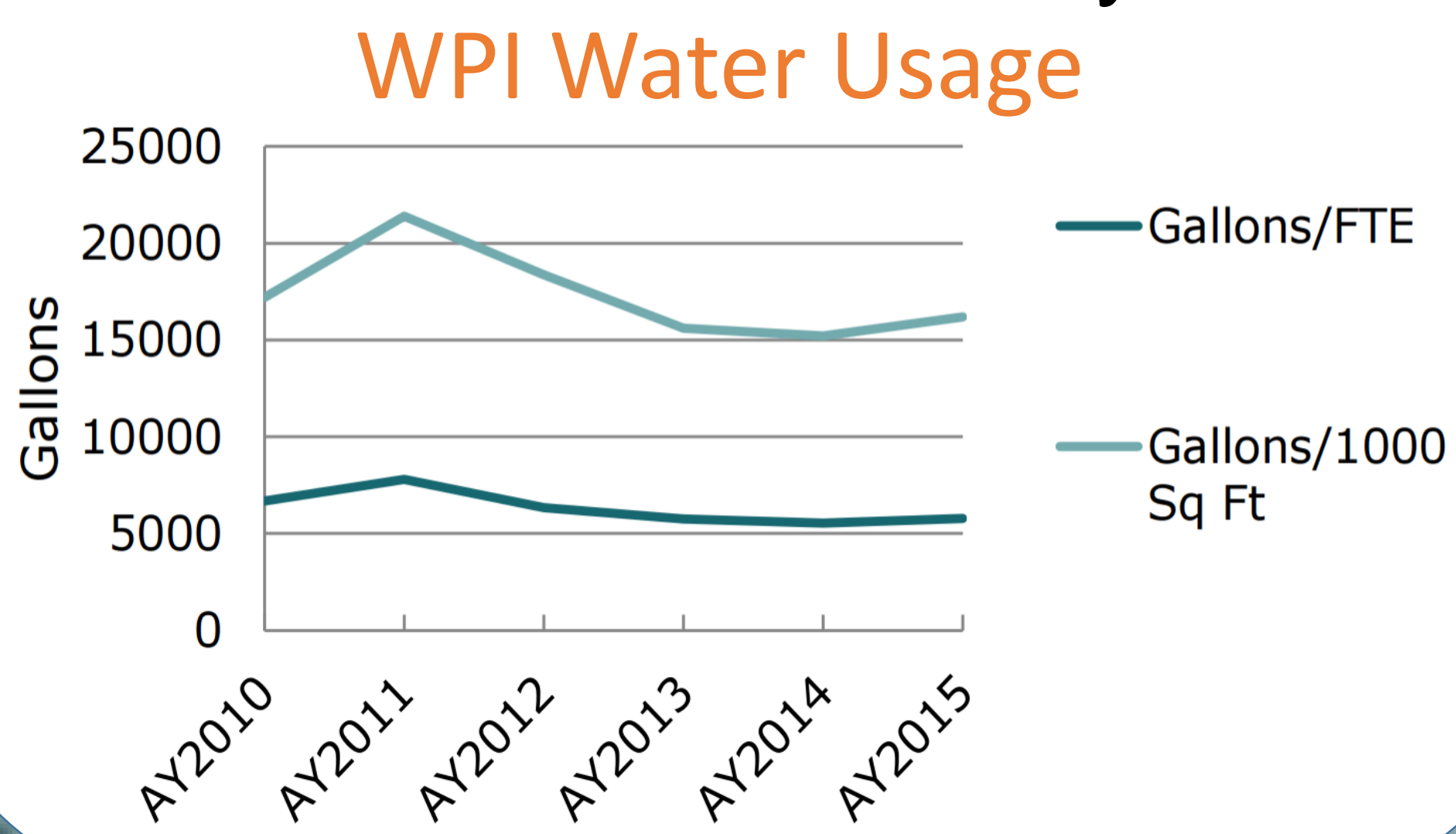




Mark Lightbody (ME), Andrew Salerno (ME), Zhung Moo (CS), Wentao Yuan (RBE)
Advisors: Professor Rosbach, Professor Stoddard

The Problem

WPI is not using water as efficiently as possible. The total campus water usage has increased in the last year.



Rain sensor

Solutions

- Install **rain sensors** and connect them to the existing sprinkler system to eliminate sprinkler activity during rain fall
- Install **low-flow aerators**, in residential bathroom sinks to replace the less efficient aerators which will reduce water usage

Methods

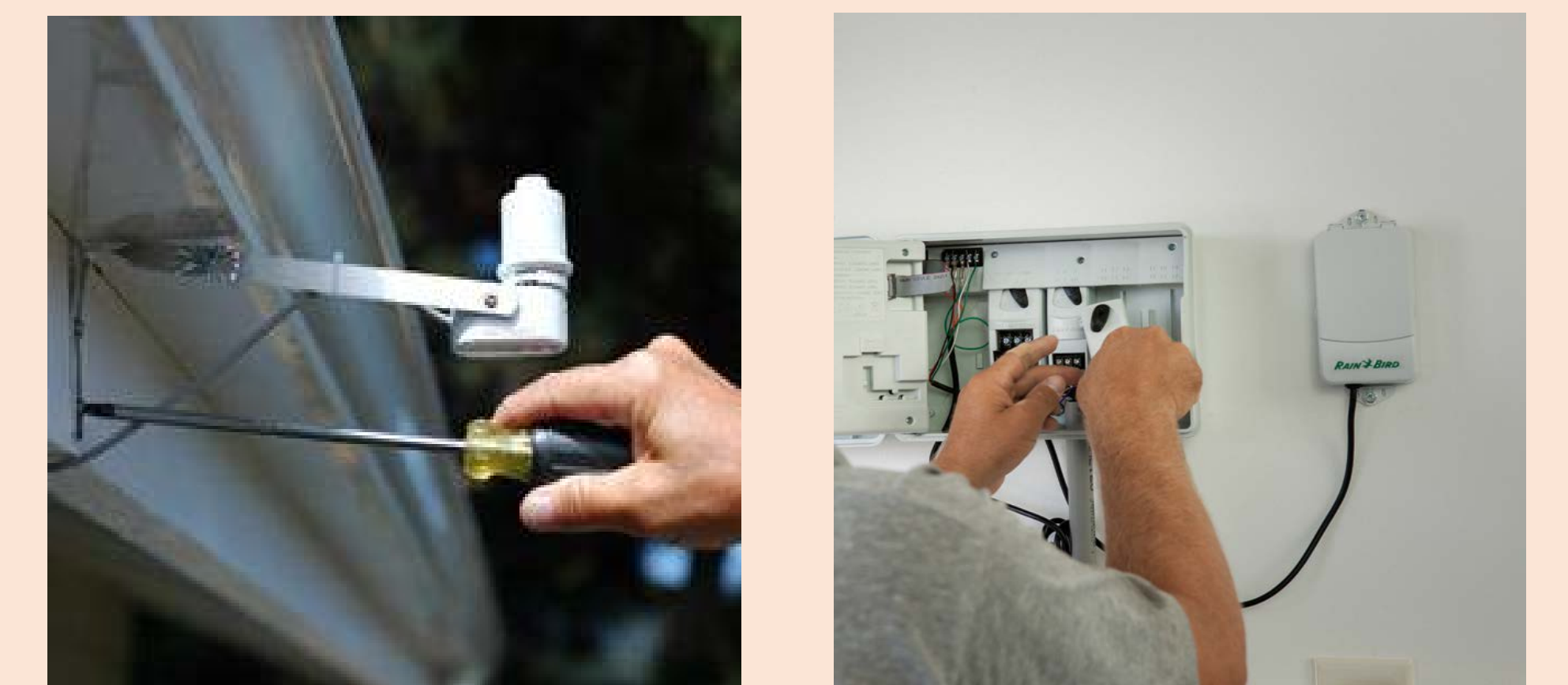
- Data collection & Interviews
- Determined most appropriate solution
- Cost benefit analysis

“**Conservation** is important because there is a **finite** amount of **fresh water**... it is renewable but not at the rate at which we use it.”
- Professor Dehner, WPI

Implementation

Rain sensor

- Buy rain sensors
- Install in predetermined spot
- Wire to control panel

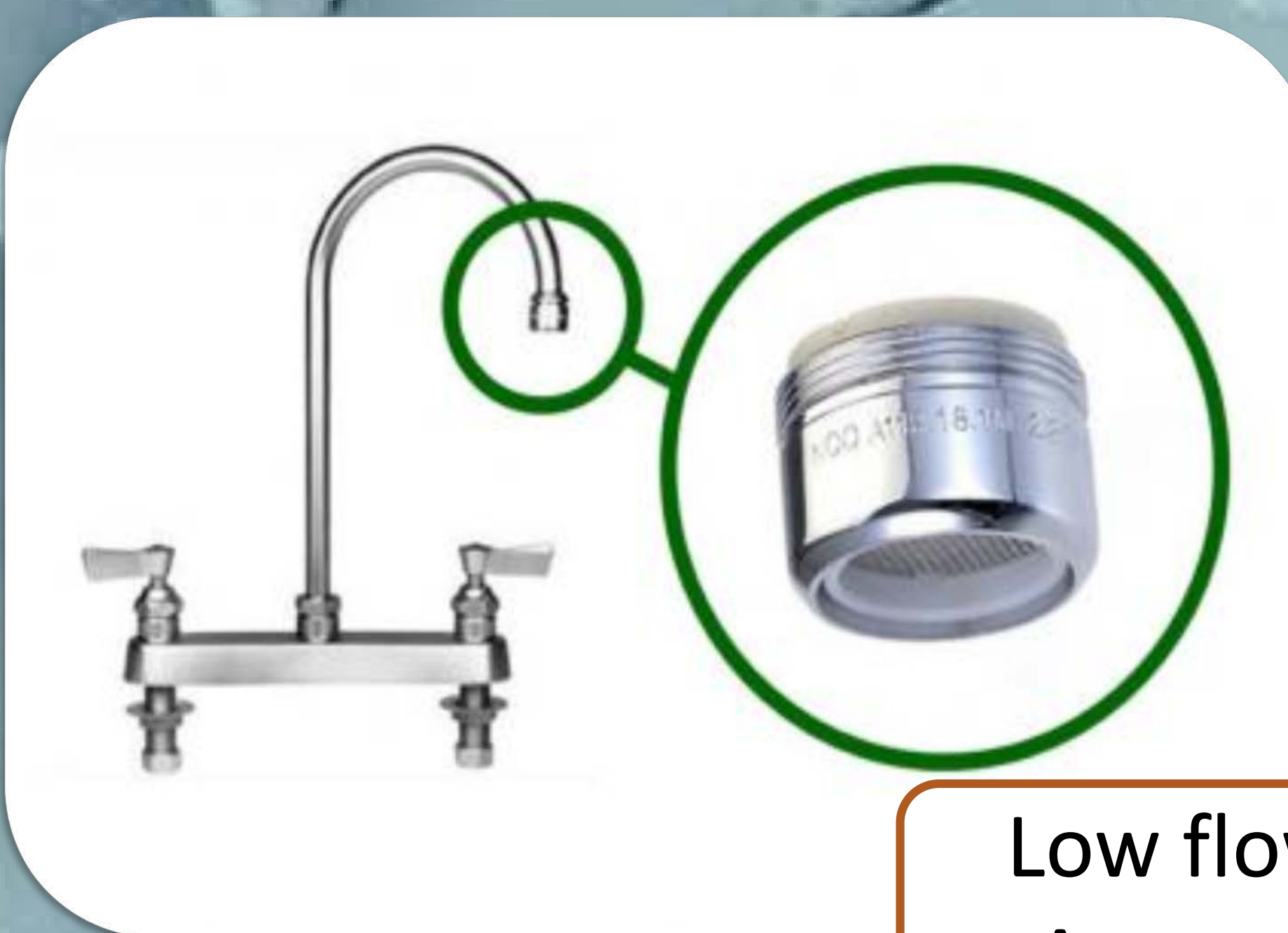
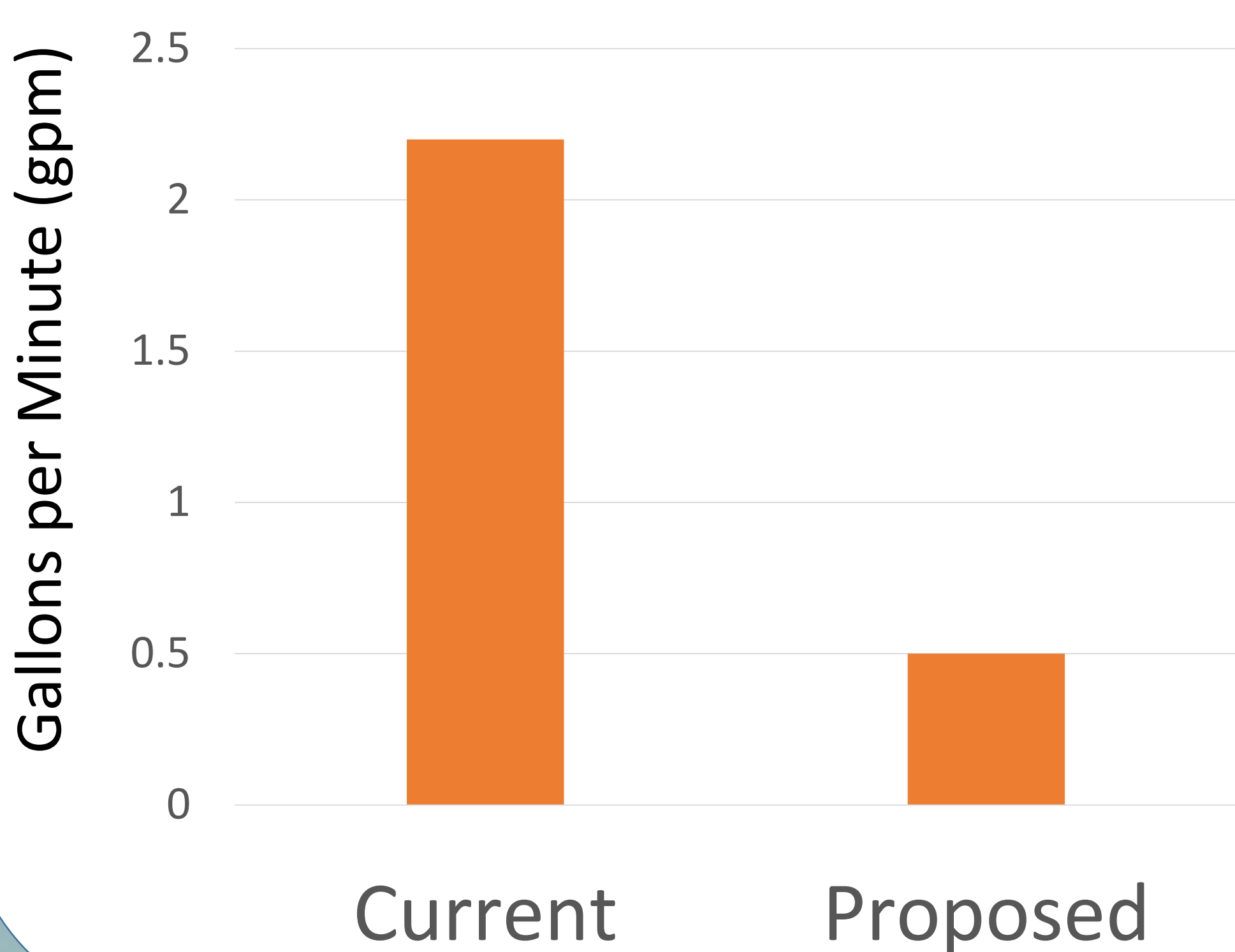


Aerator

- Buy low flow aerators
- Unscrew existing aerators and replace with new aerator



Aerators in Residential Building Bathrooms



Low flow Aerator

	Cost	Benefit
Rain Sensors	Initial cost \$75 (3 units at \$25 each)	<ul style="list-style-type: none"> • Saves 16% of all water used by irrigation • Saves \$10.89 per acre per day activated • Can repay itself after 3 rainfalls on the Quad
Low Flow Aerator	Initial cost \$300 (About 100 units at \$3 each)	<ul style="list-style-type: none"> • Saves 77% of all residential bathroom sink water • Will repay itself within 2 hours and 9 minutes of faucet time

References

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