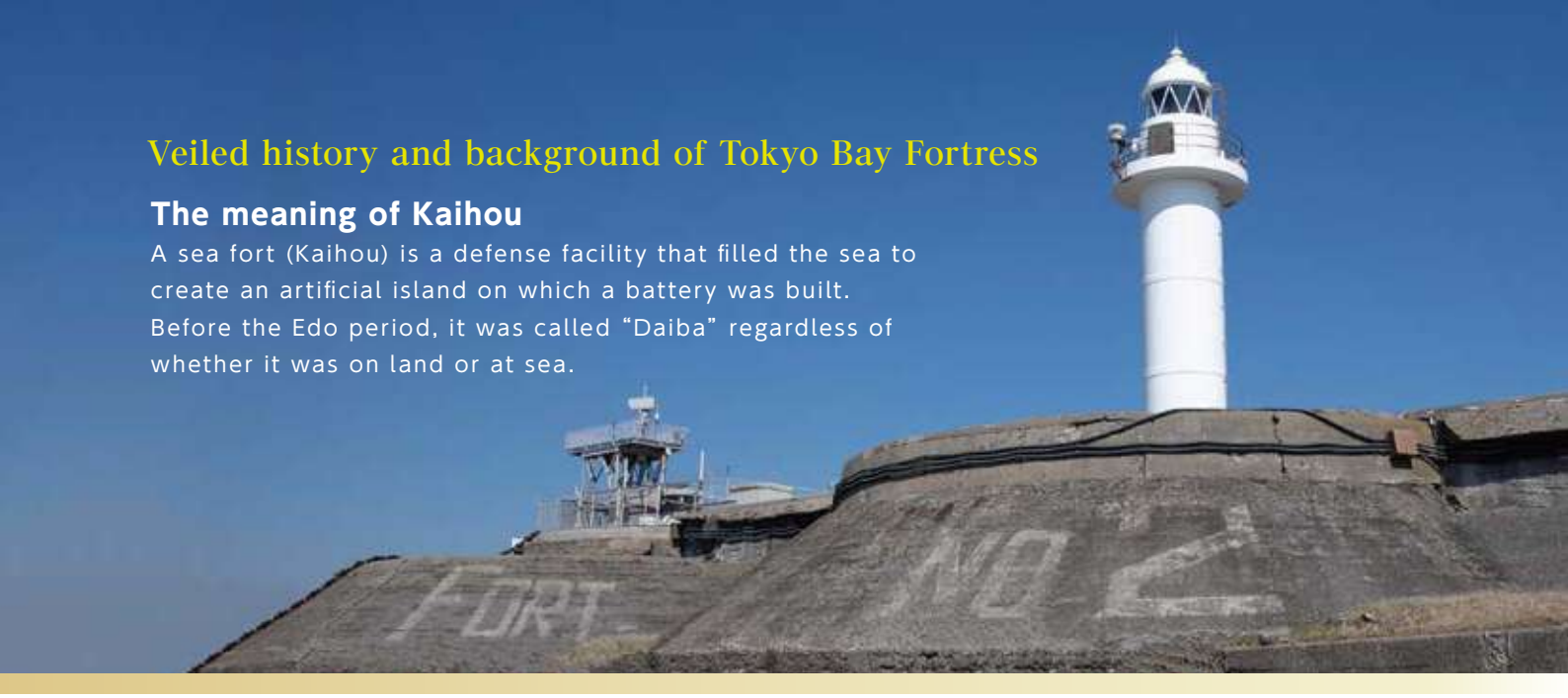
TOKYO BAY No.2 SEA FORT

東京湾第二海堡

Scan here for details



Veiled history and background of Tokyo Bay Fortress

The meaning of Kaihou

A sea fort (Kaihou) is a defense facility that filled the sea to create an artificial island on which a battery was built. Before the Edo period, it was called “Daiba” regardless of whether it was on land or at sea.

History of Sea Defense

Awareness of the necessity of fortifying sea defense

The industrial revolution that began in Britain in the mid-18th Century spread to Western countries, and its influence reached to Asia, Africa, and Latin America. In Tenmei 6 (1786) Shihei Hayashi described in his “Kaikokuheidan“ the need for the Edo Bay defense. Under such circumstance, it was the arrival of Imperial Russia’s delegation Laxman which first knocked the door of isolated Japan.

And in Tenpo10 (1839) Egawa Tarozaemonhidetatsu proposed to the Shogunate to build Daiba (fort) in the sea at Futtsu Cape in his memorial document for the Edo Bay patrol, and Watanabe Kazan drafted “Edo Bay Marine Defense Plan Chart” based on it.

In Tempo 11 (1840) The defeat of Qing Dynasty by the Opium War had a great impact on the Shogunate, and there were also frequent incidents happened by foreign ships, so the Shogunate realized the importance of sea defense.

Under the inevitable circumstances of the opening of the country, the American Perry fleet arrived in Uraga in Kaei 6 (1853).

Chart 1 : The arrangement of Artillery Forts
Kaei 6 (1853)July (presumption)
[Data] reprint from the chart 1.3.3[Construction history of Tokyo Bay No.3 Sea fort]

The first artificial island of Tokyo Bay “Shinagawa Daiba” (Shinagawa Fort)

Egawa Tarozaemonhidetatsu ordered by the Shogunate again to plan the Edo Bay Marine Defense after the arrival of Perry, proposed the construction of Shinagawa Daiba as the last defense of Edo along with the defense line from Kannonzaki to Futtsu Cape. Based on this, the first artificial island in Edo Bay was constructed.

And this proposal was taken over by the Meiji new government after the Meiji Restoration, and followed by constructing batteries on the coast of Edo Bay, and then proceeding to the construction of a sea forts, forming the foundation of "Tokyo Bay Fortress".

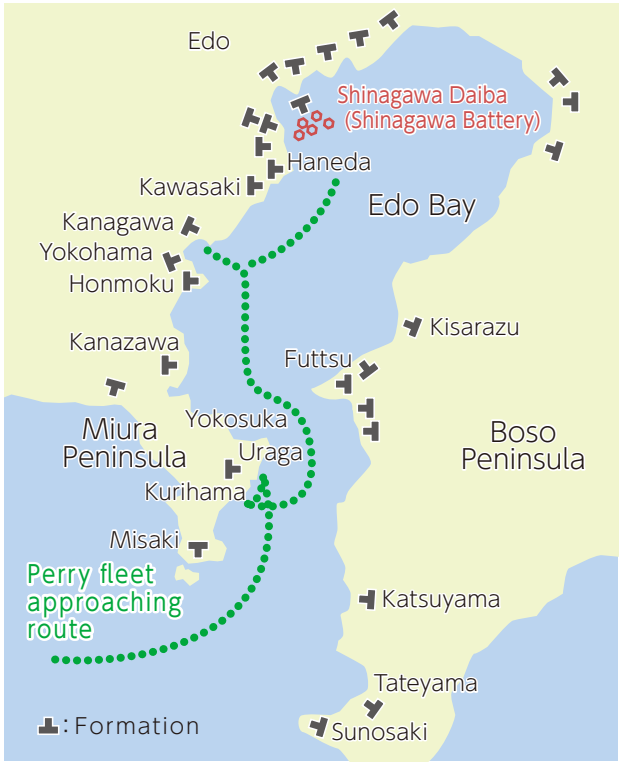


Chart 2 : Arrangement of Daiba (battery)
of Edo Bay after Perry fleet arrival Kaei 7 (1854).
[Data] reprint from the chart 1.1.2[Construction history of Tokyo Bay No.3 Sea fort]

Necessity of three Sea Forts

Major Hisataka kuroda of Imperial Army who took a key role of Tokyo Defense Planning and issued jointly "Zenkoku Bougyo Houan" or National Defense Bill in Meiji 8 (1875). Since then this plan was said to be the base for the construction of Tokyo Bay Fortress.

Since the effective range of the cannon at the time of the completion of the No.1 Kaihou (No.1 Sea Fort) was about 3km, the Imperial Army decided to augment two sea forts between Futtsu and Kannonzaki in order to strengthen the defense and prevent the invasion of enemy ships.

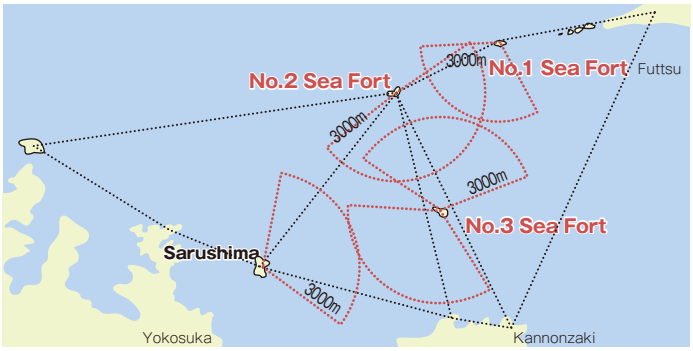


Chart 3 : Deployment Cart of Tokyo Bay sea forts
[Data] 「History of Tokyo Bay No.3 Sea Fort construction」 frontpiece-3.10

Change of Defense Line

The construction of Tokyo Bay Fortress started in Meiji 13 (1880) from Kannonzaki battery and 24 batteries were constructed. Although sea forts were important positions in that, when the range of the cannon became long, the important defense line was moved south from the bay mouth connecting Yokosuka to Futtsu to the line connecting the tip of the Miura Peninsula down to the southern part of the Boso Peninsula. They completed No.2 sea fort construction in Taisho 3 (1914), however there was no chance to exert defense capability in an actual combat situation.

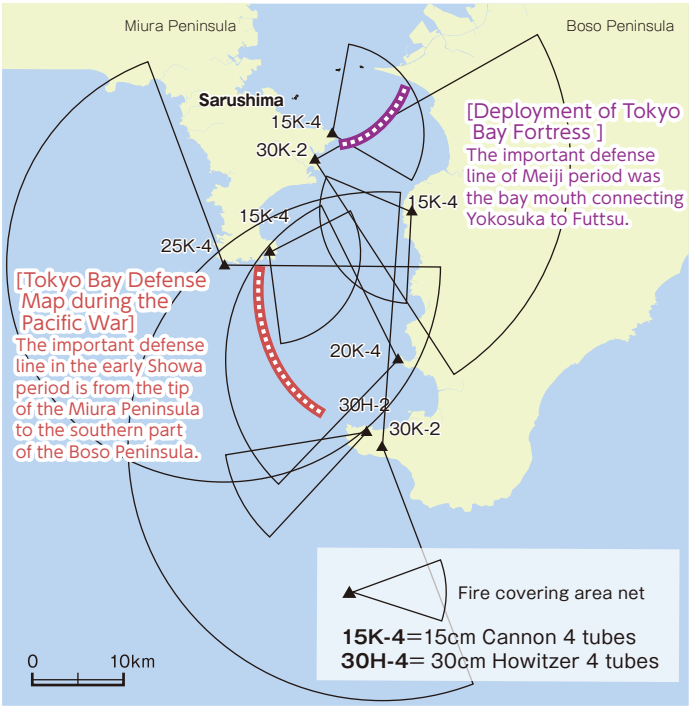


Chart 4 : Defense fire covering chart of Tokyo Bay Defense at Pacific War.
[Data] 「History of Tokyo Bay No.3 Sea Fort construction」 chart-3.1.2

Chronology of No.2 Sea Fort

	Japanese Calendar	Western Calendar	Events of Sea Defense
Edo	Kanei 16	1639	National isolation regime was established by the fifth National Isolation Edict.
	Tenmei 6	1786	Shihei Hayashi advocated the necessity of Sea Defense in his book titled Kaikoku Heidan (Strategy of maritime defense)
	Kansei 4	1792	Laxman of the delegation of Imperial Russia visited Japan.
	Bunka 1	1804	Nicolai Rezanov visited Japan as Russian ambassador to Japan.
	Bunka 5	1808	Phaeton Incident at Nagasaki Harbor. Great Britain Loyal Navy ship invaded into Japan.
	Bunka 8	1811	Golovnin Incident. Russian explorer and naval captain Vasily Golovnin was captured by shognate.
	Bunsei 8	1825	Edict to Repel Foreign Vessels
	Tenpou 8	1837	Morison Incident. American merchant ship Morison was driven away by shognate's cannon fire.
	Tenpou10	1839	Egawa Tarozaemonhidetatsu proposed to the Shogunate to build Daiba or Fort in the sea.
	Tenpou11	1840	First Opium War. Qing dynasty was defeated.
	Tenpou13	1842	Issue of Shin-sui kyuyo Rei (Issue of Decree that permit providing foreign vessels with fuel and water).
	Kaei 6	1853	The USA dispatched Matthew Perry of an East India fleet admiral to Japan.
	Kaei 6	1853	The Putyatin fleet from Russia arrived at Nagashaki.
	Kaei 6	1853	Shognate launched the construction of Shinagawa daiba (Shinagawa artillery battery).
	Ansei 5	1858	Conclusion of the Treaty of Amity and Commerce between Japan and the USA.
	Keio 3	1867	Taisei Hokan (Return of the power back to the Emperor) and the restoration of Imperial Rule
Meiji	Meiji 4	1871	Aritomo Yamagata submitted Gunbi Ikensho (Armament opinion)
	Meiji 5	1872	The Meiji new government created the Ministries of Army and Navy.
	Meiji 6	1873	Colonel Charles Marquerie submitted Kaigan Bougyo Houan (National Sea Coast Defense Bill)
	Meiji 8	1875	Hisataka Kuroda subimitted in the joint names Kaigan Bougyo Houan (Sea Coast Defense Bill)
	Meiji 8	1875	Lt. Colonel Munier jointly submitted Nihonkoku Nanbukaigan Bougyo Houan (Japan South Sea Coast Defense Bill)
	Meiji 13	1880	Construction of No. 1 and No. 2 Kannonzaki artilally batteris were started.
	Meiji 14	1881	No.1 Sea Fort Construction was started.
	Meiji 20	1887	Construction of Artificial Island for No.1 Sea Fort was finished.
	Meiji 22	1889	No.2 Sea Fort Construction was started.
	Meiji 23	1890	Imperia Army Staff HQ planned Kaigan Bougyokeika-ku Taiko (General Plan of Sea Coast Defense Plan)
	Meiji 23	1890	Construction of upper structure of No.1 Sea Fort was completed.
	Meiji 25	1892	No.3 Sea Fort construction was started.
	Meiji 27	1894	Sino-Japanese War
	Meiji 32	1899	Construction of Artificial Island for No.2 Sea Fort was completed.
	Meiji 32	1899	Proclamation of Yosai Chitai Hou (Fortress Zone Bill) and Gunji Hogo Hou (Military Secrets Act)
	Meiji 33	1900	Construction of upper structure of No.2 Sea Fort was started.
	Meiji 37	1904	Russo-Japanese War
	Meiji 39	1906	Japanese Army probided US Army with information regarding Tokyo Bay Sea Forts Construction.
	Meiji 40	1907	Construction of artificial island for No.3 Sea Fort was completed.
Taisho	Taisho 3	1914	Construcion of upper structure of No.2 Sea Fort was completed.
	Taisho 3	1914	World War I
	Taisho10	1921	Construcion of upper structure of No.3 Sea Fort was completed.
	Taisho12	1923	The Great Kanto Earthquake
Showa	Showa 6	1931	Manchurian Incident
	Showa 6	1931	Imperial Japanese Navy asked free usage of No.2 Sea Fort to Imperial Japanese Army.
	Showa16	1941	Pacific War
	Showa20	1945	The Pacific War ended and US Forces took over Tokyo Bay Fortress.
	Showa30	1955	No.2 Sea Fort was returened to Japan from US Forces Japan.

Sea Fort construction by The New Meiji Government

Fusion of Japanese traditional technology and modern western technology

Fortifying Japanese archipelago by Aritomo Yamagata

Aritomo Yamagata ruling the Imperial Army as a Marshal from the Meiji era to the Taisho era, submitted "Gunbi Ikensho"(Opinion statement for Armament) and advocated the necessity of fortifying Japanese archipelago in Meiji 4 (1871). To realize this concept he had French Army Lieutenant Colonel Charles Marquerie inspect Tokyo Bay and submit a "Wagakuni Kaigan Bougyo Houan" (Japan Seacoast Defense Bill) in Meiji 6 (1873).

In following Meiji 8 (1875), French Army Lieutenant Colonel Charles Munier, Engineer Captain C. Jourdan and Artillery Captain Lebon drafted "Nihonkoku Nanbukaigan Bougyo Houan" (Japan Southern Seacoast Defense Bill) in which they recommended to fortify seacoasts and islands with batteries.

The pioneer of modern fortress construction

The Tokyo Bay Fortress is the group of artillery batteries constructed and deployed around the mouth of Tokyo Bay area to defend metropolis Tokyo and Yokosuka Naval Base from aggressors. This fortress construction started in Meij 13 (1880) firstly from No. 2 Kannonzaki artillery followed by that of No.1 and the first No.1 Sea Fort construction started 14 (1881).

Then the Imperial Army decided to construct two sea forts between Futtsu Peninsula and Kannonzaki separating each other in equal distance of ca. 2.6km taking the effective firing range of cannons into their consideration.

These artillery batteries and sea forts were the pioneer of modern fortress constructions introducing modern western technology based on Japanese traditional technology.

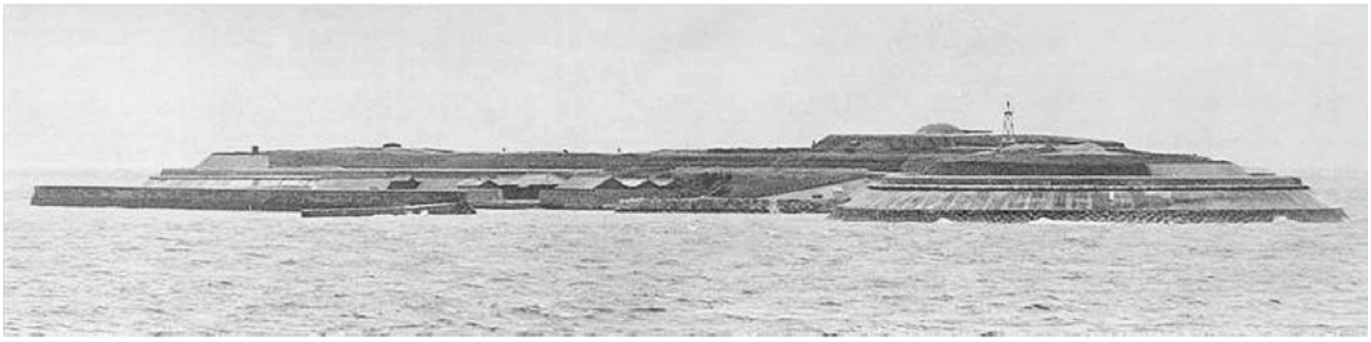


Photo : No.2 Sea Fort taken in Meiji 40 (1907)
[Data] owned by American National Archives (NARA)

Strategy influenced by performance of cannons

Since Meiji 13 (1880), Imperial Army launched full-scale construction of fortress and planned initially to deploy own domestic artillery guns as much as possible, but they depended on foreign made cannons as it was quite difficult to produce all domestically early on due to the poor production facilities and immaturity of domestic technology.

After World War I the performance of warship had drastically improved and then older model of guns became obsolete and worthless. In this way The Tokyo Bay Fortress was forced to change its plan and construction to cope with the change of strategy and advancing technology through the transition of times of Meiji, Taisho and Showa.

Types of guns of fortress

Guns are categorize into several types by their purpose and their trajectories were different.

- ●Cannon : through shells with high initial velocity and has high penetration against the objet.
- ●Howitzer : through shells high angle trajectory to fly over shield obstruction in between.
- ●Mortar : higher angle trajectory than howitzer.
- ●Rapid fire cannon : quick loading and firing and direct trajectory to the object.
- ●Inkenhou (disappearing gun) : hiding tubes behind a protective wall and raise its tube only when firing.

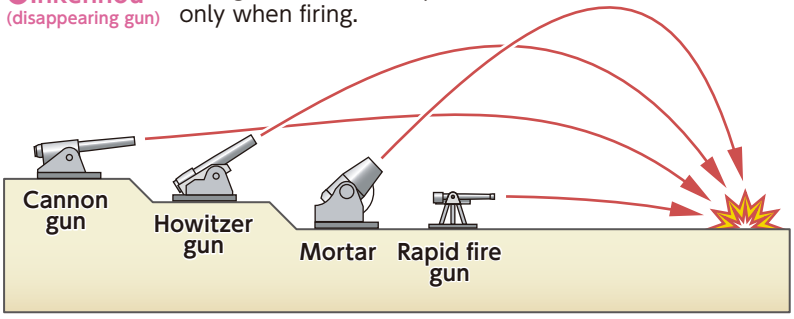


Chart 5 : Types of guns of fortress
[Data] from the History of Tokyo Bay No.3 Sea Fort construction chart -7.2.1

Construction of Tokyo Bay Fortress (three sea forts)

Start of construction

In Meiji 14 (1881), the construction of the Futtsu Sea Fort (later named the No.1 Sea Fort) was started in the sea at the tip of Futtsu Cape. It took nine years to complete the construction in Meiji 23 (1890). Construction of the No.2 Sea Fort was started in Meiji 22 (1889). Then, in Meiji 25 (1892), three years after the start of the construction of the No.2 Sea Fort, the construction of the No.3 Sea Fort started.

Area Sizes of these 3 sea forts at high tide were 23.000 ㎡ of No.1 Sea Fort, 41000 ㎡ of No.2 Sea Fort (about 1.8times as wider as No.1) and 26.000 ㎡ of No.3 Sea Fort (almost same as No.1).

Water depth It is said that the most difficult factor of sea fort construction is water depth. The water depth around the No.1 Sea Fort was 1.2m to 4.6m, 8m to 12m around No.2, and even 39m around No.3. The deeper the water depth is the more difficult its construction becomes. To make the matter worse the fast tide velocity there made their work more difficult.

Comparison of three Sea Forts

Subject	No.1 SEA FORT	No.2 SEA FORT	No.3 SEA FORT
			
[Artificial island] Start date of construction	Meiji14 (1881) Aug.	Meiji22 (1889) July.	Meiji25 (1892) Aug.
Completion date of construcion	Meiji20 (1887) June.	Meiji32 (1899) June.	Meiji40 (1907) Oct.
[Upper structure] Start date of construction	unknown	Meiji33 (1900) 16th March	Taisho3 (1914) Sept. and after
Completion date of construcion	Meiji23 (1890) Dec.	Taisho3 (1914) June	Taisho10 (1921) Mar.
Construction time	9 years	25 years	29 years
Construction site	in the sea at the top of Futtsu, Chiba Prefecture	2,577m west of No.1 Sea Fort Futtsu, Chiba Prefecture	611m south of No.2 Sea Fort 2,589m north of Hashirimizu Low battery Yokosuka, Kanagawa Prefecture
Armament	two 12cm cannons (disappearing gun carriage) two 12cm cannons (siege gun carriage) one 19cm cannon fourteen 28cm howitzers	two 27cm cannons (turret) four 27cm cannons (disappearing gun carriage) eight 15cm cannons (turret)	eight 10cm cannons four 15cm cannons
Water depth	Deepest depth 4m60cm Shallowest depth 1m20cm	Deepest depth 12m Shallowest depth 8m	Deepest depth 39m
Geographical structure of the seabed	Sands mixed with crushed shells	Sands mixed with crushed shells	Sands mixed with gravels
Speed of tidal current (per seond)	1m/sec	1.2m/sec	1.5m/sec
Defference between high and low tide	2m	2.2m	2.2m
Area of upper foundation	23,000 ㎡	41,000 ㎡	26,000 ㎡
Construction cost	378,322 yen (worth 1.75billion yen in today's money)	791,647 yen (worth 3.67billion yen in today's money)	2,493,697 yen (worth11.57billion yen in today's money)

[Note 1] Although armament was strongly influenced and changed by the background of military diplomacy and advance of weapons and changes of strategy, initial construction armaments of each sea fort were enumerated here.

[Note 2] The current cost of the first to third forts is the construction cost converted to the current amount, taking into consideration price fluctuations from Meiji 14(1881) when the first fort construction started.

Remained resources of No.2 Sea Fort

SINCE1889

Remaining Fortress Relic of No.2 Sea Fort

Although No.2 Sea Fort has many precious relics that tell well atmosphere of those old days and blessed with open scenery, some areas are still off-limit.

This is an Inside the bunker on the north side of the right wing. The arched entrance is an underground passage leading to a 27cm cannon, the ceiling is concrete, and the side walls are brick structures.

Brick construction
(covered trench on the right wing north side)

Breakwater on north side sea area. Its length of east wing is 160m and that of west wing is 80m, however west wing has sunken under the sea.

Breakwater

Moorings on north side of the fort. Many bollards remained and steep stone wall tell well that this area was then moorings.

Moorings

Outlook of the bunker on the right wing north side. Protection wall of British brickwork is 114m length and made of over burned bricks of high water resistance.

Brick construction
(covered trench on the right wing north side)

Storage house nearby the moorings on north side. Its wall is made of bricks and ceiling is concrete. It is located adjacent to mooring shore and seems to be used for storing fuels as it was waterproofing.

Storing installation in front of moorings on north side

12.7cm high angle gun platform. This high angle gun was installed here in Showa 17 (1942) in WW II.

High angle gun platform

Brick construction
(on right wing west side bunker)

After the Sino-Japanese War, the Imperial Navy installed the torpedo guard station and naval guns on the right wing, but these were removed after the end of the Sino-Japanese War.

After that, the foundation work of the No.2 Sea Fort was continued, and a 15cm cannon was deployed at its west end.

Engraved Brick

Remains of gun battery

This is the remains of 15cm cannon gun battery and in which plain concrete jacketing method was applied. Today, Light house of No.2 Sea Fort (12m high) was installed here.

Kenchiishi

Revetment stone wall of Japanese traditional engineering technology called “Kenchi-ishizumi” on the south side. It was so firm structure enough to survive Great Kanto Earthquake.

Ships passing by near the No.2 Sea Fort.

No.2 Sea Fort is close to the Uraga Suido Passage and you can see large container ships, tankers, and luxury passenger ships, etc. more closely.

Brickwork construction
(underground part of the central turret)

Entrance of underground fortress on the left wing.

Central turret observation platform. This observation platform was constructed in an open area from where you can get wider view and also was integrated with underground commanding room and communication room.

Central Turret observation platform

Significant technology of the No.2 Sea Fort construction.

High construction technology that was requested to provide to United States.

Revetment work also adopted for construction of the No.3 Sea Fort.

No.2 Sea Fort was an artificial island constructed on the seabed of 8 to 12m depth and 490,000m³ of stones and 300,000m³ of sands were used and 500,000 labor forces were employed. Due to its deeper depth, they couldn't lay blocks directly from the seabed but threw huge amount of rubbles for bottom raising up to sea surface and then laid stone blocks on them to construct the bank body of island.

To throw rubbles into the target position, they put the buoy to identify the area and moored the loading vessel (Godairiki sen or Daruma sen) and from which they casted rubbles. Although those rabbles were mainly salvaged from the coast nearby, stones for the revetment body were most probably from Manazuru. In this way, No.2 Sea Fort construction was completed after 25 years of its start in Taisho 3 (1914) under severe sea weather condition, in spite of many times of destruction caused by Typhoon winds and waves during construction.

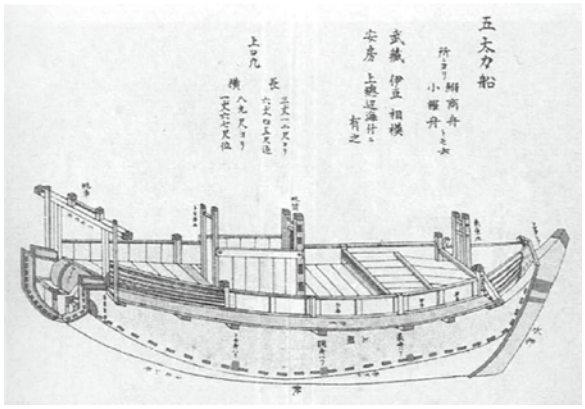
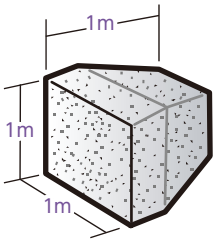


Photo : Godairikisen
[Data] [The History of Tokyo Bay No.3 Sea Fort construction] photo-5.6.2



[Note] **Kenchiishi** "Kenchiishi" used for revetment cover is Anzangan rock (andesite) and its quality is very hard and dense enough not to collapse even being exposed to winds and rains long time. Its shape was long rhombus with 1m square face and 1m length.

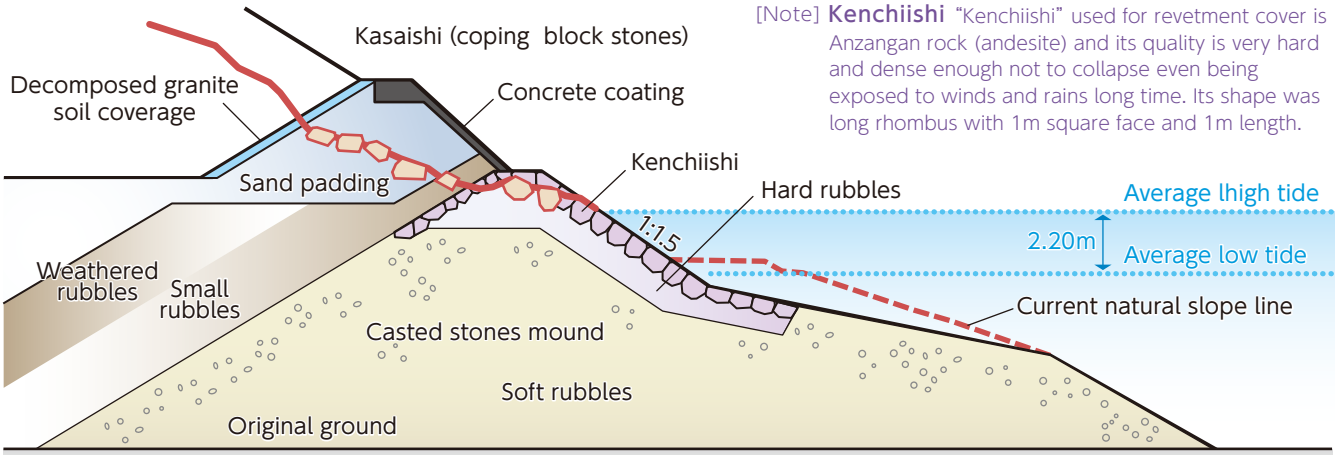


Chart 6 : Standard cross section of bank part of No.2 Sea Fort
[Data] Report of investigation of Futtsu No.2 Sea Fort of Futtsu city Chart -3.1.1

Construction schedule table

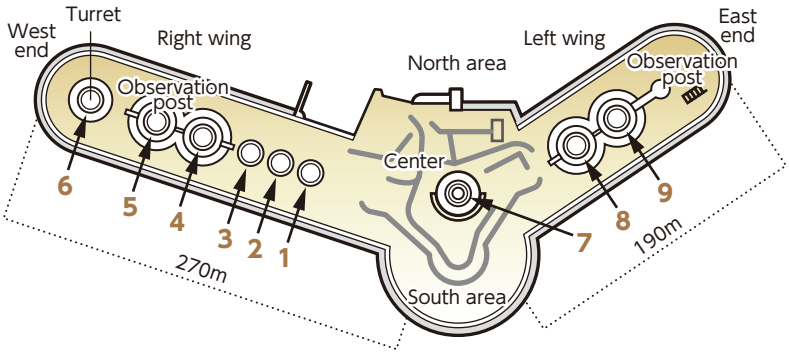
Schedule			1880	1890	1900	1910
Construction term				1889 No.2 Sea Fort construction start	1899 Artificial island construction completed	1914 No.2 Sea Fort construction completed
Artificial island	Casting trial work			1889 throwing soft rubbles into the area		
	Base ground	Rubble stones		1890 throwing soft rubbles in the area		
	Surrounding bank body	Masonry		・Kenchiishi stone blocks were laid over 50cm thick hard crush stones with gradient 1:1.5 by apparatus divers.		
		Coating concrete		・Pouting concrete over filled up land and put Kasaish (coping block stones) over the concrete.		
	Reclamation work			・Spraying water during compaction by 20cm layers of those above the level of high tide. ・Inside of the mound made of crushed stones were filled with smaller crushed stones or weathering stones to stop sands over them.		
Upper facility	Battery・Armament				1900-1907 Battery construction	1905-1913 Armament construction
	Other upper facility work				1900 Store house and brick installations were emplaced and furnished.	Search lights were emplaced and furnished.
Removal	Removal work					

Feature of battery and armament of No.2 Sea Fort

Foot wall and back wall of upper part installation of No.2 Sea Fort were made of bricks and those most important facility such as gun platforms of 15cm cannon and 27cm cannon (disappearing carriage) and ceiling parts were made of concrete.

Battery has many installations in it to exert its combat power such as gun platform, ammo storage, and ammo loading chamber, observation post, light room and living space for soldiers.

Especially for turret guns those facilities other than most upper part of firing chamber, such as hand operated power room to move guns and ammo depo and ammo loading room were all constructed underground. And you can easily see how difficult the work was.



1・2・3・6 : 15cm Cannon(turrets)
4・5・8・9 : 27cm Cannon(disappearing carriage)
6 : Search light (emplaced after Great Kanto Earthquake)
7 : 27cm Cannon (Central Turret)
[Note] In addition to this, there is a record that a mobile 7.5 cm cannon guns (rapid fire) were deployed.

Chart 7 : Armament Deployment Cart of No.2 Sea Fort
[Data] from "No.2 Sea Fort relic investigation report at Futtsu in Futtsu city." Chart-2.3.1

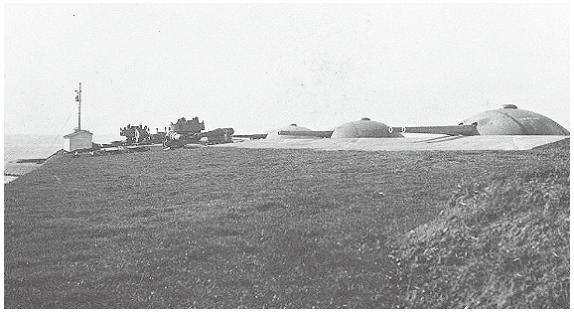


Photo : Scenery of right wing of turrets deployment of No.2 Sea Fort
[Data] Sea Fort photo book(Tokyo Bay) Imperial Army main arsenal/Imperial Household Archives Public document Meiji 39 (1906) Oct 7th.

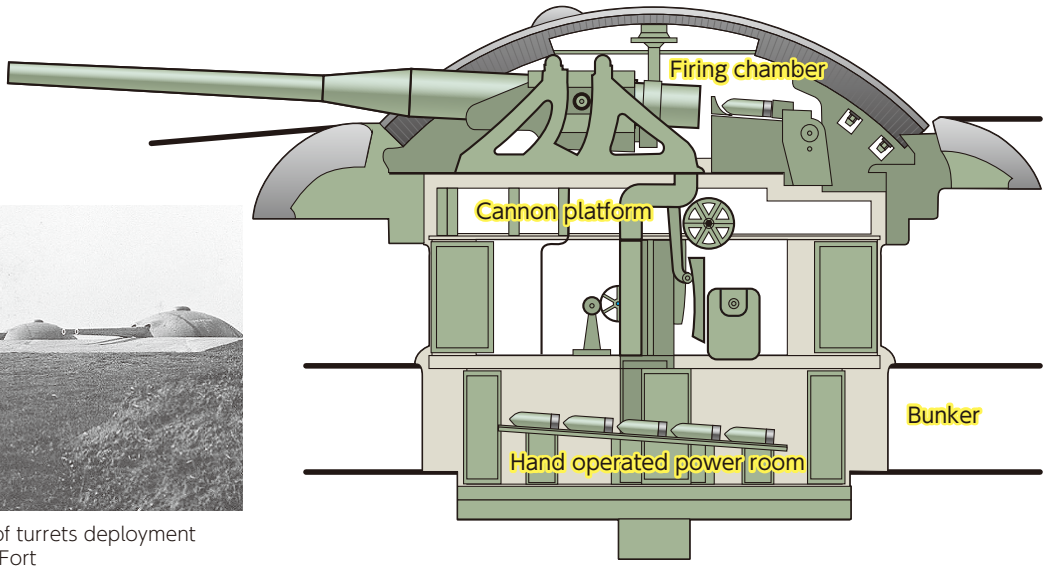


Chart 8 : Cross section of 27cm cannon of No.2 Sea Fort
[Data] from "Investigation report of No.2 Sea Fort at Futtsu Futtsu city" Chart -2.3.6

[Note]: Reference : Japanese Imperial Sea Fort Construction method and pictures report (US National Archives and Records Administration) Meiji 39 (1906), Japanese Imperial Army Fortification Headquarters (Modern Japan fortification history second div. No.2 sea fort basement trial construction report.)Meiji 24 (1891). Ministry of land, infrastructure and Transport, Kanto regional Development Bureau (Tokyo Bay No.3 Sea Fort construction history) Heisei17 (2005) ・No.2 Sea Fort relic investigation report at Futtsu in Futtsu city. Heisei 26 (2014)

1920	1930	1940	1950	Remark
The Great Kanto Earthquake: After the Great Kanto Earthquake, Imperial Army transferred No.2 Sea Fort to Imperial Navy and Imperial Navy deployed there necessary armament and hydrophone training facilities.		Outbreake of the Pacific War: After the WWII, four high-angle cannons of two turrets were handed over to the Allied Forces.		Akinori Nishida contributed in technical aspect of Tokyo Bay Sea Forts construction plan. He collected documents from England and Russia and designed sea forts based on them. It is said that he was the most meritorious person for this plan.
1924 Cannons deployed on an ad hoc base	1931 Hydrophone training facility established	1942 High angle cannons deployed		
1924 Turret of cannon and disappearing carriage were removed	1933 Central Turret was removed	1945 demolished by Allied forces		

Bricks construction and bunker

Relics inherited and changing No.2 Sea Fort

Feature of bricks construction of No.2 Sea Fort

Although there are no brick constructions such as barracks, bunkers and concrete constructions of batteries that are remaining original figure due to demolition after the Pacific War, you can still see parts of brick wall and confirm their masonry and measurements. The feature of the wall were that the way of brickwork was that of British and over burned bricks were used for outer part where likely to be damaged by weather as their nature of low water absorption rate.

In the book of “Meiji Industry history chemical industry edition”, they wrote in following way and were suggesting that many Kosuge Bricks Manufacture’s bricks were used for this Tokyo Bay Forts.

"It seems that the Kosuge Brick Factory was used for the Imperial Palace construction in Meiji 15th as purveyor, and most of it was purchased for the turret construction of the Ministry of the Army," which explains the bricks procured by the Army during this period were all estimated to be bricks from the Kosuge brick mill.

14 standard bricks for construction (red brick) marked cherry blossom (single petal 10, double petal 4) were found from No.2 Sea Fort.

[Note] Kosuge shuuchikan (prison) is today’s Tokyo detention house at Kosuge Katsushika-ku Tokyo and at that time, brick manufacturing was a part of prisoners’ labor of Kosuge prison before its facilities were heavily damaged by the Great Kanto Earthquake. Kosuge shuuchikan is Today’s Tokyo detention facility at Kosuge in Katsushika-Ku Tokyo.

Chart 9 : The appearance of the bunker reproduced (CG)

Chart 10 : Underground construction image of the bunker (CG)

Photo : The bunker on the north side of the right wing, taken on Reiwa 2 (2020) March 18th.

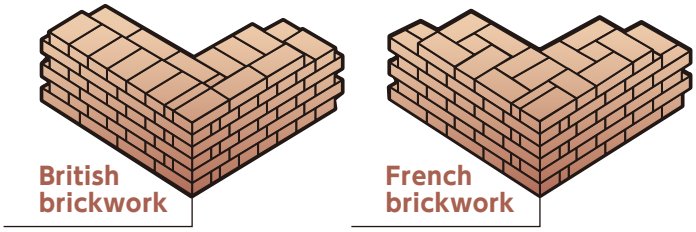


Chart 11 : British brickwork and French brickwork

Marks on bricks

From No.2 Sea Fort they found some other bricks other than Oukashourenga (brick with cherry engraving) such as encircled Su, encircled Yu, encircled Dai Sho, encircled Sangi and encircled SR etc..


Single petal Oukasho a


Single petal Oukasho b


Double petal Oukasho a


Double petal Oukasho b


Brick with single petal oukasho a


Encircled Su


Encircled Yu


Encircled Dai Sho


Encircled Sangi


Encircled SR

Photo : Brick engraving collected from No.2 Sea Fort
[Data] No.2 Sea Fort relic investigation report at Futtsu in Futtsu city. Chart-3.7.6

Damages by the Great Kanto Earthquake

The Great Kanto Earthquake struck on September 1 Taisho 12(1923), nine years after the completion of the No.2 Sea Fort upper structures, and three Tokyo Bay forts were severely damaged. Although the main parts such as turrets remained, the sea fort was not restored because the need for the sea fort was diminished as the performance of the artillery improved and the range increased.

And No.2 Sea Fort has been deteriorated enough to make cracks on the dome and wall of constructions and this made bunker declined forward.

Photo : No.2 Sea Fort taken just after the Great Kanto Earthquake
[Data] owned by National Institute for Defense Taisho 12 (1923)
Sept.9th taken by Japanese Imperial Navy.

Destroy by Allied forces after the defeat of World War II

On August 14, 1945, the Kantaro Suzuki Cabinet accepted the Potsdam Declaration and the war ended. Then, the paper of demands of the Commander-General of the Allied Powers were handed over, and it requested that regardless of its caliber, all coastal cannons, anti-aircraft guns, and other artillery in the Tokyo Bay area were required to have their tail plugs (closers) removed and their barrels lowered to a minimum depression angle to disable them. Actually British troops occupied the No.2 Sea Fort but it is unknown to what extent artillery and batteries were destroyed.

Photo : Fleet of the Allied nations and No.2 Sea Fort taken after the war.
[Data] owned by US National Archives and Records Administration (NARA)
Taken on Showa 20 (1945) Sept. 2nd
reprinted from "New Yokosuka City History Military edition"

Deterioration by sea wave and collapse by aging

As No.2 Sea Fort is located at the mouth of Tokyo Bay and has been exposed to the tidal current, wind and sea wave. So its circumferential revetment part has largely been collapsed. In addition, it was confirmed that sea water coming from this collapsed or damaged revetment has flooded artillery battery basement and sands of this island basement had outflowed to the sea. It is confirmed that deterioration, damages and collapse everywhere in No.2 Sea Fort.

Photo : Before launching the preservation construction
Taken in Heisei 16 March (2004)

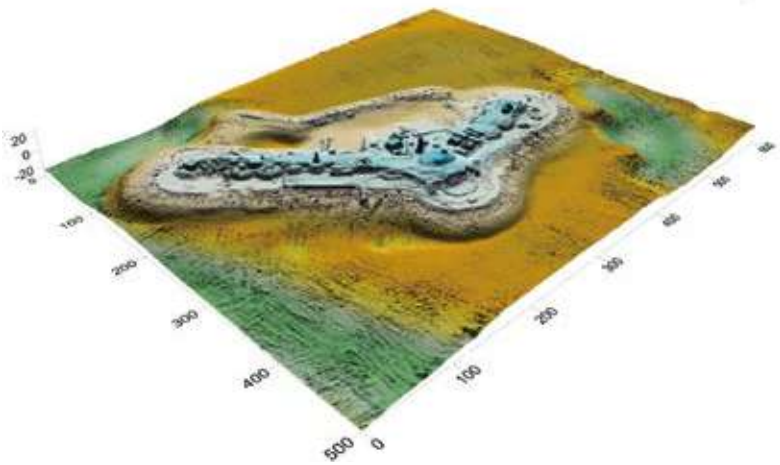


Chart 12 : Entire profile of No.2 Sea Fort
[Data] reprint form No.2 Sea Fort relic investigation report at Futtsu in Futtsu city. Chart-3.1.2

No.2 Sea Fort of Today

Maintenance of revetment of No.2 Sea Fort

Due to large-scale earthquakes such as the Tokyo Metropolitan Earthquake and the Tokai-Tonankai-Nankai Earthquake, it was predicted that the ground would be liquefied and the revetment would collapse, causing sediment to flow out into the channel. As "preventive maintenance", we are working on improvement of the revetment of the No.2 Sea Fort.

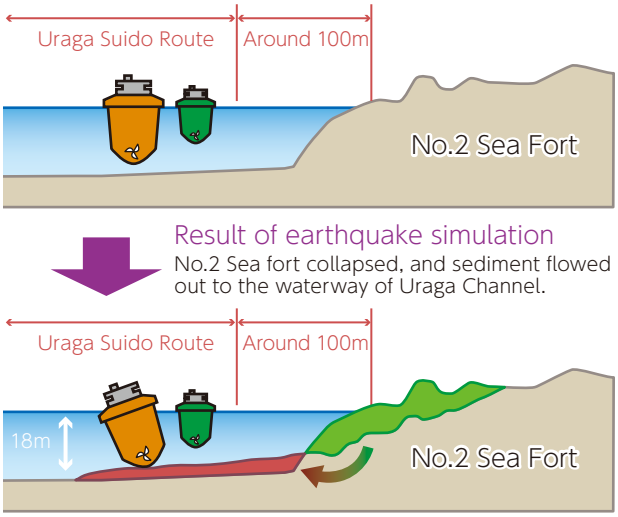


Chart13 : Sediment flows into the water way due to an earthquake.

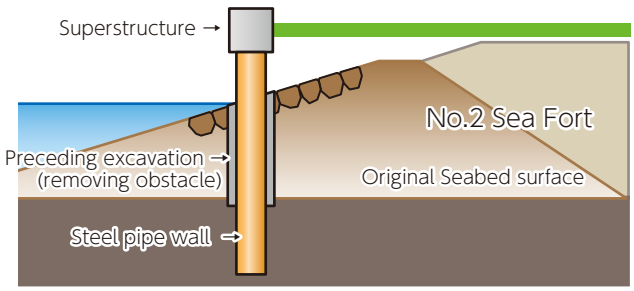


Chart14 : Self-supporting type Steel pipe wall

Photo : Revetment of No.2 Sea Fort of today
Taken on 19th Sept. Reiwa 1 (2019)

Safety management of development and maintenance route

Tokyo Bay is an important sea area that supports economic and social activities in the Tokyo metropolitan area. Within the bay is the Tokyo Bay Central Route, which is a passageway for ships, and is an important maritime traffic hub, including large vessels such as container ships and tankers that enter and leave each port, as well as fishing boats and small boats.

Ministry of Land, Infrastructure and Transport, Kanto regional Development Bureau Tokyo Bay Waterway Office carries out route control patrols, route control surveys and route information management for the purpose of maintaining the functions of development and maintenance routes, and is working daily to ensure the safety of routes.

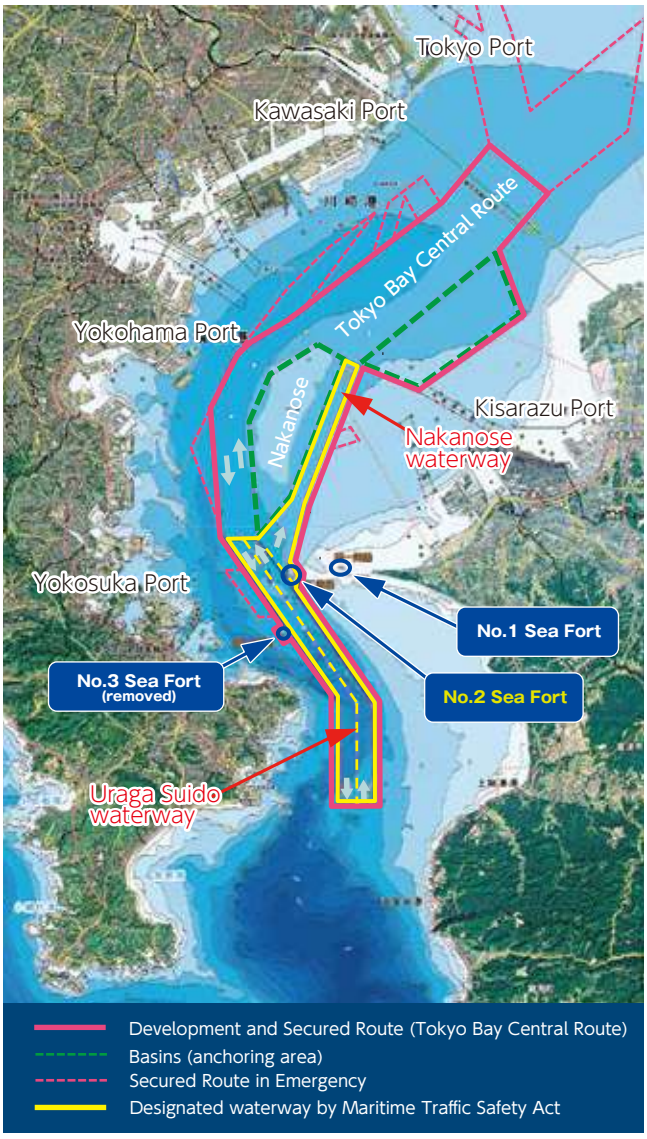


Chart15 : Today' s Tokyo Bay Central Route

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