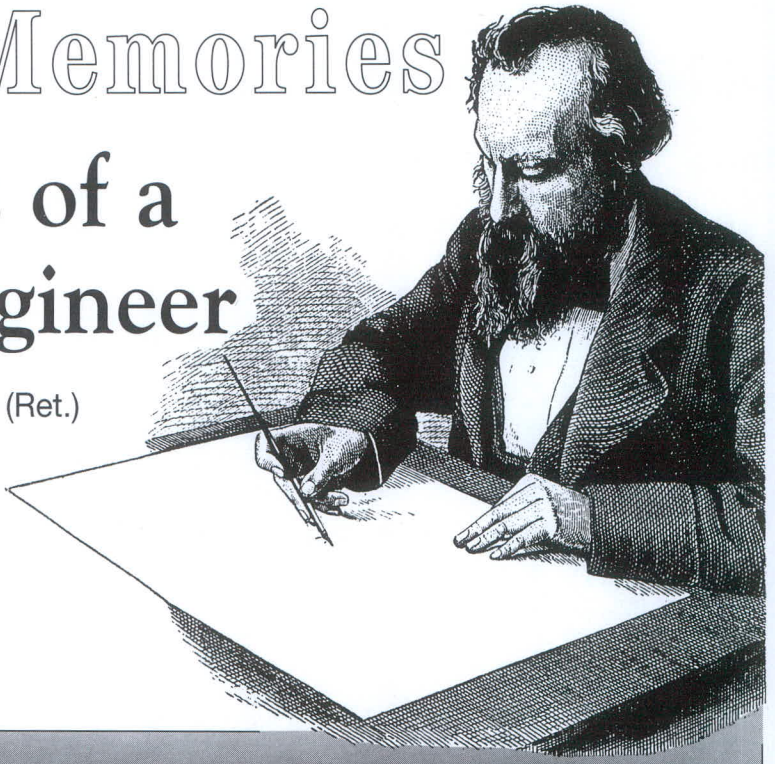
Lighthouse Memories

Recollections of a Lighthouse Engineer

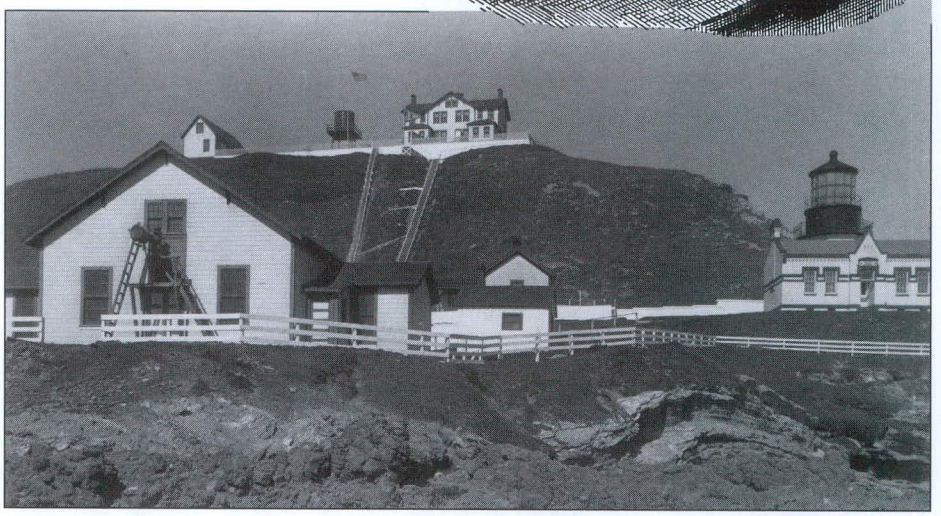


By Capt. Edward Laird, USCG (Ret.)

I did not believe my early experiences in the Lighthouse Service over sixty years ago were of any interest to most people, but after making several tours with the Lighthouse Society, I have met a peculiar breed of people who are intensely interested in anything pertaining to lighthouses. So for those people, I will try and write a few recollections.

I got into the Lighthouse Service by chance in 1927; although I was raised near the sea at Coos Bay, Oregon, where I frequently explored the Old Cape Arago Lighthouse. Graduating from Oregon State College as a civil engineer with honors, I found nobody wanted to hire me. After working in a sawmill piling lumber at forty cents an hour, I got a job with the U.S. Bureau of Roads as a chainman at ninety dollars a month on a survey party building roads on Mount Rainier. Upon taking a Civil Service Civil Engineering Examination, I soon received a letter advising me of a job as junior engineer at San Francisco in the Lighthouse Service at one hundred and fifty-five dollars a month and I grabbed at the chance.

Captain Rhodes was Superintendent of Lighthouses for the District which included all of California at the time. He was an imposing, dignified man with a goatee who ran the District with an iron hand. Mr. Putman, the Commissioner of Lighthouses in Washington, D.C., was from the Coast and Geodetic Survey Service, and when given the job of organizing the Lighthouse Service, about 1912, picked a large number of Coast and Geodetic officers to be superintendents of the various lighthouse Districts. Captain Rhodes was one of those.



Point Conception Light Station circa 1930. The original lighthouse was on top of the bluff and above prevailing layers of fog. In 1881 the present structure (right) was constructed closer to the water. The building in the left foreground is the fog signal building. USLHS photo.

My work was varied but included inspecting products furnished on contracts let by the District office. One such item was salt water soap. Many lighthouses were short of fresh water and we had specifications for a yellow soap which worked well in salt water for laundering clothes.

Cape Conception Lighthouse had an oil house made of concrete but it was badly cracked and leaking and I was put in charge of a workcrew to build a new one. The crew was the District depot carpenter, Mr. Van Zant, a couple of laborers from the depot and a cook, and we bunked in the third assistant keeper's dwelling as the position was temporarily vacant at the time. The problem of building a new oil house was not large, but the real problem was how to get rid of the old one. We finally used the station's fog signal air compressor and ran a pipe line to the oil house so we could use jack hammers to break up the old concrete. It may have been cracked but it was mighty tough. The job was completed in fine shape, but Captain Rhodes voiced some displeasure at the time it had taken us to complete the project.

Most coastal shipping used the passage between Annacapa Isand and the mainland, making Annacapa Light an important turning point for vessels headed to or from Los Angeles and Long Beach Harbors. The light was an acetylene burning 375mm lantern. It was decided to build a major lighthouse at this site and I was sent to make a topographical map of *the island*. I took the lighthouse tender (I believe it was the Manzanita) from the lighthouse depot, on Yerba Buena Island in San Francisco Bay, down the coast to Annacapa. The island consisted of a grass-covered sloping plateau surrounded by sheer cliffs down to the water. On the northeast side of the island, near where the present dwellings are located, was a small cove where the tender's boats usually landed. From the cove it was a fairly easy climb to the upper level. On the day we arrived there was a strong north wind making the landing much too rough. We circled the island and landed a boat among rocks on the lee side. Then it was a difficult climb scaling the cliff to the top.

Near the usual landing cove, I placed an initial point and started to set up my instrument which consisted of a transit mounted on a tripod. Much to my dismay, the transit did not fit the tripod. I had been given the wrong tripod at the depot. My heart sank when I considered a week's time of the tender wasted, at thousands of dollars cost, and what I would tell Captain Rhodes. Luckily the tripod opening was larger than the transit base so by whitling and inserting a piece of wood, I was able to jam the two together and got a fairly steady platform for the transit. The rest of the survey was routine with detailed emphasis on the landing area.

The trip back home was uneventful except that I was introduced to the game of poker by the ship's officers, which was a financially costly lesson.

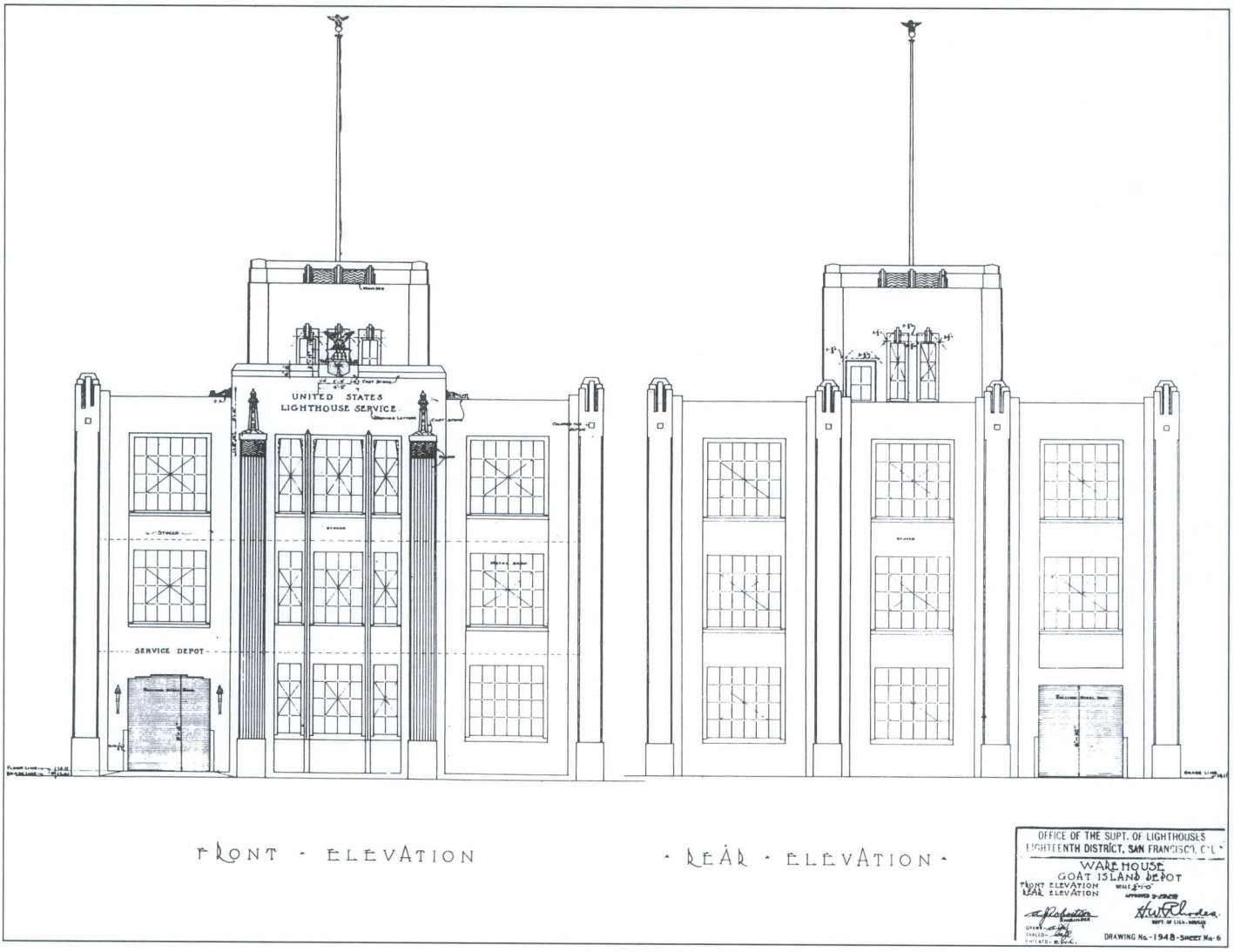
Back at the office, I drew up maps of the island for future construction. We laid out a large concrete watershed to catch rain water and pipe it down to large wooden water tanks for the station dwellings. Rainfall is very scarce on Annacapa and we had to catch it when we could. I drew plans for blasting out a landing platform, steel stairways to the upper level, and a derrick to hoist material from the landing boats to the top.

Anacapa Island circa 1932. A stiff legged crane, used to haul supplies aboard the island, can be seen (faintly) between the "V" cut at right. USLHS photo.

The lighthouse depot was on Yerba Buena Island which was commonly called Goat Island. This island is now part of the San Francisco Bay Bridge with a tunnel through it joining the western suspension part from San Francisco with the eastern structual part into Oakland. At that time there was no bridge and our access to the depot was by navy boats making periodical trips to and from Oakland to the navy stations on the island. The depot docks were supported by piling. Captain Rhodes had a plan to build a retaining wall and fill in behind it so that most of the area would be on solid ground. He asked an old engineer-employee for his ideas and he also asked mine. The old engineer came up with a massive concrete wall while I proposed a thin reinforced concrete wall of less expense. Captain Rhodes went along with my idea and I designed a wall to resist the pressure of an ordinary dirt fill. Captain Rhodes insisted that the reinforcing steel be galvanized which I told him was not necessary, but it is probably the only structure in California with galvanized reinforcing rods. The contract was let and the wall built. Then I learned that Captain Rhodes had arranged to fill behind the wall by pumping in a dredged fluid mud, and I was worried as I had not designed the wall to take such a pressure. When I went to the office the next day I was told that the wall had overturned. I was devastated. They then admitted it was all a joke and the wall was okay.

The lightship *Relief* was in dry dock and I was assigned as inspector of the repair work, part of which was the painting of the hull before sliding it down the ways into the water. The work went along fine until one morning I arrived at the shipyard at 8 a.m. and I found the ship floating at the dock. The shipyard people had painted the hull at five o'clock in the morning without telling me, and I'll never know what kind of paint was used or how well applied. I didn't mention this to Captain Rhodes.

We built a new concrete depot building about 1928 on Yerba Buena Island and hired an architect temporarily to draw the plans. I was given the job of designing the reinforcing steel. I laid out a flat slab system which Captain Rhodes questioned as he was used to a girder and beam construction; however, I pointed out the window at a large building being erected a few blocks away and told him they were using my proposed system and



One of the three Captain Laid designed depot buildings for Yerba Buena Island in San Francisco Bay. The buildings still stand and are used by Coast Guard Base San Francisco.

he said go ahead. The depot is a large warehouse type building and is, I believe, still in use. The architecture of the building influenced my later design of lighthouses in Alaska.

There was considerable water traffic to Sacramento and the stern wheeler *Delta King* and *Delta Queen* made daily trips. The *Delta Queen* later made the trip through the Panama Canal and is now operating on the Mississippi River where people think it was named after the Mississippi Delta instead of its original Sacramento Delta.

In northern San Francisco Bay, Suisun Bay and the channel to Sacramento, we had a system of aids to navigation which I have never seen anywhere else. They consisted of echo boards. These were large tee shaped surfaces with the stem perpendicular to the ship channel, each wing about ten feet high by twenty feet long, all supported by piling and were usually mounted by an acetylene burning minor light. The area was subjected to frequent and heavy fogs making navigation difficult. When a ship blew its whistle it would measure the time it took for the echo to return in seconds and then divide the number of seconds by ten which gave them the approximate distance to the echo board in miles. For instance, if the time was three seconds then they were three tenths of a mile from the aid to navigation and probably too close for comfort. I have often seen this type of navigation on the inland passage in Alaska but there the echo reflection came from bordering cliffs which the navigator knew about. If you have ever been in a room with corner mirrors you will recall seeing yourself reflected back from the corner, no matter where you stand in the room. The right angle of the echo board acted the same way with sound, bringing it back to the ship from any direction.

I had recently been drawing plans for a new echo board and Captain Rhodes called me into his office to meet Mr. Dillon. Mr. Dillon was what was called a "superintendent at large." He evidently travelled to various Districts to coordinate their policies. Captain Rhodes rattled off the names of about eight lights and asked me to bring him the plans. I said "yes sir" and in a few minutes I returned with all the drawings. Years later I had dinner with Mr. Dillon in Washington, D.C. and he recalled the incident and said he was impressed with the fact that I remembered all the lights without any notes. He did not know

Top–Stake Point Light and sounding board in the Sacramento Delta. Sounding boards like this echoed a ship's whistle and provided direction and distance in the fog, prior to arrival of radar. A minor oil lamp can be seen at the left end of the "T"'s stem. USLHS photo.

they were all echo boards with which I had been working and I knew exactly what Captain Rhodes wanted to show him.

Punta Gorda was a lightstation in northern California south of the city of Eureka which was difficult to reach by land, and Captain Rhodes sent me up there to survey a road to the station. The closest town to the lightstation was the rural village of Petrolia, some eighty miles from the main coast highway number 101. Petrolia was named after a finding of oil in the area which was not sufficient to make it commercially feasible to develop. The people of Petrolia had lived there for several generations in relative isolation from the rest of the world without radio, television or newspapers and there were many characters. One such was a Mr. Titus who was famous for his loud voice. They tell, when a fire occurred in a farm building, Titus yelled, "fire" so loud that he was heard all over the valley from miles away. There was no need for sirens. I was given an assistant, Wolfgang Frentrup, who played halfback on the Stanford football team, and we stayed at the Wright's boarding house.

The difficulty of a road from Petrolia to Punta Gorda was that you had to ford the Mattole River just south of the town. There was a bridge a short distance from town on the county road leading inland, and I surveyed a new road route from the south side of the bridge down the river, across several farms to the so-called road from the station. This work took most of the summer and I have never been back to find out if the road was actually built.

Early the next year, I heard of a vacancy in the Lighthouse Service for an assistant engineer at $216.00 a month in Alaska. I applied and was promoted to the new job. I had to leave my new wife to finish her senior year at Mills College, Oakland, but she joined me in Alaska upon graduation in June.

Below–Punta Gorda Light Station in 1931. The three keeper's dwellings are only 200 feet from the surf line. The lighthouse is at the far left. USLHS photo.

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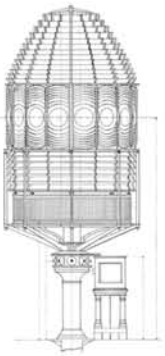

Restoration & Preservation

Thomas Point Shoal Lighthouse, MD

The U.S. Lighthouse Society has donated to many lighthouse preservation projects throughout the U.S. Most recently we were honored by being presented with the Preserve America Stewardship Award from The White House for our restoration work at Thomas Point Shoal Lighthouse.

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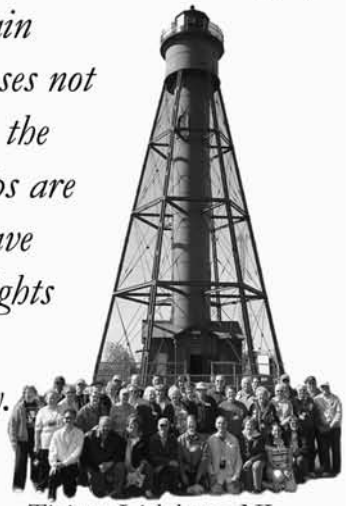
The Society organizes domestic and international lighthouse tours. Many of our excursions gain access to lighthouses not normally open to the public. These trips are a great way to have fun, see lots of lights and learn about lighthouse history.



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