

# preserving the past

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## to learn the lessons that teach for tomorrow

### THE RESTORATION OF THE MONTAUK POINT LIGHTHOUSE

The renovation of the Montauk Point Lighthouse is in the capable hands of Installation Specialties Group (ISG), a family-owned construction company that has been around for more than 30 years and has done many projects involving restoration and preservation of historic structures. Among their projects are the Little Red School House in New York City (built 1921), the Sag Harbor Cinema Arts Center (built 1919), and the Canoe Place Inn in Hampton Bays (built 1923).

Under the guidance of Vincent Amoroso Sr., and Vincent Amoroso Jr., ISG's main objective is to bring the Montauk Point Lighthouse back to the original historic standards from when it was initially built. ISG is working to preserve the lighthouse facade in order to withstand an additional 100 years of the harsh elements which include coastal marine conditions due to its location.

An integral part of the project is the input of Historic Restoration Consultant, George Abbale, who lost no time diving right into the project. "As one learns more about the history of the Lighthouse, the methods of construction used become ever more interesting. Soon you develop a desire to dig deeper into the bones of this historic Lighthouse."

George continues: "The tower walls are approximately six feet thick at the base and are constructed of a stone rubble bulk wall

with a Connecticut Sandstone Ashlar face stone. (similar to historic European buildings that have lasted many hundreds of years) The historic mortar that was used to construct the lighthouse was a lime putty mortar very similar to the types of mortar found in thousand-year-old historic European buildings.

"The bulk wall construction of the Montauk Lighthouse is the interesting and somewhat complicated aspect of the historic restoration process. The over 200 years of exposure to the severe coastal environment has required a lot of maintenance throughout time. Most of that maintenance was performed with the best intentions and with materials that were thought to be correct. However, research on the historic restoration and preservation of masonry sandstone bulk construction buildings has shown that the use of modern types of mortars (Portland and hydraulic) used for repair and maintenance have caused accelerated deterioration of the historic buildings. Mortars should always be softer than the stone. The continued research and enhanced understanding of historic lime putty mortars material properties and compatibility have led to the acknowledgement of the importance of vapor permeability and flexibility in the restoration materials for historic buildings. In other

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words, the historic lime mortars would allow the movement of water vapor to pass through the walls so that it was not trapped as water in the walls. The lime mortar also allowed the building to move in the wind because of the mortar's flexibility. This softer flexible mortar kept the soft Sandstone Ashlar face stone from cracking and spalling (breaking off as fragments) at the face."

The project consists of three phases, the first of which was completed during the 2019 season. Lighthouse visitors were certainly curious and asked many questions about what was being done! Phases two and three are projected to be accomplished by the end of 2021, through the joint efforts of ISG and George Abbale. Each phase is described below by ISG:

### **Phase I (completed 2019):**

The restoration of the sandstone facade will begin with the removal of existing paint starting with the lightning rod, vent ball, upper and lower catwalks as well as the brick addition. Once these locations are fully prepared and cleaned properly, we then recoated the metals and the brick addition with the proper coating materials. This remedial work will help the lighthouse remain structurally sound for another 100+ years.

### **Phase II:**

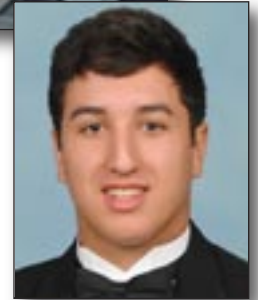
This will start at the upper most elevation. With the paint removed the restoration of the sandstone and mortar joints will begin, which George points out, "requires skilled, specially-trained masons." The first sequence of work requires the removal of the existing paint on the tower sandstone structure. The next measure we will take includes removing the Portland cement based, hard mortar, back to the existing lime putty mortar. The stone will then be repointed with a premixed lime putty mortar formulated specifically for this project. Premixing will provide for a consistent, quality-controlled lime mortar. This application process will stop the abnormal deterioration of the sandstone that has occurred as a result of the application of the hard Portland based mortar that was previously applied many years ago.



*The lantern, catwalk and brick addition are now properly restored. At right is George Abbale of A.R.I. who specializes as a historic site restoration consultant. His meticulous and scientific approach to this project is truly forensic in scope.*

### **Phase III:**

This phase will include cleaning the tower sandstone structure. We will begin coating the tower with a Keim mineral-based coating. Mineral paints, based on potassium silicate binders, were first produced in Europe in the 1870s for applications like this. The silicate is capable of reacting with mineral substrates to form a strong, highly stable binder. Some of the earliest examples of mineral silicate coatings remain in good condition today, more than 125 years after their application. In recent years an enhanced understanding of material properties and compatibility has led to a greater appreciation of the importance of vapor permeability and flexibility in restoration materials for traditional buildings. This, in turn, will help mitigate the condensation and humidity issue that is rampant throughout the lighthouse structure itself.



*ISG owner Vinny Amorosa and son Vinny, Jr. (above) bring formidable expertise to this historic project. Their knowledge, dedication and enthusiasm is boundless.*

*The year of the alteration of the Lighthouse is incorporated into the iron railing at the watchdeck level.*

As George puts it, the work “will allow the structure to naturally breathe as it was originally intended to do.”

The work will again take place during the Lighthouse’s museum season and will undoubtedly draw plenty of attention since the main body of the tower itself will be undergoing a facelift. Access to the Museum and tower top should not be affected by the construction.

You may meet Vinny Sr. or Jr., or George during the course of your visit. They will be happy to tell you about the importance of this work in preserving the Lighthouse, which has been designated as a National Historic Landmark since 2012.

