

CASE STUDY: FILTRATION OF RECLAIMED WATER FOR CAMPUS LANDSCAPE IRRIGATION LONG BEACH CITY COLLEGE



Long Beach City College needed to upgrade and automate its reclaimed water irrigation system. The existing pump was not big enough to allow for automatic filtration. The system had been utilizing a maintenance-heavy manual filter to protect irrigation equipment, and was only able to provide enough pressure to irrigate one zone at a time.

During the upgrade process, a larger pump was selected that would provide enough pressure (min. 40psi) to allow for the use of automatic filtration in the 240gpm system. The architect specified the Forsta B4-180 model filter with 200 micron screen for the job.



The filter was installed by a local contractor in the Spring of 2018. The filter has been operational and trouble-free for over a year and has required no maintenance since the initial installation. Operators have programmed the system to irrigate all of the campus landscape irrigation zones at one time. The landscape itself is evidence of the success of the system, and a glowing example of how reclaimed water can be used to make beautiful green spaces more sustainable.

Long Beach City College is just one location where the City of Long Beach is utilizing its reclaimed water supply to improve water sustainability. According to the Long Beach Water Department, they remain "committed to developing alternative sources of water versus using

precious imported potable water to meet the annual water demands...particularly those using potable water primarily for industrial and irrigation operations.”

The department’s website goes on to explain that, “In an effort to reduce our need to purchase increasingly expensive imported potable water and to further diversify the City's water supply reliability portfolio, the Long Beach Water Department is involved in one of the most aggressive recycled water system expansions found anywhere in Southern California.

The Recycled Water System Expansion Program is primarily intended to connect the recycled water system to new customers, as well as increase the reliability of the distribution system through the completion of looped transmission corridors. The primary elements of the program include the construction of recycled water pipeline, new pump stations, augmentation of water system storage, and the completion of new service connections.

When complete, the expansion program will increase citywide recycled water consumption to approximately 9,000 acre-feet annually, eventually meeting 15 percent of the city's total water demand. The city's recycled water system will stretch from the east side of the City to the west, including a possible connection to Terminal Island. One acre-foot of water is approximately 326,000 gallons.

Highlights of this program include connections to customers with large irrigation operations like California State University Long Beach and the Long Beach Unified School District, in addition to several large parks, golf courses, cemeteries and athletic fields.

The City’s street sweepers also fulfill some of their water demands using recycled water in place of potable water. This has the potential to additionally save millions of gallons of water annually.”

Forsta self-cleaning filters have been incorporated into many irrigation system protection applications, where increasingly these projects utilize some form of non-potable water. Whether from captured stormwater, treated municipal or industrial wastewater, irrigation designs that do not rely on the potable water supply are more efficient, less expensive, and protect valuable water resources.

Forsta self-cleaning filters protect drip tubing and irrigation spray nozzles from debris buildup which can reduce energy efficiency. As irrigation piping and drip tubing orifices become smaller due to buildup it takes more energy to pump water through them. If spray nozzles become clogged, it can cause damage to turf and landscape, and create the need for time-consuming and costly replacement.

Forsta’s self-cleaning systems protect irrigation systems with 100-200 micron screens that keep fine sand, silt and other particles from entering the system. By utilizing available system pressure for cleaning (min. 35psi), Forsta self-cleaning filters consume a minimal amount of energy. Where system pressure is lower (min 15psi) Forsta offers motor-driven filters.

Forsta Filters is proud to be a part of the growing trend towards efficient water use in agriculture and landscape irrigation. With irrigation systems at the forefront of water efficiency in landscape

and agricultural irrigation projects, protecting those systems from clogging is of the utmost importance



About the Author:

Polly Stenberg is Director of Sales with Forsta Filters Inc. - A California-based original equipment manufacturer. Stenberg has conducted case study reviews with customers using Forsta self-cleaning filters in drinking water, wastewater, cooling, agricultural/landscape irrigation and industrial process systems. Polly can be reached at 310-837-7177 x 405 or by emailing polly@forstafilters.com Visit Forsta on the web at www.forstafilters.com

Reference: <http://www.lbwater.org/recycled-water>