

# WATER PETAL CASE STUDY AFFORDABLE HOUSING IN LOS ANGELES

By the time California Gov. Jerry Brown announced the end of a six-year drought in his state in April of 2017, hundreds of thousands of acres of farmland had gone unplanted and 70 million trees in the Sierra Nevada had fallen to pine beetles. Meanwhile, California homeownership ranked the second lowest in the nation, and 13 percent of the state (predominately low-income residents) were paying more than 2 percent of their income in water bills. While the impacts of the drought and status of affordable access to clean water were unprecedented, the situation also presented an opportunity to the state. In an increasingly hot and unpredictable world, how can California ensure that everyone has access to affordable and clean water? One answer: aggressive water reuse piloted by those who can benefit most.

## DROUGHT AS OPPORTUNITY

Affordable housing developers have been early advocates of high efficiency systems. Many of them are non-profit owners, so savings on energy and water bills help their projects pencil out. In some cases, it even allows them to pass financial benefits directly on to the tenants.

Though they were committed to integrating greywater infrastructure into their projects, Community Corporation of Santa Monica (Community Corps.) and A Community of Friends (ACOF) - non-profit affordable housing developers in the LA area - discovered that one primary barrier was the convoluted and occasionally prohibitive regulatory process. Greywater reuse guidelines were adopted into the State's plumbing code in the early 1990's, but it was up to each individual jurisdiction to permit the systems. More often than not, cities were too concerned with liability and operations questions to allow their installation.

The drought created a renewed interest in preserving potable water and using the appropriate water for the right task. ACOF was able to partner with jurisdictions around Southern California to implement programs and create regulatory pathways to deploy next generation water systems on two of their projects, Cedar Springs and Silver Star, both of which are part of ILFI's Affordable Housing Pilot Program.

### LOCATION

LOS ANGELES COUNTY, CA

### TYPE

AFFORDABLE MULTI-FAMILY  
RESIDENTIAL

### CEDAR SPRINGS

#### SIZE

39,193 SQUARE FEET

#### DAILY OCCUPANTS

69 TENANTS

### SILVER STAR

#### SIZE

38,847 SQUARE FEET

#### DAILY OCCUPANTS

49 UNITS

#### CLIMATE

MEDITERRANEAN

14 inches of rain/year

23 days of precipitation/year

### CEDAR SPRINGS APARTMENTS



PHOTO COURTESY BIOHABITATS



# WATER PETAL CASE STUDY POLICY SOLUTIONS

## CEDAR SPRINGS APARTMENTS

Located in the town of La Verne, just outside of Los Angeles, Cedar Springs was ACOF's first Living Building Challenge registered project. The target population is very low income households, earning less than 50% of the average median income. The team worked to permit and install greywater collection, treatment and reuse systems for internal toilet flushing and external irrigation.

Working in a small city outside of LA had its perks - the small local government possessed more flexibility when looking at new and innovative systems as long as the approach was based in science. In fact, when the project team could only cover a fraction of the system's cost, LA County's Community Development Commission increased their funding to cover the remaining expenses. The amount of face-to-face time that the team was able to cultivate with the regulators was hugely beneficial in bringing them on-board. They were all experiencing the same drought and all possessed the same vision - it was only a matter of problem solving together.

ACOF also wanted to use treated greywater in the building's laundry machines. Although it is allowed under state plumbing code, they weren't able to permit it in time. However, the education and groundwork has been laid for future project teams, and ACOF is confident that non-potable sourced laundry machines will be coming to LA County soon.

## SILVER STAR APARTMENTS

The difficulty of working in a state as large as California was put in sharp relief when ACOF tried to permit the exact same greywater system for their Silver Star Apartments in LA shortly after Cedar Springs was approved. The Silver Star development serves a 100% special needs community — veterans who are homeless and living with mental illness. In the process of applying for their permit they were matched with a different permitting official and received a much different regulatory response.

There was no communication between the departments within LA and outside of LA, and they each had different priorities. The project team guided the new regulators through the same educational and visioning exercises as they had for Cedar Springs. However, large metropolitan areas like LA tend to be more concerned with liability. In this case, the regulators wanted to refer to an established standard like NSF 350 (a greywater performance certification) before they would permit the system. The project was forced to wait two years for a commercial NSF 350 system to become available at the correct scale for the Silver Star project. As of the publishing of this report, the greywater system has finally been permitted and is now entering construction.

## SANTA MONICA - LEADING THE WAY

Meanwhile, just west of Los Angeles, the coastal city of Santa Monica has made their commitment to equity and efficiency clear. In 2012, the City set a goal to be water self-sufficient (zero imported water) by 2020. In support of this goal, their building inspector approved an ordinance change that waived the required permitting process (both fees and inspections) for any City administered installations for water conserving devices.

Thus, when Community Corp. started looking into retrofitting all of their properties with Ultra Low Flow Toilets, a partnership with the City of Santa Monica seemed like an obvious next step. Together, they developed a direct install program that met all of Community Corps. goals for water conservation and catered specifically to low-income housing. The City has since expanded its program to include all multi-family residential developments, resulting in savings of almost 11 million gallons per year.

Additionally, the City launched a new water neutrality ordinance in 2017. This ordinance caps the water use for new developments to the existing property's usage. Any additional usage will need to be offset somewhere else in the city.