



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JULY 8, 2024

SUBJECT: PLAZA SUBSTATION 4KV TO 12KV CONVERSION MAKE-READY FOR CIRCUITS 443 AND 460 – WORK ORDER NO. 2222112 FOR A TOTAL CAPITAL EXPENDITURE OF \$3,480,000

ISSUE:

Consider approving Work Order No. 2222112 for a total capital expenditure of \$3,480,000 for the Plaza Substation 4kV to 12kV Conversion Make-Ready for Circuits 443 and 460 Project.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order No. 2222112 for a total capital expenditure of \$3,480,000 for the Plaza Substation 4kV to 12kV Conversion Make-Ready for Circuits 443 and 460 Project.

BACKGROUND:

The Electric System Master Plan recommends the conversion of all remaining 4kV to 12kV distribution circuits to improve system capacity and reliability. In preparation for the future voltage conversion of Plaza Circuits 443 and 460, it is necessary to replace existing deteriorated poles and aging infrastructure that are at risk of failure and can become a safety hazard, adversely affecting the electric system's reliability. These aging facilities include frayed overhead wires, insulators, cross-arms, transformers, and associated electrical distribution facilities that are beyond their useful life.

A separate project to convert and upgrade the existing 4kV electrical distribution system to a 12kV system is currently under design. The design will include plans and specifications for the installation of underground facilities, including vaults, trenching, conduits, and street paving. These underground civil facilities are required to complete the 4kV to 12kV voltage conversion. Staff will seek Board approval to award a Contract for civil facilities and associated electrical facilities at a later time, after the design and contract bid documents are complete.

DISCUSSION:

This project will upgrade electric distribution facilities located in the vicinity north of Arlington Avenue and Palm Avenue, south of Central Avenue and Palm Avenue, west of Brockton Avenue, and east of Valencia Street. The scope of work includes replacing 136 utility poles, 56

transformers, 10,645 circuit feet of primary conductors, 7,773 circuit feet of secondary wires, and related overhead distribution facilities to comply with current construction standards in accordance with California State mandated General Order 95 (G.O. 95). Intermittent electric service disruptions will be coordinated during construction and advanced outage notifications will be issued to minimize the impact to customers. No underground civil contract work is required as part of this project.

The make-ready project is an important step in facilitating future voltage conversions and is the first phase in the replacement of aging 4kV distribution facilities with new 12kV electric distribution facilities to improve the electric system reliability and safety and improve power quality and service to customers in the area. Replacement of deteriorated overhead poles and related distribution facilities is identified as part of the Utilities Electric Infrastructure Road Map and aligns with Envision Riverside 2025 Strategic Plan



Typical pole and transformer replacement by RPU crews

Riverside Public Utilities (RPU) electrical engineering staff designed the project to eliminate any negative visual impacts to the project and surrounding area, with sensitivity to the existing neighborhood, and within City Planning guidelines for the designated area of the project.

The project/fiscal breakdown is as follows:

Project and Fiscal Breakdown					
Work Type:	Performed By:	Amount (\$):		% of Total:	
Design	RPU Engineering	\$251,822		7.3%	
Construction - Electrical Work	RPU Field Forces and Operations	Labor	\$2,098,809	\$2,934,707	84.3%
		Equipment	\$489,302		
		Material	\$346,596		
Contingency (10%)		\$293,471		8.4%	
Work Order Total:		\$3,480,000		100%	
Anticipated Start Date:	August 2024				
Anticipated Duration:	10 Months				

STRATEGIC PLAN ALIGNMENT:

This item contributes to Strategic Priority No. 6 Infrastructure, Mobility and Connectivity and Goal 6.2 – Maintain, protect, and improve assets and infrastructure within the City’s built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

This item aligns with EACH of the five Cross-Cutting Threads as follows:

1. **Community Trust** – The installation of new and improved poles and wires that comply with current standards will improve safety and reliability of the electric system, which helps build community trust and results in the greater public good.
2. **Equity** – The voltage conversion project has been established based on engineering planning and operational criteria, with equitable distribution of services to ensure every member of the community has equal access to share the benefits of community progress.
3. **Fiscal Responsibility** – The installation of new poles, wires and other related equipment will improve system reliability. This make-ready proactive approach will be more efficient and will reduce overall operational costs.
4. **Innovation** – RPU is committed to identifying creative solutions to meet the needs of our community members, effectively and efficiently by providing innovative infrastructure improvements. A collaborative and innovative approach was used to install the electric facilities in such a way to minimize potential disruptions to our customers in the future.
5. **Sustainability & Resiliency** – RPU is preparing for the goals set by the city to achieve carbon neutrality by 2040 and to ensure that new system upgrades provide grid operators the ability to monitor and respond to system disturbances in a more safe and timely manner. The construction materials specified for this project are considered best practices in the industry and are expected to last well into the future.

FISCAL IMPACT:

The total fiscal impact is \$3,480,000. Sufficient funds are available in Public Utilities Electric Capital Account No. 6130100-470644.

Prepared by: Daniel Honeyfield, Utilities Assistant General Manager/Energy Delivery
Approved by: David A. Garcia, Interim Utilities General Manager

Certified as to availability of funds: Kristie Thomas, Finance Director/Assistant Chief Financial Officer
Approved by: Rafael Guzman, Assistant City Manager
Approved as to form: Phaedra A. Norton, City Attorney

- Attachments:
1. Project Site Map
 2. Presentation