

The background of the slide is a photograph of a water treatment plant, featuring large industrial pipes, metal structures, and walkways. The image is overlaid with a semi-transparent blue filter.

eaiwater

Leaders in Managing Water

Leaders in Managing **Water**

Los Angeles Better Buildings Challenge

December 10, 2021

About Us



- 35 years of water treatment leadership in SoCal
- Hundreds of customers across the Western United States
- Middle market firm with large company sophistication
- Focus on water savings, chemical use reduction, and short-term customer ROI
- Certified Small Business

- Launched out of EAI in 2016 with focus on reliability-centric water conservation
- Uses proven technologies and uniquely applies them to high water use systems
- Designed “Hospital of the Future” with prominent healthcare provider in 2020



Our Team



Michael Warady - CEO

- **Degree and College:** BA, Duke University, MBA-MEM Yale University
- **Years in Industry:** 10
- **Relevant Experience:**
 - Leader of AquaTECTURE infrastructure division – CA leader in onsite water reuse
 - Edison Water Resources – brackish groundwater desalination team
 - Oasys Water – industrial wastewater treatment and reuse
 - Industrial Water Advisory Board, International Desalination Association



Peter Brooks – Chairman

- **Degree and College:** BA, MBA-MPP Harvard University
- **Years in Industry:** 15
- **Relevant Experience:**
 - Leader of waterTALENT, nationwide network of water/wastewater expert.
 - Advanced water treatment, water reuse, advanced disinfection for Xylem (NYSE:XYL)
 - NLine Energy, micro-hydro renewables and steam energy recovery
 - USMC Infantry Captain, 2x Iraq War Veteran



Chris Bellizzi – General Manager

- **Degree and College:** BS Chemical Engineering, University of Washington
- **Years in Industry:** 26
- **Relevant Experience:**
 - Earned CWT (Certified Water Technologist) the highest certification in the industry
 - Earned ASSE Certified Legionella Water Safety and Management Specialist in 2020
 - Keynote speaker at APPA on chilled water/TES best practices
 - Area Manager, District Manager and Regional Manager for Nalco Company from 1994-2006

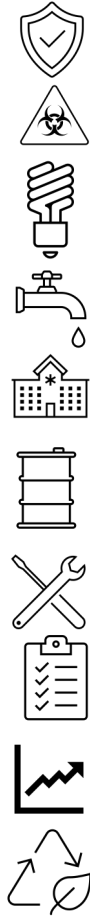


Steve Mosher – Managing Partner, ApHinity

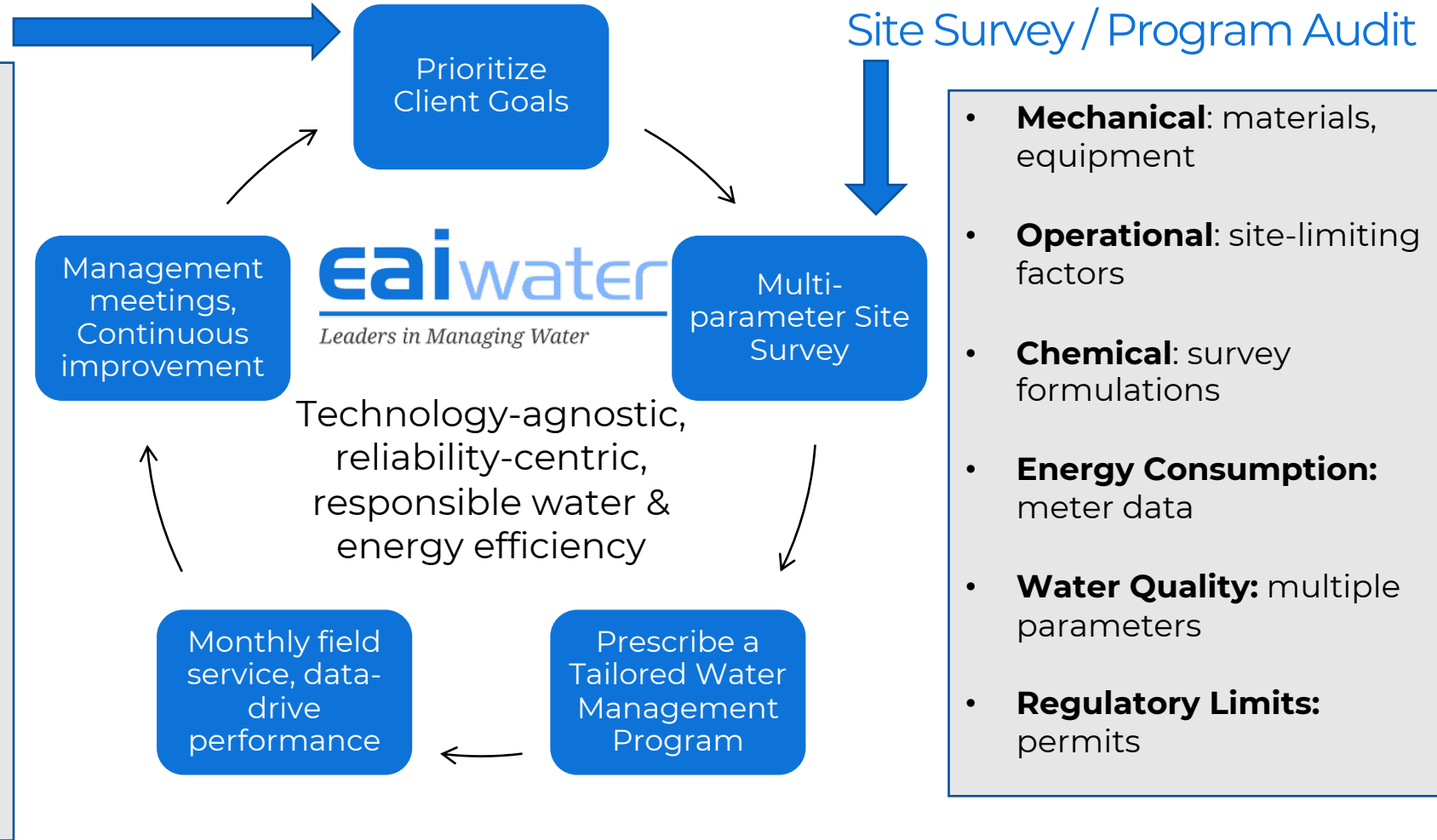
- **Degree and College:** BS Engineering, Kansas State University
- **Years in Industry:** 26
- **Relevant Experience:**
 - Founding Managing Partner at ApHinity from EAI
 - Business Development Leader, Dober Chemical
 - District Manager, Nalco

EAI's Site-Specific, Lower Total Cost of Operation

Client Goals



- Reliability-Centric Operations
- Waterborne Pathogen Prevention
- Energy Efficiency
- Responsible Water Efficiency
- Asset Preservation
- Reduce Chemical Supply
- Lower maintenance needs
- Regulatory compliance
- Financial return
- Sustainability / LEED Goals



Site Survey / Program Audit

- **Mechanical:** materials, equipment
- **Operational:** site-limiting factors
- **Chemical:** survey formulations
- **Energy Consumption:** meter data
- **Water Quality:** multiple parameters
- **Regulatory Limits:** permits

ApHinity's Mission and Philosophy



ApHinity's Technologies + Services

- Disruptive non-chemical devices or onsite generation to:
 - ✓ Lower water consumption
 - ✓ Lower chemical usage
 - ✓ Preserve asset life
 - ✓ Improve the total cost of operations.
- Examples of Technologies:
 - Chlorine Dioxide
 - Engineered Resin Technology
 - Irrigation Water Treatment



ApHinity CIO2 Installation in a major Hospital in California providing millions of gallons of water savings in the first months of operation

Applications and Industries

- Applications:
 - Cooling tower blow down treatment
 - Cooling tower pretreatment
 - Reverse osmosis reject recycling
 - Wastewater effluent recycling
 - Heavy metals removal
 - NOX and Carbon air pollution removal
- Industries:
 - Commercial and Institutional
 - Healthcare
 - Manufacturing
 - Electronics
 - Commercial Laundry

Case Studies: Reliability-Centric Water & Energy Efficiency



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Case Study Large Regional Hospital

Large regional hospital implements TDS-reducing technology in cooling tower make-up water to save water, save energy, lower chemical usage, and preserve equipment life.




ANNUAL SAVINGS

Water  Saved
Reduced water usage by
2.5 MILLION GALLONS ANNUALLY
15% Water Savings

Productivity 
Sewer discharge lowered by
4,000 lbs/ year
Extended life of capital equipment
with no operational impacts


SAVINGS DELIVERED
\$65,000 the first Year



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CASE STUDY: Large Regional Hospital

To maintain the safety, reliability, and security of their facility, one large regional hospital turned to EAI to bring their microbial management program up to industry standards



VALUE DELIVERED

Reliability and consistency

Brought facility up to industry best practice (CTI) standard for legionella prevention in evaporative cooling systems and eliminated the historical swings in performance

SAFETY & RELIABILITY

EAI's treatment program delivered a:

71% REDUCTION

of potentially harmful total aerobic microbial activity

Case Study: Data Center



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CASE STUDY: Data Center Complex

Under threat of shutdown for excessive sewer discharge and in need water and cost savings, a large data center complex turns to EAI for the solution



ANNUAL SAVINGS



WATER

Reduced water usage by

5.5 million gallons
per year



ASSET PROTECTION

No detectable change in system integrity in

11 years of operation

Maintaining corrosion risk levels at 95% lower than industry-accepted levels

VALUE DELIVERED

100% Compliance

Has met and far exceeded any regulatory limitations that would threaten operations

EAI: LEADERS IN MANAGING WATER

The team at EAI, with 35+ years of operation across Southern California in some of the region's premier Hospitals, Universities, Airports, Data Centers, Manufacturing, and Government facilities was selected to implement a proven, novel water treatment program to bring the system into compliance and deliver water and cost savings while allowing the critical data center to continue operations.

Call us for any questions

(951) 272-8200

www.eaiwater.com | eai@eaiwater.com

BACKGROUND

In 2008, a large Data Center Complex in the Inland Empire of Southern California approached EAI to solve two challenges with their industrial process water. The **first** challenge was to **conserve water**. The **second** was to achieve **regulatory compliance** in their industrial sewer discharge.

The local Sanitation District required the complex to reduce industrial sewer discharge from 30,000 gallons per day to less than 23,385 gallons per day, a 22% decrease.

Out of compliance for some time, the complex began receiving negative media attention for being non-compliant with their discharge permit and was labeled as a "Gross Polluter" and risked being shut down completely.

The evolution of information technology systems away from local area networks to cloud-based, web-connected, data storage, has required these data centers to operate perfectly, with 100% uptime, and entirely uninterrupted. A single downtime event could spell the end of the road for a critical data center.



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SOLUTION

EAI, working with the client, implemented an Engineered Resin Technology (ERT) system that prevents scale deposits while minimizing corrosion attack and microbiological activities in recirculated evaporative cooling water systems.

The system allows users to significantly increase cycles of concentration and lower bleed requirements to less than 10% of evaporative losses.

This site-specific, ion exchange process uniquely pre-treats and conditions facility make-up water prior to entering an industrial facility. The ion exchange tanks and resins are custom designed, engineered, configured, and installed to address and condition the complete spectrum and profile of constituents in the make-up water delivered to the facility.

Traditional sodium exchange water softeners increase pH, do not purify water, increase solids content in the water, add sodium contaminants and do not address the issues of regulatory discharge criteria.

CONCLUSION

By taking a site-specific, client-centric, scientific approach to identifying the best treatment regime to meet the goals of the client, EAI developed a project that brought this critical data storage facility into compliance with discharge limits, while also delivering water savings, chemical savings, and ensuring sustainable operational uptime all the while extending the asset life of the capital equipment.

Learn more about how EAI can help you too become Leaders in Water Management at

www.eaiwater.com

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Contact Us

1307 West 6th Street
Suite 203, Corona, CA 92882-3173

 915-272-8200

 michael@eaiwater.com

 <https://eaiwater.com>