

# WATER & STORMWATER

The University of Illinois has increased its water conservation efforts, with a potable water reduction target of 40 percent by 2025. Opportunities to utilize non-potable sources will be harnessed, including connecting the existing raw water system by 2020. Two goals are listed for campus water use: 1) reduce annual potable water use by 25% by FY20; and 2) capture and reuse 25% of campus stormwater by FY20. Rather than discharging stormwater, it could be used for irrigation across campus acreage, freeing up potable water for other campus uses. The campus will undertake a number of studies and pilot projects to better understand its water usage and to plan for smarter consumption.

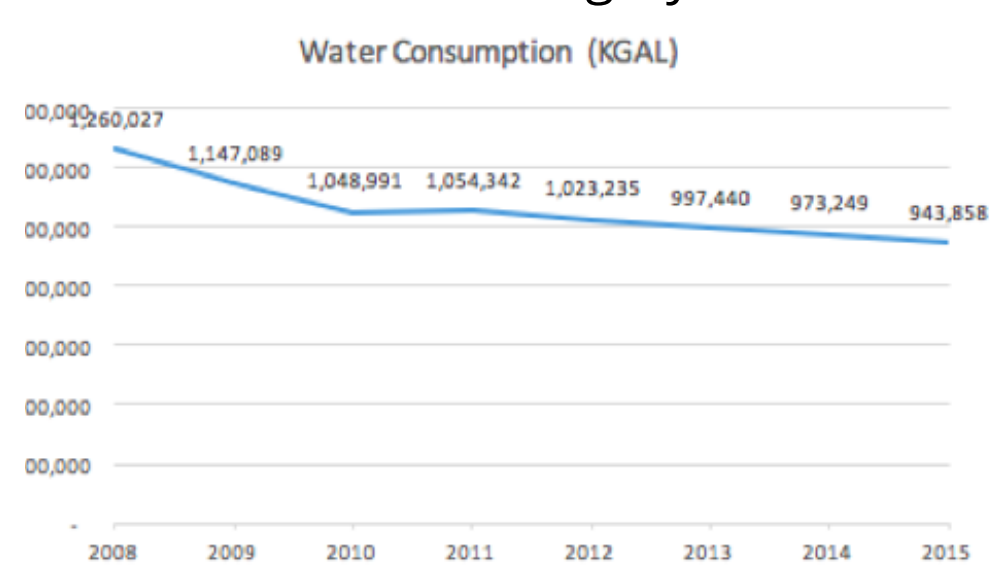
## OBJECTIVES

### 5.1. Obtain and publicize more granular water use data by FY16, including water quantity and quality data where available.



Status:  
In progress

- Water quality report can be found at <http://fs.illinois.edu/services/safety-and-compliance/water-quality/public-water-supply>.
- Funding has been received for installation of a grey water line meter at the Business Instructional Facility. Planned time of installation is Fall 2017.
- Water is metered at five points on campus. Next steps: publicize on website.



### 5.4. Inventory and benchmark campus' existing landscape performance by FY17.



Status:  
In progress

- Undergraduate 2015-16 SWATeam member David Douglas completed a report of inventory and benchmarking performance of two areas on the south side of Boneyard Creek.
- The study concluded that campus will have to implement a variety of strategies that are substantially different than current management practices.

Table : Quantities of campus surfaces that drain to Boneyard Creek

Surface Type	Parking	Street+ Service Drive	Sidewalk	Building	Hardscape	Unpaved	Total Area
Acres	87.47	79.5	81.11	123.55	371.63	321.53	693.16
Percent	12.6%	11.5%	11.7%	17.8%	53.6%	46.4%	

### 5.2. 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.



Status:  
Complete!

- Water softening is an alternative water treatment to manage dissolved salt left behind from evaporated water in cooling towers while reducing water consumption.
- All but two cooling towers managed by F&S have been replaced with connections to a more water-efficient chilled water plant. Methods of water use reduction by remaining towers are still considered until those towers are replaced.
- F&S works to improve water efficiency by reconnecting stand-alone cooling towers to the chiller plant, although modifying the chiller plant is not feasible at this time.

### 5.5. Through an open solicitation process, implement at least four pilot projects to showcase the potential of water and/or stormwater reuse by FY20, with the objective of implementing a broader program by FY25.



Status:  
Not complete

- One project would be studying the continuous use of non-potable water for buildings like the Business Instructional Facility and incorporating water recycling criteria into design standards.
- A full inventory and benchmarking performance report needs to be completed to identify more feasible projects.

### 5.3. 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.



Status:  
Not complete

- F&S completed a month of metering at the Business Instructional Facility, and the study proved promising.
- According to the meter, the building took 169,000 gallons of water during a one-month period.

#### Next Steps:

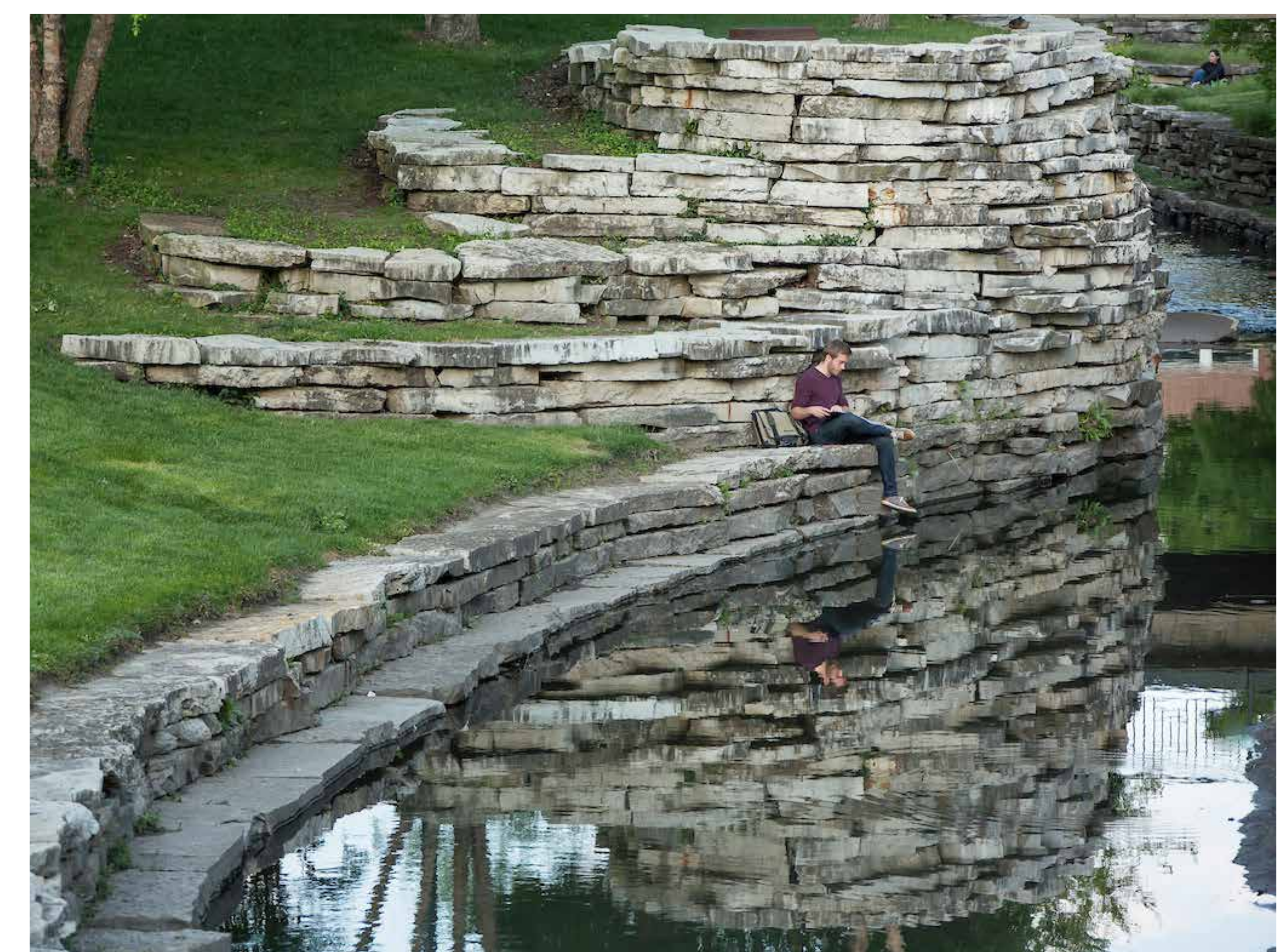
- A student minoring in sustainability plans to complete a water audit on selected buildings, especially considering DRES and NSRC.
- We welcome other students to get involved!

### 5.6. Investigate the water quality impacts of stormwater runoff and potential ways to reduce stormwater pollutant discharges by FY18.

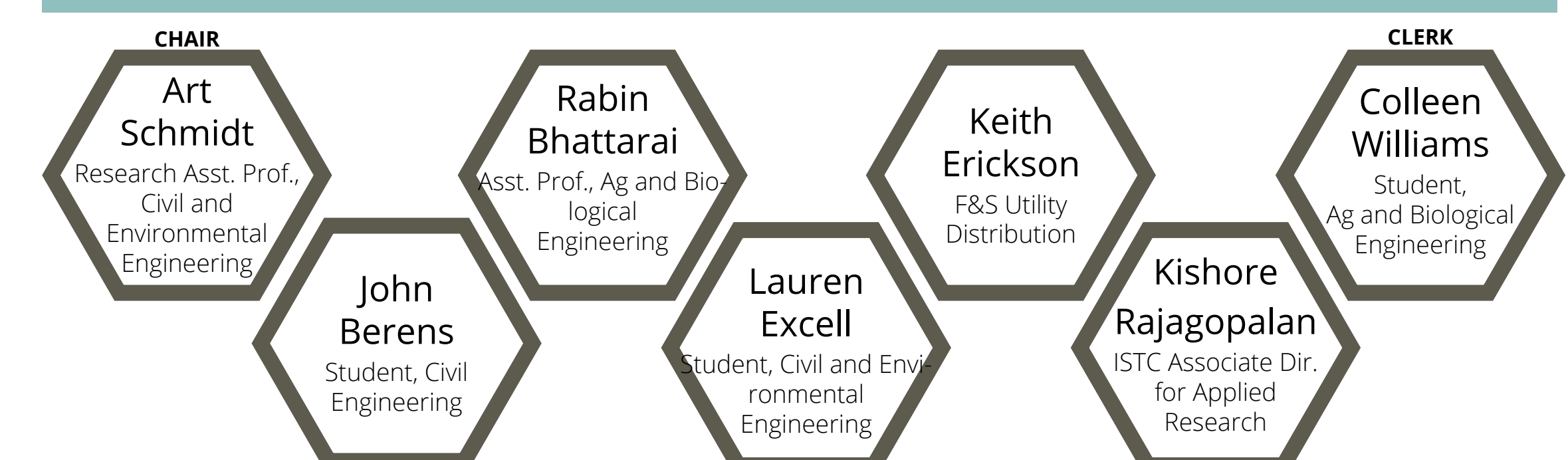


Status:  
Not complete

- Potential for student projects to investigate impacts — especially at the Boneyard Creek, which is the only campus-area body of water that is classified as "impaired."
- Porous parking lot C9 at 5th Street and Chalmers has potential for study, as well as permeable pavement near Wasaja Hall.
- As part of the EPA RainWorks Challenge during Fall 2017, Illinois students will design a reconstruction of the often-flooded parking lot F4 and neighboring street intersection.



## TEAM MEMBERS



## ACKNOWLEDGEMENTS

The Water SWATeam would like to acknowledge the Student Sustainability Committee for providing funding for the installation of the water meter at the Business Instructional Facility, the Illinois Sustainable Technology Center for its study of standalone cooling towers, and Facilities & Services for providing campus water consumption data.