

**LANGAN'S RENEWABLE ENERGY EXPERIENCE**

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Technical Excellence   Practical Experience   Client Responsiveness

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## NJ MEADOWLANDS COMMISSION 1-A LANDFILL SOLAR ARRAY

**Location:** Kearny, NJ  
**Client:** SunDurance Energy (Subsequently purchased by PSE&G for Solar 4 All Program)  
**Services:** Site/Civil, Geotechnical, Environmental, Natural Resources & Permitting

### OVERVIEW

The solar array will be constructed on the top of the landfill and down the southern slope of the New Jersey Meadowlands Commission (NJMC) 1-A Landfill, with an intertie connection to the regional electrical distribution located off the site. The solar array is expected to provide over 3 MWdc of electric solar power annually. Langan has been retained by SunDurance to assist in a variety of design, permitting, and construction needs.

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## SOLAR BAY

Location: Wildwood, NJ  
Client: City of Wildwood  
Services: Environmental, Site/Civil, Geotechnical, Landscape  
Architecture, Traditional Surveying

### OVERVIEW

Langan was a consultant to the City of Wildwood for a new, 25-acre solar farm on a former landfill site on the bay at Post Creek Basin. The solar farm will produce 3-megawatts of electricity for the city and will be developed following the capping and final closure of the open landfill site. The master plan includes 25-acres of new parkland, passive open space, recreational boating facilities along with recreational and fitness trails.

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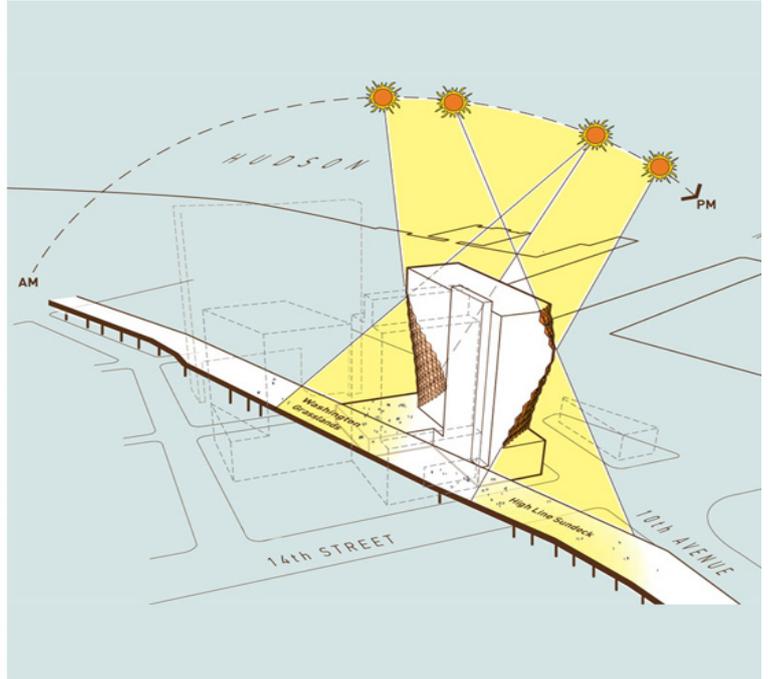
## SOLAR FIELD - CYPRESS CREEK RENEWABLES

Location: Various Locations in New York State  
Client: Cypress Creek Renewables (CCR)  
Services: Site/Civil, Traffic & Transportation, Natural Resources & Permitting, Landscape Architecture

### OVERVIEW

Langan is currently providing site/civil engineering for over 30 of CCR's 2-megawatt solar sites in New York State and the Dunroamin site in Massachusetts. These projects are being developed under NYSERDA's community distributed generation or 'community solar' program. Local solar farms, like the ones in New York State, benefit the environment, community and nearby residences. Langan prepared full design drawings and stormwater management reports to support the site plan application to the respective Zoning and Planning Boards for each project. These drawings included site layout, grading and drainage, soil erosion and sediment control, and landscaping plans. Langan provided high-quality deliverables on difficult sites under fast-paced schedules, due to the nature of solar funding programs. Considering the complexity of the sites, Langan adapted to the changes in scope presented to meet CCR's needs and maintains the desired schedules for the projects.

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## SOLAR CARVE TOWER

- Location: New York, NY  
Client: William Gottlieb Real Estate, Simon, Eisenberg and Baum, LLP  
Architect: Studio Gang Architects  
Services: Land Use Planning, Geotechnical, Environmental

### OVERVIEW

Located between Manhattan's High Line elevated park and the Hudson River, this unique tower is designed to use incidental angles of the sun's rays to sculpt the building's form while allowing daylight to shine past it and onto the neighboring High Line. We prepared a City Environmental Quality Review (CEQR) environmental assessment statement to evaluate the potential environmental impacts of the development in the future build/no-build development scenarios. Langan also assisted the design team and owner with plans for foundation construction and identifying subsurface conditions that would significantly affect the foundation cost and construction schedule.

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## OFFSHORE WIND FARM

Location: State Waters Offshore Atlantic City, NJ  
Client: Fisherman's Energy of New Jersey, LLC  
Services: Geotechnical

### OVERVIEW

The owner is planning to construct an initial phase of offshore wind power consisting of six turbines having a combined capacity of about 20MW. The turbines are to be located about 2.8 miles offshore in about 40 feet of water. The sea bed sub-surface conditions consist of hundreds of feet of unconsolidated sandy and silty soils. Langan's role is to provide geotechnical consultation and QC supervision of the geotechnical subsurface investigation program. Langan provided recommendations for the subsurface investigation for the turbines and the cable; this included drilling and probe methods, in-situ testing, and a laboratory testing program. In addition, Langan is providing archeological consultation related to geophysical surveys of the sea bed and geomorphological review of sediment cores.

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## TALLAHASSEE RENEWABLE ENERGY CENTER

Location: Tallahassee, FL  
Client: Biomass Gas & Electric  
Services: Site/Civil, Geotechnical, Environmental, Natural Resources & Permitting

### OVERVIEW

Biomass Gas & Electric is proposing to construct a biomass-fueled electrical generating power plant on an approximately 23-acre site in a geologically karst sensitive area. The site contains wetlands, a high voltage transmission line, and a significant grade change. Langan provided site/civil engineering, geotechnical engineering, environmental engineering, natural resources and associated permitting services. Langan designed the site to accommodate the most efficient use of the land for the power plant while avoiding impacts to wetlands and balancing earthwork.

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## NORTHWEST FLORIDA RENEWABLE ENERGY CENTER

Location: Port Saint Joe, FL  
Client: HB White Investments  
Services: Site/Civil

### OVERVIEW

This 45 megawatt biomass-to-energy facility is sited on 45 acres of land along the Gulf of Mexico. Langan was retained to provide land development engineering services for the proposed facility. These engineering services addressed items such as site layout, drainage and stormwater management, as well as potable water, grey water and wastewater layout.

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## COLUMBIA UNIVERSITY - KNOX HALL GEOTHERMAL DESIGN

Location: New York, NY  
Client: Columbia University  
Architect: Helpern Architects  
Services: Geotechnical

### OVERVIEW

A geothermal heating and cooling system consisting of four 1,800-foot-deep standing column wells was selected for a 90-ton heating and cooling system in connection with renovations and improvements to Columbia University's Knox Hall.

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