

City of Woodland Recycled Water Utility

July 19, 2018

Recycled Water Project



Recycled Water Quality

Constituent	Units	Groundwater Water Quality	Recycled Water After Water Supply Project
Electrical Conductivity	mmhos/cm	0.9	0.8
Total Dissolved Solids	mg/L	550	490
Ortho-Phosphorus	mg/L	No Data, likely <1	3
Turbidity	NTU	0.01	0.5
Fluoride	mg/L	0.15	0.7
Ammonia	mg/L	No Data, likely < 1	<1
Boron	mg/L	2.35	0.60
Aluminum	ug/L	No Data	Non detect
Barium	ug/L	0.22	20
Boron	mg/L	2.35	0.60
Calcium	mg/L	60	90
Chromium	ug/l	16.4	Non detect
Copper	ug/L	3.7	12
Iron	ug/L	176	<300
Magnesium	mg/L	40	30
Potassium	mg/l	2.5	1
Sodium	mg/L	65	100
Total Hardness as CaCO3	mg/L as CaCO3	350	200
Total Alkalinity	mg/L as CaCO3	300	100
Nitrate	mg/L as NO3	25	10
Sulfate	mg/L as SO4	36	6.1

Recycled Water Uses

- Parks and playgrounds including fountains
- Construction water
- Food crops
- School yards
- Industrial or commercial cooling and air conditioning, including any mechanism that causes a mist
- Car washes
- Structural fire fighting

Starting a new Recycled Water Utility

- Financing the project
- Develop recycled water rate structure
- Feasibility Study
- CEQA MND
- Permitting a new utility (RWQCB, SWRCB)
- Concurrent development of O&M Manual, project design, and financial plan
- Construction
- Cross connection surveys

Construction and Operations



Pumps and Discharge Piping



Chemical Feed Station/ Hydropneumatic Tanks



Backup Well



Pipeline Construction



Connection to Biomass



Recycled Water Lessons Learned

- Train WPCF staff that they have a customer for their product
- Manage pump starts with 4 miles of pipeline
 - Time for RW pumps to respond to demand changes
 - Work with power plant to smooth demands
- Maintain recycled water main disinfection

Maintain Disinfection





Questions?