

Sustainability 2020 Committee Project Proposal Abstract
Install Water Metering on Un-Metered Buildings, April 2017

Project Description – The University Park Campus is currently served by 3 Los Angeles Department of Water and Power (LADWP) water meters, 2 located along Vermont and one located along Figueroa. The proposed project would install 19 sub meters on 17 buildings with on-line monitoring on buildings which represent various uses on the campus (e.g., residential, labs, health, athletic, academic, dining). The project duration will be approximately 6 months. PED and KSH, are served by 2 domestic water feeds and thus require 2 additional sub meters. The following is a list of buildings by type:

	Building Type	Building Code
1-3	Academic	JKP, KAP, RGL
4-5	Housing	BSR, FLT
6-9	Laboratory	GER, RTH, SSC, ZHS
10-17	Other Large Users	DEN, JMC, HER, KSH, LRC, PED, SGM, UAC

Objectives – The proposed sub-metering will allow the University to better characterize and identify water issues – in real time – on the campus, track conservation efforts and encourage the community to conserve water. The main driver for this project proposal is the lack of building-specific water usage data on the University Park Campus (UPC). Buildings on the UPC campus make up 41% of the total potable water consumed. Installation of these meters will indirectly help the University meet all of the Sustainability 2020 water conservation goals:

1. Decrease potable water usage 10% by 2017 and 25% by 2020.
2. Increase awareness of current water conservation practices.
3. Implement audience-appropriate educational campaigns designed to modify behavior and increase conservation.

Benchmarks

- UC Berkeley – In 2011 Lindsay Miller and Elliot Nahman published a report detailing their water metering project on UC Berkeley’s campus in which a total of 67 new water meters were installed and integrated into the real time monitoring system to help better categorize water use on campus and to provide more data to analyze water conservation efforts. The 2014 Campus Sustainability Report says that campus water use is down 7.7% from 2008 levels and that the university is on track to meet its goal of a 10% reduction by 2020. Data obtained from the new water meters will help Berkeley determine where to focus its next water conservation efforts to meet their goal. The metering project by Miller and Nahman also helped to identify a leak in a bathroom in Wurster Hall. Over a one week test 2,200 gallons of water were lost from this leak.
- Yale – In 2012, Yale installed 23 building-level sub meters to obtain detailed water-use data in locations where single meter accounts served multiple building types. These sub meters were in addition to several dozen meters already in place at both sub-building, single building and multi-building levels. The goal was to have enough sub meters so that building-level performance could be benchmarked. Using these water meters and 299

water meters previously installed by the local water company, Yale determined a baseline of 560 millions of gallons of water used in 2013. To achieve a reduction of 5%, no more than 532 millions of gallons of water could be used in 2016. By using the water meter data, Yale determined seasonal water use, water use by end use, and water use by buildings. By comparing water use in these categories Yale was able to set more specific water reduction goals. To reduce water usage by the 28 million gallons desired Yale plans to reduce cooling and heating water usage by 20.5 million gallons, direct water use by 5.5 million gallons and irrigation water use by 2 million gallons.

- University of Texas – In 2013 the school had water meters tracking water use in 160 buildings on campus and only 9% of on campus water use was not metered. In 2013 meters were being implemented into the large buildings without them. The school uses the data collected from these meters to get an accurate picture of water use on campus. This information helps to determine which buildings to target in water conservation efforts. In FY 2014 only 220,000,000 gallons of water were used in campus buildings compared to 318,000,000 in FY 2009. This equates to more than a 30% reduction in water use and was made possible by accurate information regarding building water usage.

Risk – There is little to no risk for the meter installation project.