SWATeam Meeting

Location: NSRC Room 358

Date: September 30th, 2016

Members Present: Arthur Schmidt, Keith Erickson, Nandakishore Rajapolan, John Berens, Carley Meeks

Minutes:

* Finalizing Poster
  + Adding graphs
* To do:
  + Attend Campus Sustainability Celebration on October 26th, 2016

1. Obtain and publicize more granular water use data by FY16, including water quantity and quality data where available.
   * In progress
   * Water quality report can be found at <http://fs.illinois.edu/services/safety-and-compliance/water-quality/public-water-supply>
   * Access granular water data from Facilities and Services
   * Business Instructional facility- 1 month of water data available
     + Commitment to get continuous readings
2. Improve the water efficiency of cooling towers by limiting the amount discharged to sewer to less than 20% of water intake for chiller plant towers, and less than 33% for stand-alone building towers, by FY20.
   * Complete
   * Pilot study at Regional Office Building
     + Investigated softening, high pH, and a silica treatment regime
     + Water softening is an alternative water treatment to manage dissolved salt left behind from evaporated water in cooling towers while reducing water consumption and ultimately reducing the water discharges to the sewer to zero
     + After implementation of an operational regime at the test building, the discharge to sewers was greatly reduced.
3. Perform a water audit to establish water conservation targets and determine upper limits for water demand by end-use, for incorporation into facilities standards by FY16.
   * Not complete
   * Project requires funding and people to perform study
   * Water meter data available for 1 month at the BIF
4. Inventory and benchmark campus’ existing landscape performance by FY17.
   * In progress
   * Past member of team (David Douglass) created an inventory and benchmarking performance study on two aread on the Southside of Boneyard Creek
     + Report focused on water drainage
5. Through an open solicitation process, implement at least 4 pilot projects to showcase the potential of water and/or stormwater reuse by FY20, with the objective of implementing a broader program by FY25.
   * Not complete
   * A full inventory and benchmarking performance report needs to be completed to identify more feasible projects
6. Investigate the water quality impacts of stormwater runoff and potential ways to reduce stormwater pollutant discharges by FY18.
   * Not complete
   * Potential for student projects
   * Need to encourage further participation by student and staff

Information regarding cooling towers provided by Rajagopalan, Nandakishore

“Zero Blowdown Cooling Towers – Does It Work”

“The University of Illinois at Urbana-Champaign has set a goal of 30% water savings by 2020. As of FY 2014, UIUC has exceeded the goal of 20% water savings but will need to continue taking additional steps to reach the ultimate goal. Cooling towers accounted for about 25% of all water use on campus in FY 2011 and represent a point source with significant potential for water conservation.”

“In evaporative cooling towers, a considerable amount of water can leave the tower as sewer discharge. Reducing the sewer discharge water is possible but needs to be carried out in a manner that prevent formation of surface deposits, corrosion, and biological growth. In a zero blowdown cooling tower, no water is discharged to the sewer during operation, significantly improving the water efficiency of a cooling tower. The Illinois Sustainable Technology Center and Illinois State Water Survey investigated the use of highly softened water coupled with a high silica/high pH operational regime as a pathway to water conservation on campus. The results obtained are very promising and demonstrated water savings of 350,000 - 1,400,000 gallons in one year at one tower through implementation of zero blowdown operations. This project was funded under the “One Billion Gallon Water Challenge Initiative” of the Illinois Sustainable Technology Center, a division of the Prairie Research Institute on campus.”