



**Metro**

**31**

**OPERATIONS COMMITTEE  
OCTOBER 19, 2006**

**SUBJECT: DIVISION 18 SOLAR GENERATION PROJECT**

**ACTION: APPROVE LIFE OF PROJECT BUDGET AND AMEND THE FY07 BUDGET**

**RECOMMENDATION**

Authorize the Chief Executive Officer to:

- A. Establish a life-of-project (LOP) budget for the Division 18 Solar Generation Project in the amount of \$5,000,000.
- B. Amend the FY07 budget to add in \$1,820,000 of revenues and expenditures to be funded with rebate funds received from the Division 8 and 15 solar generation project.

**RATIONALE**

In May 2005, Metro completed the Division 8 and 15 Solar Generation project, which entailed the installation of 1,646 solar panels (426 kilowatts) on the roofs of two bus divisions in the San Fernando Valley. The solar panel project was funded by Metro. However, at the completion of the project Metro received rebates from the Gas Company for \$1.46 million and Los Angeles Department of Water and Power (LADWP) for \$357,000 (total rebate of \$1.817 million). Metro's total cost for the project, after rebates, was only \$1.48 million, or approximately 45% of the \$3,297,000 total project cost. Monthly monitoring of the systems confirms that Metro is saving approximately \$160,000 per year in electrical costs, and will likely achieve a return on our investment in approximately eight years. This project was a tremendous success, not only because of the significant cost savings and actual performance results, but because projects such as these are a responsible way to reduce strain on the electrical grid and promote energy efficiency and sustainable business concepts at Metro.

Based on the success of the Division 8 and 15 Solar Generation Project and positive input from Board Members concerning the expansion of Metro's solar and energy efficiency programs, staff studied all the other Metro bus division locations to determine the most feasible site for a new solar panel installation project. The goal would be to re-invest the \$1.82 million in rebates derived from the Division 8 & 15 project into a new solar project at the next most feasible division. Based on the fact that Southern California Edison (SCE) currently pays a higher rate per kilowatt than other utilities, Metro staff decided that the new solar project should be located within SCE territory. Therefore, due to the location of the site

in SCE territory, general sun and shading characteristics, roof top conditions and available space, Division 18 in Carson, California has been chosen as the most feasible next project.

The California Public Utilities Commission rebate program, administered through the Gas Company, was reopened for rebate applications in February 2006 and Metro immediately submitted an application for the Division 18 project. A rebate of \$1,167,600 was approved by the Gas Company on July 28, 2006.

As presently conceived, the Division 18 Solar Generation Project will consist of a 417 kilowatt system with roughly 1,600 individual solar panels. The panels will be installed on the roof of the maintenance building, and also as shading structures in the employee parking lot. The size of the project at Division 18 will be roughly the same size as the Division 8 & 15 project completed in 2005. However, the equipment and construction costs are higher due to a rise in the cost of photovoltaic panels and the necessity to construct shade structures for the employee parking lots. These additional costs will be offset by the higher SCE rates per kilowatt generated, and staff estimates that the solar panel system will generate enough green renewable electricity to save Metro approximately \$25,000 per month, or \$300,000 per year, on electricity bills. A layout of the system is included as Attachment A.

The LOP budget for this project is estimated to be \$5,000,000, including all costs for labor, equipment, installation, and contingencies. After the rebate is received at the end of the project, Metro's out-of-pocket costs would be approximately \$3,832,400. Assuming the savings of \$300,000 per year and rate increases over the next 15 years, staff estimates that the return on our investment for this solar panel system will be approximately 10 to 11 years.

If this project is approved by the Board, staff will begin solicitation for a design/build contractor in November 2006. The project would commence in approximately April 2007 with a forecasted completion date of September 2007.

### **FINANCIAL IMPACT**

Upon approval by the Board, funding required for FY07 activities will be added to the FY07 budget. The source of funds for FY07 will be the rebates received from the previously funded Division 8 & 15 solar projects. The source of funds for FY08 will be from the FY08 Bus Facilities capital program (generally local TDA4 funds). Since this is a multi-year project, the Project Manager will be responsible for budgeting the costs in future years.

The total life-of-project budget is estimated to be \$5,000,000 including design and construction costs, labor and contingency. The detailed life-of-project budget is included as Attachment B. At the end of the project, Metro will receive an additional rebate in the amount of \$1,167,600 which can be applied to other Metro projects as required.

### **ALTERNATIVES CONSIDERED**

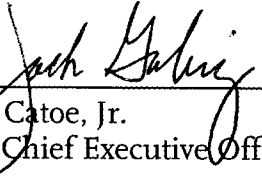
The Board of Directors may choose not to authorize the project at this time. This alternative is not recommended, since rejection of the project will force staff to cancel the rebates from

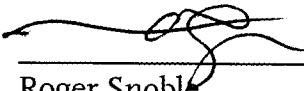
the Gas Company and re-apply the next time the program re-opens. Per the Gas Company, when the program is next reopened, the rebate per kilowatt will likely be reduced and the rebate values could be significantly lower. Further, staff believes that sustainable projects such as these are a responsible way of doing business, since Metro is able to reduce our dependency and strain on the electrical grid, while also leveraging capital funding to lower our overall operating costs.

### **ATTACHMENTS**

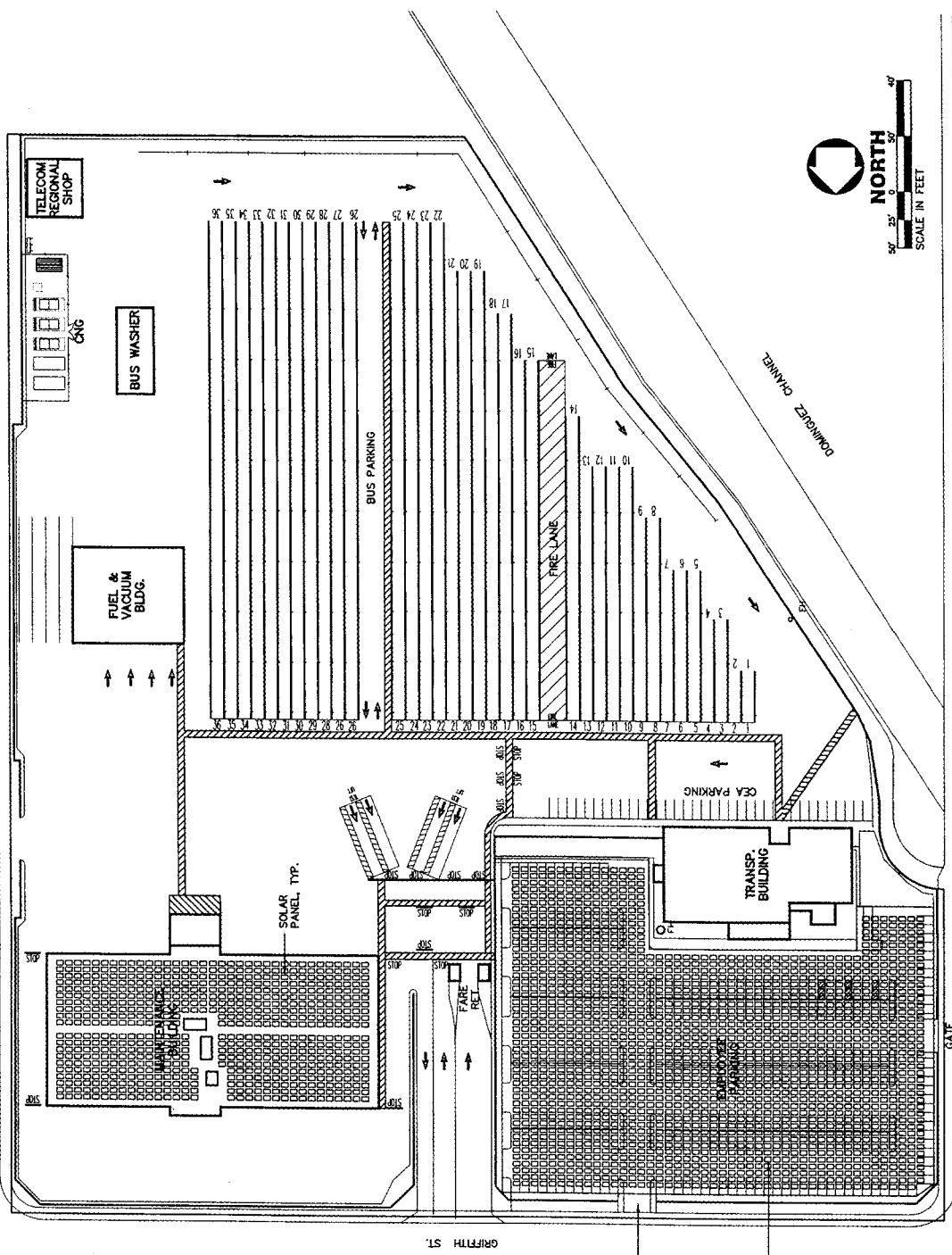
- A. Division 18 Solar Generation Project: Life of Project Budget Status
- B. Funding and Expenditure Plan

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*for*   
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John B. Catoe, Jr.  
Deputy Chief Executive Officer

  
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Roger Snoble  
Chief Executive Officer

BROADWAY AVE.



**SITE PLAN**  
SCALE

FIGUEROA ST.

GATE

NOTE: IF DIM. IS NOT 22'x34', IT IS NOT FULL SIZE.

PROJECT NUMBER 15-507-E1	DIVISION 16 SOLAR GENERATION SYSTEM	DATE	NO SCALE	DATE	NO SCALE
DWG. NO. E-1	SITE PLAN	DATE		DATE	
LOS ANGELES COUNTY METRO FACILITIES - OPERATIONS, ENGINEERING DIVISION		DATE		DATE	
DESIGNED BY	CHECKED BY	DATE		DATE	
DRAWN BY	APPROVED BY	DATE		DATE	
SCALE					

**ATTACHMENT B**

**DIVISION 18 SOLAR  
GENERATION  
PROJECT: FUNDING  
AND EXPENDITURE  
PLAN**

	LOP Budget
<b>Uses of Funds</b>	
Project Administration	\$ 175,000
Design/Specifications	\$ 150,000
Construction & Equipment	\$ 4,250,000
Contingency (10% of Hard Costs)	\$ 425,000
<b>Total Project Cost</b>	<b>\$ 5,000,000</b>
<b>Sources of Funds</b>	
Rebates from Div. 8 &15	\$ 1,820,000
FY08 Bus Facilities Capital (TDA4)	\$ 3,180,000
<b>Total Project Funding</b>	<b>\$ 5,000,000</b>