

**National Institutes of Health
Bethesda, MD
Street Lighting Project**



Envocore Solutions:

- 1,360 Energy Conservation Measures (ECM's) upgraded Street Lights, Parking Lot Fixtures, and Path Lights across the entire National Institutes of Health (NIH) Campus.
- Replaced internal pole wiring and fuses.
- Lighting was removed in areas where there was a significant decrease in usability.

- Parking Lot Fixtures included motion detection and off-hour dimming to reduce energy consumption and lower the lighting levels after hours and when the space was not occupied, all while maintaining a safely lit space.
- New Pathway Lighting and Street Light Poles were added to address underlit areas around the campus.
- Pole Tags were incorporated to inventory and identify the fixture specifications and pole locations to support an efficient maintenance plan.
- Almost 10% of the project cost was offset with Utility Rebate Incentives.
- Multiple Change Orders were issued to add additional scope e.g., Entrance Signs, Rooftop Lighting, Garages, Security Tents, etc. All following the design intent incorporated with the base scope.

Drivers:

The customer wanted to improve the lighting levels, reduce energy consumption, standardize the campus wide lighting designs and reduce the maintenance aspect of their aging, dilapidated, lighting system and controls.

Multiple versions of Photometric Studies, Field Measurements and Engineered Drawings were performed to insure the customers expectations, proper IES Foot-Candles were met.

By The Numbers:

Lighting

Total Electrical Savings: 1,333,294.2 kWh / 302.98 kWd

Total Cost Savings: \$188,366.55

1 Year Estimated O&M Savings: \$21,874.13

Controls

Total Control Savings: 8,462.5 kWh

Total Cost Savings: \$1,184.75

Project Background:

The bulk of this project consisted of installing over 2,323 new exterior fixtures throughout the Bethesda, MD NIH Campus. The customer wished to maximize savings, including at night when there is little traffic. As a result, Envocore designed the parking lot fixtures to contain controls which cut nighttime light levels by 80% when the space is unoccupied.

About the Customer/Location/City:

The NIH headquarters, known as the "[NIH campus](#)" to the local community, is located in Bethesda, MD. Administrative and program operations facilities are also located in off-campus buildings in the surrounding area. NIH scientists conduct their research in laboratories located on the main campus, in addition to several field units across the country and abroad.