



# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JULY 10, 2017

ITEM NO: 12

**SUBJECT:** PLANNED ROUTINE CAPITAL PROJECTS OVER \$500,000 FOR ELECTRIC AND WATER FOR FISCAL YEAR 2017/18 – \$39,300,000

### **ISSUE:**

Receive this report and presentation highlighting capital improvement projects over \$500,000 planned for Electric and Water for fiscal year 2017/18 with a combined total budget of \$39,300,000.

### **RECOMMENDATION:**

That the Board of Public Utilities receive this report highlighting planned Electric and Water capital improvement projects over \$500,000 for a combined total of \$ 39,300,000 for fiscal year 2017/18.

### **BACKGROUND:**

On March 14, 2016, the Board of Public Utilities (Board) voted to recommend that the City Council approve the Electric and Water annual Capital Improvement Program (CIP) budget funds for fiscal year (FY) 2017/18, including a capital outlay of \$32.8 million for the electric system and \$10.2 million for the water system. The City Council approved the annual budget for FY 2017/18 at their meeting on June 21, 2016.

The purpose of this report, and the accompanying presentation, is to provide the Board an overview of the routine infrastructure projects over \$500,000 planned for FY 2017/18, and to highlight the importance of these projects. Discussion of these projects at the beginning of the fiscal year will provide context and familiarity to streamline Board approval of individual project actions throughout the fiscal year.

### **DISCUSSION:**

#### **ELECTRIC ROUTINE CAPITAL PROJECTS**

No.	Electric	Budget
E1	Cable Replacement (Canyon Crest Area 1D, 1E)	\$2,200,000
E2	Cable Replacement (Canyon Crest Area 1F)	\$2,700,000
E3	Cable Replacement (Canyon Crest Area 2A,2B,3A,3B)	\$2,900,000
E4	Plaza 4-12kV Conversion (Circuits 441,443,456,458,460)	\$5,400,000
E5	G.O. 165 Repair/Replacement (200 Poles, 6 Structures)	\$3,900,000
E6	Substation Circuit Breaker Replacement (Riverside Substation)	\$2,300,000
E7	Substation Relay Replacement (6 Locations)	\$2,600,000
E8	Fiber Upgrades (Orangecrest-Freeman)	\$1,300,000
<b>FY 2017/18 Total</b>		<b>\$23,300,000</b>

## Aging Infrastructure Replacement

### E1,2,3 – Cable Replacement (Canyon Crest Areas 1D,1E,1F,2A,2B,3A,3B)

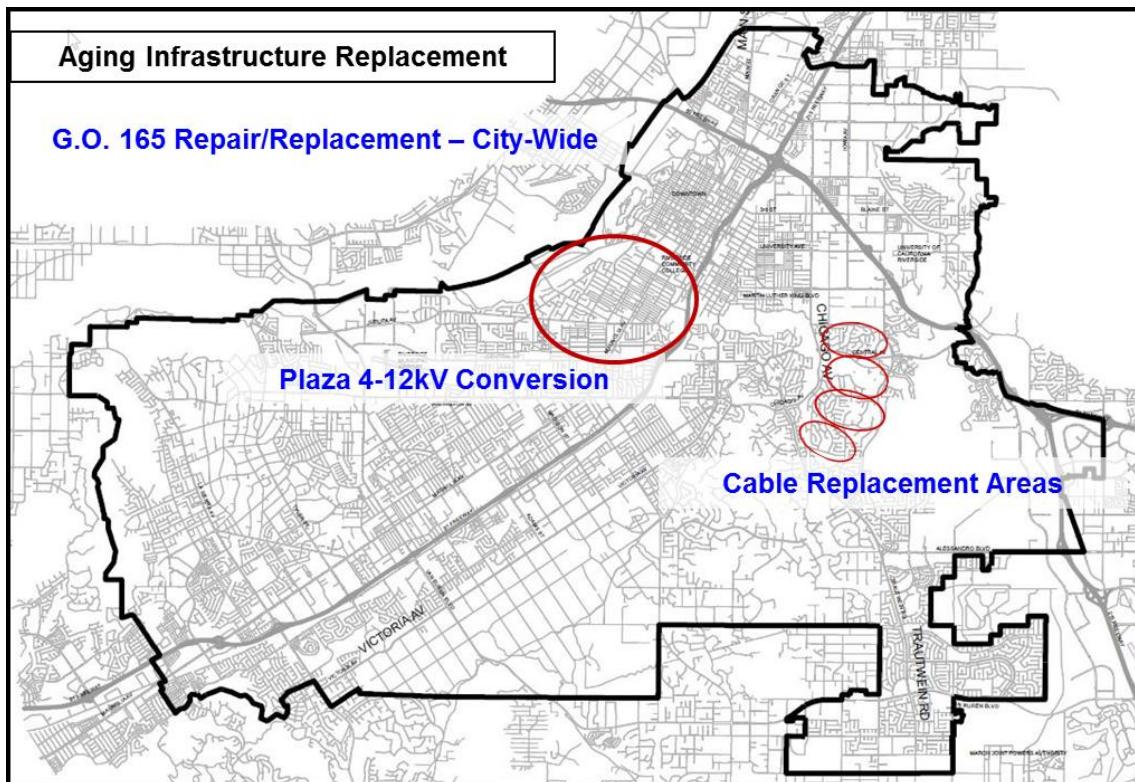
Replacement of obsolete High Molecular Weight Polyethylene cable-in-conduit in the Canyon Crest residential service area. Canyon Crest area residents experienced the highest incidence of cable failures of any area in the City over the past 10 years and have been prioritized first for cable replacement to enhance reliability. During the time of cable replacement, associated terminations and switching equipment will also be replaced and brought up to current reliability standards.

### E4 – Plaza 4-12kV Conversion (Circuits 441,443,456,458,460)

Continuing conversion of circuitry in the Magnolia Center and Wood Streets areas from 4kV to the modern 12kV system. Area circuitry is 50-years old and modernization to current standard cable and associated equipment as well as implementation of advanced technology will improve circuit reliability and outage restoration time for area customers.

### E5 – G.O. 165 Repair/Replacement (200 Poles, 6 Structures)

Replacement of 200 existing wood poles and repair/replacement of 6 underground vaults in various locations based upon the results of intrusive inspections. Detailed inspections identify poles and underground vaults which are at risk of failure and have the potential of becoming a public safety hazard and adversely affect the electric system's reliability.

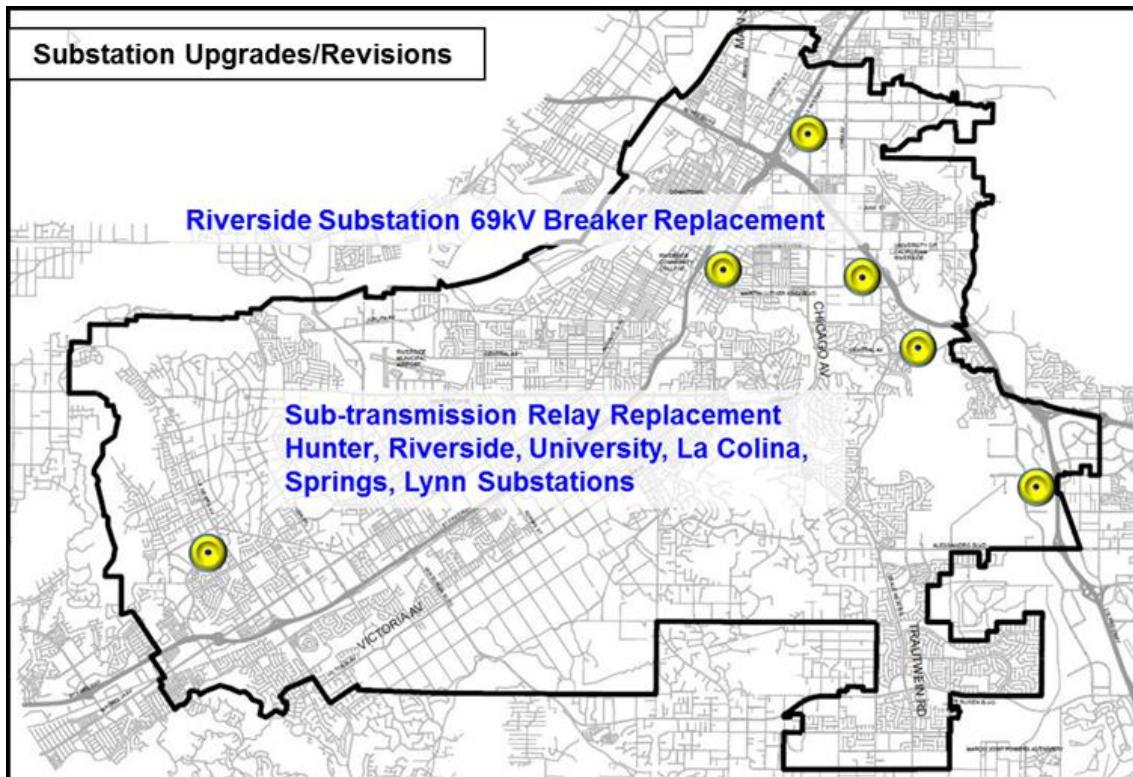


## Substation Upgrades/Revisions

E6 – Substation Circuit Breaker Replacement (Riverside Substation)

E7 – Substation Relay Replacement (6 Locations)

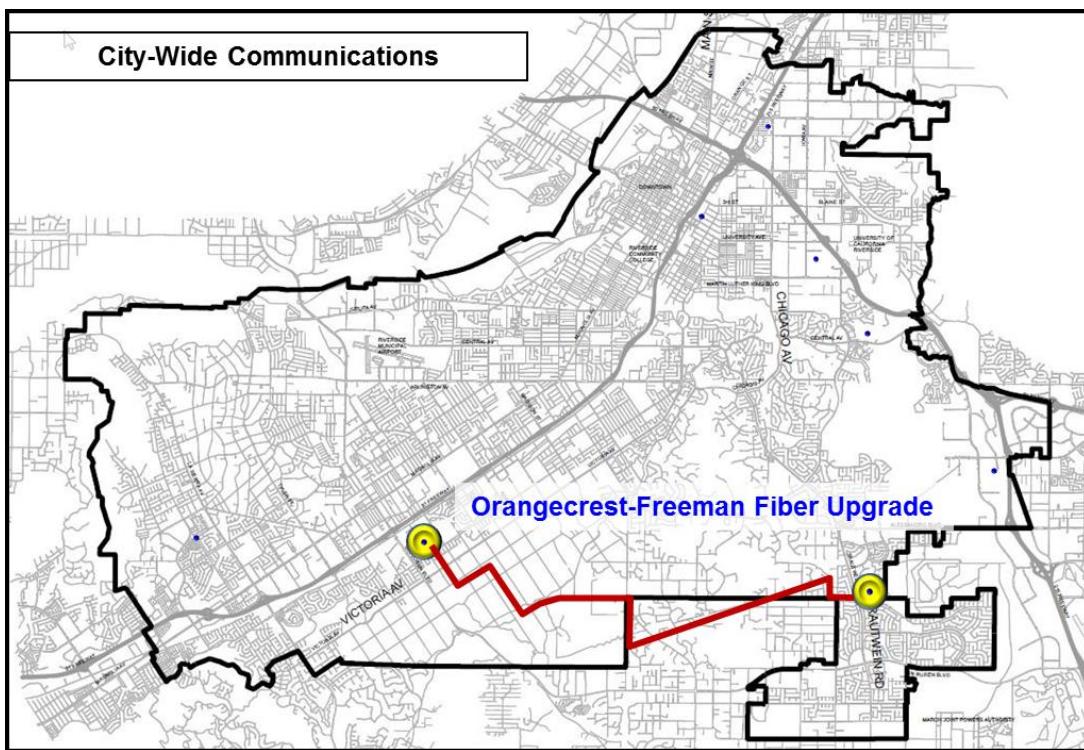
Replace aging and obsolete 69kV breakers and relays at 6 Substation locations. Replacements and upgrades benefit a large service area of customers (approximately 22,000 residents per substation) and also introduce new technology which improves reliability and reduces prolonged outages.



## City-Wide Communications

E8 – Fiber Upgrades (Orangecrest–Freeman)

Upgrade of fiber optic cable from 12 to 144 count fiber along the Orangecrest-Freeman fiber path. Existing 12 count fiber optic cable is at the end of its life cycle and at full capacity. The upgrade will provide the capability to re-route existing traffic in the event of a fiber break on the east side of the city and increases fiber optic circuits and reliability for Riverside Public Utilities (RPU), City departments and other public government agencies.



## WATER ROUTINE CAPITAL PROJECTS

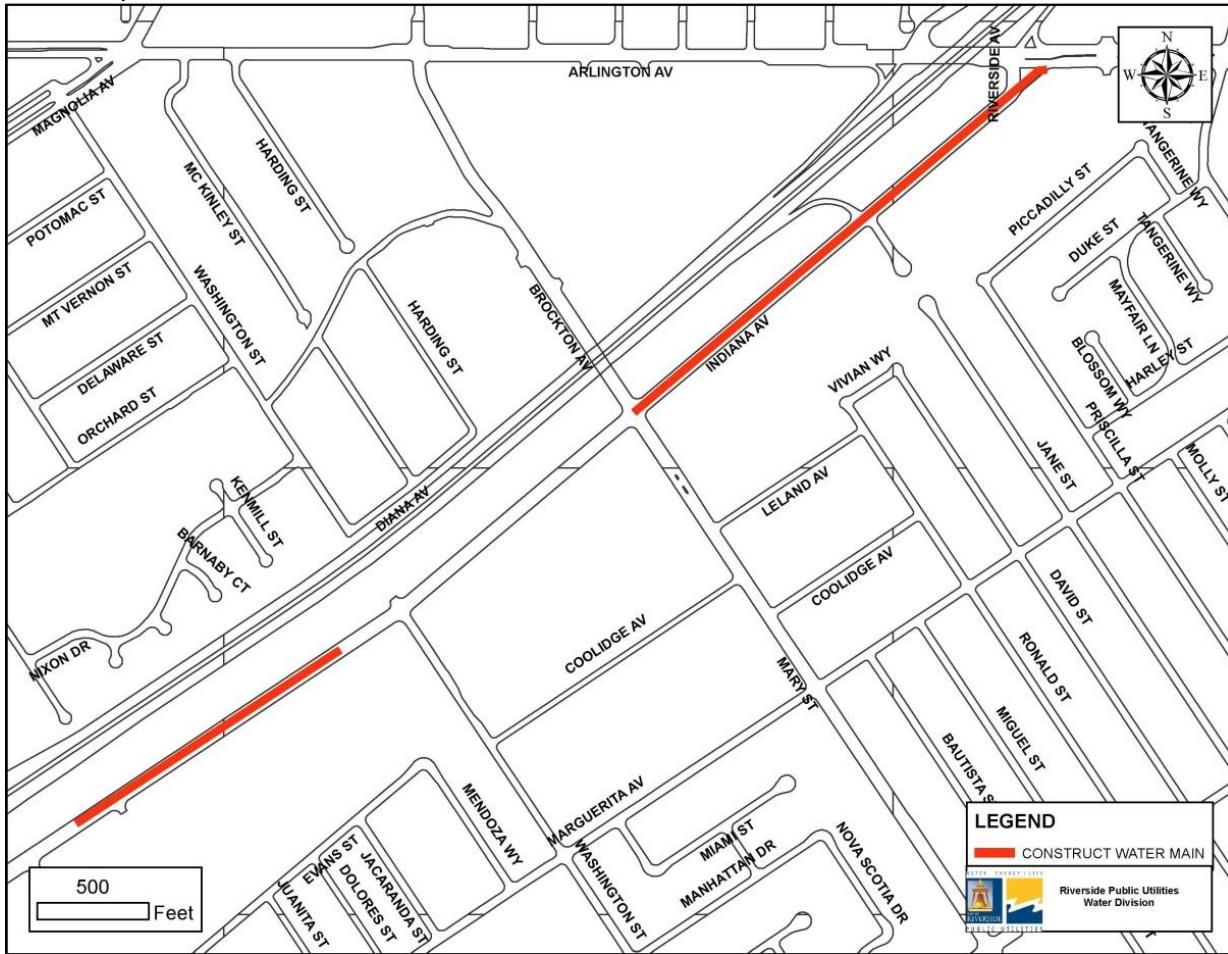
FY 2016/17 Water Project Name	Status	Budget (Millions)	Length (Miles)	Percent of Planned
Arroyo Drive	In Construction (Contractor)	\$2.0	1.3	23%
Brockton and Palm	Construction Completed	\$0.7	0.1	2%
Tenth and Eleventh	In Construction (City Forces)	\$1.7	0.8	14%
Ambs Drive	In Construction (City Forces)	\$1.5	1.0	17%
Magnolia and Ramona	In Construction (Contractor)	\$2.7	1.5	26%
Colorado and Toyon	In Construction (Contractor)	\$3.0	1.7	29%
<b>FY 2016/17 Total</b>		<b>\$11.6</b>	<b>6.4</b>	<b>110%</b>
<b>Planned FY 2016/17</b>		<b>\$7.6</b>	<b>5.8</b>	

No.	FY 2017/18 Water Project Name	Status	Budget (Millions)	Length (Miles)	Percent of Planned
W1	Indiana and Mary	Board Authorization (7/10/17)	\$2.0	0.7	27%
N/A	Mission Inn Pipeline Rezoning	In Design (To Be Constructed in FY2017/18)	\$2.7	1.0	38%
W2	Taft Street	In Planning*	\$2.2	1.2	46%
W3	Peacock Lane	In Planning*	\$1.4	0.6	23%
W4	Wells and Cypress	In Planning*	\$7.7	3.7	142%
	<b>FY 2017/18 Total</b>		<b>\$16.0</b>	<b>7.2</b>	<b>276%</b>
	<b>Planned FY 2017/18</b>		<b>\$3.4</b>	<b>2.6</b>	

\* Project to be constructed in FY 2017/18 or FY 2018/19 pending CIP funding availability.

## W1 – Indiana and Mary

This project is part of RPU's ongoing water main replacement program to replace old, undersized, and high priority leaky mains. The project area consists of existing 4-inch cast iron and asbestos cement pipelines installed in the 1940's which are insufficient to meet required fire flow. The existing water pipelines will be replaced with approximately 3,500 linear feet of new 6-, 8-, and 12-inch ductile iron pipelines. This project will increase the reliability and capacity of the existing distribution pipelines by eliminating their dependence on a parallel transmission pipeline to achieve the required fire flow.

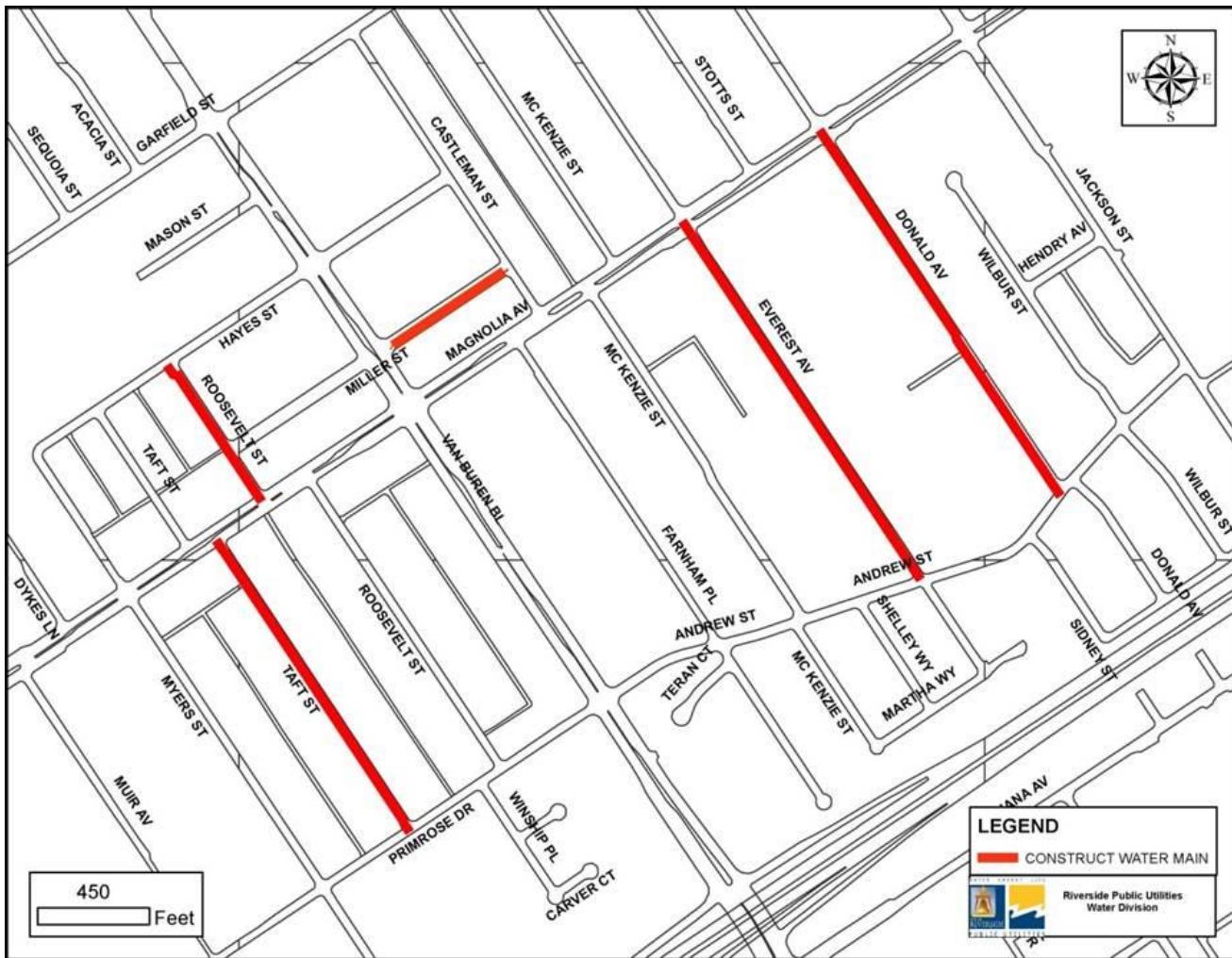


## Mission Inn Pipeline Rezoning Project

This Utility 2.0 project entails construction of the Mission Inn Booster Station to replace the existing Rubidoux and Mary Evans Booster Stations and allow for consolidation of three existing hydraulic pressure zones. The project also involves replacement of approximately 1,900 LF of old and undersized 4-, and 6-inch cast iron water mains in addition to construction of approximately 2,200 LF of new 8-, and 12-inch ductile iron pipelines. This project will address issues of low water pressure, insufficient fire flow, booster station operation deficiencies and aged existing undersized water mains within the existing Rubidoux 1066 and Mary Evans 1150 hydraulic pressure zones. This non-routine project is included for informational purposes will be taken to RPU Board as a discussion item and constructed during FY 2017/18.

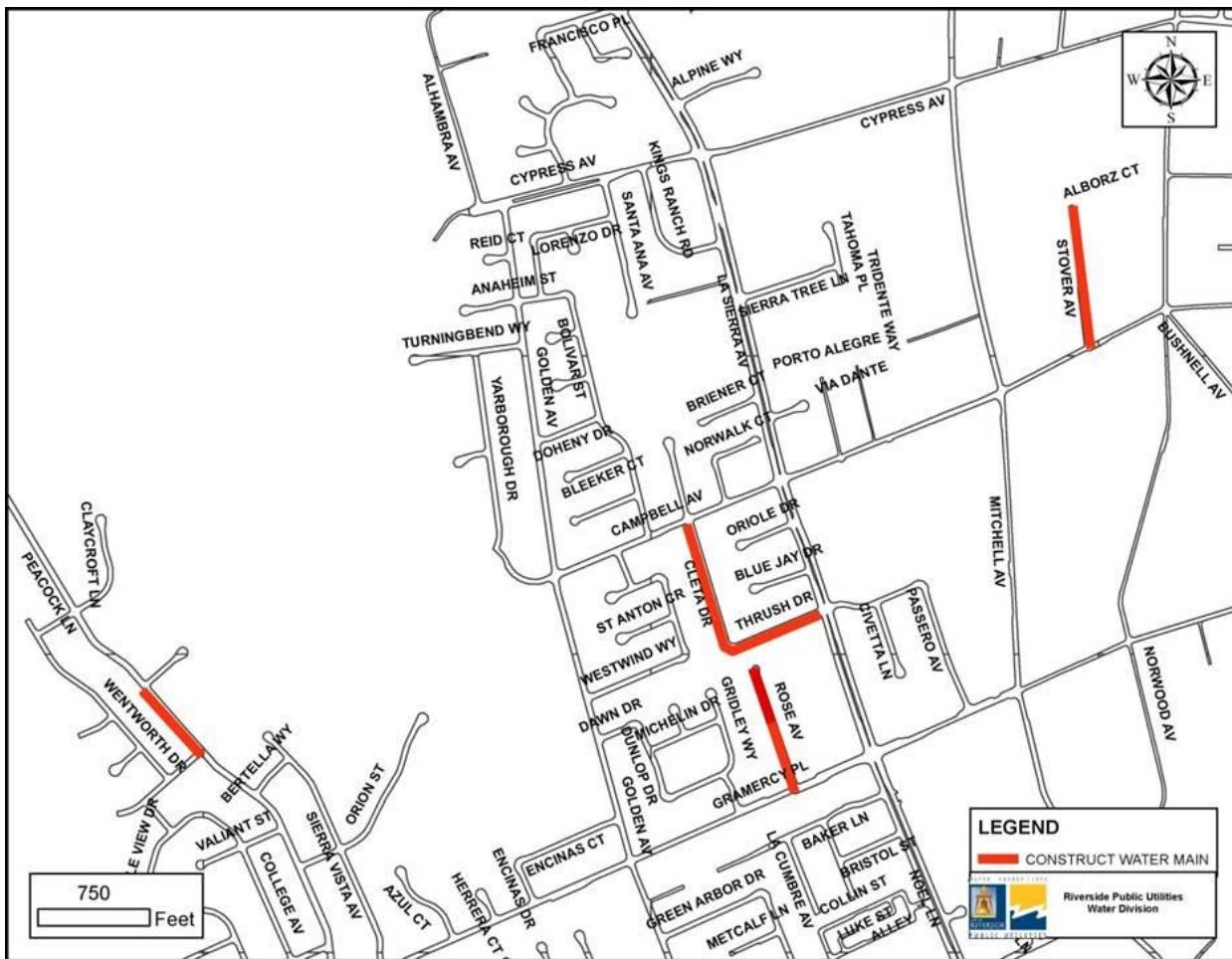
## W2 – Taft Street Water Main Replacement

This project is part of RPU's ongoing water main replacement program to replace old, undersized and high priority leaky water mains. The project area generally consists of existing 4- and 6-inch standard screw, cast iron, and Matheson steel pipelines that were installed between 1910 and 1961, and have experienced several leaks. The existing water pipelines will be replaced with approximately 6,200 linear feet of new 8-inch and 12-inch ductile iron pipelines. This project will increase the reliability of the water system and enhance fire flow.



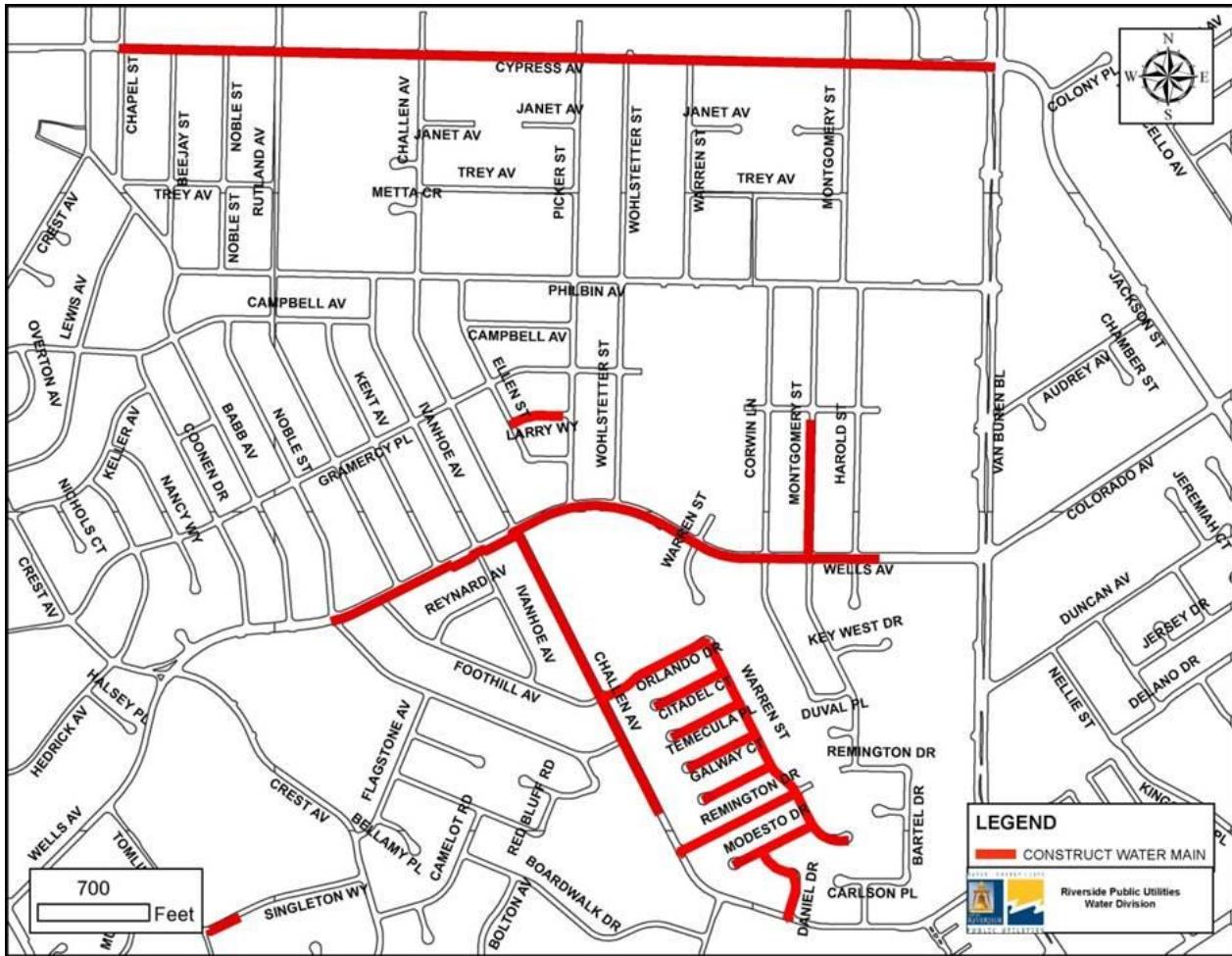
## W3 – Peacock Lane Water Main Replacement

This project is part of RPU's ongoing water main replacement program to replace old, undersized and high priority leaky water mains. The project area generally consists of existing 2-, 4-, 6-, and 8-inch asbestos cement and steel pipelines that were installed between 1946 and 1963 and have experienced several leaks. The existing water pipelines will be replaced with approximately 3,300 linear feet of new 4- and 8-inch ductile iron pipelines. This project will increase the reliability of the water system and enhance fire flow.



#### W4 – Wells and Cypress Water Main Replacement

This project is part of RPU's ongoing water main replacement program to replace old, undersized and high priority leaky water mains. The project area generally consists of existing 2-, 4-, 6-, 8-, and 12-inch steel, asbestos cement, and cast iron pipelines that were installed between 1926 and 1986 and have experienced several leaks. The existing water pipelines will be replaced with approximately 19,300 linear feet of new 4-, 8-, and 12-inch ductile iron pipelines. This project will increase the reliability of the water system and enhance fire flow.



Subsequent approval of the above identified projects will be considered by the Board at future meetings throughout FY 2017/18. Reports will reference this review by the Board.

#### **FISCAL IMPACT:**

There is no fiscal impact associated with this report. The availability of budgeted funds will be confirmed as individual project actions are considered by the Board throughout FY 2017/18.

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Certifies availability of funds: Laura Chavez-Nomura, Utilities Assistant General Manager/Finance

Attachment: Presentation