



APPROVED  
BY THE CITY COUNCIL

MAY 27 1997

OFFICE OF THE  
CITY CLERK

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DEPARTMENT OF  
PUBLIC WORKS

ARCHITECTURE &  
ENGINEERING DIVISION

FACILITY DEVELOPMENT

CITY OF SACRAMENTO  
CALIFORNIA

May 7, 1997

City Council  
Sacramento, California

Honorable Members In Session:

**SUBJECT:** TRAFFIC SIGNAL LED RETROFIT PROJECT (PN:SK36) - EXECUTION OF  
REBATE AGREEMENT WITH SMUD, FINANCING APPROVAL, AND  
REPROGRAMMING OF FUNDS

**LOCATION AND COUNCIL DISTRICT:** City wide.

**RECOMMENDATION:**

This report recommends that City Council adopt the resolution which:

- Authorizes the City Manager to execute a rebate agreement with SMUD for a total estimated amount of \$42,150 provided the project is completed by December 31, 1997;
- Authorizes the City Treasurer to seek financing for this project;
- Authorizes the City Finance Department to reprogram funds from the Traffic Signal and Street Lighting Maintenance Section based on energy and maintenance savings to repay project financing.

**CONTACT PERSON:** Paul Barnes, Assistant Electrical Engineer, 264-5897

**FOR COUNCIL MEETING OF:** May 27, 1997

**SUMMARY:**

This project will replace existing incandescent lights with LEDs (light emitting diode) for all red indications including pedestrian heads at 110 traffic signals throughout the City. See Exhibit 1 for a list of these locations. 74 traffic signals were retrofitted with LEDs in an earlier project completed in December of 1996. At this point in time, only the red LEDs are cost effective because low cost technology has not been developed for the

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green and orange LEDs. These retrofits will provide an annual energy savings of approximately \$50,000 to the City and will reduce maintenance costs. These savings should result in a pay back period of 4.5 years for the City to recover the costs of this project.

**BACKGROUND INFORMATION:**

A red LED signal indication uses approximately 15 watts of power whereas an incandescent bulb uses 150 watts of power. Therefore, by changing out the incandescent bulbs to LEDs, a saving of 135 watts can be realized per signal head. In addition, the incandescent bulbs are changed out every 2 years whereas the LEDs have an expected life span of 10 years which results in reduced maintenance costs. The benefits of the project are described as follows:

- Save \$50,000 per year in energy savings.
- Save \$4,200 per year in avoided maintenance costs.
- Save \$6,350 per year in material and labor costs.

SMUD has committed to give the City an estimated rebate amount of \$42,150 provided the work is completed by December 31, 1997. City staff will purchase the LEDs and have a Contractor perform the installation.

**FINANCIAL CONSIDERATIONS:**

Costs for this project are summarized below:

Installation Costs	\$ 33,500
Material Costs	\$237,620
Staff Time	\$ 12,500
Contingencies	\$ 5,000
Left Over Funds/	<u>\$ (79,000)</u>
1996 SMUD Rebate	
Total project cost:	\$209,620

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The City Treasurer's office will seek municipal lease financing, in an amount of \$210,000, for this project with a repayment term of 5 years. The lease will be placed into fund 101 (general fund) to pay for project costs. Financing will be paid back from the energy and maintenance savings realized in the utility budget (101-310-3196-4221) of the Traffic Signal and Street Lighting Maintenance Section. After financing is repaid, the City will benefit entirely from the continued energy and maintenance savings.

#### Utility Rebate

If the project is completed by December 31, 1997, SMUD has agreed to give the City an estimated rebate of \$42,150 per a rebate agreement, see attachment. This rebate agreement commits the City to utilize SMUD power for the next 10 years for the 110 traffic signals that are being retrofitted with LEDs. A buy-out feature is addressed in the rebate agreement if the City were to choose a different energy supplier within the next 10 years. The City anticipates completing the project before December 31, 1997.

#### **ENVIRONMENTAL CONSIDERATIONS:**

The Planning Services Division, Environmental Section, has determined that this project is exempt from CEQA per State Class 1 and 2 and Section Number 15301(c) and 15303(c).

A notice of categorical exemption was filed for this project on April 4, 1997.

#### **POLICY CONSIDERATIONS:**

The action requested herein is consistent with Sacramento City Code, Title 58.

#### **MBE/WBE EFFORTS:**

Appropriate goals will be adhered to for all project phases including purchasing, bidding, and obtaining financing for this project.

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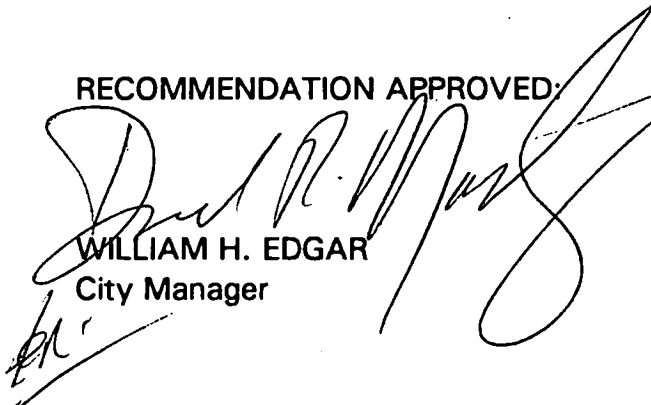
Respectfully submitted,




Duane J. Wray  
Architecture and Engineering Manager

RECOMMENDATION APPROVED:

Approved;



WILLIAM H. EDGAR  
City Manager



Michael Kashiwagi  
Director of Public Works

# EXHIBIT 1

## LIST OF LOCATIONS FOR TRAFFIC SIGNAL LED RETROFITS:

### INTERSECTION

FRANKLIN & BROOKFIELD  
FRANKLIN & ARMADALE  
FRANKLIN & CONSUMNES RIVER  
FRANKLIN & CALVINE  
FRANKLIN & EHRHARDT  
FRANKLIN & VALLEY HI  
FRANKLIN & 12TH AVE/SUTTERVILLE  
FRANKLIN & 38TH  
FRANKLIN & 26TH  
CONSUMNES RIVER & BRUCEVILLE  
CENTER PKWY & EHRHARDT  
CENTER PKWY & CALVINE  
CENTER PKWY & LAGUNA VILLAGE  
VALLEY HI & MEADOWPARK  
VALLEY HI & BRUCEVILLE  
MACK RD & VALLEY HI  
ALTA VALLEY & BRUCEVILLE  
MEADOWVIEW & DETROIT  
MEADOWVIEW & TAMOSHANTER  
MEADOWVIEW & 21ST STREET  
MEADOWVIEW & AMHERST  
MEADOWVIEW & ALMA VISTA  
MEADOWVIEW & 24TH  
POCKET ROAD & ALMA VISTA  
24TH & 68TH/GARDENDALE  
JIBBOOM & I STREET BRIDGE  
RICHARD BLVD & NORTH 3RD ST  
RICHARD BLVD & NORTH 5TH ST  
RICHARD BLVD & SEQUOIA PACIFIC  
RICHARD BLVD & NORTH 7TH ST  
RICHARD BLVD & DOS RIOS  
FLORIN & LUTHER  
FLORIN & BURBANK SCHOOL  
FLORIN & 24TH  
FLORIN & TAMOSHANTER  
FLORIN & 21ST  
FLORIN & AMHERST  
FLORIN & SOUTH LAND PARK  
FLORIN & GREENHAVEN

FLORIN & HAVENSIDE  
FLORIN & GLORIA  
FLORIN & RIVERSIDE  
RIVERSIDE & HAVENSIDE  
RIVERSIDE & GREENHAVEN  
FLORIN PERKINS & BELVEDRE  
POWER INN & BERRY  
POWER INN & CUCAMONGA  
POWER INN & LEMON HILL  
STOCKTON & BROADWAY  
STOCKTON & X  
STOCKTON & LAWRENCE  
STOCKTON & LEMON HILL  
FOLSOM & HORNET  
COLLEGETOWN & HORNET  
GARDEN HWY & TRUXEL  
GARDEN HWY & NORTHGATE  
WEST EL CAMINO & AZEVEDO  
NORTHGATE & HAGGIN  
NORTHGATE & POTOMAC  
NORTHGATE & ROSIN CT  
NORWOOD & LAS PALMAS  
NORWOOD & HARRIS  
NORWOOD & SILVER EAGLE  
NORWOOD & GRAND  
NORWOOD & ELEANOR  
RIO LINDA & ELEANOR  
RIO LINDA & GRAND  
RIO LINDA & EL CAMINO  
MARYSVILLE & ARCADE  
MARYSVILLE & LOS ROBLES  
MARYSVILLE & HAGGINWOOD SCHOOL  
MARYSVILLE & DEL PASO  
DEL PASO & ARCADE/MARCONI  
MARCONI & KENWOOD  
MARCONI CIRCLE & ROSEVILLE RD  
MARCONI CIRCLE & AUBURN BLVD  
ROSEVILLE RD & LRT PARKING LOT  
EL CAMINO & VAN NESS  
EL CAMINO & EVERGREEN  
EL CAMINO & LEXINGTON  
EL CAMINO & BIKE TRAIL  
DEL PASO & ELEANOR  
DEL PASO & EL CAMINO  
DEL PASO & EVERGREEN  
DEL PASO & FAIRFIELD  
DEL PASO & OXFORD

DEL PASO & ARDEN  
DEL PASO & BAXTER  
ARDEN & ALTA ARDEN  
ARDEN & OXFORD  
ARDEN & CHALLENGE  
ARDEN & EXPOSITION  
EXPOSITION & HERITAGE  
EXPOSITION & TRIBUTE  
EXPOSITION & MOBE  
FAIROAKS & HOWE  
FAIROAKS & CADILLAC  
AMERICAN & UNIVERSITY/MUNROE  
LA RIVIERA & GLENBROOK  
LA RIVIERA & OCCIDENTAL  
65TH & BROADWAY  
65TH & 14TH AVE  
49TH & BROADWAY  
50TH & BROADWAY  
56TH & BROADWAY  
65TH & LEMON HILL  
65TH & McMAHON  
24TH ST & 50TH AVE  
24TH ST & 57TH AVE

**TRAFFIC SIGNAL LED RETROFIT PROJECT - PHASE II**

PROJECT#:	SK36
FY Initiated:	96/97

Location  
City Wide

Council District:  
 Citywide  
  1  
  2  
  3  
  4  
  5  
  6  
  7  
  8

Neighborhood Area:  
 Citywide  
  NA1  
  NA2  
  NA3  
  NA4

Planning Area:  
 N / A  
  Citywide  
  PA1  
  PA2  
  PA3  
  PA4  
  PA5  
  PA6  
  PA7  
  PA8  
  PA9  
  PA10  
  PA11

**Project Description**

This project proposes to replace existing incandescent lights with LEDs (Light Emitting Diode) for all red indications including pedestrian heads at 110 existing traffic signals located throughout the City.

**Project Objectives**

This project will provide an annual savings of approximately \$60,000 to the City in reduced energy, maintenance, and material costs.

**Existing Situation**

Existing traffic signals.

**Operating Budget Impact**

N/A

Amended	Fund Source	Budget through 6/96	Estimated Balance 6/96	Five Year Funding				
				1996-97	1997-98	1998-99	1999-00	2000-01
5/8/97	City obtained lease	288,000	50,000	0	0	0	0	
	<b>TOTAL</b>	288,000	50,000	0	0	0	0	





**APPROVED**  
BY THE CITY COUNCIL  
**MAY 27 1997**  
OFFICE OF THE  
CITY CLERK

**RESOLUTION NO. 97-256**

ADOPTED BY THE SACRAMENTO CITY COUNCIL

ON DATE OF \_\_\_\_\_

**RESOLUTION APPROVING THE EXECUTION OF THE  
SMUD REBATE AGREEMENT, FINANCING APPROVAL, AND  
REPROGRAMMING OF FUNDS (PN:SK36)**

**THE CITY COUNCIL OF THE CITY OF SACRAMENTO RESOLVES:**

1. The City Manager and City Clerk are hereby authorized and directed to execute the rebate agreement with SMUD for an estimated amount of \$42,150 provided the project is complete by December 31, 1997.
2. The City Treasurer is hereby authorized to seek financing for this project.
3. City Budget office is authorized to amend the Budget to reprogram funds from the Traffic Signal and Street Lighting Maintenance Section's budget (101-310-3196-4221) based on energy and maintenance savings to make the financing payments.

\_\_\_\_\_

MAYOR

ATTEST:

\_\_\_\_\_  
CITY CLERK

**FOR CITY CLERK USE ONLY**

RESOLUTION NO.: \_\_\_\_\_

DATE ADOPTED: \_\_\_\_\_