required change orders consistent with the County Purchasing Manual and Section 20142 of the Public Contract Code.
3. Approve the attached Budget Revision cancelling \$400,000 from Infrastructure Reserves and increasing appropriations to the project account in the Capital Projects Fund.

BACKGROUND: The FAB was designed to provide energy efficient cooling by means of a Thermal Energy Storage (TES) system. This system builds ice in two TES tanks overnight, during off-peak utility hours. During daytime peak utility hours, the system uses the ice to chill water and condition the building. This minimizes the need to utilize costly mechanical cooling with the conventional system chiller during high cost peak utility hours and takes advantage of the time of use electrical service and lower utility rates of off-peak hours.

In February 2004, one of the two TES tanks experienced a failure and the second tank was observed to be deformed. The failure and deformation was determined to be the result of "over building" ice in the initial months of operation. This condition was corrected and redundant controls were installed to protect the system. That tank was repaired in spring 2004; however it failed again in the summer of 2006. Based on the research and engineering consultation provided by Capital Engineering, it appears that the second failure was a result of stress placed on the cooling coils inside the ice tanks, caused by the initial over building of ice in 2004. In order to avoid continuing repairs on the existing tanks, staff is recommending the replacement of both TES tanks with new Baltimore Air Coil TES tanks. This work will be performed over an extended weekend to minimize operational impacts to the occupant departments of the FAB. Combined with the redundant controls that have been put in place, the new TES tanks are expected to perform without failure.

In order to proceed, staff recommends that your Board authorize staff to solicit bids and authorize the Director of Facility Services to execute the resulting construction contract. The estimate of probable construction cost is \$350,000, including contingencies.

Board of Supervisors
Thermal Energy Storage Ice Tanks for the Finance Administration Building,
Project No. 4802
May 22, 2007
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ENVIRONMENTAL IMPACT: This project is categorically exempt from review pursuant to Section 15301 of the California Environmental Quality Act that provides for the alteration of public structures when no expansion of use beyond that previously existing will occupy.

FISCAL IMPACT: The estimate of probable construction cost, including contingencies is \$350,000. Construction costs, plus project design and management expenses estimated to be \$50,000, result in a total estimated project cost of \$400,000. The attached Budget Revision cancels \$400,000 in Infrastructure Reserves and increases appropriations to the Capital Projects Fund to fund this project.

JD/MD:RU

ATTACHMENT: RESOLUTION
BUDGET REVISION

cc: COUNTY EXECUTIVE OFFICE
PROCUREMENT SERVICES

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Before the Board of Supervisors County of Placer, State of California

In the matter of: A RESOLUTION APPROVING
PLANS AND SPECIFICATIONS; AUTHORIZING
THE DEPARTMENT OF FACILITY SERVICES TO
SOLICIT CONSTRUCTION BIDS FOR THE THERMAL ENERGY
STORAGE ICE TANKS FOR THE FINANCE ADMINISTRATION
BUILDING, PROJECT NO. 4802; AND DELEGATING AUTHORITY
TO THE DIRECTOR OF FACILITY SERVICES TO TAKE VARIOUS
ACTIONS ASSOCIATED WITH SAID PROJECT.

Resolution _____

The following RESOLUTION was duly passed by the Board of Supervisors of the
County of Placer at a regular meeting held _____, by the following vote on roll call:

Ayes:

Noes:

Absent:

Signed and approved by me after its passage.

Chairman
Placer County Board of Supervisors

Attest:

Clerk of said Board

BE IT HEREBY RESOLVED by the Board of Supervisors of the County of Placer, State of California, that this Board approves the project plans and specifications and authorizes the Facility Services Department to solicit construction bids for the Thermal Energy Storage Ice Tanks for the Finance Administration Building, Project No. 4802; and

BE IT FURTHER RESOLVED, by the Board to authorize the Director of Facility Services to award and execute the construction contract in an amount not-to-exceed \$350,000 upon review and approval of County Counsel, and granting the authority to execute required change orders consistent with the County Purchasing Manual and Section 20142 of the Public Contract Code.

PLACER COUNTY

Fund = 140 GL = 2420 SubGL=546000

BUDGET REVISION

PAS DOCUMENT NO. _____

POST DATE:

| | | | |
|----------|----------|-----------------|-------------|
| DEPT NO. | DOC TYPE | Total \$ Amount | TOTAL LINES |
| 12 BR | | 800,000.00 | 2 |

Cash Transfer Required
 Reserve Cancellation Required
 Establish Reserve Required

Auditor-Controller
 County Executive
 Board of Supervisors

| ESTIMATED REVENUE ADJUSTMENT | | | | | | | | | | APPROPRIATION ADJUSTMENT | | | | | | | | | | | |
|------------------------------|-----|-----|------|----------|--------|-------|-------|--------|-----------|--------------------------|----------|-----|-----|------|----------|--------|-------|-------|--------|-----------|------------|
| DEPT NO. | T/C | Rev | Fund | Sub Fund | OCA | PCA | OBJ 3 | PROJ. | PROJ. DTL | AMOUNT | DEPT NO. | T/C | Rev | Fund | Sub Fund | OCA | PCA | OBJ 3 | PROJ. | PROJ. DTL | AMOUNT |
| 12 | 034 | | 140 | | 107810 | 04802 | 4151 | 704802 | 010000 | 400,000.00 | 12 | 034 | | 140 | | 107810 | 04802 | 4151 | 704802 | 010000 | 400,000.00 |
| 12 | 014 | | 140 | | 107810 | 04802 | 4151 | | | 400,000.00 | 12 | 014 | | 140 | | 107810 | 04802 | 4151 | | | 400,000.00 |
| | | | | | | | | | | TOTAL | | | | | | | | | | | |
| | | | | | | | | | | 800,000.00 | | | | | | | | | | | |

REASON FOR REVISION: Cancel reserves within the Capital Projects Fund for the FAB Thermal Energy Storage Ice Tanks project.

Prepared by Valerie Bayne Ext 6803

Date: 3/13/07
Page: _____
Budget Revision # _____ FOR INDIVIDUAL DEPT USE

Department Head _____
Board of Supervisors _____

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