

HOLADAY CIRCUITS, INC.

POLLUTION PREVENTION MEASURES FOR RESILIENT COMMUNITIES

For the RCP project focused upon water and energy conservation and education, the City of Minnetonka worked with Holaday Circuits, Inc. The goal of this city-business partnership is to **identify and implement environmental practices** that could be transferred to other businesses in the community. Based upon this case study, the team also developed a checklist for the City to use with other businesses in identifying opportunities for **water and energy conservation**. Our method to approaching this project involved a tour to the facility in which we conducted interviews and analyzed water and energy use. This allowed us to identify areas that needed to be addressed. We utilized EPA calculators to generate efficiency metrics (i.e. water, energy, and carbon saved) from recommended implementation strategies. Our goal was to provide effective solutions that could be implemented across scales.

TOTAL SAVINGS: **\$41,298.11 - \$50,418.11 PER YEAR**



= 10,000 kwh energy per year



= 100,000 Gallons water per year

OCCUPANCY SENSOR LIGHTING

RECOMMENDATIONS:

- 46.7% of the 102,000SF building is a candidate for lighting occupancy sensors = 72 sensors

20,000 KWH PER YEAR SAVED



FINDINGS:

- Energy Reduction: 20,000 kWh/yr
- Cost Savings: \$2,800/yr
- Payback: 4 yrs (without utility rebate)

APPROACH & METHOD:

- Quantitative data collection: process flow chart, building floor plan, energy use
- Increase lighting efficiency, decrease energy lost from unoccupied lit rooms

SOLAR WALL HEATING TECHNOLOGY

APPROACH & METHOD:

- Quantitative data collection: process flow chart, building floor plan, energy use
- Increase heating efficiency, decrease energy lost from building envelope through use of double facade and provide positive pressure

FINDINGS:

- Energy Reduction: 4,200-6,300 therms/yr
- Cost Savings: \$5,300/yr
- Payback: 9.6 yrs



RECOMMENDATIONS:

- Place 2-stage SolarWall on south facade of the building

150,000 KWH PER YEAR SAVED

DELIVERY DOOR WEATHERIZATION

RECOMMENDATIONS:

- Implement dock shelter, faster door, and under-leveler seal & door weather seals

50,000 KWH PER YEAR SAVED



FINDINGS:

- Energy Reduction: Based on total facility energy costs
- Cost Savings: \$1,500-9,900/yr
- Payback: 1-3 yrs

APPROACH & METHOD:

- Quantitative data collection: process flow chart, building floor plan, energy use
- Increase heating efficiency, decrease energy lost from period of time that delivery doors are left open

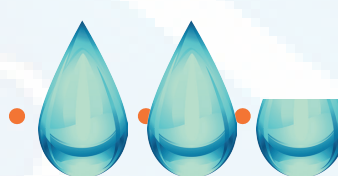
SANITARY WATER USE

APPROACH & METHOD:

- Analyze age of faucets and toilets and identified areas that could benefit from water use reduction technologies.
- Quantitative and investigative method into annual water use

FINDINGS:

- Water Reduced: 250,000 gal/yr
- Cost Savings: \$500/yr
- Payback: 1-6 yrs

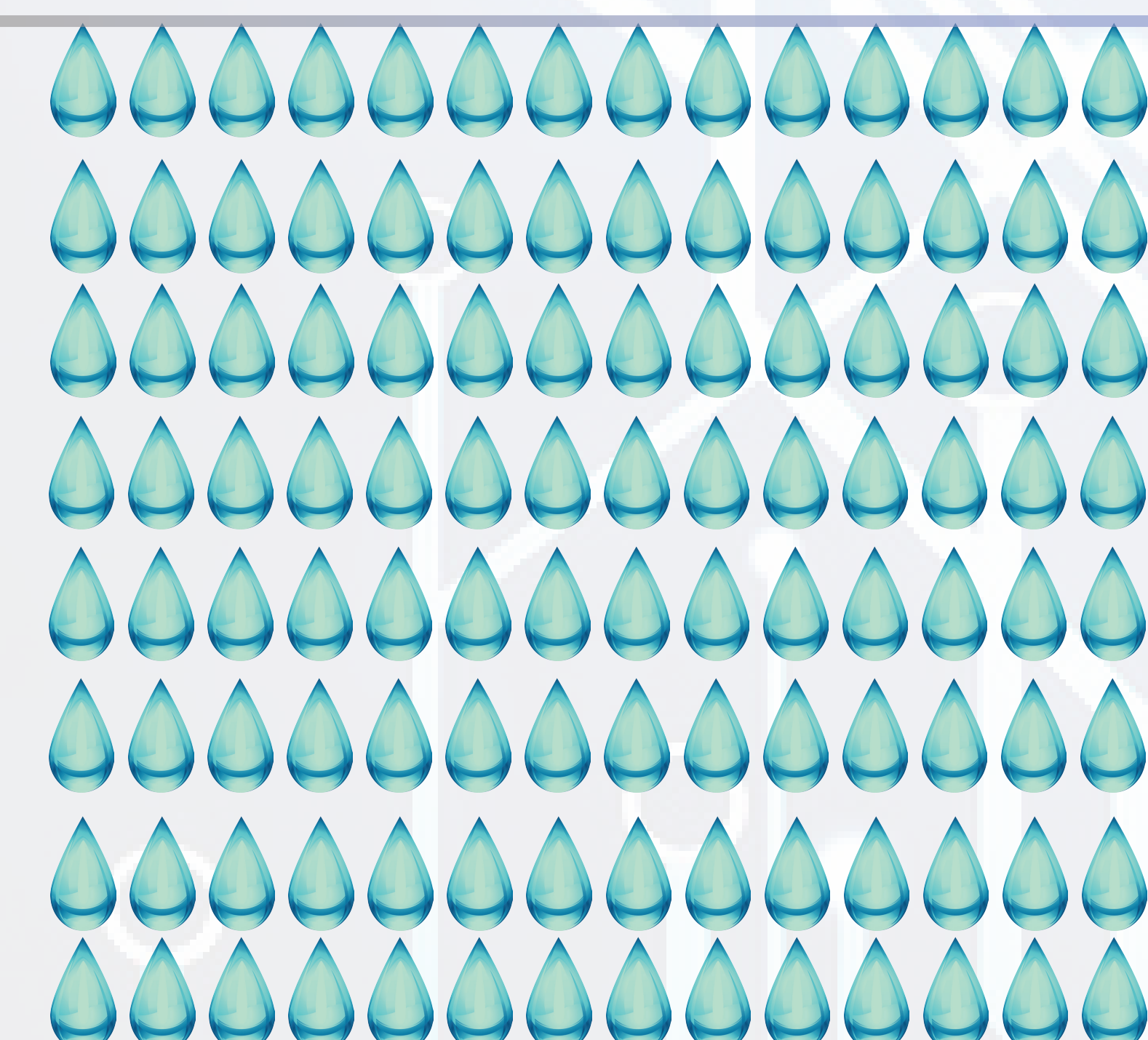


RECOMMENDATIONS:

- Retrofit toilets with low-flow, dual-flush valves, retrofit sinks with low-flow faucets

250,000 GAL PER YEAR SAVED

COOLING WATER REUSE



RECOMMENDATIONS:

- High efficiency water softener, multi-pass cooling, landscape irrigation, process water floor washing

FINDINGS:

- Water Use: 15.6 million gal/yr
- Cost Savings: \$31,000/yr
- Payback: Dependent on Reuse

15.6 MILLION GAL PER YEAR SAVED

APPROACH & METHOD:

- Analyze age of cooling towers and multi-pass water process and identified areas that could benefit from water use reduction technologies.
- Quantitative and investigative method into annual water use