ST. HELENS FORT, ISLE OF WIGHT

David Moore

St. Helens Fort 2004 (photo Paul Charnaud)

The defence of the anchorage at St. Helens was not originally included in the plans of the 1860 Commission.

In 1863 the Defence Committee, having determined that there was no suitable site for for an earthwork at St. Helens, approved of a masonry casemated work for nine guns, to be placed on the beach in front of St. Helens Point.[1]

In 1864, preliminary trials at Stourbridge, having led to the conclusion that a foundation for a fort could not be obtained, the Secretary of State for War appointed a Special Committee to consider whether any alterations in the original plan for the defence of Spithead were advisable, consequent of the abandonment of the work on that shoal. It proposed a small fort on Ryde Sand 1,200 yards south of Sturbridge Shoal.

The contractor is now busy laying, or preparing to lay, the foundations of the forts on Horse and Nomans Sands. the same contractor is employed on the foundations of a fort which is to be built of St Helen's Point in the Isle of Wight, near the entrance to Brading Haven. This fort is part of the defences of the isle of wight and is only connected with Spithead by the circumstance that the same contractor (Mr. Leather) is engaged upon it.[2]

In 1865 the defence Committee approved the report of the Fortifications Committee on 11 June 1865 relative to the sites of the proposed forts on Spit Bank and Ryde Sand and approved the design submitted by Lieut-Colonel Jervois for those forts.

In February 1867 designs for forts at Spit Bank, Ryde Sand and St. Helens were approved each with one tier of casemates, iron plated on the seaward side and granite faced covering the land side. The suggested armament was fifteen guns in casemates. Each fort was to carry two turrets for the two of the most powerful guns on top.[3]

The forts at Ryde Sand and St. Helens were commenced. St. Helens Fort was begun on a spit of land projecting eastward from Bembridge Point. A ring of iron caissons filled with concrete was laid on the soft blue clay of the shoal and a structure 150 feet in

diameter built as a foundation. The sand within the ring was excavated and filled with concrete. The foundations were nearly complete by 1867 and walls of granite were added to form the superstructure, supplemented with concrete.

In August 1867 the engineer engaged for the project, Mr Hawkshaw, submitted a letter to the Defence Committee in which he explained the difficulty obtaining a suitable foundation for the fort proposed on Ryde Sand. The Committee considered the letter and were of the opinion that in the event of it being impracticable to have a fort on Ryde Sand, it was essential to increase the fire from the shore of the Isle of Wight, by adding some of the most powerful guns to the site at Puckpool. In November 1867 the Committee received more unfavourable reports from Hawkshaw regarding the impracticability of the foundations and recommended the abandonment of the fort on Ryde Sand. In November 1868 the combined Defence and Fortifications Committees decided that the forts at Spit Bank and St. Helens needed to be provided with armour only on the side exposed to powerful fire, in the case of St. Helens this was one third of the fort. They also considered whether a superstructure of three turrets, each for two guns should be substituted at St. Helens for the casemated plan approved, but decided that the casemated plan should be adhered to.[4]

The 1869 Committee reporting on the construction, condition and cost of the defences erected under the 1860 Royal Commission described the work on the fort at St. Helens so far thus:

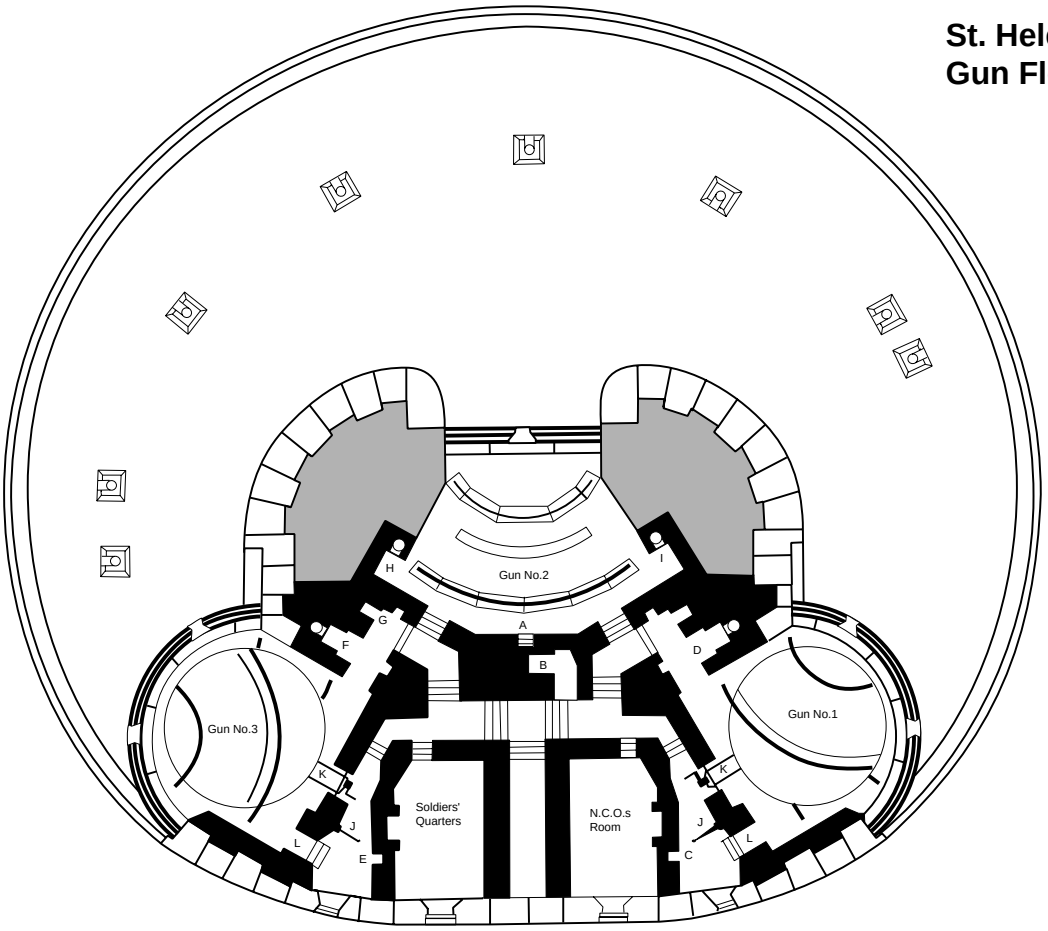
This fort is placed on the outer edge of the shoal, where the sand is nearly uncovered at low water spring tides. The foundations for the work are formed by a ring of iron caissons sunk to an average depth of 25 feet 6 inches below the surface of the shoal, passing through sand and shingle, and 5 feet into the clay. Within this ring the sand has been dredged out, and the space thus excavated filled with concrete; this bed of concrete is 10 feet thick, and its surface is 2 feet above low water ordinary spring tides.

The outer wall of the basement is completed. The superstructure will be of iron on the outer half of the fort where exposed to fire from ships, and of granite towards the land; it will be armed with six heavy guns to seaward, and four lighter guns behind on the land face. It is well-designed as to permanency and stability, and the arrangements for the service of the guns are satisfactory.

The calculations of the probable cost of the iron are based on the same data as those for the other Spithead forts, and the remarks on the Horse Sand Fort apply equally to this work. This work was not contemplated in 1862, but in the Schedule for that year the sum of £87,0001. was inserted for batteries at Puckpool and St. Helen's Point. In 1863 it decided to substitute a work on the shoal for that on shore, and the same amount was in subsequent Schedules, till 1867, when it was increased to £145,000. The sum expended to the 30th June, 1868, amounted to £47,779. The further sum required amounts to £70,332., that is, for the masonry £41,358., and for the iron £28,974:, making an estimate of the total cost of the work, when completed, without shields, £118,111. and including four shields, estimated at £5,2001., £123,311.[5]

Although the 1869 Committee thought that the fort was *"well designed as to permanency and stability,"* the foundations began to settle unevenly so that the work began to tilt. To remedy the situation it was decided to keep the first floor superstructure on the centre of the foundations, resulting in St Helens Fort having a superstructure offset from the centre of the basement level and the final form of the fort was not circular as proposed.

St. Helens Fort
Gun Floor Plan 1879



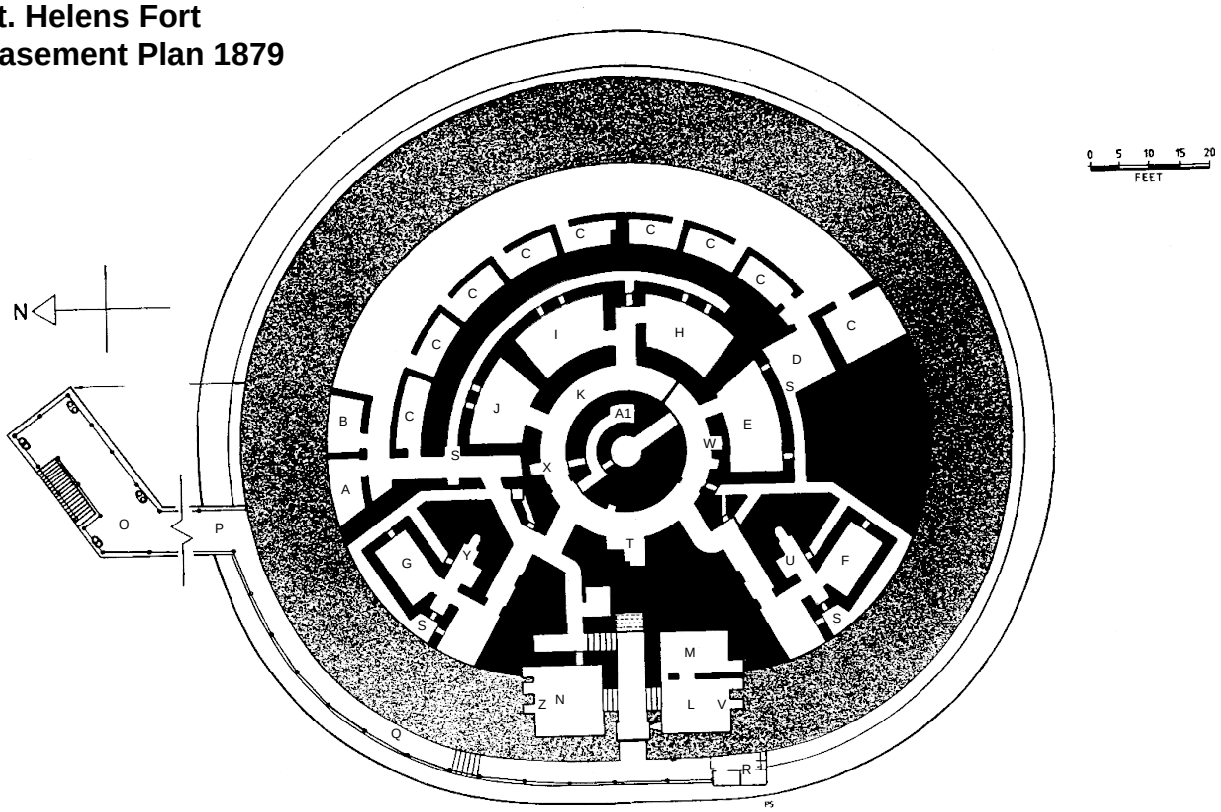
A Stairs to Roof	E Shell Lift no.3	I Cartridge Lift no.2	Gun No.1 & 3
B General lift	F Cartridge Lift no.3	J Davit	10-inch R.M.L. 18-tons
C Shell Lift no.1	G Shell Recess	K Turntable winch	Gun No.2
D Cartridge Lift no.1	H Shell Lift no.2	L Shell Hatch	12.5-inch R.M.L. 38-tons

In May 1870 the Defence Committee, having already received further observations on the uneven settlement of the foundations of St. Helens Fort which dictated the advisability of keeping the heavier portion of the superstructure more on the centre of the foundations, decided to place two heavy guns in a turret, with a gun on Moncrieff mountings on each side, instead of the proposal of having four guns in iron plated casemates. They also decided to reduce the number of light guns in the rear of the work, bearing on the adjacent shore, from six to four pieces. this new design it was pointed out would give a more concentrated fire on St. Helens anchorage.[6]

In 1873 the Defence Committee changed its mind, reverting to the decision of May 1870 authorizing a turret for two guns with a gun on Moncrieff carriage on each side on top of St. Helens Fort. It had been found that the blast of the turret guns, which had been designed to fire over the open Moncrieff emplacements, was so violent as to be a danger to the Moncrieff pits. The Committee approved that the lower guns should be mounted on turntables in casemates over which the turret guns could fire.

The proposal for the whole lower gun floor above the basement level was abandoned and the two seaward guns, 10-inch 18-ton R.M.L.s, on each flank were to be fitted on turntables with two ports for each gun.

St. Helens Fort
Basement Plan 1879



A	Larder	H	S.S.No.2 No.2 gun	O	Landing stage	V	Shell Lift No.1
B	Coal	I	S.S.No.2 No.2 gun	P	Pier	W	Cartridge Lift No.2
C	Store	J	S.S.No.2 No.2 gun	Q	Gallery	X	Shell Lift No.2
D	Lamp Room	K	Ammunition Passage	R	Latrine	Y	Cartridge Lift No.3
E	C.S.No.2 No.2 gun	L	Artillery Store	S	Lamp Passage	Z	Shell Lift No.3
F	C.S.No.1 No.1 gun	M	S.S.No.1	T	General Lift	A1	Pump Room
G	C.S.No.3 No. 3 gun	N	S.S.No.3	U	Cartridge Lift No.1		

In 1878 the Committee, having received further reports on the settlement of the foundations at St. Helens, decided that it was inadvisable to to proceed with the turret. The two 18-ton guns in casemates were, however, being mounted. To keep the weight over the central caissons the whole of the gun floor was shifted rearward and there was now no room for the turrets. Instead of the turret they recommended one heavy gun being fitted in the centre face firing through an iron shield. The armament was approved as being :

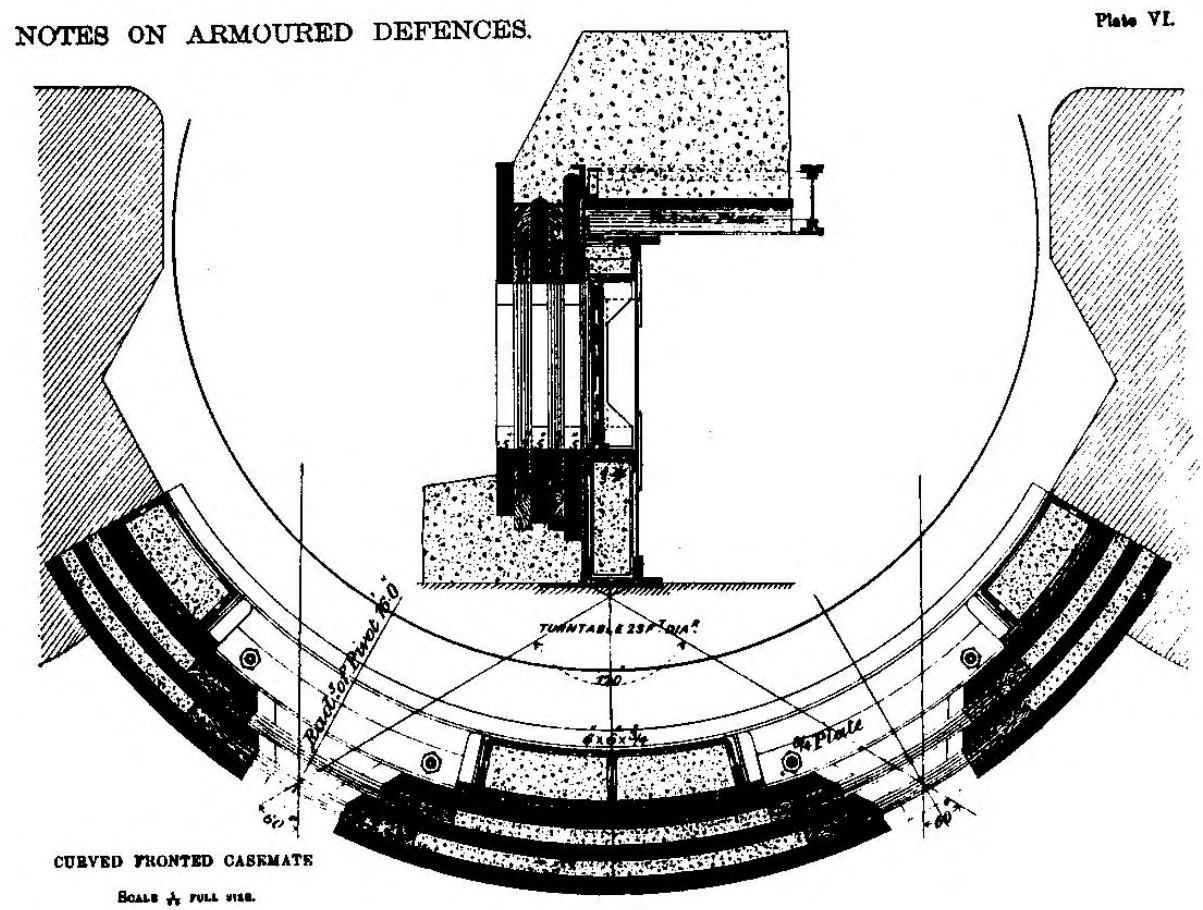
1 x 38-ton gun (chambered)
2 x 18-ton guns
4 x medium RMl guns
the whole of the heavy guns bearing on St. Helens anchorage.

The two RML guns were subsequently changed to two 40pr RBL guns on sliding carriages.[7]

In July 1880 the Committee reported that the advanced Fort at St. Helens was complete but awaiting it's heavier armament.

The proposed armament was installed in 1880 but the two 40pr. R.B.L.s intended to flank the rear entrance were not fitted and the casemates were later used as accommodation instead.

In 1882 it was decided that an auxiliary armament of Q.F guns be added to the Spithead Forts and for St. Helens this was to consist of 5 machine guns.



In 1884 the Royal Artillery and Royal Engineers Work Committee replied to a question from the Director of Artillery. He had asked if the proposed machine guns for St. Helens were intended to replace the 2 x 40pr RBL guns originally recommended. They answered that two 6pr QF guns should be substituted for the two 40pr RBL guns for the casemates and three machine guns should be provided for the embrasures of the heavy guns.

The matter of auxiliary armament for the sea forts was still under discussion in 1885.

An armament return of 1886 lists for St. Helens Fort

Mounted

Central Battery	1 x 12.5-inch RML
Turntables	2 x 10-inch RML

Proposed in addition

2 x 6pr QF

Armour

As the fort required an extended lateral fire of about 120° it was fitted with two of its guns on turntables and one in a straight face. Only one other position received this type of mounting, Sliema Point Battery in Malta, which held two larger 38ton guns on turntables instead of 18ton guns. The general arrangement for the armour is shown in the plan. Two gun ports are provided in each armoured front. the gun is mounted on an ordinary casemate carriage and platform and fires through 60° out of each port, the turntable being merely used to transfer the gun from one port to the other. The shield for the turntables consists of a curved front of 3 x 5-inch plates and a frame 1ft 4in deep. That for the straight front consists of 3 x 8-inch plates.

St. Helens Fort 2004 (photo Paul Charnaud)

The front protection is on much the same principle as that of the shields provided for the other Spithead forts only it is of necessity circular in plan.

The armour, which is usually of two thicknesses of 9-inch plate, or in three of 6-inch is at St. Helens and Sliema Point Batteries in three thicknesses of 5-inch plate. The roof structure is of strong girders, with arch plating between them, and carries some 6ft of concrete, and is thoroughly 'bombproof'. The turntable consists of a very stiff circular frame, 23 feet in diameter, and is strong enough to bear the weight and shock of the gun when fired in any position of training.

It revolves on a set of conical rollers running in a live ring under the edge of the table, and is held in position by a central spindle which passes into a massive casting, strongly bolted down. The table is locked by a set of tumbler stops when the gun is in position for firing. The turntable can be lifted bodily, without dismantling the gun, for purposes of inspection and cleaning.[8]

Re-Armament

The Stanhope Committee, looking into the defences of Portsmouth in 1887, considered the purpose of St. Helens in the defence of the channel from Nab Tower to the two large Spithead sea forts of Horse Sand and No Man's Land. It considered the main weakness of the defence of Portsmouth to be on this eastern side where an ironclad, armed with guns that had a range of 7000 yards, could anchor in sight of the sea forts with relative impunity in order to bombard the Dockyard. St. Helens, because of its foundations, could not take heavier guns than 6-inch. and it would only take two of these. Puckpool Battery was the only other site available in this neighbourhood. The Committee therefore proposed to replace the guns in these two batteries with two 9.2-inch B.L. and four 5-inch B.L. guns.[9]

In 1893 no provision had yet been made for the two proposed 6pr QF guns on St. Helens.

In 1895 the 2 x 6prs were reported as mounted.

In 1898 it was proposed to mount two 6-inch BL Mk VII guns on St. Helens Fort to replace the three RML guns. This was approved but not carried out. In 1915 St. Helens Fort became the examination battery of St. Helens Road and two 12pr.s and two searchlights were fitted. These were dismounted in 1918 but not removed until 1927. The fort was re-activated in 1940 to provide searchlight illumination. It remained in Military hands until sold and converted as a private residence in 1983. It was put on the market again in 2003.

Description

The fort consists of a gun floor for three guns, two of which are mounted on turntables each to fire through one of two gun ports. Adjacent to each of the 10-inch casemates is a winch room for turning the turntable. The height of the gun floor of the central casemate for the main 12.5-inch RML is 15ft 6in above High Water Mark while that of the two smaller 10-inch casemates are 14ft 3in above HWM. Beneath the gun floor is.a basement level with stores and magazines. Two shell and two cartridge stores were provided for the 12.5-inch RML gun holding 150 shells and 90 cartridges. Four shell and four cartridge stores were provided for the 10-inch RML guns holding 480 shells and 255 cartridges. Lifts for shells and for cartridges were provided from the basement level to the gun floors.

The entrance to the fort is at the rear, at basement level. At the centre of this floor is the pump room for the well which was bored to a depth of 171 feet.

Accommodation was in two rooms at the rear of the gun floor. The room to the left of the entrance was for 5 men whilst that to the right was for NCOs. In war time more accommodation would be provided by hammocks.

Armament Summary

1867 - Proposed
4 x 12-inch, 6 x 10-inch , 4 x 7-inch R.M.L.s
1893 - Mounted
1 x 12.5-inch R.M.L. Mk II
2 x 10-inch R.M.L.
1899 - Mounted
1 x 12.5-inch 2 x 10-inch R.M.L.s, 2 x 6pr. QF
1895-1899
2 x 6pr. Q.F. Hotchkiss
1906 - Mounted - nil
1916 - 27 Mounted 2 x 12pr. QF
WWII 1 x 40mm Bofors

Sources

1. Précis of Correspondence Relating to the Defences of Portsmouth and the Isle of Wight, prior to 1893. Page 7.
2. Report of the Special Committee appointed by the Secretary of state for War to consider the alterations requisite in the original plan for the defence of Spithead in consequence of the abandonment of the work on the Sturbridge. 1864
3. Précis : op cit : page 9
4. Ibid : page 10
5. Report of the Committee Appointed to Enquire into the Construction, Condition and Cost of Fortifications erected in 30, 31 Victoria Statutes together with minutes of evidence - 1868.
6. Précis of Correspondence : page 10
7. Ibid : page 15
8. The Development of Iron Armour up to 1882 Adapted form a lecture by Colonel Inglis CB RE
9. Report of a Consultative Committee appointed by the Secretary of State for War to consider with him the plans proposed for the fortification and armament of our military and mercantile ports and the relative importance and approximate cost of the works and armaments necessary for the defence of these stations together with minutes of evidence. London 1887.