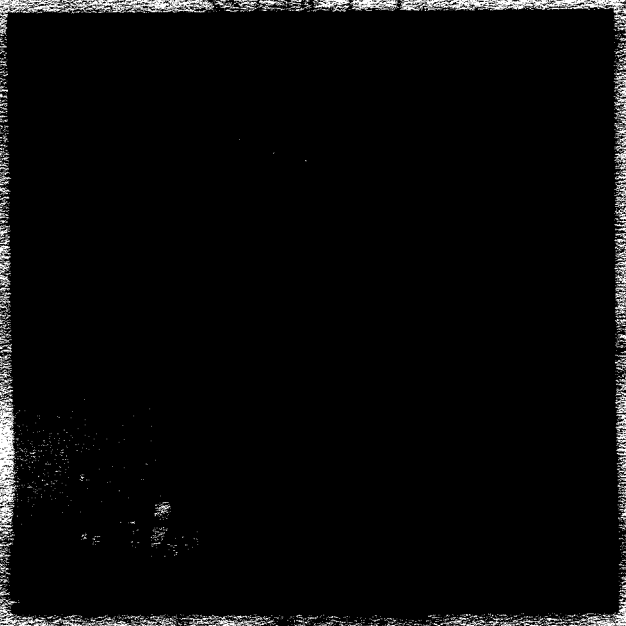
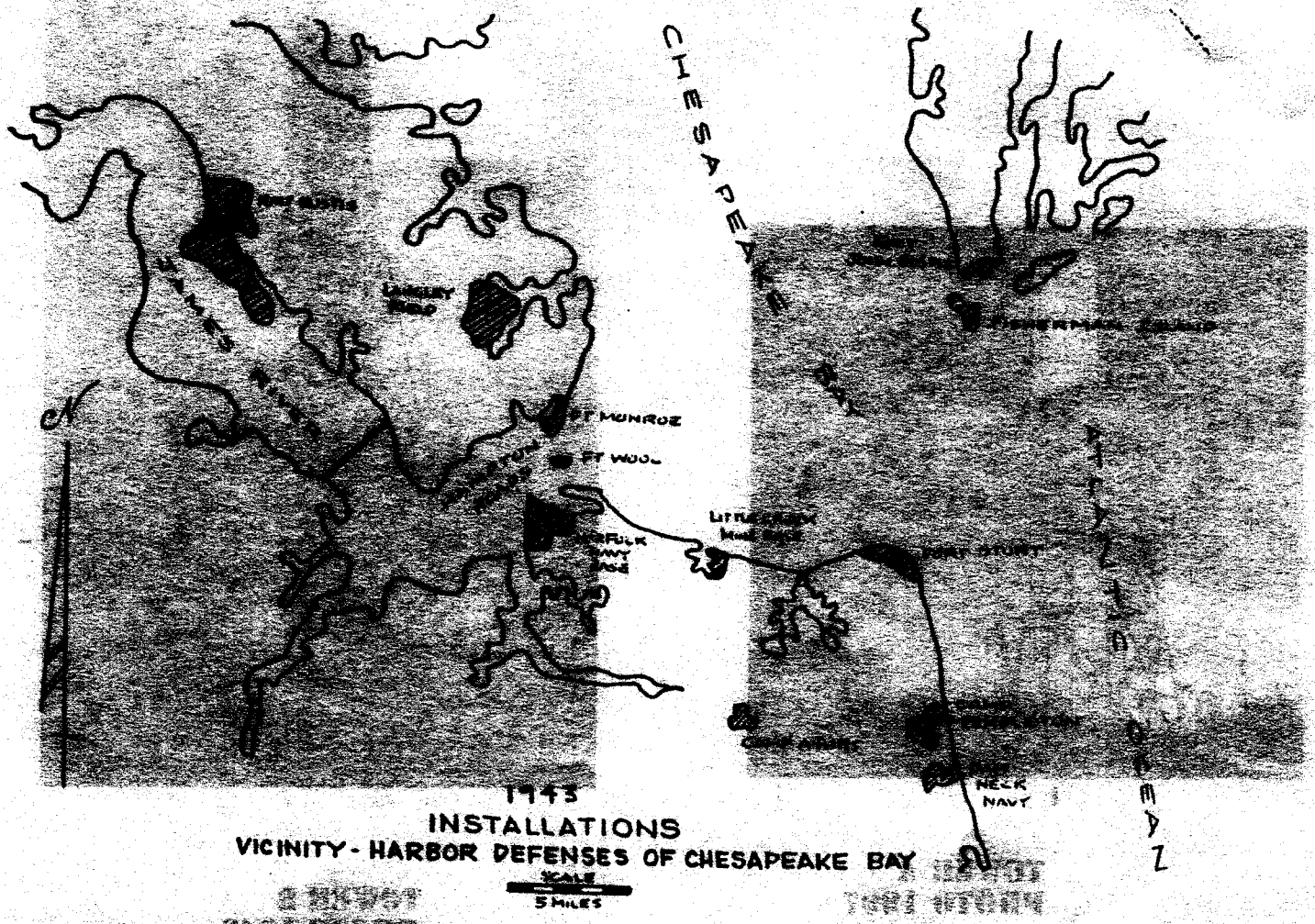
THE GUNS OF FORT STORY
PARCEL C FIRE CONTROL TOWERS



TOWER A
PHOTO 1997

TOWER B
PHOTO 1942

This booklet is one of a series of informational pamphlets describing the Army coast artillery batteries at Fort John Custis, Fisherman Island and Fort Story Virginia. These installations provided the outer defensive positions for the Harbor Defenses of Chesapeake Bay during World War I and World War II.



1943
INSTALLATIONS
VICINITY - HARBOR DEFENSES OF CHESAPEAKE BAY
SCALE
5 MILES

Sources of information on the batteries provided by Brigadier General Rollin Tilton's History of the Chesapeake Bay Sector, Reports of Completed Works from the National Archives and selected articles from the Coast Defense Study Group Journal.

Compiled by Fielding Lewis Tyler, US Army (Retired)
Virginia Beach, Virginia
FTylerVB2@aol.com

Parcel C, Harbor Defenses of Chesapeake Bay.

In 1917, the United States Army arrived at Cape Henry. Three years prior, the US District Court had vested title in 343.1 acres of land to the US Government. The property consisted of five parcels, with the largest (Parcel A) comprising 329.77 acres from the lighthouse south to the present-day 89th Street. The installation was designated Fort Story in honor of Major General John Patten Story, USMA '65. Among the parcels obtained was a 1.7 acre site on the beachfront between then 105th and 106th Streets on the eastern half of Lot 13 in Princess Anne County, Virginia. It was designated as Parcel C. At that time there was no paved road from the south to Fort Story and transportation was along the beach or on the nearby Norfolk Southern Railroad.

Parcel C retained its name as a fire control site and remained unused until 1941. The area began to grow with summer cottages and the foundations of Atlantic University stood nearby. With the increase in the number of coastal artillery batteries at Fort Story in World War II, the need for a system of fire control was recognized. The fire control towers were designated as base end stations and normally were in support of one or more designated batteries. The stations were built with an open steel framework with concrete or steel rooms on top. The data provided by these towers were optical and used a method of triangulation to pinpoint the target for the artillery. In 1939, the Signal Corps installed telephone cables to most of the fire control sites to the main switchboard at Fort Story. At some sites, concrete cable huts were built to house the telephone equipment.

An important element of seacoast artillery was a fire control system which located and directed fire on the target. Until radar came into general use in 1943, the only system available for tracking and measuring distance to targets at sea was optical. A number of open steel base end stations using instruments would determine the azimuth to the target and pass it to the battery commander. This was the triangulation method of tracking the target. The Depression Position Finder (DPF) was an instrument used to determine range as well as azimuth. The later SCR-296A radar and Gun Data Computers provided fire control for assigned gun batteries.

Prior to hostilities, work was started on Tower A and completed in September 1941 at a cost of almost $8,000. The steel lattice tower was on a concrete base and the observing rooms were covered with exterior corrugated iron siding. Corrugated steel power buildings were also located on the site. In early 1942, construction was started at Parcel C for the second of two towers to be located on the site. On 10 June 1942, Tower B was

completed at a cost of over $22,000 and turned over to the Coast Artillery. Tower B was sited in the rear of the first tower to provide the required view from 141 degrees to 338 degrees azimuth. The tower rooms were covered with exterior iron to offer some degree of protection from machinegun fire. The towers housed azimuth instruments and telephones to to gather and transmit fire control data. Both the towers and support buildings were painted camouflage and a fence was erected around the site to manage security. The complex was designated as Site 3 in the Harbor Defenses of Chesapeake Bay.

In mid-June 1942 a German VII Class submarine came to the surface off the Town of Virginia Beach. At night the *U-701* slowly moved north past the towers at Parcel C until it reached the edge of the Army minefield at Cape Henry. It's mission was to lay mines at the entrance to the Chesapeake Bay. Guided by the lighthouses at Cape Henry and Cape Charles, the *U-701* laid the delay mines and departed the area. On 15 June 1942 the mines found their targets off Virginia Beach, damaging three vessels and sinking two others.

The towers were manned by soldiers from the 246th Coast Artillery Regiment which had a large share of the mission of the harbor defenses at both Cape Henry and Cape Charles. Tower A was a three room tower with the top floor that initially serving as a base end station for the 6-inch guns at Battery Worcester. The middle floor served as a base end station the outmoded 155-mm gun battery and the lower floor served the mine battery. The top floor of Tower B provided fire control for the 16-inch guns of Battery 4 at Fort Story . The middle room was assigned to the 8-inch railway guns at Cape Charles and the lower room served the new 16-inch battery also at Cape Charles. After construction Tower B was modified to receive a SCR 296-A Radar with primary assignment to the 16-inch guns of Battery 4. The SCR-296 was standard fire control used by the Coast Artillery for engaging surface targets. It's function was to provide range and azimuth data to the gun batteries. An anti-aircraft observation platform was also installed in a concrete well during the upgrade. The soldiers from the assigned batteries on occasion lived in the tower complex and became friends with the local citizens.

By the end of World War II, the mission of the guns in the Harbor Defenses of Chesapeake Bay was greatly diminished. Some new armaments were still incomplete, but the number of troops was greatly reduced. It appears that by this time the requirements for certain fire control systems was not needed. The troops departed and the equipment in the sites was removed and placed in storage. In 1946, the SCR 296-A was declared obsolete and was scheduled to be removed from Tower B. By early 1947 all of the buildings were boarded up and the towers were locked. The guns at Fort Story were in caretaker status and the older armament was scheduled to be

cut up for scrap. Also at some time in 1947 Princess Anne County renumbered many of the street north of the Cavalier Hotel. Accordingly 105th and 106th Streets became 67th and 68th Streets.

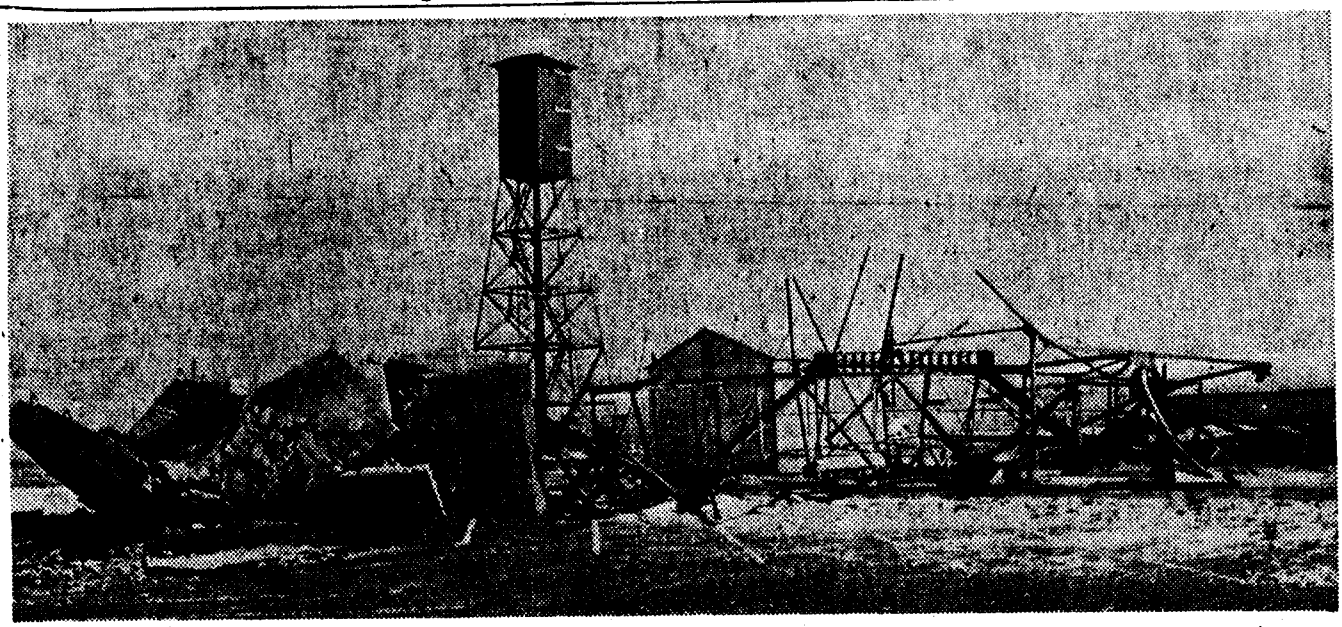
In May 1948, Department of the Army issued orders that real property not required for fire control be processed as surplus. The stations used in connection with the 6-inch batteries were exempt. It also recommended that all leased land in harbor defenses be disposed of as expeditiously as possible. In the following year the remainder of many of the harbor defense structures were also declared as surplus to the needs of the Army.

In the years following the end of the war,the US Navy occupied much of the federal property and used it as the Fifth Naval District Beach Club. In 1960, Tower B was declared surplus and demolished. Tower A was retained by the US Navy. The location of the foundations of Atlantic University was sold and new family houses built on the site.

The Naval Surface Weapons Center from Fort Monroe established a plotting facility with a range building and plotting station at Fort Story. In order to provide a wide separation necessary for optical plotting the Navy retained two former Army fire control stations. One 85-foot tower was on the post and the other at Parcel C, 11,673 feet from the plotting station. It is one of the very few such towers still standing on the Atlantic coast. Over the years the tower continued the mission of providing a platform for optical plotting.

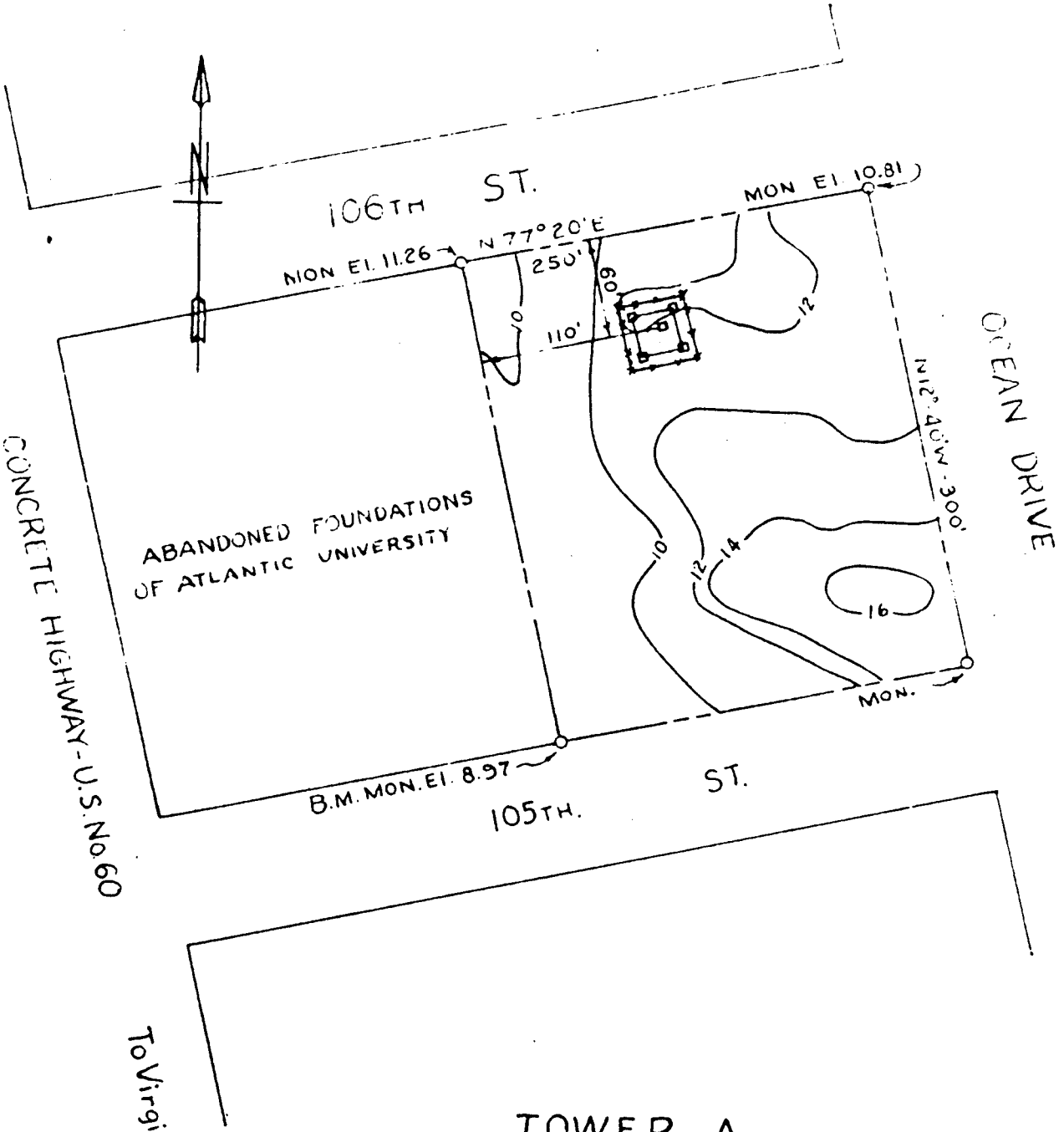
A recent change in technology rendered the tower surplus to the needs of the U.S. Navy. After a historical review, the tower will probably be scrapped. Another proud sentinel with a long period of service to the United States.

The Virginian-Pilot, Norfolk-Portsmouth, Va. Thursday, March 31, 1960 39



One Down, One to Go

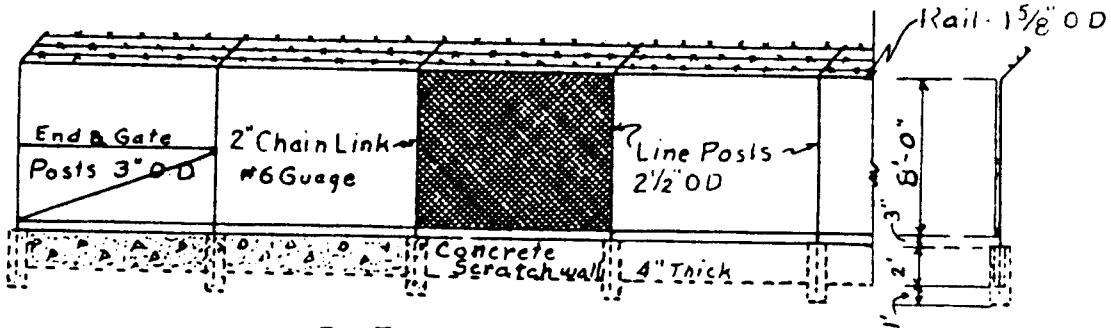
This north Virginia Beach landmark on the Commissioned Officers Beach Club property, 68th street and Atlantic avenue, was pulled down because it had been weakened by rust and age. The demolished World War II observation tower was 65 feet tall and had a 20-foot building on top.



TOWER A

PARCEL "C" TRACT

Scale: 1" = 100'



DETAIL OF FENCE

1" = 10'

THE GUNS OF FORT STORY
SANDBRUNCH & THE CONTROL TOWERS

SANDBRUNCH II
SUMMER 1938

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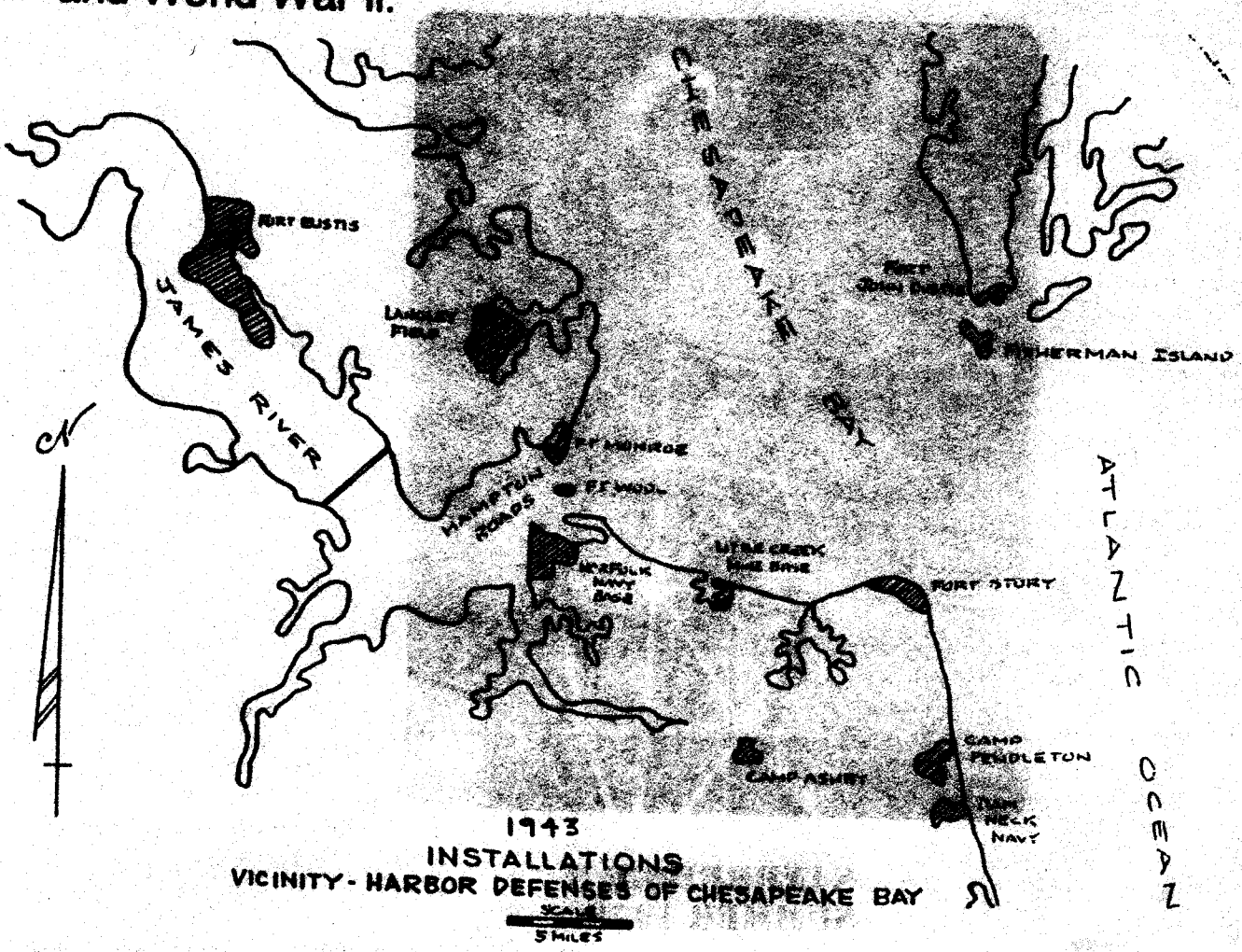

1943
INSTALLATIONS
VICINITY - HARBOR DEFENSES OF CHESAPEAKE BAY

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Compiled by Fielding Lewis Tyler, US Army (Retired)
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FTylerVB2@aol.com

Fire Control Towers at Sandbridge, Harbor Defenses of Chesapeake Bay.

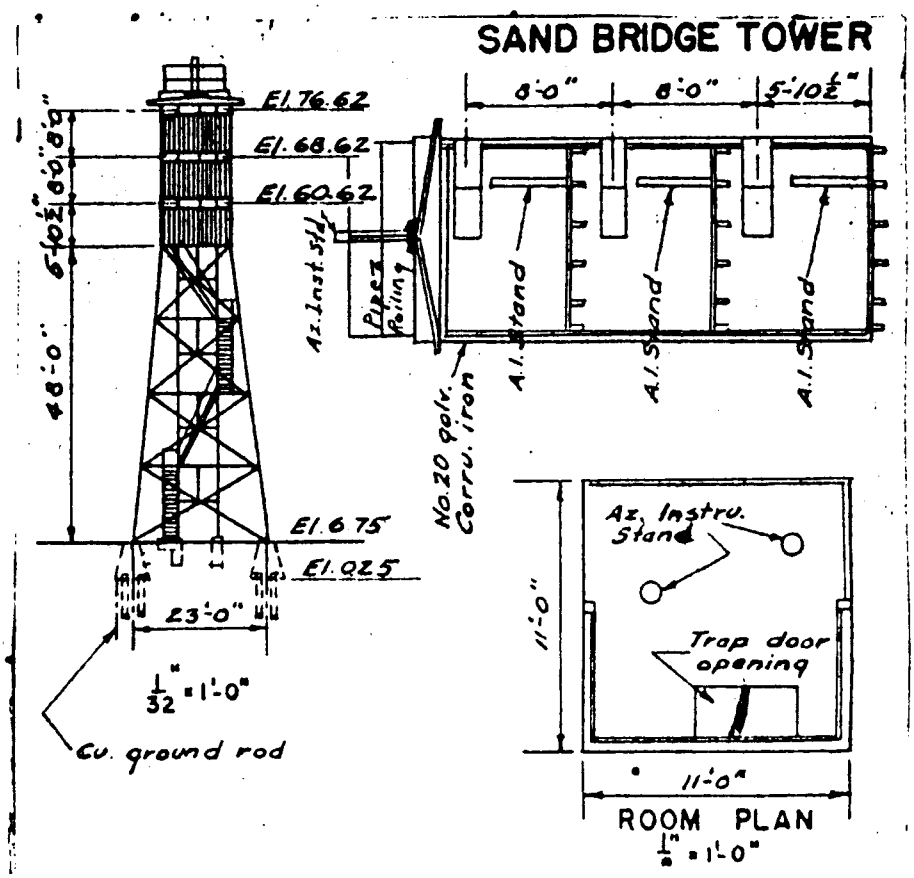
In 1917, the United States Army arrived at Cape Henry. Three years prior, the US District Court had vested title in 343.1 acres of land to the US Government. The property consisted of five parcels, with the largest (Parcel A) comprising 329.77 acres from the lighthouse south to the present-day 89th Street. The installation was designated Fort Story in honor of Major General John Patten Story, USMA '65.

With the increase in the number of coastal artillery batteries at Fort Story in World War II, the need for a system of modern fire control was recognized. The fire control towers were designated as base end stations and normally were in support of one or more designated batteries. The stations were built with an open steel framework with concrete or steel rooms on top. The data provided by these towers were optical and used a method of triangulation to pinpoint the target for the artillery. In 1939, the Signal Corps installed telephone cables to most of the fire control sites to the main switchboard at Fort Story. At some sites, concrete cable huts were built to house the telephone equipment.

As a conflict in Europe loomed on the horizon, it was determined that additional artillery batteries needed to be emplaced at both Cape Henry and Cape Charles covering the entrance to the Chesapeake Bay. With the establishment of more modern and longer range guns came the need for additional fire control. The need for land for fire control towers exceeded the parcels obtained by the Army in 1917. With the upcoming construction of modern long-range batteries at both Cape Henry and Cape Charles, the fire control system needed to be expanded. The Army then began looking for more property along the coast of Virginia to site the additional fire control towers. The orientation of the fire control system of the Harbor Defenses of Chesapeake Bay was based on a local system of rectangular coordinates on the Lambert system. In 1940, the U.S. Coast & Geodetic Survey completed computations with a precision of second order triangulation, which was the standard required for all fire control determinations.

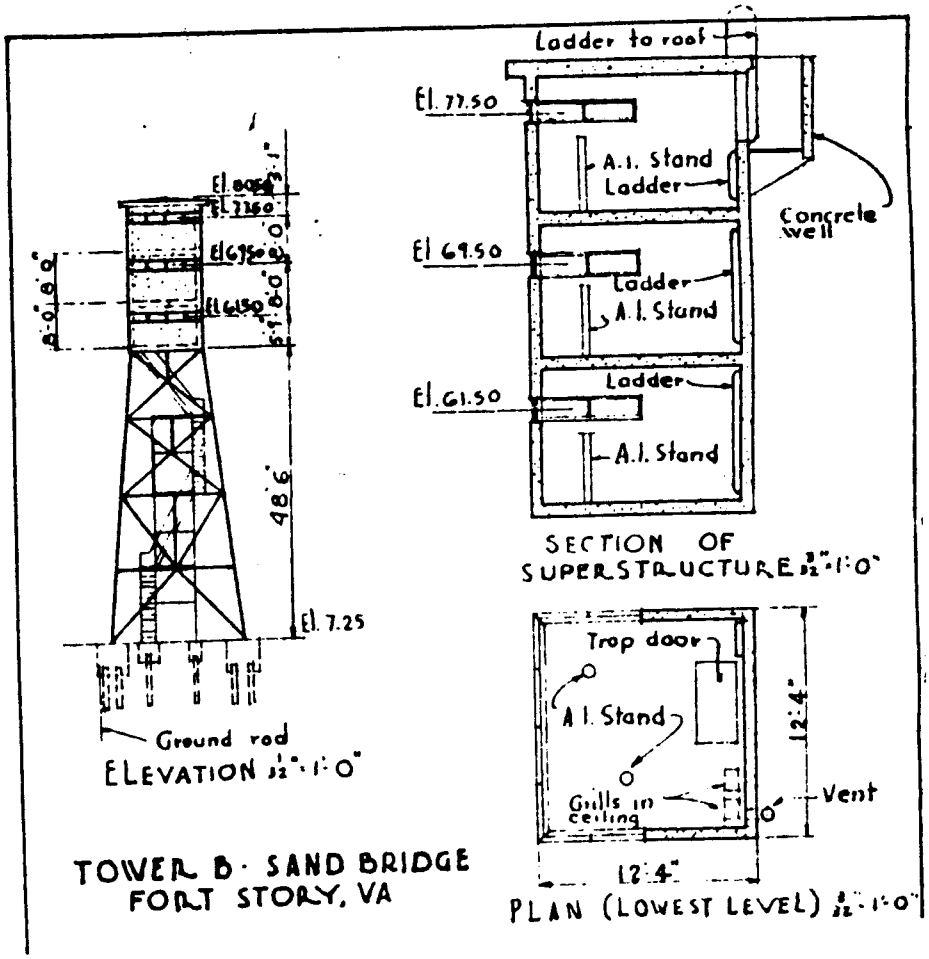
To support these requirements, it was determined that a site be established at Sandbridge some 8 miles south of the Town of Virginia Beach and 400 yards north of Sandbridge Road. The land for that site

acquired by the Government under order of the U.S. District Court from the Sandbridge Gunning Club . The title to the two acre plot and a right of way was acquired on 21 May 1940. The use of the surrounding 14 acres was obtained by lease from the Sandbridge Club Corporation in 1942. Land for a second site was selected adjacent to the Little Island Lifeboat Station some 7,300 yards to the south of the Sandbridge fire control station. This .96 acre tract was acquired by condemnation proceedings against the Sandbridge Club Corporation in June 1941 in U.S. District Court. It could only be reached by a sand trail in the dune line or on the beach.



Prior to hostilities, work was started on Tower A at Sandbridge in the vicinity of the Sandbridge Gun Club. This tower was completed in August 1941 at a cost of almost $8,000 and transferred to the Army. The steel lattice tower was on a concrete pile base and the observing rooms were covered with exterior corrugated iron siding to provide some protection from small-arms fire. Corrugated steel power buildings were also located on the site. In early 1942, construction was started at Sandbridge for the second of two towers to be located on the site. On 10

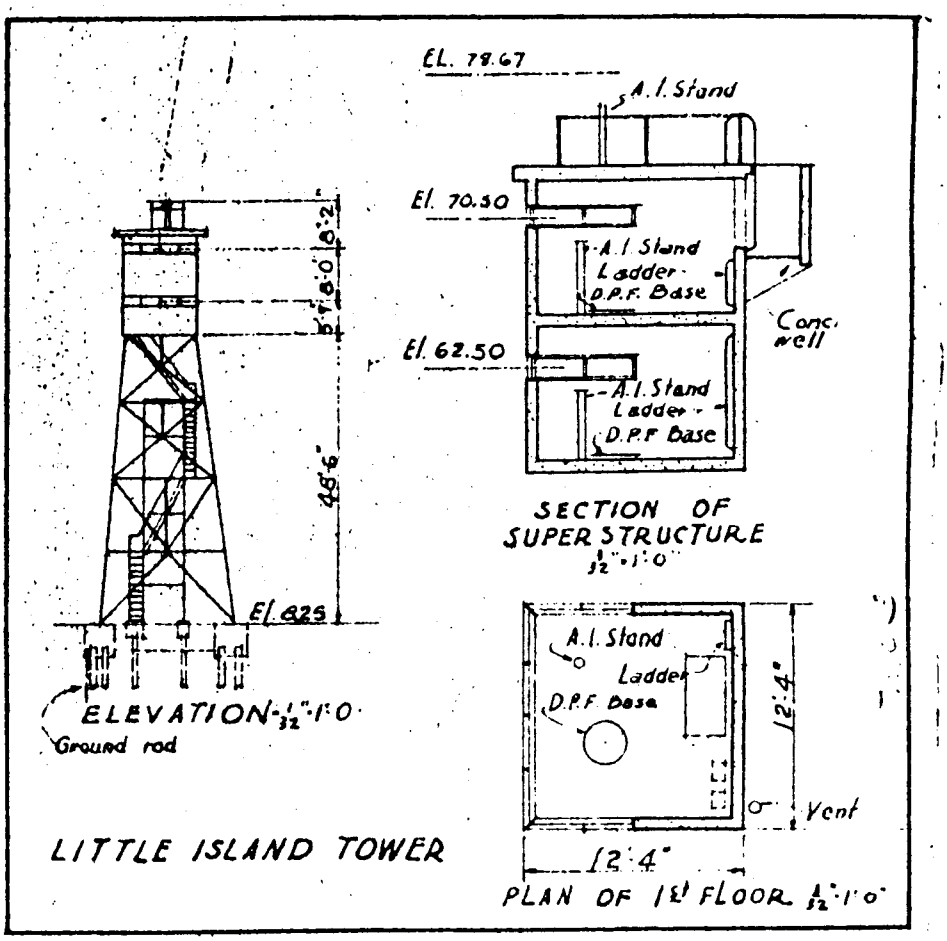
June 1942 it was completed at a cost of near $18,000 for the site and turned over to the Coast Artillery.



Tower B differed from the first tower in that it had concrete rooms and roof. Tower B was sited in the south of the first tower to provide the required view of degrees of azimuth. The towers housed M1910 azimuth instruments and telephones to to gather and transmit fire control data. Both the towers and support buildings were painted camouflage and a fence was erected around the site to manage security. A circular concrete machinegun position was constructed at the entrance to the site for close-in protection. Two .50 caliber machineguns were planned to be emplaced at Sandbridge. The complex was designated as Site 6 in the Harbor Defenses of Chesapeake Bay.

Also in June 1942 a third steel tower was erected approximately 3 and a half miles south of Sandbridge. This two room tower was located in

the vicinity of the Little Island Coast Guard Station and was designated as Site 7. The tower foundation was concrete on piles with a steel lattice frame and topped with reinforced concrete observing rooms and an antiaircraft observation platform on the roof. The rooms were heated by oil stoves. Water and latrine facilities were probably provided by the Little Island Coast Guard Station. The tower was equipped with both azimuth and depression position finder instruments. At both sites, commercial power was not available so primary and secondary generator sets were provided for power. By Summer 1942, the US Army Signal Corps had installed fire control telephone cable from Granite Switchboard at Fort Story south in a 3 foot trench to the towers at Sandbridge and Little Island.



The three towers were manned by soldiers from the 246th Coast Artillery Regiment(Harbor Defense) which had the predominant share of the mission of the harbor defenses at both Cape Henry and Cape Charles.

The 246th Coast Artillery was a federalized Virginia National Guard regiment which was called to active duty in 1940. Normally the soldiers from the supported artillery battery served as the observation room crew in the tower. Tower A at Sandbridge was a three room structure with the top floor that served as a base end station for the 16-inch modern guns of Battery Ketcham at Fort Story. The middle floor served as a base end station the 16-inch howitzers of Battery Pennington and the lower floor served the second howitzer battery at Battery Walke.. The top floor of Tower B provided fire control for the 16-inch guns of Battery 4 at Fort Story . Initially the middle room was assigned to the 8-inch railway guns at Cape Charles and the lower room served the new 16-inch Battery Winslow also at Cape Charles. An anti-aircraft observation platform was also installed in a concrete well during the upgrade. Observers at this location were an element of the antiaircraft intelligence service of the harbor defenses.

At Little Island, the top room served as an observing room for the modern 16-inch guns of Battery Ketcham. The second room housed observers for Battery Number 4, another 16-inch gun battery at Fort Story. The observers in each room were normally soldiers from the supported artillery battery. An antiaircraft observation position was located in a concrete well and on the roof of the tower.

Near the end of World War II, the mission of the guns in the Harbor Defenses of Chesapeake Bay was greatly diminished. Some new armaments were still incomplete, but the number of soldiers manning the guns was greatly reduced. The Coast Artillery units had been reorganized and a number of soldiers were deployed overseas. It appears that by this time the requirements for certain fire control systems was not needed. The troops departed and the equipment in the sites was removed and placed in storage. By early 1946 all of the buildings were boarded up and the towers were locked. The guns at Fort Story were maintained in caretaker status and the older armament was scheduled to be cut up for scrap. In May 1948, Department of the Army issued orders that real property not required for fire control be processed as surplus. The stations used in connection with the 6-inch batteries were exempt. It also recommended that all leased land in harbor defenses be disposed of as expeditiously as possible. In the following year the remainder of many of the harbor defense structures were also declared as surplus to the needs of the Army.

In the years following the end of the war the land which had been acquired was returned to the owners. The tower at Little Island remained

vacant until some period in the 1950's when it was demolished. The property at the site was sold in 1956. Tower A at Sandbridge was also demolished at an unknown date following hostilities, Tower B was retained by the US Navy . They added equipment to the tower and continued to use the facility for electronic purposes until the late 1990's when it became excess to the needs of the Service and finally dismantled.

Fire control towers served a real mission for the modern artillery defending America's coast. Today there are only a few remaining. In Virginia Beach the location of the Little Island tower cannot be found. At Sandbridge a concrete foundation and a circular machinegun position are all that remain. The three lone sentinels which stood along the shores of Sandbridge are in the distant past when conflict threatened our shores.