

## George Washington Bridge Lighting Project Trims Energy and Maintenance Costs

*Universal Lighting Technologies Chosen as Ballast Supplier*



The George Washington Bridge crosses the one-mile span of the Hudson River, from the shores of Manhattan in the east to the bluffs of New Jersey's Palisades on the west side. The bridge features an upper deck with eight traffic lanes and a lower deck with six lanes. It is one of the world's busiest bridges, carrying 54 million cars annually, and the only 14-lane suspension bridge in the world.

The George Washington Bridge is home to the world's largest free-flying American flag. The flag, which drapes vertically for 90 feet and flies freely, is located under the upper arch of the New Jersey tower. Weather permitting, the flag is flown on national holidays.

Othmar Ammann, a Swiss-born architect and engineer, submitted the bridge design in 1923 and the Port Authority began construction in 1927. The George Washington Bridge was first opened to traffic in 1931, and during its first full year of operation, more than five million vehicles used the original six-lane roadway.

The Port Authority of New York & New Jersey, which operates and manages the bridge, utilized MagniFlood Parkway luminaries to replace existing fixtures over the upper level roadway of the bridge. The Parkway fixture incorporates MagniFlood's patented omnidirectional vibration-dampening socket, which helps increase lamp life on bridges. Additionally, the Authority installed MagniFlood Magni-Lite floodlights for the toll plaza. Installing a more energy-efficient system, reducing maintenance costs and improving light levels were among the Port Authority's goals for the lighting retrofit.

The bridge's lighting system consisted of 400-watt metal halide and 1000-watt mercury fixtures. The Port Authority specified that the wattage in the new system be 400 watts in all fixtures, and the existing light pole towers had to be utilized. MagniFlood designed the fixtures with Universal Lighting Technologies' high pressure sodium and metal halide ballasts in accordance with Port Authority specifications.

### ***In Brief:***

**Project:**

George Washington Bridge  
Upper Level and Toll Plaza

**Location:**

Fort Lee, N.J. and  
New York, N.Y.

**Products Used:**

Universal<sup>®</sup> 400-watt high pressure sodium ballasts (S400MLTAC4M) in the toll plaza and Universal<sup>®</sup> 400-watt metal halide ballasts (M400MLTAC4M) in the upper level of the bridge

**Number Installed:**

175 in the toll plaza and 106 in the upper level of the bridge

**For more information about:  
MagniFlood**

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The George Washington Bridge toll plaza and its converging roadways are lit from 43 light pole towers that position 175 fixtures 52 feet above the roadway. MagniFlood installed Universal® 400-watt high pressure sodium ballasts (S400MLTAC4M) in the toll plaza fixtures.



Universal Lighting's HID ballast family includes models for applications from 35 to 2000 watts.

The upper level of the bridge is illuminated by 106 fixtures over the eight-lane, mile-long span. MagniFlood chose Universal® 400-watt metal halide ballasts (M400MLTAC4M) for the upper level bridge fixtures.

The Universal® ballasts are quality constructed and meet ANSI regulations. The ballasts are vacuum impregnated with epoxy, which helps to extend the life and enables the ballast to operate cooler and withstand vibration. The epoxy also provides a barrier to moisture and humidity.

"We chose the Universal® HID ballasts because the products are very reliable and the relationship with the sales engineer goes far beyond just another supplier," said Ken Greene, director of engineering for MagniFlood.

To ensure the lighting system would be easy to repair and less costly to maintain, MagniFlood engineered fixtures that are toolless. These toolless lighting fixtures reduce maintenance costs and improve worker safety because no tools are used to replace the lamp or ballast in the fixture.

Workers spend less time maintaining luminaries, and the public benefits with fewer lane closures. The toolless fixtures were installed in both the toll plaza and the upper and lower levels of the bridge. In addition to the toolless fixtures, MagniFlood developed a portable electronic aimer that enabled the floodlights to be installed and aimed without energizing the lighting system or closing any traffic lanes.

The strong relationship between Universal Lighting and MagniFlood enabled the development of the best lighting solution for one of the nation's most well-known bridges.

## About Universal Lighting Technologies

Universal Lighting Technologies Inc. manufactures ballasts for all lighting applications. The company's full line of ballasts is designed for exceptional performance in lamps ranging from 5 to 2000 watts. These include magnetic, electronic, and compact fluorescent, high intensity discharge, sign and neon. As a major manufacturer of electrical equipment, Universal Lighting Technologies plays a lead role in setting industry standards for quality and energy efficiency. The company actively participates in trade associations and assists in the development of many standards through ANSI, NEMA and IESNA.

## Want to Know More?

Universal Lighting Technologies' ballasts are available through a nationwide network of several thousand electrical distributors and are also incorporated in the designs of leading OEM lighting fixture manufacturers. To learn more about the full line of Universal Lighting Technologies' ballasts or to request a catalog, call 1-800-BALLAST, fax your request to 615-316-5146, or visit the Web site at [www.universalballast.com](http://www.universalballast.com).



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