



Water & Wastewater Workshop January 22, 2019



Diana Langley
Public Works Director

Agenda



- Water
 - Supply
 - System Overview
- Wastewater
 - System Overview
- Financial Overview
- Rates
- Connection Fees
- Outside Connections
- Capital Improvement Program

Water

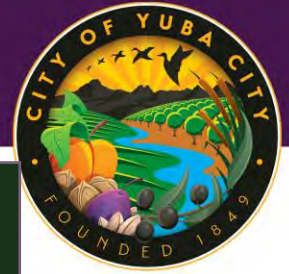


Water Supply



- Primary source of water is surface water from the Feather River
- Groundwater from a well at the Water Treatment Plant is used to supplement surface water during drought conditions

Existing Water Supplies



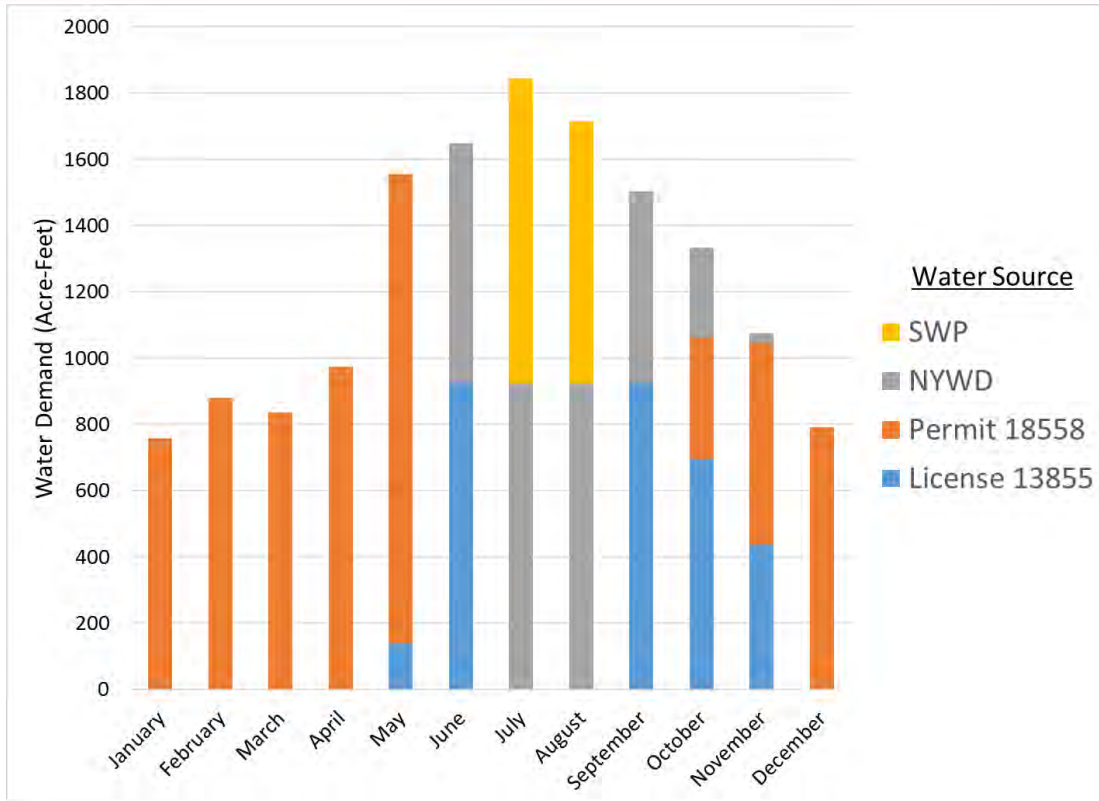
Source	Maximum Allocation (Acre-Feet Per Year)	Reasonably Available Volume
SWRCB License 13855	6,500	6,500
SWRCB Permit 18558	9,000	9,000
North Yuba Water District	4,500	5,950
State Water Project	9,600	4,500
Groundwater Well at WTP	2,240	2,240
Total:	31,840	28,190

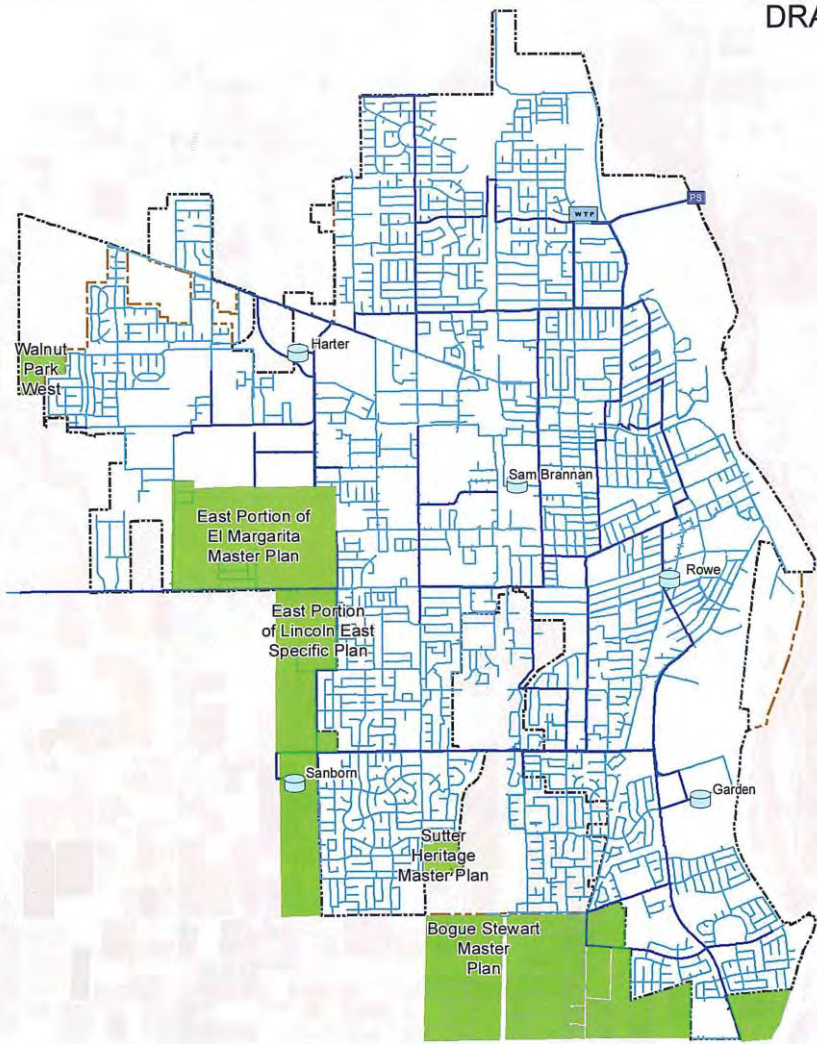
Historical Water Usage



- 1/17/14 – Governor declares drought state of emergency (20% reduction)
- 9/3/14 – City implements enforcement measures
- 6/1/15 – State-mandated 28% reduction compared to 2013
- 6/7/16 – Locally-developed conservation standard of 15%

2018 Water Demand





Near-Term Scenario Map



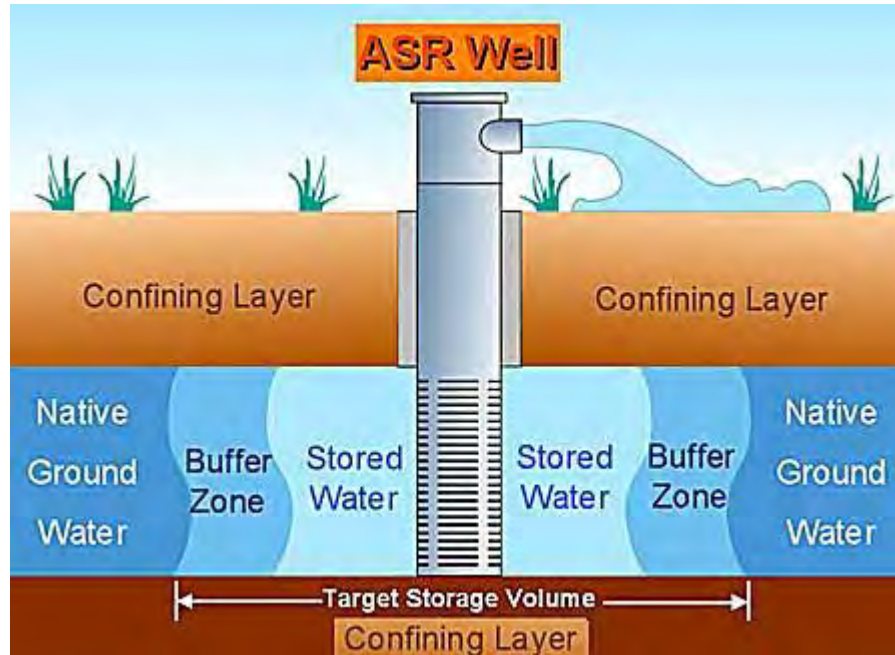
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Supply and Demand Comparison



Year Type	Near-Term	Buildout
Normal Year		
Demand Totals	18,250	32,874
Supply Totals	28,190	28,190
Difference	9,944	(4,684)
Single Dry Year		
Demand Total	18,246	32,874
Supply Total	14,462	14,462
Difference	(3,784)	(18,412)

Aquifer Storage Recovery



Options to Meet Future Demands



- Additional groundwater wells
- Purchase additional water supplies
- Implement additional water reduction measures

Water System Overview



- Water Treatment Plant
 - Placed into operation 1969
 - Operates 24 hrs/day, year round
 - Expanded in 1999 – 24 MGD
 - Expanded in 2007 – 36 MGD
 - Current permitted capacity – 42 MGD

Water System Overview



Water System Overview



- Water Distribution System
 - 265 miles of Transmission and Distribution Mains
 - Sizes range from 3” to 36”
 - Oldest lines date back to 1920’s
 - 6 storage tanks

Wastewater



Wastewater System Overview



- Wastewater Treatment Plant
 - Placed into operation 1972
 - Operates 24 hrs/day, year round
 - Expanded in 2005
 - Current permitted capacity – 10.5 MGD
 - Current average flow – 6.5 MGD
 - Solids into facility – 11,000 lbs/day

Wastewater System Overview



Wastewater System Overview



- Wastewater Collection System
 - 173 Miles of Sewer Mains
 - Sizes range from 6” to 42”
 - Oldest lines date back to 1920’s
 - 17 sewer lift stations

FINANCIAL OVERVIEW

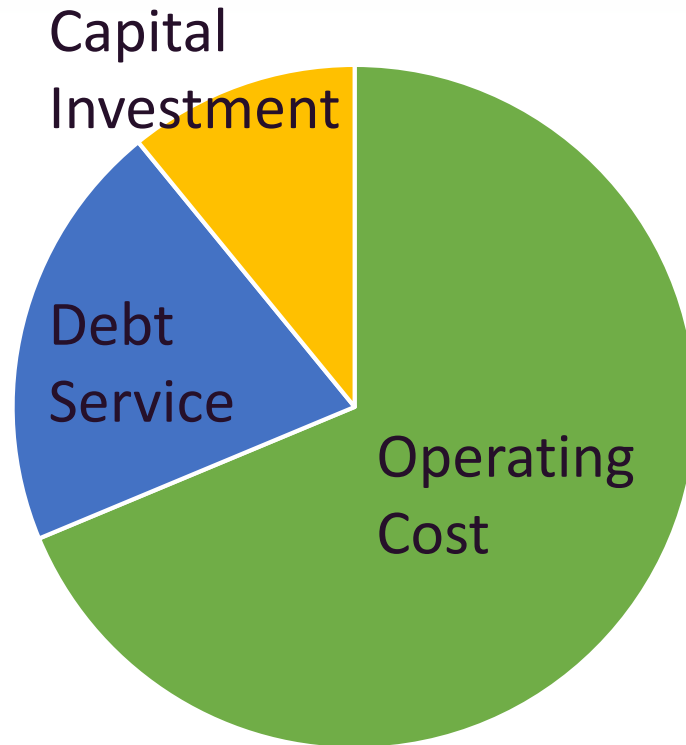


Enterprise Funds



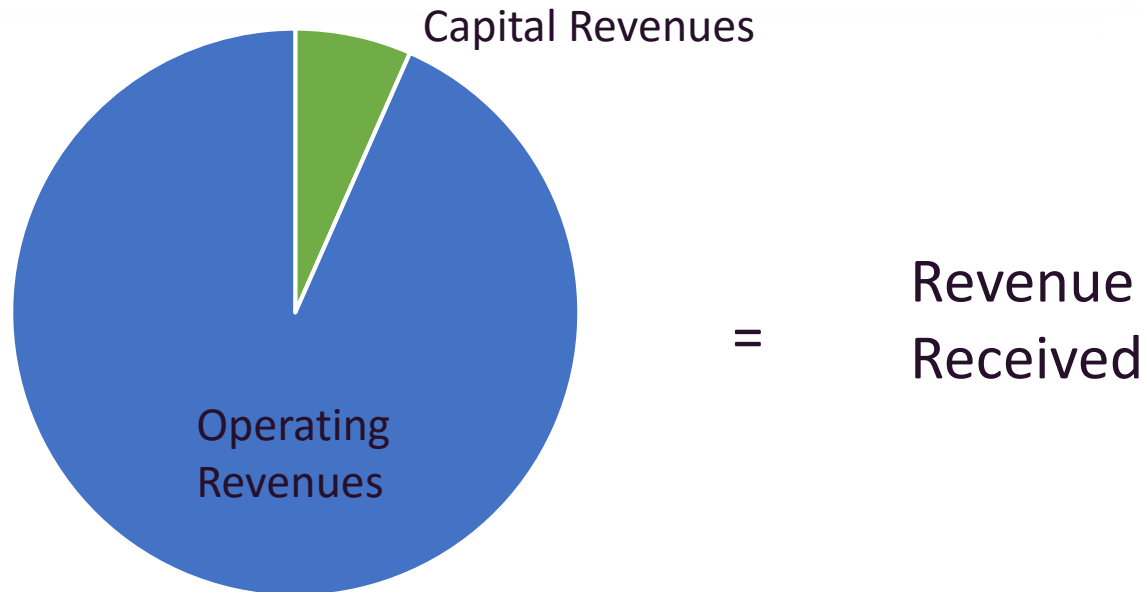
- **Water/Wastewater Enterprise Funds**
 - Separate enterprise funds established to account for water/wastewater utility transactions
 - Separate from the General Fund

Uses of Funds



= Revenue Requirement

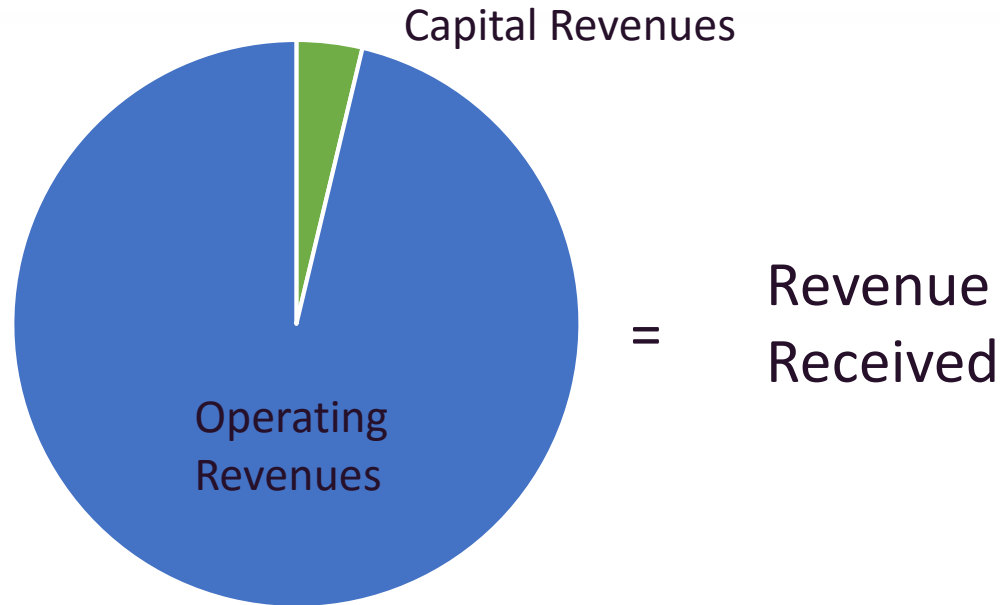
Sources of Funds - Water



Operating Revenues = Water Sales, Backflow Prevention Fees, Interest on Investments

Capital Revenues = Extension Fees, Connection Fees, HWS Surcharge, Interest on Investments

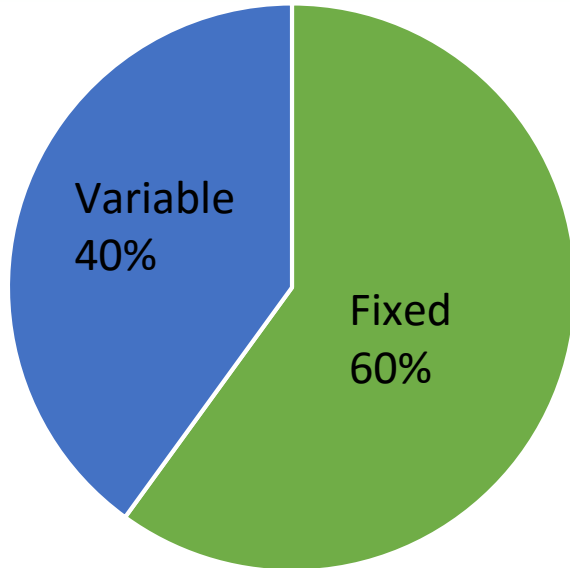
Sources of Funds - Wastewater



Operating Revenues – Wastewater Service Charges, Septage Fees, Lab Fees, Pretreatment Permits, Interest on Investments

Capital Revenues – Extension Fees, Connection Fees, Interest on Investments

Operating Costs



Fixed Costs - Do not vary by volume treated

- Examples: Raw water, staffing, maintenance, and repairs

Variable Costs – Vary depending on volume treated

- Examples: Power, utilities, and chemicals

Full-Time Equivalent Positions



Fiscal Year	Water Positions	Wastewater Positions
09/10	29.58	38.88
10/11	24.58	35.08
11/12	25.43	36.23
12/13	24.13	34.13
13/14	24.13	35.19
14/15	24.19	35.19
15/16	24.69	35.69
16/17	24.97	36.47
17/18	24.97	36.47
18/19	24.97	36.47

FY 18/19 Budget Summary



- Water Operations Fund
 - Revenues - \$15,934,200
 - Operating Expenditures - \$10,747,713
 - Salaries & Benefits – \$2,935,733 (27.3%)
 - Supplies & Services – \$4,455,822 (41.5%)
 - Contributions to Other Funds – \$3,334,158 (31.0%)
 - Capital Acquisitions - \$22,000 (0.2%)

FY 18/19 Budget Summary



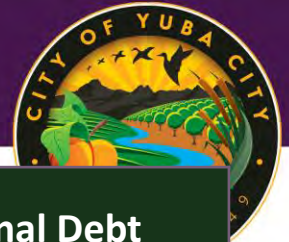
- Contributions to Other Funds
 - \$3,334,158
 - Transfer to General Fund - \$2,016,700
 - Transfer to Vehicle Replacement - \$164,116
 - Transfer to Wastewater Fund - \$165,000
 - Transfer to Debt Service - \$988,342

FY 18/19 Budget Summary



- Water Capital Fund
 - Revenues - \$1,129,700
 - Expenditures - \$1,705,432
 - Transfer to CIP Fund - \$207,500
 - Transfer to Debt Service - \$1,497,932

Debt Service - Water



Title	Original Amount	Interest Rate	Approx. Annual Payment	Final Debt Payment
Revenue Refunding Bonds – 2013	\$21,710,000	3.43%	\$1,390,000	06/01/35
SRF Loan – Region 1	\$5,927,874	2.50%	\$378,500	07/01/32
SRF Loan – Region 2/3	\$18,381,507	2.28%	\$1,150,000	07/01/32
Revenue Bonds – 2017 (CREB's)	\$2,124,216	1.11%	\$137,000	06/01/32
Bank of America – OpTerra	\$2,185,575	2.89%	\$133,000	06/13/31
Total:	\$50,329,172		\$3,188,500	

FY 18/19 Budget Summary



- Wastewater Operations Fund
 - Revenues - \$16,298,000
 - Operating Expenditures - \$12,346,557
 - Salaries & Benefits – \$4,106,979 (33.3%)
 - Supplies & Services – \$4,626,668 (37.5%)
 - Contributions to Other Funds – \$3,431,410 (27.8%)
 - Capital Acquisitions - \$181,500 (1.4%)

FY 18/19 Budget Summary



- Contributions to Other Funds
 - \$3,431,410
 - Transfer to General Fund - \$1,911,500
 - Transfer to Vehicle Replacement - \$113,651
 - Transfer to Debt Service - \$1,406,259

FY 18/19 Budget Summary



- Wastewater Capital Fund
 - Revenues - \$634,000
 - Expenditures – 709,387
 - Transfer to Debt Service - \$709,387

Debt Service - Wastewater



Title	Original Amount	Interest Rate	Approx. Annual Payment	Final Debt Payment
Revenue Bonds – 2017 (CREB's)	\$6,820,000	1.00%	\$239,300	06/01/42
SRF Loan – WWTF	\$3,148,746	2.20%	\$195,400	04/30/35
SRF Loan – Collection	\$6,436,490	1.80%	\$386,000	12/31/34
Solar Project	\$2,398,711	4.00%	\$173,300	06/30/33
Certificates - 2017	\$9,065,639	2.11%	\$332,600	06/01/32
Bank of America - OpTerra	\$298,000	2.89%	\$18,000	06/13/31
Certificates - 2014	\$7,321,914	2.45%	\$759,200	06/01/25
Total:	\$35,489,500		\$2,103,800	

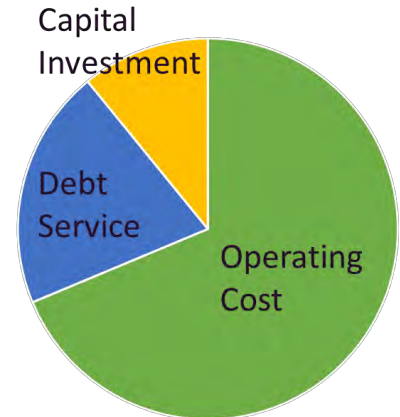
RATES



Purpose of Rates



- To ensure adequate revenues in the Water and Wastewater Enterprise Funds for:
 - Operation and Maintenance
 - Debt Service Coverage
 - Capital Projects

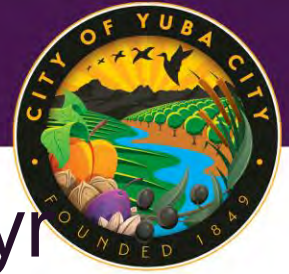


Methodology



1. Identify net revenue requirements
2. Analyze cost to serve each customer class
3. Determine rate structure alternatives that will best meet the City's need to collect rate revenue from each customer class

Key Assumptions



- Customer growth based on 50 units/yr
- General costs (professional services, fuel, electricity) inflated at 3% annually
- Operating expenses (chemicals, raw water purchases) inflated at 4% - 6%
- Labor costs inflated 3% annually

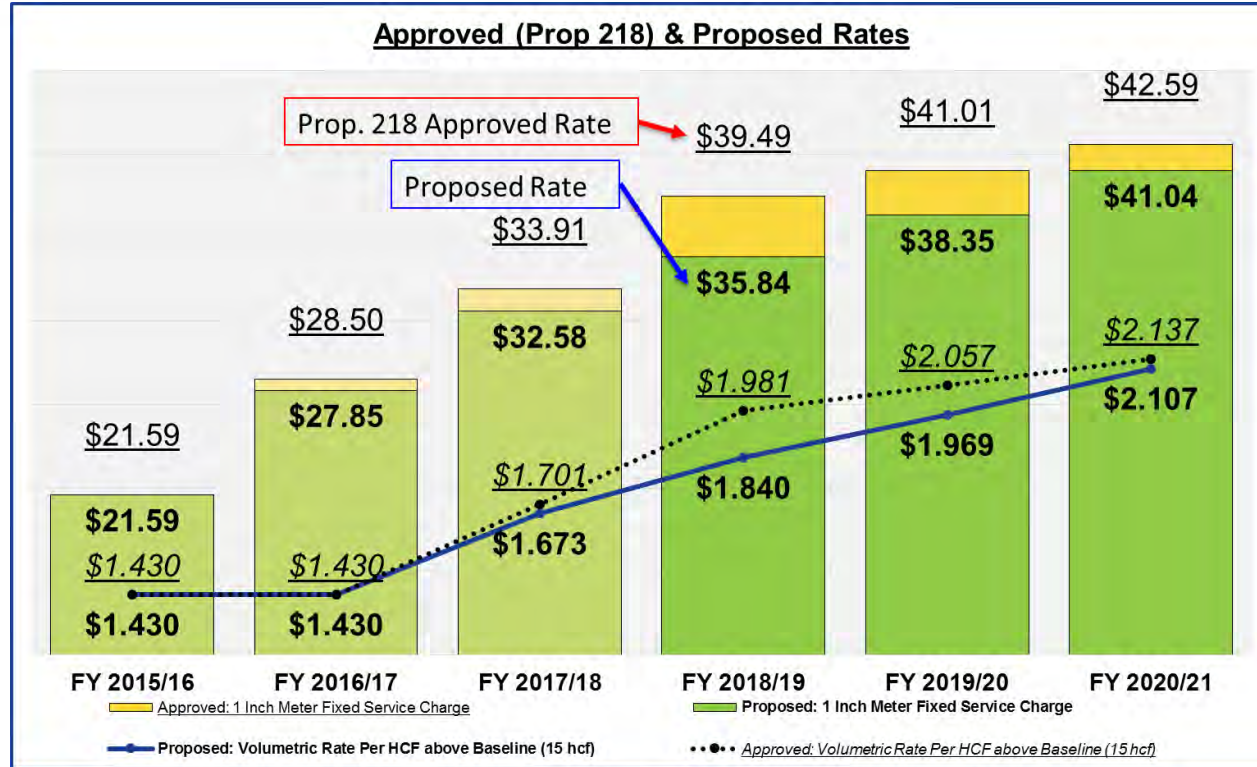
Existing Water Rates



Meter Size	Baseline HCF's*	Current Rate	FY 19/20	FY 20/21
1"	15	\$35.84	\$38.35	\$41.04
1-1/2"	30	\$71.69	\$76.70	\$82.07
2"	60	\$143.40	\$153.44	\$164.18
3"	240	\$573.56	\$613.71	\$656.67
4"	480	\$1,147.14	\$1,227.44	\$1,313.36
6"	900	\$2,150.86	\$2,301.42	\$2,462.52
8"	2,100	\$5,018.70	\$5,370.00	\$5,745.90
Flow Rate Per Excess HCF		\$1.840	\$1.969	\$2.107

*1HCF=748 Gallons

Water Rates – 1” Meter



Existing Water Meters By Size



Size of Meter	Number of Meters
1" or Less	17,673
1-1/2"	532
2"	342
3"	49
4"	30
6"	7
8"	3
Total:	18,636

Monthly Water Bill Calculation



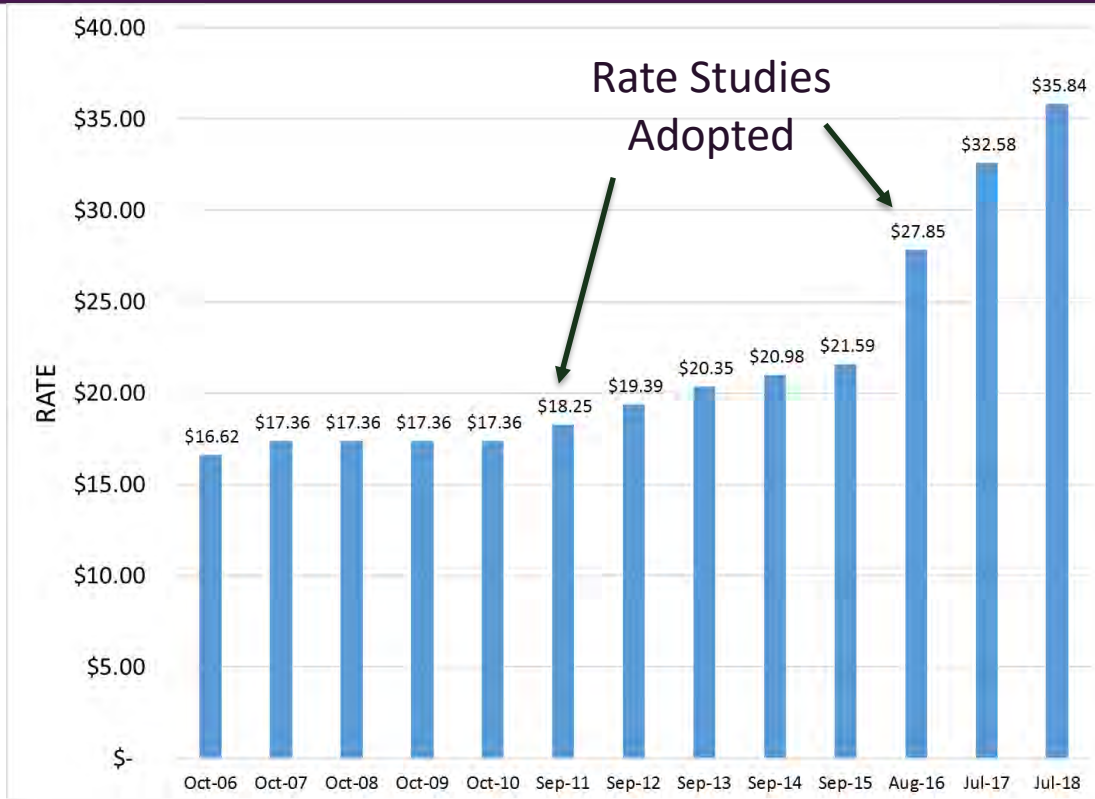
1" Water Service:

Monthly Bill = Base Rate + (Amount Over Base Allocation x Flow Rate)

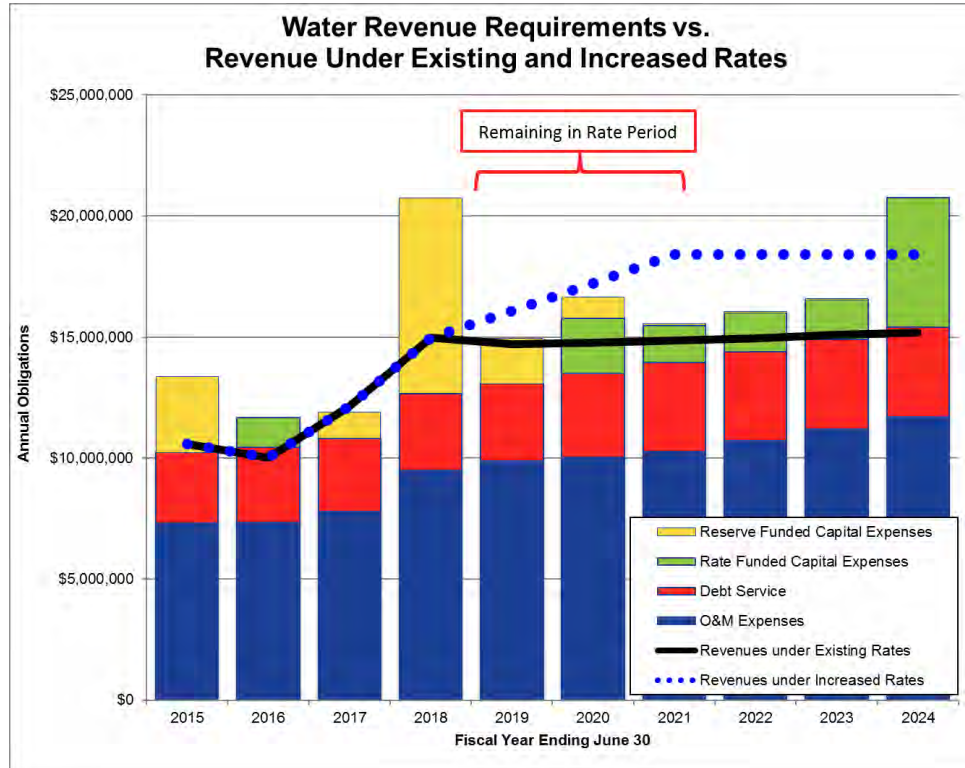
Example: Monthly Usage = 20 HCF

$$\begin{aligned}\text{Monthly Bill} &= \$35.84 + (5 \text{ HCF} \times \$1.84) \\ &= \$45.04\end{aligned}$$

Water Rate History – 1" Meter



Water Revenue Requirements



Low Income Water Rate Assistance



- AB 401 – Low Income Water Rate Assistance Act
 - Draft report recommends progressive revenue sources such as:
 - Taxes on personal and business income
 - Fees on water bottles or alcohol

Existing Wastewater Rates

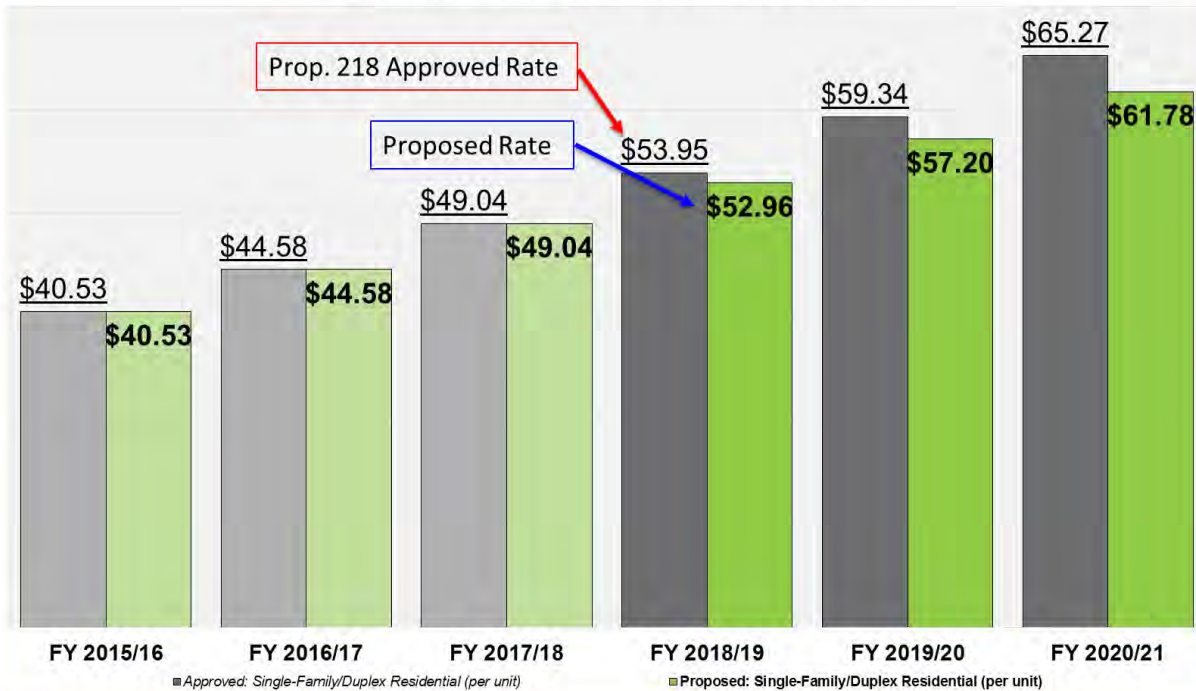


Sewer Rate Schedule	Current Rate	FY 19/20	FY 20/21
Single Family	\$52.96	\$57.20	\$61.78
Multi-Family	\$42.38	\$45.77	\$49.43
Commercial – C1	\$52.96	\$57.20	\$61.78
Commercial – C2	\$59.59	\$64.36	\$69.51
Commercial – C3	\$72.17	\$77.95	\$84.18
Commercial Volumetric Charge (HCF)	\$2.09	\$2.25	\$2.43
Schools – Per Student/Year	\$24.32	\$26.27	\$28.37

Wastewater Rates - SFD



Approved (Prop 218) vs. Proposed Rates



Existing Wastewater Rates



Sewer Rate Schedule	Current Rate	FY 19/20	FY 20/21
Industrial			
Volume (MG)	\$3,053.89	\$3,298.20	\$3,562.05
TSS (lbs)	\$0.235	\$0.254	\$0.274
BOD (lbs)	\$0.313	\$0.338	\$0.365
Septage Hauler			
\$/Gallon	\$0.408	\$0.440	\$0.476
Min. Charge 400 Gallons/ Dump	\$163.09	\$176.14	\$190.23

Monthly Wastewater Bill Calculation



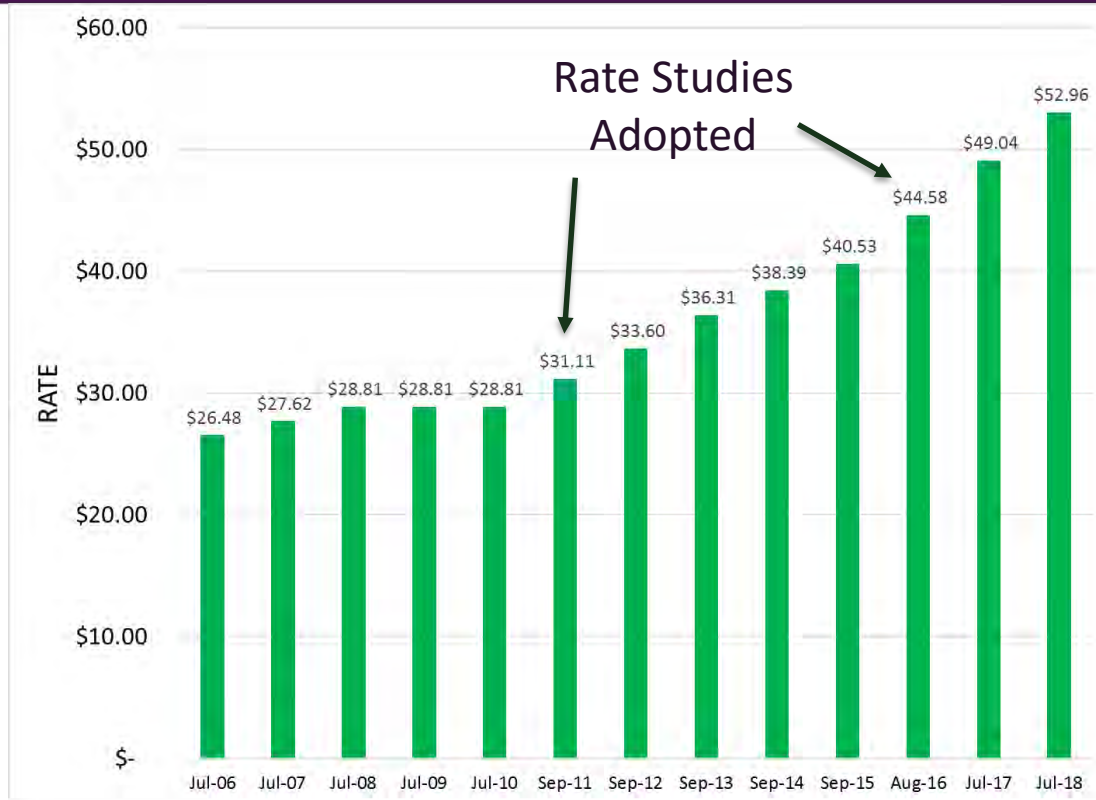
- C1 Commercial Example:

Monthly Bill = Base Rate + (Water Use x Flow Rate)

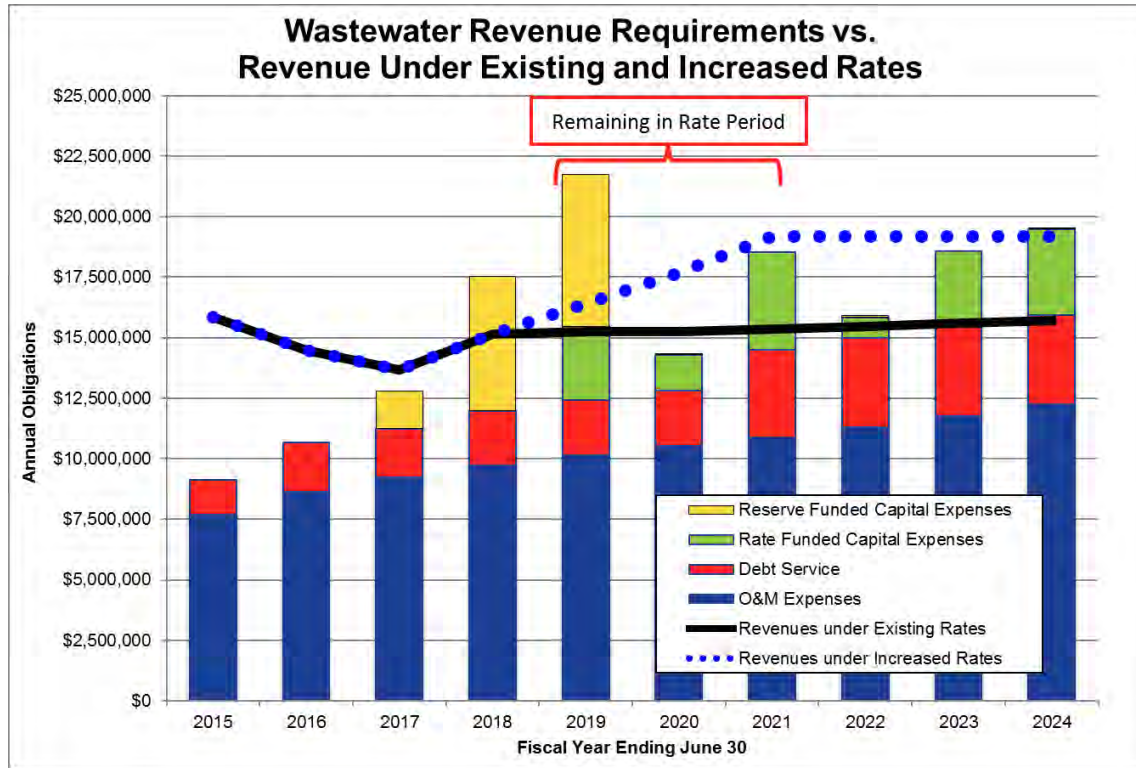
Example: Monthly Water Usage = 100 HCF

Monthly Bill = \$52.96 + (100 HCF x \$2.09)
 = \$261.96

Wastewater Rate History - SFD



Wastewater Revenue Requirements



Bill Comparison for Single Family Dwelling (1" Service)



Average Consumption	Water Bill	Wastewater Bill	Total Bill	Prop. 218 Bill
Winter (7 HCF)	\$35.84	\$52.96	\$88.80	\$93.44
Annual (15 HCF)	\$35.84	\$52.96	\$88.80	\$93.44
Summer (24 HCF)	\$52.40	\$52.96	\$105.36	\$111.27

FY 19/20 Rates



- Staff will present options for Council consideration at the budget study session in May

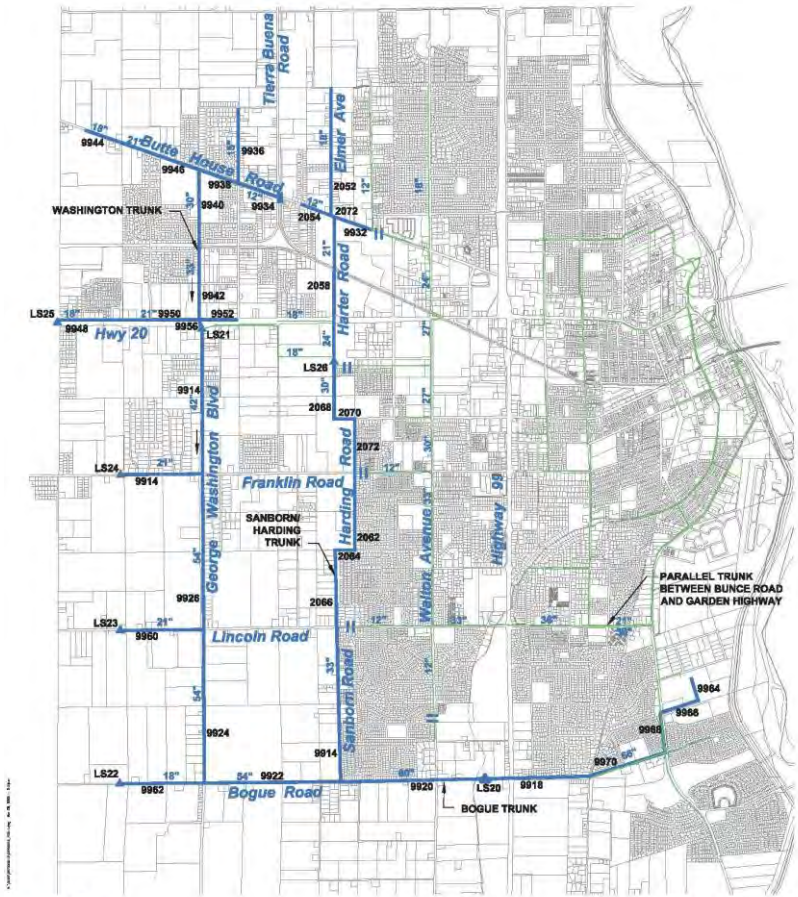
CONNECTION FEES



Connection Fees



- Designed to recover the capital costs of the treatment plants and backbone transmission and collection lines for water and wastewater
- Increase July 1st of each year based on the ENR Construction Cost Index

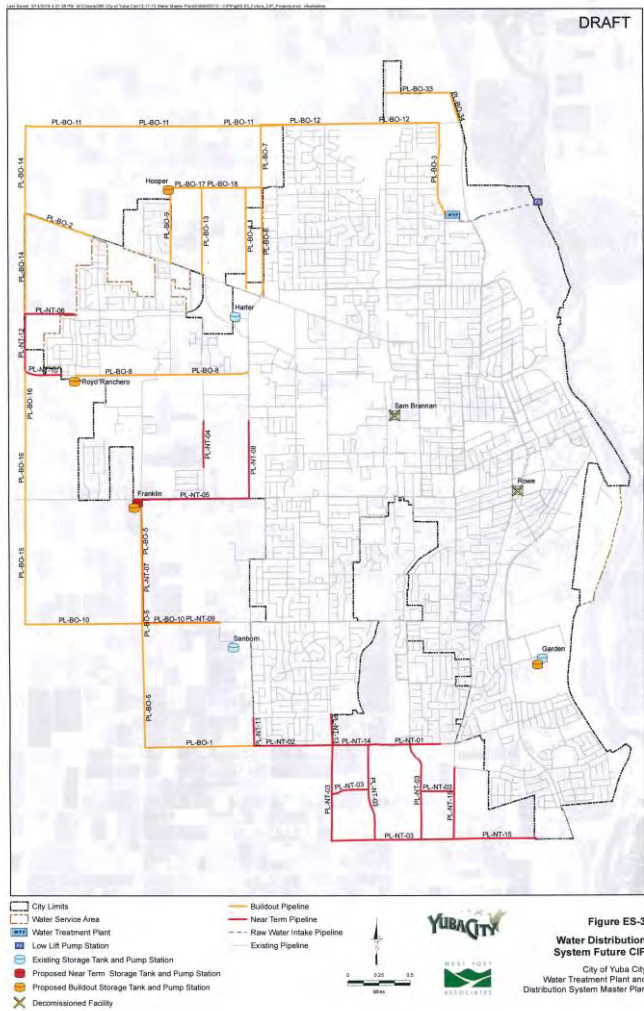


LEGEND

- PROPOSED FUTURE SEWER LINES
- EXISTING SEWER LINES
- PROPOSED FUTURE LIFT STATION
- FUTURE LINE SEPARATION
- DIRECTION OF FLOW IN SEWER LINE
- 2068 NEW PIPE ID IN MODEL
- NEW LIFT STATION ID

Kennedy/Jenks Consultants
YUBA CITY
INFRASTRUCTURE IMPROVEMENTS
2030 SCENARIO WITH PIPE ID LABELS
ALTERNATIVE 1

DECEMBER 2005
FIGURE ES-1
 K/J 0570009.13



Connection Fees



- Fees are due at the owner's option at either the issuance of building permit or at certificate of occupancy
 - Water – Amount of fee shall be those in effect at **time of building permit issuance**
 - Wastewater – Amount of fee shall be those in effect **at the time the fees are paid** (building permit issuance or certificate of occupancy)

Connection Fees



$$\text{Connection Fee} = \frac{\text{Cost of Infrastructure to Serve New Development}}{\text{Total Equivalent Dwelling Units for Buildout of Sphere of Influence}}$$

Water Connection Fees



- Fee is based on meter size

Meter Size	Maximum Continuous Flow Rate (GPM)	Connection Fee
1"	25	\$8,349.01
1 ½"	50	\$16,698.03
2"	100	\$33,396.04
3"	400	\$133,584.19
4"	800	\$267,168.36

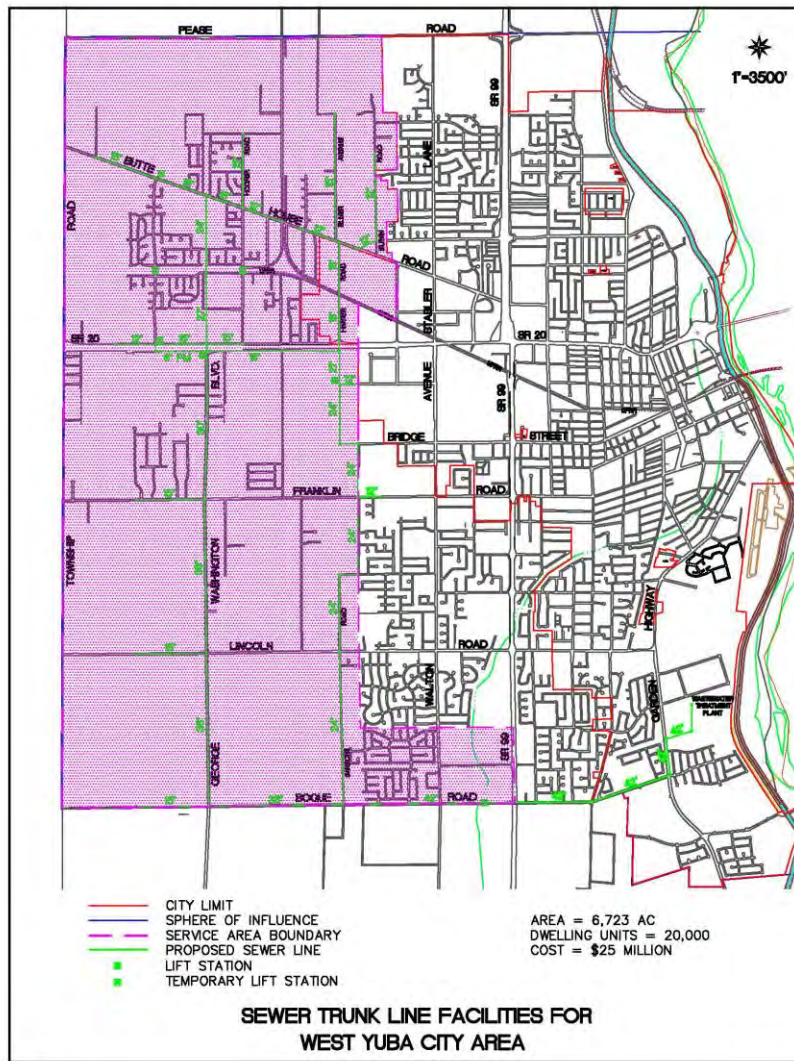
Wastewater Connection Fees



- Fee is based on residential vs non-residential uses

Land Use	Connection Fee	West Yuba City Sewer Trunk Line Fee
Single Family Dwelling	\$7,114.91 each	\$1,696.42/lot
Multi-Family Dwelling	\$6,403.09 each	\$1,696.42/lot
Commercial/Industrial	\$288.14/fixture unit	\$67.79/fixture unit

West YC Sewer Trunk Line Fee



SEWER TRUNK LINE FACILITIES FOR
WEST YUBA CITY AREA



Connection Fees



- With the completion of the Water Master Plan, staff will be re-evaluating the water connection fee and bring to Council for direction
- Once the Wastewater Master Plan is completed (end of 2019), staff will re-evaluate the wastewater connection fee

OUTSIDE CONNECTIONS



Outside Connections



- City periodically receives requests for connection to water and/or wastewater from properties located outside of the City Limits

Past Practice



- For many years, the City required property owners outside of the City Limits to execute utility service connection agreements stating that the property could connect to City services, and in exchange, must waive their rights to protest future annexations

Past Practice



- No written policy
- Exception
 - 1/1/10 – 6/30/10 and 6/1/11 – 6/30/11
 - Council adopted ordinances allowing all private well water users of record within the City's water service area an opportunity to connect to City water without requiring a utility service connection agreement

Options

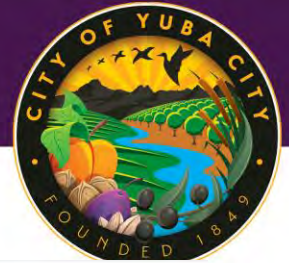


- Direct staff to prepare a policy for Council consideration. Options include:
 - Allow properties to connect with no requirements
 - Allow properties to connect with the execution of a utility service connection agreement
 - Require annexation prior to connection to City services

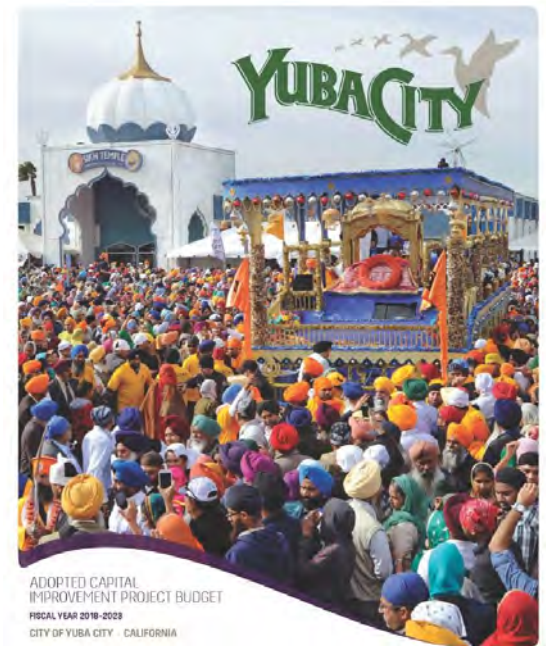
CAPITAL IMPROVEMENT PROGRAM



Capital Improvement Program



- The Capital Improvement Program (CIP) is a 5-year plan for the maintenance and expansion of public facilities and infrastructure



ADOPTED CAPITAL
IMPROVEMENT PROJECT BUDGET
FISCAL YEAR 2018-2023
CITY OF YUBA CITY • CALIFORNIA

Capital Improvement Program



- How is the CIP developed?
 - Water and Wastewater Master Plans
 - Existing capital rehabilitation/replacement
 - Infrastructure to serve new development
 - Operational needs identified by staff
 - Regulatory requirements

CIP - Water



- Current Projects
 - Barry School Water Transmission Line
 - Cellular Water Meter Replacement
 - Groundwater Well Abandonments
 - Pressure Surge Relief Facility
 - WTP Electrical Instrumentation and Control System Improvements

CIP - Water



- Current Projects
 - Harter Water Tanks Coating
 - Second Groundwater Well at the WTP

CIP - Water



- 2019 Water Treatment Plant and Distribution System Master Plan provides a recommendation for a CIP for the Water Treatment Plant and Distribution System
 - 20-yr planning horizon
 - Total estimated capital cost - \$100+ Million

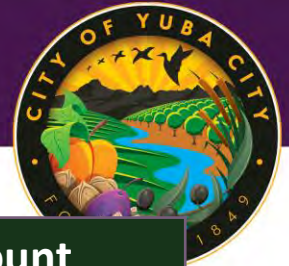
CIP - Water



- Recommended key projects over next 10 years

Project	Estimated Capital Cost
Supply Improvements	\$4.5 Million
Low Lift Pump Station	\$0.3 Million
Water Treatment Plant Improvements	\$16.1 Million
Booster Pump Station/Tank Improvements	\$12.6 Million
Pipeline Replacement	\$30 Million
Total:	\$63.7 Million

Water Grants



Grant	Year	Amount
Stimulus Water Meter Retrofit Project	2009	\$2,900,000
Groundwater to Surface Water Conversion	2010	\$1,800,000
Raw Water Intake and Pump Station Improvements	2011	\$900,000
Low Lift Pump Station Improvements	2012	\$3,900,000
Prop. 84 Water Line Extension Project	2013	\$7,900,000
Cellular Water Service Meter Installation	2018	\$4,000,000
Second Groundwater Well at WTP	2019	\$750,000
Total:		\$22,150,000

CIP - Wastewater



- Current Projects
 - Wastewater Treatment Facility (WWTF) Improvements
 - Wastewater System Master Plan Update
 - Wastewater Collection Rehabilitation Project
 - Stonegate Treatment Works Demolition

CIP - Wastewater



- Current Projects
 - WWTF Chlorine Contact Basin Rehabilitation
 - WWTF Outfall/Diffuser Replacement

Wastewater Grants



Grant	Year	Amount
Wastewater Treatment Facility Improvements	2011	\$3,000,000
Downtown Sewer Replacement	2012	\$3,000,000
Recycled Water Study for WWTF	2016	\$75,000
Total:		\$6,075,000

Future Council Consideration



- Water and Wastewater Rates
- Water and Wastewater Connection Fees
- Outside Connections
- Capital Improvement Program
- Water and Wastewater Municipal Code Updates

Questions?

