

When the Light House Board decided in 1887 that it wanted a beacon to light the Middle Ground Shoal in Hampton Roads, its appraisal of the area was mixed. The examination revealed that the shoal "is composed of sand and clay until, at 32 feet in depth below the surface of the bottom, perfectly clean white sand is reached. There is, therefore, no doubt about the suitability of the foundation." The Board had learned from its use of screwpile lighthouses, however, that rough seas and winds can cause problems for offshore structures. Inspectors were concerned about the water's depth at the site, which was 21 feet at high tide. Deep water is more heavily trafficked, and the position of the Middle Ground shoal would expose the lighthouse "to the danger of being run into by both steam and sailing vessels." In winter, it would also "be exposed to shocks from fields of running ice..." The Board decided not to risk another screwpile beacon being rammed by ships or carried away by ice floes; only a strong iron caisson foundation would be considered.

In 1888 Congress appropriated \$50,000 for the construction. The next year bid proposals were requested, but the lowest bid was judged too expensive to allow the purchase of necessary materials to be supplied to the contractor by the Government. The Light House Board cut a few corners: "...modifications, which would not impair its stability, were made in the

substructure, the quantity of riprap stone (to be distributed at the base of the caisson) was reduced one third..." With these alterations the contractor was able to lower his bid by \$4,000, and he began the project in the spring of 1890.

The Board reported that over the summer "the framing of the crib was commenced at Newport News, Virginia...the iron caisson was delivered at the Portsmouth, Virginia depot, and... the iron superstructure is nearly finished at the contractor's shops..." In July "the wooden caisson with four sections of the dredging shaft and two courses of the foundation cylinder was towed to the site and sunk"; by October the caisson had dropped to the bottom layer of clean, white sand 34 feet under the top of the shoal. In January of 1891 the iron tower was completely built atop the caisson, and in early spring of that year "the light was first exhibited from the lens for the benefit of mariners." The fourth order Fresnel lens displayed a fixed white light accompanied by a white flash every twenty seconds.

The Newport News lighthouse's foundation is 56 feet high and 25 feet in diameter, and is visible 15 feet above the water level. The caisson is painted black, and the conical tower that tops it is brown in color. The tower is 29 feet high and 21 feet in diameter at its base; its light sits an average of 51 feet above the water mark. The lantern room is octagonal with a tin roof, and within the room an iron pedestal supports the lens

and light apparatus. Newport News was originally endowed with a Stevens fog bell, which was sounded twice automatically every fifteen seconds. The keeper and his assistant shared three rooms of living space housed within the structure.

The lighthouse has five levels in total, beginning with a basement with brick walls and a concrete floor, where rain collecting cisterns gather the runoff from gutters running along the first level gallery roof. The main level possesses walls which are lined in brick 3/4 of the way up, with the rest composed of wood. The floor of this level is made of unpainted tongue and groove boards. A floor for equipment comes next, followed by a watch room with an iron floor and tongue and groove wooden walls. An iron ladder ascends through the ceiling of this level, leading to the octagonal lantern room.

The station was automated in 1954, at which time the light and fog bell characteristics were altered. The light flashed a white 3,000 candlepower every six seconds, and the fog bell sounded one stroke every fifteen seconds, instead of two. The lighthouse was also downgraded along with these changes; the Coast Guard reclassified it as a "second class tall nun buoy." The Coast Guard also terminated the direction calibration service at the station, and unnecessary equipment including the station boats were removed. The light was to be operated using batteries, and these needed to be changed every nine days. This

proved a difficult undertaking, as the iron ladder descending from the first level deck 'reverts' itself, and maintenance crews embarking from their boats had to swing around to the opposite side of the ladder after climbing up the first ten feet.

In 1982 the first major inspection team investigated the lighthouse, with an eye to possible repairs. What they found was alarming: sections of the balustrade were missing from the gallery deck, holes had appeared in the gallery roof and pieces of the first level decking had been torn away by a collision with a ship in 1979, so that water leaked into the foundation. A perusal of the cellar revealed flaking paint and leaky porthole windows, and the cisterns were filled with water that might have come from the compromised foundation. On the first through third levels there was more flaking paint and leaking windows, along with ubiquitous seagull eggs and bat droppings. The watchroom and lantern rooms were missing windows and had broken, wide open doors, granting birds free access to nest amidst the light. All of this prompted one inspector to offer to remain behind as caretaker in order to repair the structure, so dire was its condition.

Some repairs were made, and in 1987 solar power was installed at the station. Two twelve volt batteries were placed on the floor of the lantern room, and the light was removed

outside to a pole above the gallery. In 1988 the Coast Guard spent \$14,400 on a long list of improvements, including sandblasting and painting, replacement railings and a new and safer access ladder. In 1992, however, an inspection found that iron plates of the tower were rusting away and water was still leaking into the caisson. These observations were confirmed in 1994, when inspectors noted pitting rust all around the watermark of the foundation, and "considerable rust" up and down the seams of the tower's plates. Corrosion had also attacked the new access ladder and the underside of the first level deck. Additional pieces of the structure were found to have fallen off, including a support for the main deck along with one third of the main deck balustrade. Also, the interior masonry of the basement and caisson was cracked. The state of disrepair even extended to the very maintenance logs themselves, which were missing. The inspector's report made some practical suggestions to immediately improve Newport News. It recommended moving the light from its exterior pole back inside to the lantern pedestal, making it easier to service. The report also suggested replacing the age-yellowed lantern panes and changing out the steel plates over the windows with vented acrylic glazing to improve air flow in the structure. The inspectors also decided it would be best if the structural instability in the main deck and foundation were addressed by qualified sub-

contractors.

In 2005 Newport News Middle Ground Lighthouse was auctioned off on an online site for the disposal of government property. The site describes the lighthouse as "56 feet tall with catwalk and roofed canopy," and warns that prospective buyers will probably need to obtain an occupancy license from the state of Virginia. Lighthouse auctions are an attempt to defray some of the expense of maintaining these unmanned structures. Both the Coast Guard and historical preservation groups have found them to be very costly to service. Though sold at auction Newport News remains an active aid to navigation, and its new owner is required to provide safe access to the Coast Guard to service the beacon. Given its structural deficiencies and deplorable condition, the Newport News tower only fetched \$31,000. This is far below market value for a sturdy and respectable offshore lighthouse, but the beleaguered station is the oldest caisson lighthouse left in Virginia. It may be possible to rent out the premises for a night or two from the new owners.

Resources

"Newport News Middle Ground." Bay Beacons. Pp. 114-17.

Zaccaria, Anthony and Jessie. "Newport News Middle Ground Lighthouse." Pp. 23.

