# The Largest Drinking Water UV Disinfection Facility in Wisconsin

# City of Sheboygan spirit on the lake Water Utility

## What is Ultraviolet (UV) Light?

#### Our Source: Lake Michigan

- The Great Lakes system is the largest (95,000) square miles) source of fresh surface water in the world – with the exception of the polar ice caps.
- The Great Lakes system holds approximately 22% of the planet's fresh water.
- Lake Michigan is the third largest Great Lake by surface area.

Ultraviolet means "beyond violet" (from Latin ultra, "beyond"), violet is the color of the shortest wavelength of visible light. Ultraviolet (UV) light is a form of light that is invisible to the human eye. Specific wavelengths, between 200 and 300 nanometers (or billionths of a meter), are categorized as germicidal – meaning they eliminate bacteria and viruses.

- It's the second largest Great Lake by volume.
- It's the largest body of fresh water entirely within the boundaries of the United States.
- It's the sixth largest freshwater lake in the world.



**UV** reactor

## How UV Light Works

Microorganisms in the water are exposed to ultraviolet light when they pass by special lamps. The UV energy instantly destroys the genetic material (DNA) within bacteria, viruses and protozoa, eliminating their ability to reproduce and cause infection. Unable to multiply, the microorganisms die and no longer pose a health risk. With UV technology it is possible to inactivate harmful microorganisms, including E.coli, Cryptosporidium and Giardia.



#### **Disinfecting our Water With Trojan UV**

- UV is simple, chemical-free and highly effective.
- UV inactivates bacteria, viruses and chlorine-resistant protozoa.
- ▲ UV is extremely safe it eliminates the transportation, storage and handling of toxic, corrosive chemicals.
- UV is environmentally-friendly and has no negative effects on aquatic life.
- Unlike chlorine, UV cannot be overdosed and it does not create and release carcinogenic disinfection by-products or toxins.
- UV is very cost-competitive with chemical disinfection and offers much lower operations & maintenance costs.
- UV does not alter water taste or odor.

