

CA WateReuse Los Angeles Chapter April 10, 2018





HDR

- Aaron Meilleur, PE
- Jennifer Duffy, PE
- Steve Friedman, PE, PMP, BCEE

HDR provides a full service menu

for all flavors of water



HDR currently ranks No. 8 in ENR's Top 500 Design Firms HDR ranks No. 6 in Water HDR ranks No. 5 in Wastewater

In Southern California, we have local experts in

- Water, Recycled Water and Wastewater Master Planning
- Pipeline, Pump Station and Treatment Facility Design
- Utility Management Services (Rates, Operations, etc..)
- Asset Management/Rehab and Replacement Prioritization
- Condition Assessment/Corrosion Prevention
- Water Resources and Stormwater

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HDR is helping advance RW use across the U.S.



Reclamation Facility, Norman, OK

Water, Miami, FL

HDR's Southern California Reuse Projects

• Water Reclamation Treatment Facilities

- Irvine Ranch WD
- West Basin MWD
- Barstow
- Rincon Indians
- Mammoth Community WD
- Victor Valley WRA

• RW Distribution System Design/Condition Assessment

- Rowland Water District
- Walnut Valley Water District
- Elsinore Valley MWD
- Eastern MWD
- City of San Diego

• RW Master Plans

- Carlsbad MWD
- West Basin MWD
- Rowland Water District
- Las Virgenes Water District
- City of Riverside Public Utilities







Recycled Water Master Plan

City of Riverside, Public Utilities

- Market Analysis
- New hydraulic model
- Evaluation of multiple alternatives for proposed facilities
- Selection of a phased approach of the most economical alternative based on life-cycle cost analysis
- Preparation of a phased capital improvements program



Wildomar Recycled Water Phase 1 Expansion

Elsinore Valley Municipal Water District

- Market Analysis
- Hydraulic Modeling
- Designed over 6 miles of pipeline
- System served 12 municipal customers including schools and parks



Edward C Little WRF Phase IV Expansion (Design Build)

West Basin Municipal Water District

- HDR provided design-build services to increase the capacity of sea water barrier to 12.5 mgd and increase the capacity of Title 22 water to 40 mgd.
- HDR was the owner's representative for the Phase V project which expanded the tertiary system from 40 to 50 mgd and expand the barrier from 12.5 to 17.5 mgd.
- The HDR team led the district's research team in identifying emerging contaminants and new treatment processes required to achieve water quality goals.



Michelson Water Reclamation Facility

Irvine Ranch Water District

Phase 2 Expansion Design - from 18 to 28 MGD

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Recycled Water Salt Management Plan Irvine Ranch Water District

- Salt Management Plan that considered historic, present day, and future salt balance analyses
- Quantifies salt concentration limits for recycled water customers and identifies costs and benefits of mitigation strategies
- Solutions from both the potable water and wastewater perspective were evaluated

Direct Potable Reuse Communication Plan

WateReuse Research Foundation





Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse



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North City Conveyance Pipeline

Pure Water San Diego

- Currently Under Design
- 7.5 mile, 48 inch welded steel Pipeline and 53 cfs Pump Station
- Will convey Pure Water from San Diego's North City WRF to Lake Miramar
- Assessed multiple alignment alternatives with tunneling options
- Selected the alignment that saved cost and schedule, and minimized community impact



