Recycled Water
Dual Plumbing for Apartments
UCSB Housing, Dining & Auxiliary Enterprises

CHESC 2017
• Residential Operations within HDAE
  o Over 10,000 residents
  o 3.1 million gsf of facilities
  o 250 acres of Grounds
  o $300M in major capital projects over past 5 years
  o Total 214 FTE staff, annual budget of $16.4M with another $4M in major maintenance repairs.
• Even with winter rains, SB County still in drought

ONE ABOVE AVERAGE YEAR WILL NOT END THE DROUGHT

GOLETA INCHES OF RAINFALL PER YEAR

After five years of below average rainfall, this year’s storms produced 25 inches or 7 inches more than normal. It is estimated two years of above average rainfall would be needed to end the drought.
Regional Water Supply

Winter 2011
View of Bradbury Dam from the lookout point

Fall 2016

Winter 2014
View of the Intake Tower which feeds the South Coast Conduit

Fall 2016
San Joaquin Villages
San Joaquin – Tenaya Towers

- Entire site irrigated with recycled water
- Dual plumbed domestic water... 358 bed spaces across 62 apartments, 105,428 gsf between the two towers
- 116 toilets all dual-plumbed
• From meter connection underground into each Tower, fills storage tanks and pumped to the roof of each Tower, one 900 gallons and the other 600 gallons.

• Dual plumbing to each toilet down bathroom stacks.
Collaboration among Jurisdictions

- Architects
- Engineers (Mech./Civil)
- CM At-Risk
- Specialized Consultants (Dudek)

- HDAE Operators
- Design Facilities & Safety Services
- Environmental Health & Safety

- RWQCB
- Title 22 Review
- Code Enforcement

- GWD Inspectors and Plan Review
- SB County Public Health
• Three Plan revisions took over a year to reach final approval by GWD.
  o Should have had a Certified Water Cross Connection Specialist on board from beginning.
• Annual Inspections and testing with GWD will be a challenge, testing procedures are still being developed, during occupancy?
• Potable Water backup at all times with air gap to holding tank
Costs & Benefits

- Recycled water is 1/5 the cost of Potable
  - Construction cost for dual plumbing was $290,000 and consultant fees were $87,450
  - At roughly 648,000 gallons per year = $5,650/year saved
- Developed precedence for future projects to follow permitting & inspection procedures.
- Educational benefit for residents & conferees.
90% of water used for irrigation is reclaimed.
UCSB potable water cost has increased approximately 43% from 2005-2015, and potable water use (per SF) has reduced by nearly 47% during same ten years.
Any Questions?

Thank You...

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