Grand Prize – Environmental Sustainability
Kennedy Jenks Consultants and AECOM
Antelope Valley-East Kern Water Agency (AVEK) – Westside Water Bank

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Presentation Overview

- AVEK Service Area
- Water Supply
- Water Banking Strategy
  - Water Supply Stabilization
  - THM Compliance
- Recharge Approach
- Extraction Wells and Conveyance
- 2014 Results
AVEK Service Area

- Wholesale supplier
- 2,300 square miles
- Los Angeles and Kern Counties, CA
  - Mojave Desert area
  - Edwards Air Force Base
- 20+ municipal retailers, agricultural, and industrial users
Water Supply

- **CA State Water Project Contractor**
  - 144,800 AFY Table A Allocation
  - 60,000 AFY average demand

- **SWP highly variable**
  - 5% to 80+% allocations
  - Average 58%

- **Groundwater basin is currently in an adjudication process**
Water Bank Strategy

- **Water Supply Stabilization**
  - Bank surplus SWP water during wet and normal years and extract the banked water during dry years

- **THM Compliance**
  - Substitute SWP treated water with extracted (low TOC) groundwater for one quarter out of the year
  - Blend the SWP treated water with 50 to 70% groundwater for multiple quarters
Water Bank Layout

- 1,500 ac property
- Recharge up to 50,000 Ac-Ft/year
- Extract 90% of recharged water:
  - Phase 1 – 20,000 Ac-Ft/year
  - Phase 2 – 40,000 Ac-Ft/year
Turnouts with Above-Ground Piping
Low-berm Flooding of Agricultural Fields
Sub-regional Groundwater Model

Maximum Mounding

Maximum Drawdown
Well Capacity – Varies with Static Water Level
Extraction Wells: 50 to 400 HP
Construction in 2013
Chlorination System: Sized for 50 mgd
Control and Automation

[Diagram showing water plant control and automation metrics and statuses]
2014 Results

- Saved the Day during 2014 Drought!
  - Produced 15,000 Ac-Ft
  - Nearly 50% of 2014 supply

- Excellent water quality
  - Low distribution system THMs