

As of 1 December 2022, there are 1628 navigation aids in Estonia, of which 55 are lighthouses, 235 are beacons, 33 are daybeacons and 1305 are navigation buoys.

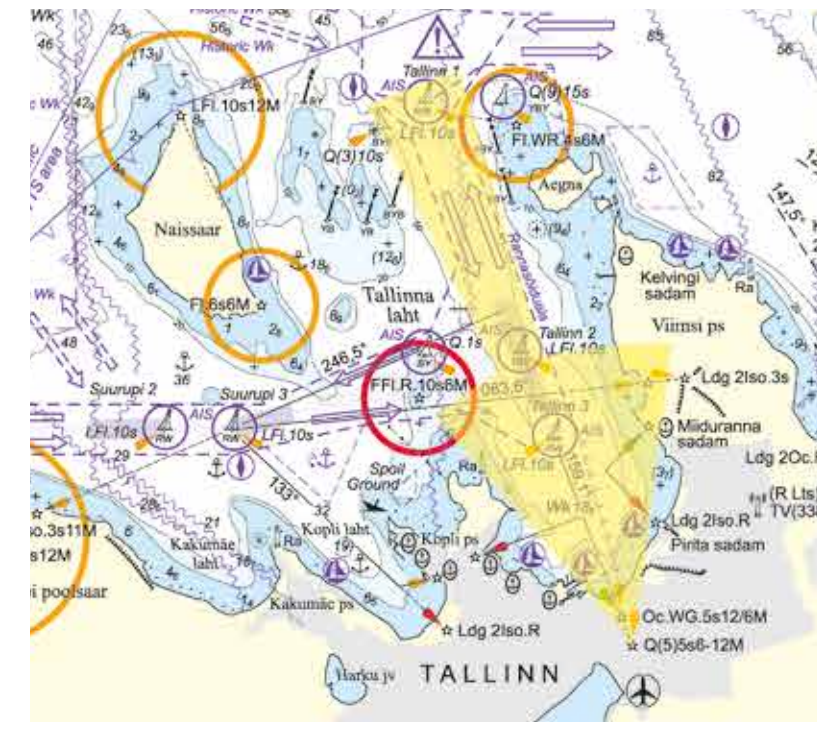
TALLINN LEADING LIGHT REAR LIGHTHOUSE

Geographical coordinates: 59° 25.67481'N; 24° 48.33521'E.

The Tallinn leading light rear lighthouse (also known as Jekaterinenthal's Rear Lighthouse, Jekaterinenthal's Southern Lighthouse, the Red Lighthouse) is located in Lasnamäe, 1109 m away from the Tallinn leading light front lighthouse (also known as Jekaterinenthal's Front Lighthouse, Jekaterinenthal's Northern Lighthouse).

The lighthouses together form the Tallinn leading line on course 159.1°, which makes it possible to avoid shoals when entering the Tallinn Bay from the north and arrive safely at the Tallinn anchorage.

The lighthouse is the most powerful LED projector sector light lighthouse in the Baltics. As of now, the initial lantern from the year 1896 when the lighthouse itself was built is still in its place and operational. The oldest building on the light station is the servants' living quarters on the right side of the entrance gate, which was built in 1851.



Extract from the map atlas "Eesti merekaardid" (Nautical Maps of Estonia) from the year 2022 with the lighting sector of the lighthouse

LIGHTHOUSE HISTORY AND INFORMATION

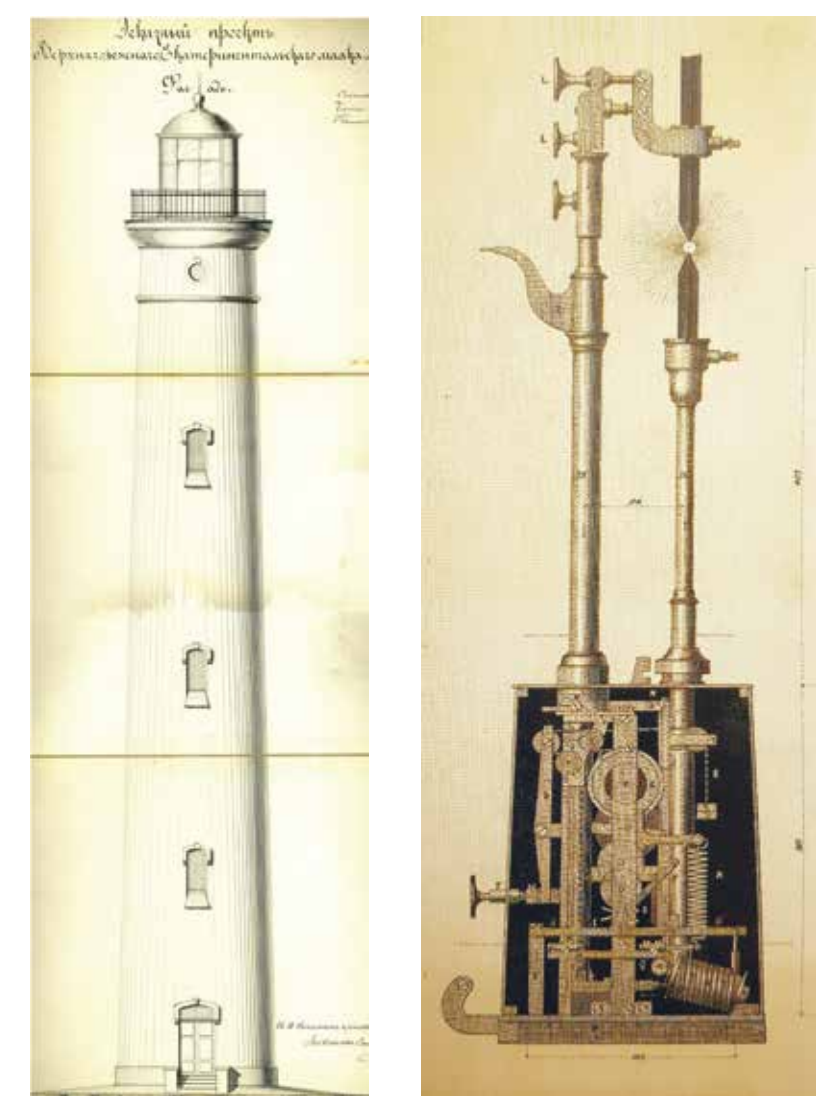
- In the beginning of the 19th century the amount of large drafted hulls entering the Tallinn anchorage noticeably increased. Many captains at that time didn't dare dock at night without reason, because the manoeuvre was considered too risky even for the navigation skills of experienced seadogs. The sailors' fears were caused by the terrifying Revalstein Rockcliff (nowadays known as the Tallinn Shoal).
- In 1791 the modern Reval (Tallinn) military harbour design was finished, which laid out the anchoring space for half an hundred frigates and for other use. The same project also determined that a leading light consisting of two lighthouses was to be built.
- In 1806 the two-floor quadrangular stone-plastered building next to the Lasnamäe limestone cliff on the southern edge of Kardiorg Park was finished and painted white. It was situated 49 m above sea level and illuminated the narrow sector between the Littegrund Shoal and Aegna Great Shoal. Presently, the building is called the Tallinn front leading lighthouse and Valge (White) Street has been named after it.
- In 1835 an octagonal wood truss truncated pyramid shaped tower was finished 500 fathoms (1067 m) away from the front leading light to the north, the walls of which were painted red, and the roof green. Punane (Red) Street and Majaka (Lighthouse) Street have been named after the lighthouse colloquially known as "Laksberg's silk stocking". An oil lamp with seven copper reflectors illuminated the leading line which reached the northern edge of Naissaar. Today, the building is called the Tallinn leading light rear lighthouse.
- In 1874 a modern dioptric lighting device was obtained for the wooden lighthouse, as the previous one no longer met the needs of the harbours. The device was situated 78 m above sea level and was visible from 18 nautical miles away.
- In 1892 the lighthouse building program was confirmed by the Tsar-Russia, according to which a stone lighthouse was to be built in Lasnamäe by the appropriate subsidiaries.
- In 1894 renovation work began in the light station: a new lighthouse was built next to the old wooden lighthouse, the stone living quarters, the gardens and the washroom were restored and a fence was built around the entire station.
- The currently used lighthouse was finished in the year 1896. It is a limestone 40-metre-tall lighthouse with a circular design, the plastered wall of which was once again painted red and the sheet metal roof green. A 2nd order fixed catadioptric Fresnel lighting device was installed in the lantern room, obtained from the Sautter Harle & Co factory in Paris. It was situated 81 m above sea level and was visible from 18 nautical miles away. The wooden lighthouse was demolished.
- In 1914 the top third of the lighthouse was painted black and the rest white. The building still looks like this today. The visibility range of the light was 23 nautical miles.
- In 1931 an Estonian republic defence force airplane "Botez 25" veered off its flight course, grazed the lighthouse with its wing and crashed. The pilots – Tartu flight division major Sööt and feldwebel Sepp – sustained life-threatening injuries.
- In 1941 the lighthouse dome, doors and windows bullet holes were repaired according to the repair reports preserved from the war. During the repairs, a new electric engine was installed for the lighting device.
- In 1969 a BAT-700 light system with an automatic lamp switcher (1000W halogen lamps) was installed to illuminate the lighthouse's sector range. It used the Fresnel glass optics already there and its light intensity was 1,300,000 cd. In addition, both side sectors were illuminated by two additional LO1-16 sector lanterns.
- In 2000 the lighthouse was modernised: the building facade was renewed, the cast iron parts of windows were restored, the granite pedestal was cleaned and the light was connected to a navigation aid remote sensing system. A narrow white sector light was added to the Tallinn leading line.
- In 2010 the light station was handed over to Kinnisvara AS, who in turn sold the entire property to a private owner. The Estonian Maritime Administration only retained the right to use the lighthouse.
- In 2010 a large capacity ekta™ (since 2019 Sabik ekta™) LED lighting system was installed in the lighthouse. As of 2022, it is the most powerful leading light range direction LED navigation light in the Baltic states: 5 LED lanterns work simultaneously with a total light intensity of 600,600 cd (one candela (cd) is equal to the light intensity of one lit candle) and a total power of 332W. The visibility range in the dark according to the nautical chart is 12 nautical miles, 6 nautical miles in the side sectors.
- In 2021 the Estonian Transport Administration bought back the lighthouse from the private owner and regained control over one of the most important lighthouses in the country.
- In 2023 the LED light systems were modernised and now the new maximum total light intensity is even larger – 1,200,000 cd, which is used during the day so that the lighthouse would be more easily distinguishable from the surrounding city. During dark hours the automatic system makes the light weaker so it isn't blinding.
- With good weather, the lighthouse is visible 35 km away, but visibility from farther is limited by the curvature of the earth. Otherwise the light would reach even 56 km away.
- 198 steps lead up to the balcony of the lighthouse.
- The Tallinn rear leading light lighthouse was declared a protected national heritage site in the year 1997 as a building monument with the register number 8791.
- Buildings in the light station (see plan below) were built:
 - 1851 – the lighthouse servant living quarters;
 - 1894 – washroom-kitchen-sauna;
 - 1894 – cellar;
 - 1894-1896 – lighthouse;
 - 1900 – lighthouse operator living quarters;
 - 1900 – lighthouse electricity generator building;
 - 1902 – former acetylene plant



Entrance to the Tallinn anchorage, nautical chart from the year 1846



Sketches of the north and south Jekaterinenthal lighthouses from the 1835 book "Описание маяков, башен и других предостерегательных для мореплавателей знаков Российской Империи" (Description of lighthouses, towers and other warning signs for sailors of the Russian Empire)



Extract from the lighthouse project finished in 1896

Schematics for a remotely adjustable arc lamp



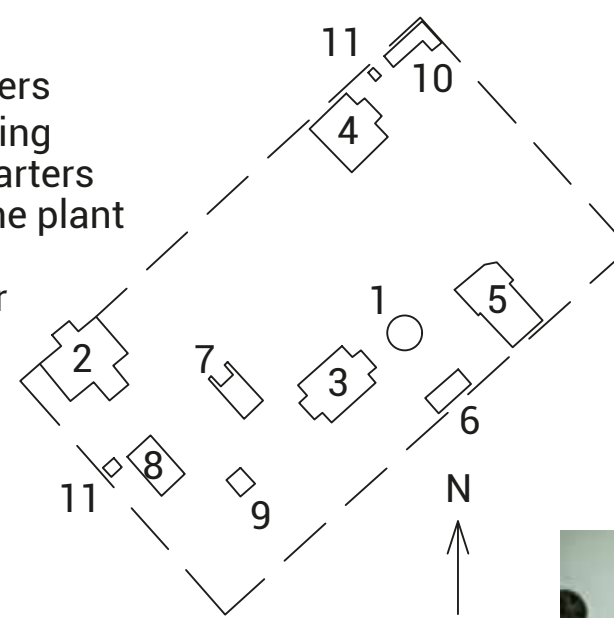
The light station in the beginning of the 20th century – view from the northwest.

Sources:

Peeter Peetsalu „Merekultuurilugu“ (Cultural History of the Sea),
Jaan Vali „Eesti tuletornide ajalugu“ (History of Estonian Lighthouses).

The light station plan from the year 1938

1. The lighthouse
2. The servants' quarters
3. The generator building
4. The engineering quarters
5. The former acetylene plant
6. The warehouse
7. The vegetable cellar
8. The lavoir-sauna
9. The well
10. The shed
11. The latrine



NAVIGATION AID FACTS

Navigation aid number: 252
Surface elevation above sea level: 44.9 m
Surface elevation above sea level: 40.3 m
Light height above sea level: 81.1 m
Light characteristics: Q(5) W 5 s group quick flashing light
Flashing period description: (0.3+0.4)*4+0.3+1.9=5



A stamp issued in 2006, designed by Roman Matkiewicz



The lamp switcher with 1000 W halogen bulbs in front of a Fresnel lens, photo from the year 2009, photo V. Laitus



Today, the 74 W range lantern E8554 LED is in use