

COST ANALYSIS

Total Cost

\$190,000

Annual Electric Savings

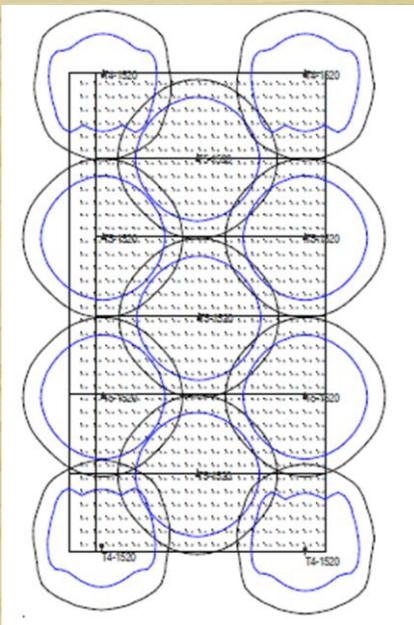
10,862 kWh

Cost Savings

\$1,358



Solar LED Pole Lighting



Photometric Diagram

Solar Parking Lot Lighting Project

CASE SUMMARY

The Department of Public Works constructs, maintains and operates county properties and designs, constructs and maintains county roads, sewerage systems, buildings and other facilities, such as waterways, bridges, docks and marinas. In addition, the department is responsible for the operation of the Suffolk County Transit System as well as the prevention of mosquito-borne disease and the control of nuisance mosquitoes. The building, located in Yaphank, has a 20,000 square foot parking lot in back which has been unlighted, presenting a safety hazard to its occupants.

We sought ways to resolve this issue but found it to be expensive to have the work done in a traditional fashion: by tearing up the parking lot and hard-wiring new poles and lights. We were looking at a half million dollar project until we found Carmanah EverGEN, an LED lighting fixture that could operate on a solar panel and a battery. Carmanah's product also features the ability to dim to 50% when no one is present using motion sensors on the pole. This project is not only using renewable energy, it is also cheaper in first cost, and doesn't cost anything to operate after installation.

When compared with typical 400 W high pressure sodium fixtures these fixtures save 10,862 kWh per year. The life span of the panels and the batteries are 20 years and 12 years respectively. Considering the initial cost savings of \$308,000 dollars we could realize a life-cycle cost savings of \$335,000.

RESULT

The electric savings are 10,862 kWh annually and these account for approximately 10.6 tons less CO₂ emissions each year. Not only does this project save money on first cost and incur no operating costs, but it also contributes to a greener economy and better environment.

SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS

335 Yaphank Ave., Yaphank NY, 11980

Chief Engineer, Michael Monaghan, P.E. (631) 852-4225

Project Manager, Javed Ashraf, C.E.M., P.E. (631) 852-4229