

# MWU Graduate Research Program

August 28, 2018



Al Larson PE, BCEE - Principal Engineer

## Introductions

- Dr. Greg Harrington

Started the program in 2002 and has guided and advised all of the grad students in the program

- Adam Luthin

10<sup>th</sup> Student in the program and is looking at optimizing pump operations around energy

# A Brief History of the MWU Grad Program

- Established in 2002
  - A collaborative effort of mutual cooperation between MWU and UW-Madison to promote drinking water research
- 9 Completed Master's Thesis Sponsored
  - Excellent work in water quality, flushing, and energy
- Adam Luthin is Grad Student #10
  - Continues the focus on energy use
  - Anticipated completion 5/2019
- Adam Luthin is Grad Student #10
  - Continues the focus on energy use
- Time for MOA Renewal: 2018 to 2021

# Topics

- Water Quality
- Flushing
- Energy

## Benefits

- 1500 hours per year
- MWU Access to UW faculty
- Focused research on specific areas
- Detailed thesis on the work

## Accomplishments

- Water Quality
  - Chlorine Residuals & Biological Activity
- Flushing
  - Effectiveness/Schedule
- Energy
  - Pump Efficiencies, Well Pump VFD's, and Managing Peak Demand Charges

# Economics

- Water Quality Savings  
Estimated \$30,000 labor cost savings through the end of 2017
- Flushing Savings  
Estimated \$430,000 labor cost savings through the end of 2017
- Energy Savings  
Estimated \$95,000 energy cost savings through the end of 2017
- Salary Savings  
Since 2002 and estimated salary savings of over \$500,000
- Current Program Cost  
Approximately \$45,000 per year

# Questions ???

