

**Agenda Item: ID#18-0916 (10:05 AM#1)**

**Date: 8/16/18**

# **FRESNO CITY COUNCIL**



REC'D AUG 15 '18 AM 11:40  
FRESNO CITY CLERK

## **Supplemental Information Packet**

**Agenda Related Item(s) – ID#18-0916 (10:05 AM#1)**

**Contents of Supplement: PowerPoint Presentation**

### **Item(s)**

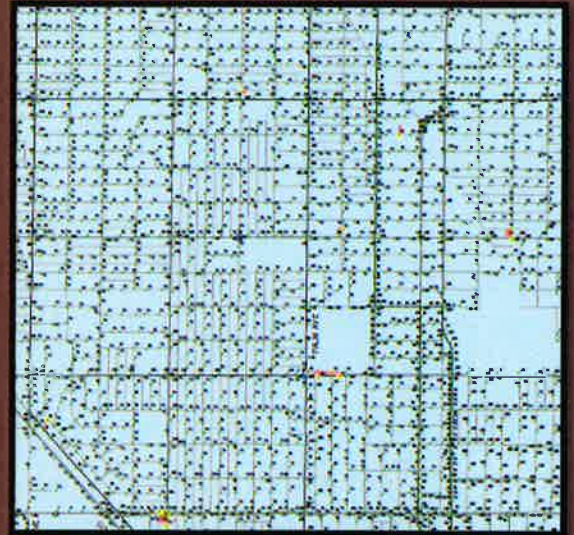
WORKSHOP pertaining to the Citywide replacement of high pressure sodium (HPS) streetlight fixtures with more energy efficient light-emitting diode (LED) fixtures

#### **Supplemental Information:**

Any agenda related public documents received and distributed to a majority of the City Council after the Agenda Packet is printed are included in Supplemental Packets. Supplemental Packets are produced as needed. The Supplemental Packet is available for public inspection in the City Clerk's Office, 2600 Fresno Street, during normal business hours (main location pursuant to the Brown Act, G.C. 54957.5(2)). In addition, Supplemental Packets are available for public review at the City Council meeting in the City Council Chambers, 2600 Fresno Street. Supplemental Packets are also available on-line on the City Clerk's website.

#### **Americans with Disabilities Act (ADA):**

The meeting room is accessible to the physically disabled, and the services of a translator can be made available. Requests for additional accommodations for the disabled, sign language interpreters, assistive listening devices, or translators should be made one week prior to the meeting. Please call City Clerk's Office at 621-7650. Please keep the doorways, aisles and wheelchair seating areas open and accessible. If you need assistance with seating because of a disability, please see Security.



# CITYWIDE LED STREETLIGHT RETROFIT PROJECT WORKSHOP

Public Works Department  
August 16, 2018

## Overview: Our Streetlight Inventory



- Approximately 43,000 street lights
- Varying wattage – 70W, 150W, 200W...
- \$3.2 million annual energy bill
- Unmetered power, flat rate bill per light based upon the wattage. Rate set by CPUC.
- All new lights are LED per City standards, but our older lights (~97%) are less efficient high-pressure sodium (HPS) fixtures
- LED fixtures provide a significant savings opportunity

## Overview: Why Now?



- Return on investment: under 7 years
- PG&E offer for On-Bill Financing at zero percent
- Greater City of Fresno fiscal stability: ability to implement internal Gas Tax v. Measure C

### Flexible funding swap

- Commits Measure C revenue to loan repayment
- Critical due to restrictions on State gas tax usage against bond debt service or loan repayments without 2/3 voter approval
- Not an option in previous City budgets

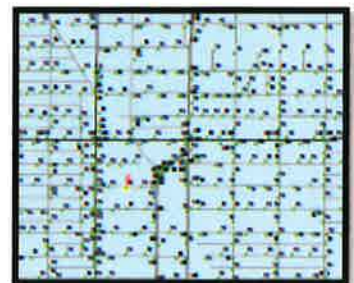
## **Overview: Why Not Utilize RFP Process?**



- Zero percent OBF offer limited to PG&E Turnkey Approach
- Private bid process requires
  - Financing
  - Investment of City funds for preparation of bid packages
  - Potentially greater overall investment of public funds

## Overview: Common Features of the Project

- Regardless of project delivery model, there are common features of the project:
  - Verification/audit of City's GIS/Hansen asset management data on existing street lighting (completed by PG&E)
  - Neighborhood by neighborhood design prior to construction
  - Maintain similar lighting coverage from existing HPS fixtures, including streets and sidewalks
  - In general, maximize energy savings, but increase illumination in some limited locations.
  - Common annual savings on energy bill
  - Savings in gas tax, not General Fund
  - Utilize maintenance savings for major repairs



## Recent history

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- **May 24, 2018** - Council conducted a workshop on with PG&E regarding energy savings opportunities including LED street lighting.
- **June 21, 2018** - Hearing and agenda item for PG&E On-Bill Financing and Turnkey Master Services Agreement. Alternative proposal presented by Tanko Lighting.
- **June 28, 2018** - FY19 Budget adopted, including Citywide LED Streetlight Project.
- **July 26, 2018** - Continued hearing on OBF and Turnkey Master Services Agreement.

## Recent & Upcoming LED Streetlight Projects



- Recent LED Conversion Projects
  - On-Bill Financing Phase 1 - \$294,100, 887 lights converted throughout the City, highest wattage lights addressed
  - CFD 11 Streetlight Retrofit - \$139,800, 360 lights
  - Peach Avenue, Fulton Street, various intersection projects
- Upcoming Projects
  - Capital, CDBG Neighborhoods & Federal grants will bring the City to 4,600 LED lights total



## The Opportunity with PG&E



- Utilize PG&E's competitive bid process
  - Lowest responsive, responsible bid from 3 pre-qualified contractors
  - Economy of scale from RFP for fixture procurement
- Lighting designed with City input prior to construction
- 35,400 cobra-head HPS streetlights
- \$1.6m per year of savings with LED fixtures
- 0% on-bill financing offered by PG&E with a turnkey contracting approach – project management, procurement, hiring construction contractors
- Savings pays for the capital project “debt service”
- New \$1.6m expense in Measure “C” for the loan repayment, corresponding savings in gas tax built into the budget
- \$10.2m conversion cost to LED fixtures (construction and soft costs)
- 6.5 year return on investment
- Starting in FY2026, provides an ongoing annual gas tax savings of \$1.6m.

# Citywide LED Project – Using PG&E Proposal

## **Pros**

- No cash outlay by City.
- Start Project Sooner, achieving energy savings sooner
- Save on short term loan interest expenses (0% v. 3% or more)
- Save on City soft costs (Inspection, Project Management, Purchasing)
- Having a construction company with previous streetlight installation experience on large-scale projects
- PG&E Audit of City Streetlights Complete
- Cree Fixtures meet City LED Specification requirements
- Cree Fixtures performing well in other jurisdictions (City of Clovis)
- City still be able to choose lowest responsive/responsible bidder from PG&E vetted Contractors
- Streamlined audit & adjustment of City energy bill

## **Cons**

- May not get lowest possible installation cost by limiting work to 3 prequalified contractors in PG&E program (but made up by 0% OBF)

# Citywide LED Project – Open Bidding Concept

## **Pros**

- May get lower installation cost due to open bidding
- Separate fixture procurement may allow City more flexibility of fixture selection

## **Cons**

- Contractors paid by City as work is performed, several months to a year in advance of realizing energy savings.
- Will need short term loan of \$10.2 million for project cost
- City soft costs higher
- Need to restart OBF application- add 4-6 months
- No guarantee of receiving any 0% OBF; assume 3% financing
- While California Energy Commission 1% financing could be pursued for up to \$3 million in project costs, this competitive financing is limited and unavailable until mid-2019
- PG&E audit already complete, would start over
- Need to prepare Bid Package, Advertise, Award, Execute Contract, Approve Product Submittals - add 10 months
- 10 additional months of energy costs (\$1,300,000)
- Longer time frame to adjust PG&E bills, realize savings.

## Streetlight Bid Matrix


	PG&E Turnkey Option	Open Bid Process
Construction Budget (including contingency)	\$9,917,000*	\$8,698,500**
Project Management & Engineering	\$200,000	\$300,000
DPW – Construction Mgmt/TSSL Inspection	\$120,000	\$360,000
Bidding Cost	\$0	\$30,000
<b>SUBTOTAL Construction</b>	<b>\$10,237,000</b>	<b>\$9,388,500</b>
Interest Rate	0% (OBF)	3%*** (loan)
Annual Energy Savings	\$1,600,000	\$1,600,000
Cost of Financing during Construction	\$0	\$300,000
Interest Expense over Payback Period	\$0	\$950,000
<b>TOTAL Project Cost with Interest Expense</b>	<b>\$10,237,000</b>	<b>\$10,638,500</b>
<b>Loan Repaid / Start of \$1.6m Savings</b>	<b>March 2026</b>	<b>March 2027</b>

\*The estimate of \$9.9 million is a conservative Engineer's Estimate, not a bid and could cost less.

\*\*Based upon Tanko figures, using same number of streetlights and including a 10% contingency

\*\*\*Assumed combination of I-Bank, private financing and/or CEC low-interest loans

# Citywide LED Project – Benefits & Challenges



## **BENEFITS**

- Improved lighting – illumination & quality
- Public safety
- Replacement of 35,400 HPS lights, with the vast majority being past their service life
- 15 year estimated life for LED v. 7 year for HPS

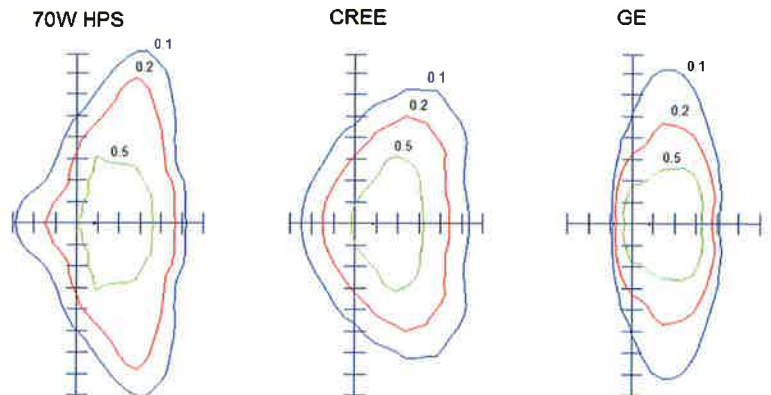
## **PARALLEL INITIATIVES**

- Use maintenance savings to address locations without power
- Develop the next project for post top decorative street lights

## Existing Lights v. Cree and GE Lighting Patterns

### PRODUCT COMPARISON

- Meeting the City's Public Works standards
- Solid performance
- National testing results for Cree
- Superior distribution pattern of Cree to illuminate the sidewalk area per City standards



## Council Questions and Discussion

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- Can any contractor use the OBF 0% interest financing offered by PG&E?
  - A contractor may apply on behalf of the City to use the 0% interest financing, however the application must be approved by PG&E.
  - The City or contractor would have to front the \$10.2M.
- As currently proposed, PG&E applied and was approved on behalf of the City, and fronting the \$10.2M.

## Citywide LED Project



## **Questions and Discussion**