

Subregional Approach to Water Reuse

Presented by: Andrew Gilmore, P.E.





Who is Victor Valley Wastewater Reclamation Authority?





Who is VVWRA?





VVWRA Service Area





VVWRA

- 215 sq. miles
- 200,000 residents
- 40.5 miles sewers
- 2 pump stations
- 1 regional WRP
- 18 mgd

VVWRA from Centralized Treatment to Subregional Approach

川で見てき、たちをかを行

No. Contraction of the

Subregional Approach Objectives



To conserve potable water

To reduce dependency on groundwater

Implement regional water planning goals



Subregional Approach Objectives



Relieve pressure on main interceptors



Benefit Member Agencies - reuse



Provide additional treatment and collection capacity

Reduces need to expand Regional WRP



Elements of the Subregional Project





Subregional Project Elements Town of Apple Valley





Apple Valley WRP Was Sited in Brewster Park







Subregional Project Elements City of Hesperia



Hesperia WRP Will be Located in Residential Area







Subregional WRPs Will Produce High Quality Recycled Water





Title 22 Reclaimed Water Quality with a Twist

Parameter	VVWRA Proposed Effluent Limit	Title 22 Water Recycling Criteria	Draft Regulation for Groundwater Recharge Reuse	Recommended Effluent Design Criteria
рН	6.5 - 8.5			6.5 - 8.5
BOD ₅ (mg/L)				
Avg. Monthly	10			10
Avg. Weekly	15			15
Max. Daily	30			30
TSS (mg/L)				
Avg. Monthly	10			10
Avg. Weekly	15			15
Max. Daily	30			20
Total N (mg/L)			5	8/4
Turbidity (NTU)				
24-hr 5% of time sample max.		0.2		0.2
Any time max.		0.5		0.5
Total Coliform (CFU/100 mL)				
7-day median max.		2.2		2.2
30-day one sample max.		23		23
Single sample max. any time		240		240



Unique Design Approach Used One-Plant Concept





Both WRPs Were Developed as One Design Model



Brief History of the Path to the Subregionals



Sewer Master Plan Includes Subregional WRPs







20 Years in the Making





Funding Approach





VVWRA Obtained \$12M in Funding



Public Outreach and Member Agency Approvals

Apple Valley WRP Incorporated Existing Facilities



Focus on Blending into Park Settings





Will there be fecal matter in the air?

Hesperia Community Comments

Odor Control Approach

Headworks Building

> Process structure below ground

Foul air piping, below ground

Bio-filter

Bio-filter

Bio-filter





Hesperia WRP Proximity to Homes



Illustration of Height of WRP



Site of Screening of Perc Ponds



View of WRP Entrance



View as Residents Leave for Work



View as Residents Head Home from Work



Questions agilmore@carollo.com





Thank You

