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The Fortification of the Firth of Forth 1880–1977

‘The most powerful naval fortress in the British Empire’

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Chapter 10

THE MIDDLE DEFENCES (INCHCOLM FIRE COMMAND / 20 (FORTH) FIRE COMMAND)

10.1 The Middle Line (1914–31)/The Inner Line (1939–56)

Inchcolm Fire Command included, in both wars, the guns of Inchcolm, Inchmickery and Cramond Island, and in the Second only, a further battery at Charles Hill on the Fife coast. In both wars, the primary purpose of the batteries was to protect the boom that crossed the Forth at this point and to tackle submarines and the sort of small fast-moving boats that the boom was intended to stop. In the first period of its existence, it was the Middle Line of defence. In the Second World War, it formed the Inner Line. From 1915 to 1917, the 9.2-inch battery at Braefoot lay immediately behind the northern terminal of Inchcolm Fire Command, and its description is included below.

Proposals had been made in the first decade of the 20th century (see Chapter 4 above) to use moorings below (east of) the Forth Bridge, but the Admiralty decided not to proceed with their plans.

Admiral Lowry again raised the matter of defending the line in May 1914, but it was only in October that the Admiralty decided to install an anti-submarine net and to arm the islands to protect it. The defences were built over the winter and were ready by the early spring of 1915. The defences comprised fourteen 18cwt naval 12-pdrs, larger and with a higher muzzle velocity than the 12cwt guns used for coast defence, but lacking auto-sights, thus making them less effective at finding and holding a fast-moving target.

The first detachment of the garrison of the islands, 72 Royal Garrison Artillery and 22 Royal Engineers, went out on 16 March 1915, under the overall command of Major Horne, RGA, who was the first Fire Commander, in charge of what was termed 'No. 2 Section, Forth Defences'.¹ We have not been able to identify a separate Fire Command Post on the island in 1915, and it may have occupied the same space as the Battery Command Post. The mounting of the guns on the middle islands had been done under the supervision of Acting Gunner J Griffiths, RN, who wrote on 23 March 1915 begging 'to report that all the 12-pdr 18cwt guns are mounted on the "Chain of Islands" defences' and that all stores and ammunition had been

handed over to the military garrison. Gunner Griffiths was commended by the Admiralty 'for the care and attention with which he has carried out work of somewhat unusual character to the Naval service', that is, mounting ships' armament on an island.²

By 19 November 1914, arrangements were being made to construct a Challenge Signal Station at the highest point at the west end of Inchcolm to check smaller naval vessels. This new Challenge Signal Station was to be in addition to the PWSS at Carlingnose.³ It was in operation before March 1915⁴ and was replaced during 1916 (see below). The Extended Defence Officer (Inchkeith) was to pass to the Naval Officer in charge of the Inner Forth War Signal Station at Inchcolm information regarding movements of hostile ships, which he in turn could communicate to the Fire Commander.⁵

In July 1916, the Fire Command Post had a staff of three officers (Fire Commander and two assistants) and 11 other ranks, including four telephonists, three orderlies, a Master Gunner, an Artificer and two officers' servants⁶

Figure 10.1 shows the gun coverage in the Middle Line in 1915, before the revision of the defences. An equivalent for the Second World War is included as Figure 10.3, but it is not possible to provide a meaningful map for the period 1916–18 because the gun coverage was so dense: between the islands and seaward to a range of 3,500–4,500m, no area of water had fewer than seven guns covering it, usually at least eight to ten, and in one area up to 13. The gun emplacements and the ancillary buildings (magazines, battery posts and so on) were also on a much more substantial scale than the structures they replaced and the work took some months to complete. As part of the upgrading of the defences, a new Fire Command Post was built on the western lobe of Inchcolm, in the impressive new Port War Signal Station (Fig 10.2). A contract had been placed on 12 August 1916 for the erection of a Joint Naval and Military Port War Signal Station on the island, to be completed in three months.⁷

In April 1918, the Royal Artillery establishment of No. 20 (Forth) Fire Command was 25 officers and 362 other ranks; this does not include Royal Engineers or other arms.⁸

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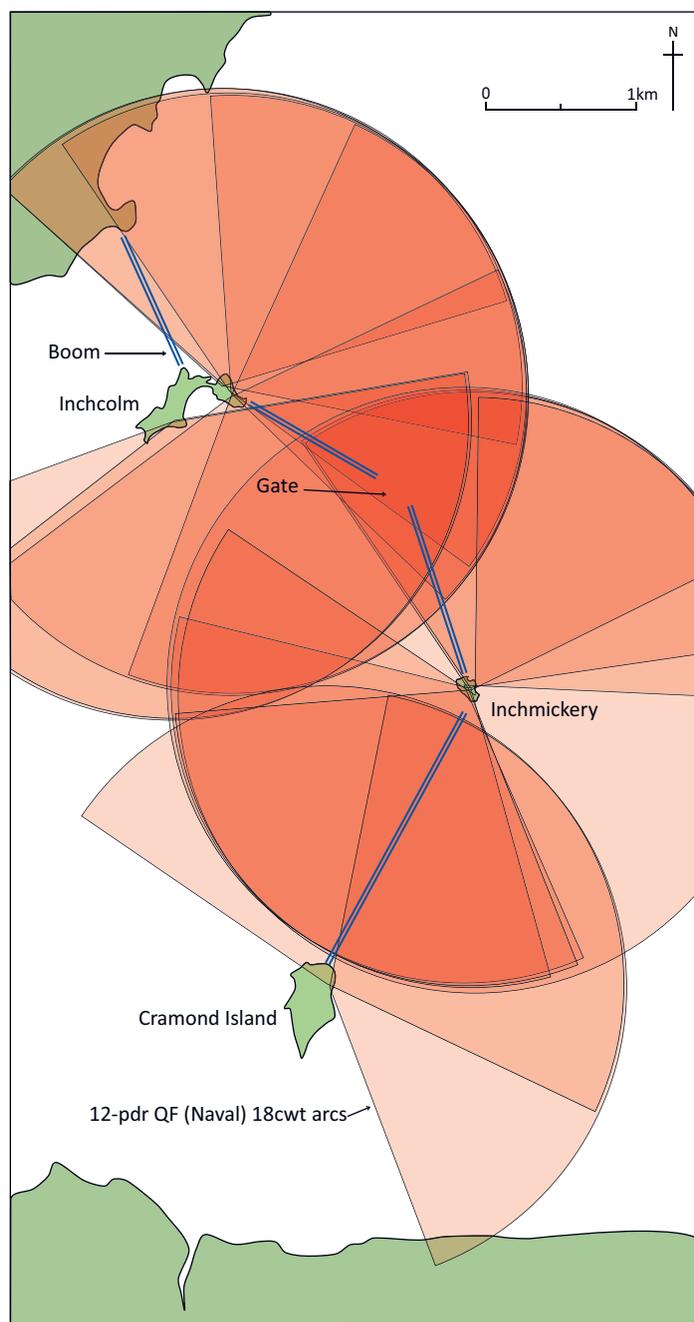


Figure 10.1

Chart of the guns and arcs of fire of the Middle Line in 1915, based on a chart in file WO 78/5179. All three islands were armed with 12-pdr (Naval) 18cwt guns, not well-suited to coast defence role, as they had no auto-sights fitted. The 9.2-inch guns at Braehead are not included (© Gordon Barclay)

The armament of the Fire Command remained in place after the end of the First World War (see Section 2 above), but the batteries were decommissioned (and on Inchcolm removed and/or buried) by 1931.⁹

As international tensions grew in the late 1930s and consideration was being given to preparing the Forth for war,

plans were made in February 1938 for the re-establishment of anti-MTB batteries on Cramond, Inchmickery and Inchcolm. A fourth battery, at Charles Hill on the Fife shore, was added to the scheme shortly after the outbreak of war. A mixture of pre-First World War 12-pdr (12cwt) guns and modern 6-pdr twin guns was to be mounted, to deal with fast boats. As in 1915–18 the main task of the batteries was to cover the anti-boat/anti-submarine booms and nets stretched across the river between the southern shore and Cramond Island (later replaced by a concrete barrier), between Cramond Island and Inchcolm (missing out Inchmickery), and between Inchcolm and Charles Hill, reusing the old First World War concrete blocks at the last site.

The arrangement of 6-pdr twin guns (effective range *c* 1,270m) and 12-pdr QF guns (effective range *c* 1,830m) set out in October 1939, created a significant overlap in fields of fire in the channels between the islands (Fig 10.3).¹⁰

The imposing Port War Signal Station building on Inchcolm, which contained the Fire Command Post, had been demolished in the 1930s by the Ministry of Works in their

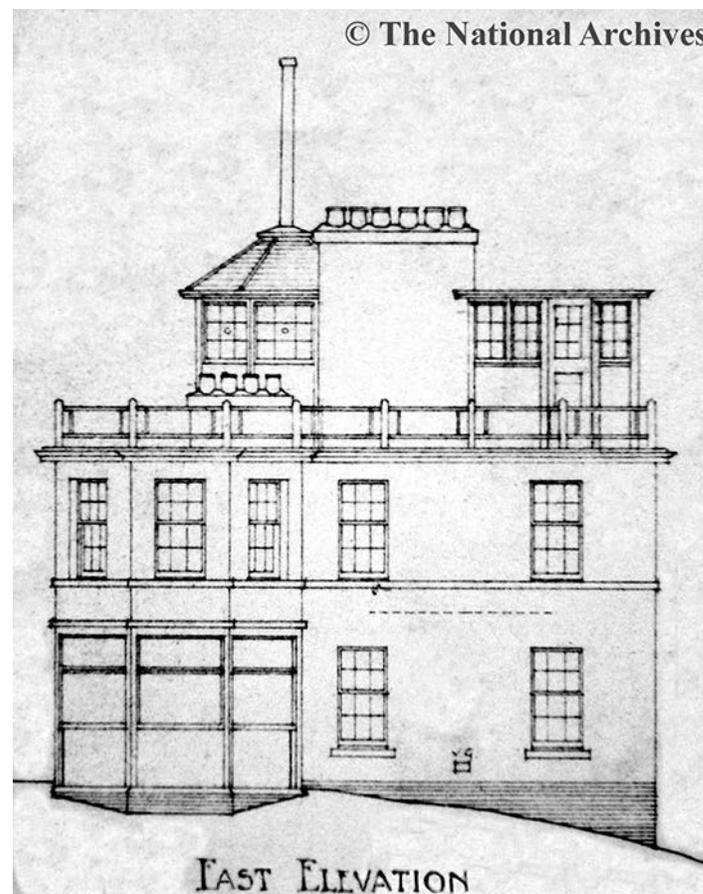


Figure 10.2

Elevations of the impressive Port War Signal Station on Inchcolm (© The National Archives, WO 78/5171)

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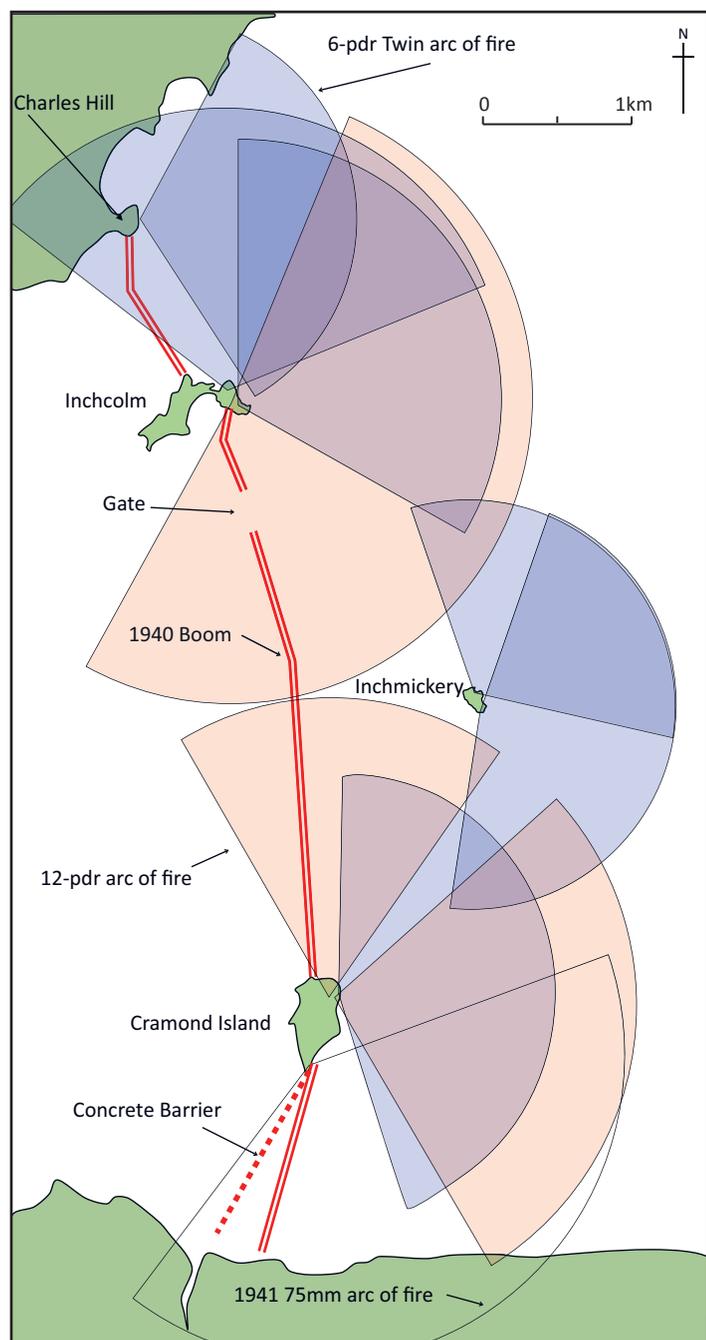


Figure 10.3

Chart of the guns and arcs of fire of the Inner Line, 1939-41. The arcs of fire are those recorded in the Fort Record Books in November 1943, which are greater than those in the original plans. The chart includes the concrete anti-boat boom south of Cramond island, and the 75mm gun installed in October 1941 to cover it. Based on a chart in file WO 78/5163 (© Gordon Barclay)

campaign to 'tidy up' the island. The new FCP was housed in the reused Battery Command Post of the First World War 4.7-inch QF battery. The FCP had a telephone exchange that served the Command, linked by submarine telephone cables to the other batteries, and to the public telephone system. It

was also linked to the Battery Command Post of each battery by a separate 'Fighting Line' which would be kept open during any action, separate from the 'Admin Line'. Radio communications were also installed during the Second World War in case telephone communication was interrupted. In the final resort, visual signalling would be used, and each individual Gun Group had instructions as to what types of target to aim at, if all communication was lost with higher command. The Inchcolm FCP telephone exchange also had a direct link to the Middle Line at Inchkeith, which in turn was linked to the Commander of Coast Artillery at Pitreavie Naval HQ, and to the batteries of the Middle and Outer Lines.¹¹

In September 1940, the complement of the whole Fire Command (including the garrisons of the three islands and Charles Hill, and 46 men in the Fire Command itself), was 533 men, 23 of whom were officers.¹² As the threat of attack diminished, and the need grew for artillerymen in field batteries, and for infantry, it was announced in October 1943 that the whole Fire Command would be disbanded, with the exception of four of the DELs to illuminate the boom north of Inchcolm and between Inchcolm and Cramond. By 11 December, the whole Fire Command was in care and maintenance. A document relating to this process reveals that the Fire Command had had both its own RAMC medical officer and its own Army chaplain. The medical officer made routine visits to all four batteries. Inchmickery and Cramond both had a trained Royal Army Medical Corps nursing orderly on the island, to give first aid.¹³

The Ministry of Defence finally withdrew from Inchcolm in 1957.¹⁴ The capacity to put an anti-submarine barrier in place was, however, maintained until 1977, at which point coast defence as envisaged in the late 19th and early 20th centuries finally ended.¹⁵

10.2 Close protection, landward defence and anti-aircraft defence

There are no records for the First World War that suggest that the three islands – Inchcolm, Inchmickery and Cramond – were given any self-defence capability. There was a barbed wire fence marking off the southern end of the military area on Cramond Island (which was accessible on foot at low tide) but no hint on any of the plans of the 'fire-trenches' and barbed wire on Inchkeith or around Kinghorn. Braefoot, not formally part of Inchcolm Fire Command, was more heavily defended from the time of its construction, with security fencing and blockhouses, described in more detail below. None of the islands was recorded as having anti-aircraft defence in February 1915.¹⁶

In the Second World War, as part of the preparations to face a German invasion, defences were erected on British beaches considered vulnerable to full-scale invasion or to

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raiding from the sea.¹⁷ It is certain that in the early stages of the war the batteries of what was the Inner Line (the island line, at Inchcolm) had basic security provisions, such as barbed wire fences to the landward side (at Charles Hill) and along the shoreline, slit trenches for protection from air attack and for use as firing trenches, and light anti-aircraft defences. The garrison would also have been armed with small arms, although the proportion of men issued with rifles and sub-machine guns in the early stages of the war would have been low. As is seen in other areas of home defence, the elaboration, and indeed over-elaboration, of the defences of the batteries continued into the middle years of the war.¹⁸ In discussing the provision of close defences on the islands and at Charles Hill, we were struck by the way in which men who had served on (or even commanded) batteries had little or no memory of defence provisions. Most of these informants had left the batteries in 1942, when efforts were already being made to 'comb out' men to go to front-line units, and it is notable that formal Land Defence Schemes preserved on the Fort Record Books date from 1942 onwards (for example, Cramond 19 July 1942; Charles Hill 5 March 1943). These schemes mention the presence of French First World War 75mm field guns (supplied in 1940 by the USA) on three of the four batteries (Inchmickery was too small and crowded), there being two (or at one stage possibly even three) on Cramond and, in addition, a 4.5-inch howitzer and a Spigot Mortar at Charles Hill; the Cramond mobile 75mm gun is first mentioned in a document dated 5 February 1943, and then appears in Land Defence Schemes dated May and August 1943. Spigot Mortars came into use in late 1941 and remained in use, mainly with Home Guard units, for the rest of the war.¹⁹ The 75mm guns were first used to equip British and Polish artillery units after Dunkirk, for whom there were then no supplies of the standard 25-pdr gun. These guns were freed up when 25-pdr guns became available. Frequent practice on the 75mm guns is recorded on the files and we wonder whether the guns were intended as much to give men experience prior to transfer to field artillery units as to provide close defence. The 75mm issued to Cramond for a very specific defence role in a fixed position, covering the anti-boat barrier to the south of the island, was supplied in October 1941. It seems unlikely that guns for less specific purposes would have been issued before then; it is more likely that they were issued in 1942. The 'Lay-out of the Fort' described in the Cramond Fort Record Book on 18 April 1941 makes no mention of landward defence.

Charles Hill, being the only mainland battery in the Fire Command, was clearly felt to be more vulnerable to attack, and part of the landward approach was blocked by a minefield.²⁰ But even Inchmickery was capable of self-defence. The island had two Bren light machine guns; two Thomson and one Sten sub-machine guns; two Solothurn AA machine guns;²¹ and 144 rifles, one for every second man; 422 grenades; and almost

30,000 rounds of small arms ammunition.²² Cramond alone makes mention of an infantry garrison, a detachment of the Royal Scots, in a document dated 19 July 1942.

Two guns, of types usually associated with anti-aircraft defence, were placed on Inchcolm; however, the two 2-pdr pom-pom guns and a Bofors gun were more probably deployed in an anti-MTB role prior to the deployment of the new 6-pdr twin guns in 1940. Douglas Grant, indeed, remembered that the Bofors could not be elevated for AA firing.²³ Documents, either undated or from 1942 onwards, suggest that AA defence was handled at first by light machine guns and added to in 1943 by Unrotated Projectile (UP) installations.

The UP weapon was developed in the 1930s to supplement light AA weapons on ships, although they were found to be not particularly effective. The high explosive rockets were 32 inches (0.8m) long with a 3-inch (76mm) diameter. The installation comprised a steel cabin in which the operator sat, with a rack of 20 rockets to one side, the rockets being fired in salvos of ten.²⁴ The Fort Record Book of Inchcolm Fire Command contains sketches of an Unrotated Projectile weapon being moved carefully through the abbey ruins to its position at the Fire Command Post in June 1943, where the holdfast is still visible, on the summit of the western lobe of the island (Fig 10.4).²⁵

Solothurn AA machine guns, along with generous allocations of 7.92mm ammunition, are recorded in the armament of Cramond, Inchmickery and Charles Hill. Inchcolm seems only to have had Bren guns for both close defence and AA work. As it turned out, the Luftwaffe only made sporadic and generally unsuccessful attacks on the Forth; there were only a couple of dozen incursions over the Forth during the war, at least ten of which involved aircraft losses to British fighters of 43, 602 and 603 Squadrons, and to AA fire (none of it, as far as we are aware, from the islands).²⁶

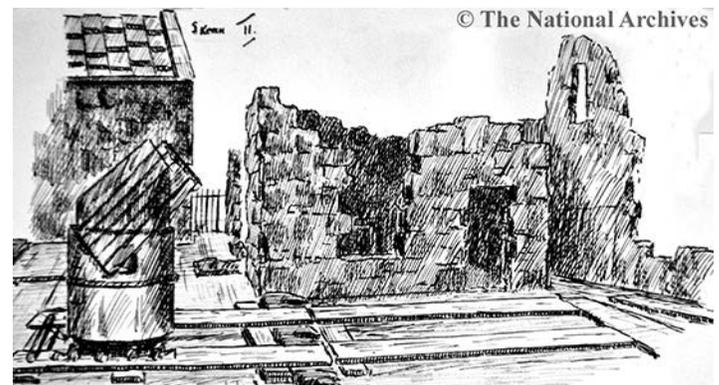


Figure 10.4

An Unrotated Projectile weapon being manoeuvred through the Inchcolm Abbey ruins to its site near the Fire Command Post in June 1943 (© The National Archives, WO 192/108)

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10.3 Cramond

Cramond Island is a tidal island lying 1,150m off the Lothian coast. The island was occupied and farmed as a small-holding until the death of the last farmer in 1904. The houses were used as holiday homes until the Second World War, although some of the land was used to raise experimental crops by the East of Scotland College of Agriculture.²⁷

First World War and after, 1914–31

Two out of a total of 14 12-pdr (Naval) 18cwt QF guns in the Middle Line were mounted on Cramond, to protect the anti-submarine boom laid across the river from Cramond Island to Inchmickery.²⁸ A progress report on the defences records that, by 19 December 1914, two guns and platforms had been landed on Cramond Island.²⁹

A map dated 30 July 1915 shows the location of the two guns with an accompanying shelter for the men and the officer on watch.³⁰ No. 1 gun faced east, while No. 2 gun covered a northern arc over the boom. The boom itself is shown as meeting the island at a small concrete building – which we know to be the winch-house for the boom – at the north-east corner of the island, just north of a DEL emplacement (marked as being of wood), the light having a wide arc of movement to north and east. The concrete engine room, providing power for the light, lay near the north-west corner of the island (Fig 10.5). The winch-house was provided to tension and, when struck, slowly slacken the boom.

There were half a dozen accommodation buildings near the centre of the north part of the island, comprising a large hut to accommodate six NCOs and 39 men. There was a separate ammunition store c 17m to the north of the

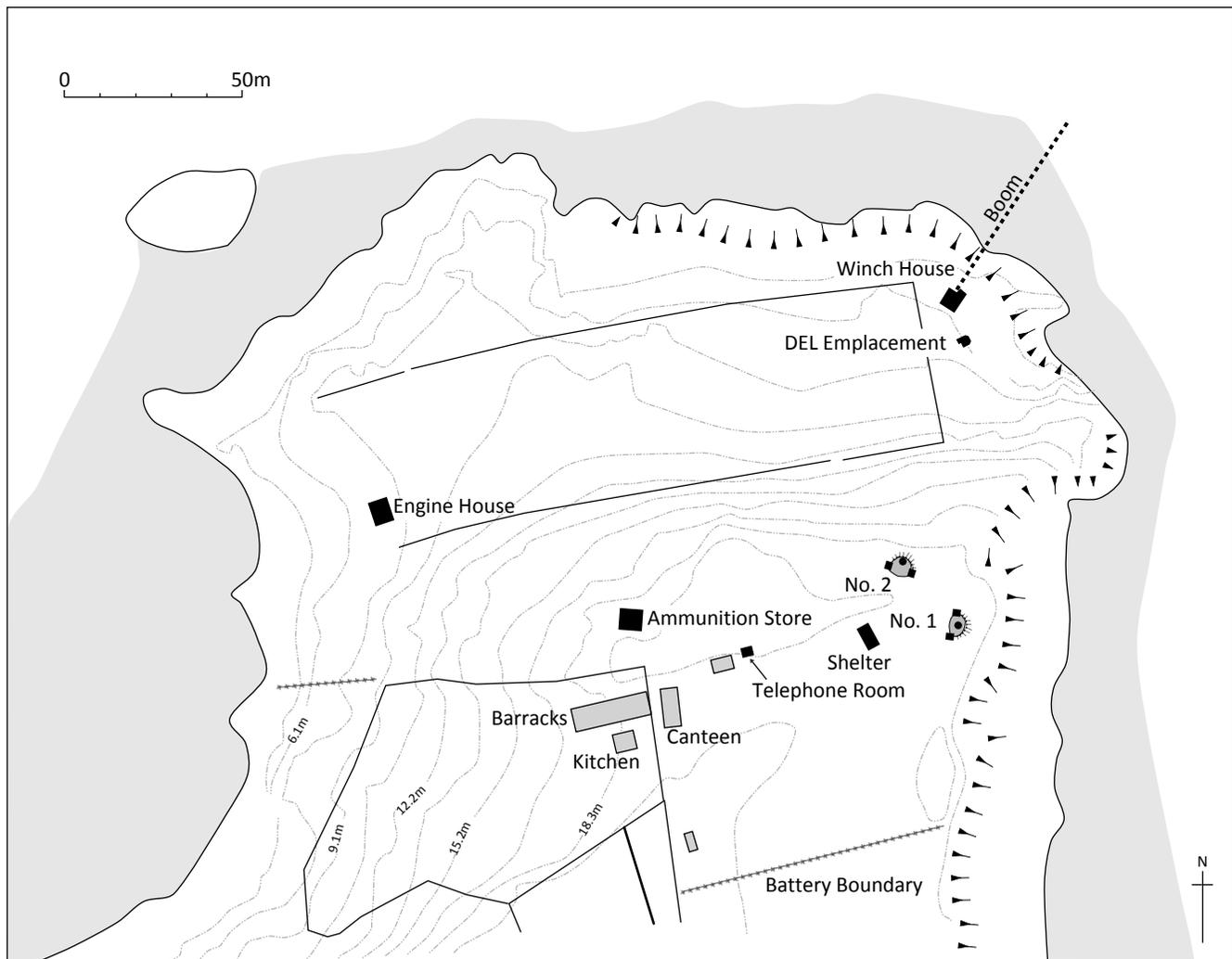


Figure 10.5

Plan of Cramond battery in 1915, showing No.1 and No. 2 guns, electric light and buildings. The layout of Cramond did not change significantly during the First World War (© Gordon Barclay)

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accommodation, a small hut for two officers and a 'telephone hut'. South of this a low barbed wire fence marked the southern boundary of the battery, a line beyond which 'no civilian allowed'. The Royal Artillery garrison of the island in July 1916 comprised two officers (the Gun Group Commander and his relief) and 30 other ranks (12 men in the gun detachment plus six reliefs) and various other personnel, including telephonists, orderlies and an officers' servant).³¹

The armament was unchanged in the general revision of the Forth Defences in 1916-17 but, in an armament table for the estuary dated October 1916, Cramond is shown as having acquired a 'concentrated fighting light'.³² In February 1917, one Royal Engineer officer and 15 other ranks operated the lights on Cramond.³³

In June 1920, the Ministry of Munitions advertised for sale in *The Scotsman* many huts and other materials on Cramond Island and Inchmickery, to take place at 10.30 a.m. on Friday 18 June.³⁴

The approved armament of the estuary in January 1921 still included the two 12-pdr (Naval) 18cwt guns on Cramond but by September 1921 it had been reduced to one ('Group A2'). The two 12-pdr guns were still part of the approved armament of the Forth in November 1927.³⁵ Local tradition is that the guns were removed and surplus equipment sold in 1926-7. An undated annotation in the Inchcolm Fort Record Book records, 'Guns returned to Navy'.³⁶ It was necessary for civilians to obtain a pass to access the island until 1926; the Cramond Heritage Trust has a copy of one dated 1920.³⁷

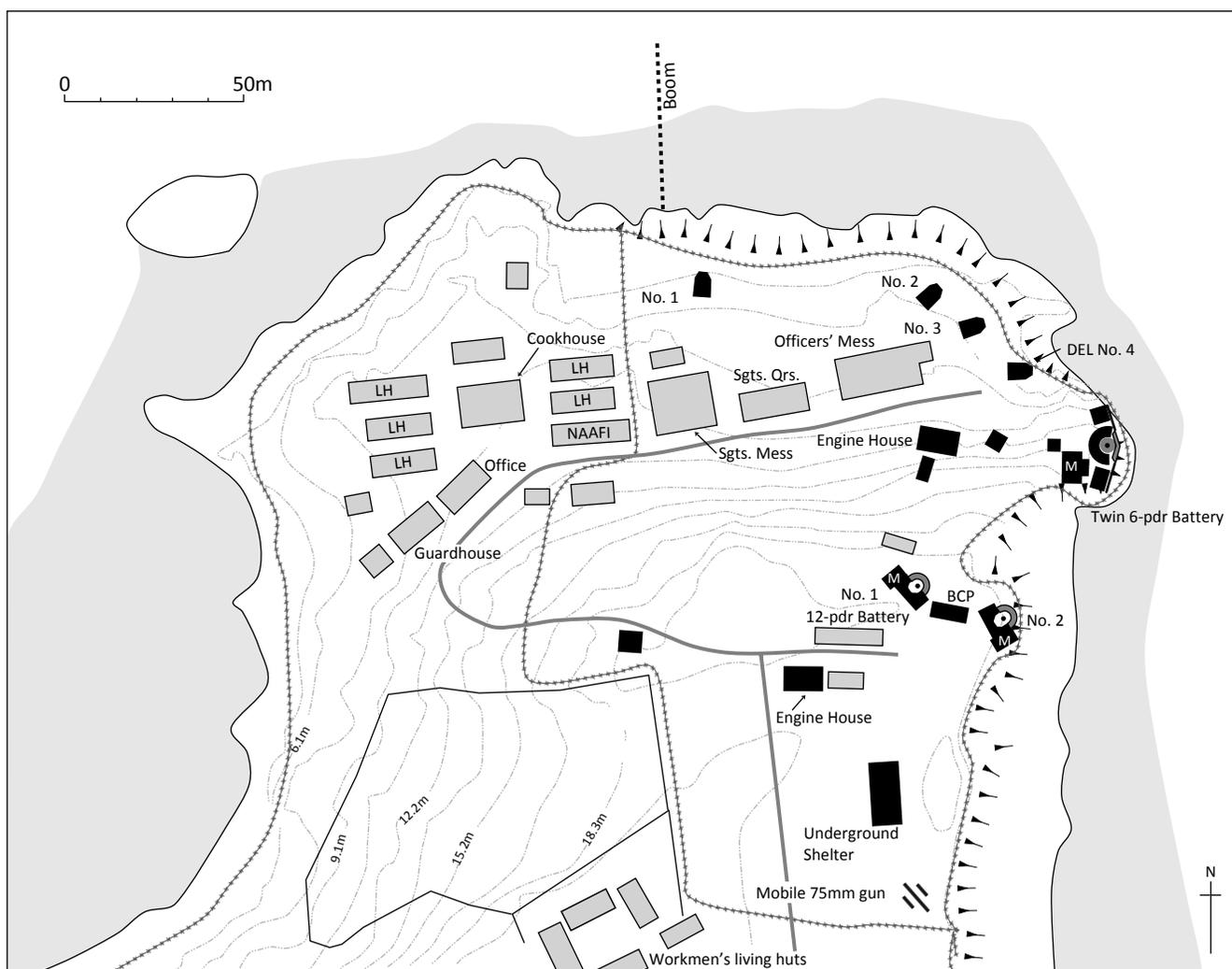


Figure 10.6

Plan of Cramond battery in c 1941. The southern, fixed 75mm is not shown – it covered the anti-boat boom at the southern end (see Figure 10.10). The second, mobile 75mm is shown, although it was probably not in position until 1943 (© Gordon Barclay)

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Figure 10.7

The 6-pdr twin emplacement on Cramond Island. Its overhead protection has been removed. The two rails carried a trolley on which ready-use ammunition was carried (© Gordon Barclay)

Second World War

The 'History of the Work' on the Fort Record Book states that the site was reacquired by the War Department in the summer of 1939, although design work for the battery layout had been under way for some months.³⁸ According to the Cramond Fort Record Book, in the autumn two 12-pdr (12cwt) guns moved from Coastguard Battery³⁹ were mounted on the existing emplacements to form what was to be called 'Dalmeny Battery'.⁴⁰ According to Douglas Grant (pers comm), however, it was the Inchgarvie guns which went to Cramond and the Coastguard guns which went to Inchcolm. John Dods' close reading of the Fort Record Book suggests that the 12-pdrs were only placed on the First World War mountings until new emplacements were built.⁴¹ The available plans do indeed show that the 1939–40 emplacements were in slightly different locations with different alignments.

It was intended from the first that the armament of the island would also include a twin 6-pdr (Fig 10.7). This was installed in the summer of 1940, as 'Cramond' battery (Fig 10.6).⁴² The armament of Cramond was 'sited to cover the floating boom to the north and Concrete Boom to the south

against MTB and submarine attack, operating to the north in conjunction with INCHCOLM and INCHMICKERY'.

By April 1941, the Dalmeny Battery (the 12-pdrs) had been provided with overhead cover against air attack and the island also had an 'AA Projector'; although at first sight this might be taken to be an anti-aircraft 'unrotated projectile' rocket weapon, other references suggest it was a further searchlight, to illuminate the adjacent tidal sands (see below, in relation to the 'Lyon Light'). An undated document in the Fort Record Book does, however, note the presence of four 3-inch AA rocket 'projectors' at some point. A 2-pdr pom-pom noted on one map is not mentioned again and, like the pom-poms on Inchcolm, was probably included in the armament in an anti-MTB role prior to the deployment of the twin 6-pdr guns. Subsequently, the only AA guns mentioned are 'AA LMGs [light machine guns]', that is, either Bren or Lewis guns on AA mountings or captured enemy weapons.

In June 1941, there were four DELs on the island: three fixed dispersed beams, illuminating an area off the north-east corner of the island, and one moveable 'sentry and search'

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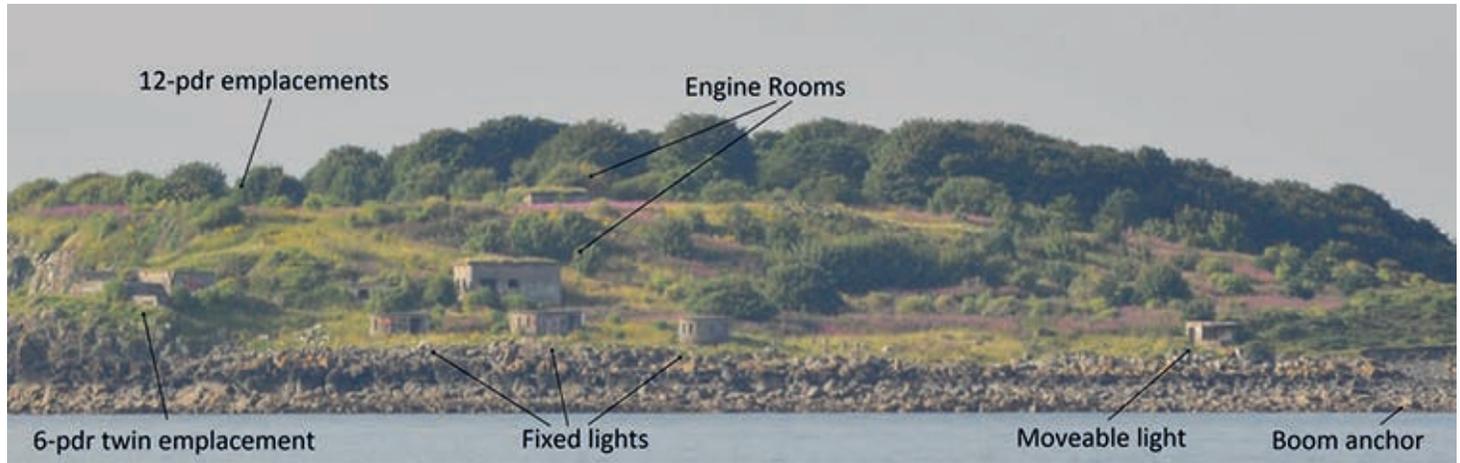


Figure 10.8

The northern end of Cramond Island, showing the 6-pdr twin emplacement, three fixed beam DEL housings, the engine room, an ancillary building and, at the right-hand end, the moveable beam covering the boom to Inchcolm, the anchor of which is also marked (© Gordon Barclay)

light, illuminating the boom to the north (Fig 10.8). In May 1943, five DELs were listed on the Fort Record Book, with a supplementary sheet listing Nos 6 and 7, new concentrated fighting lights. One of these extra DELs was placed to illuminate the concrete boom (Fig 10.10); a 'Lyon Light' emplacement, for a relatively light beach searchlight, is marked as lying just south of No. 2 12-pdr, in 1942.⁴³

The most striking feature of the Cramond defences is the line of concrete pylons running from the foreshore at

Cramond to the island, to provide a substantial barrier to fast motor torpedo boats (Fig 10.9; Fig 10.10). Local tradition is that work on the boom began in 1938,⁴⁴ although the island was not reacquired by the War Department until 1939. The work was undertaken by 'the Yorkshire Hennibique Contracting Co ... The Oldest Ferro-Concrete Contractors in the United Kingdom'.⁴⁵ It comprises many concrete pylons cast in two parts; the lower (visible on Fig 10.10) having a slot on the side to hold reinforced concrete slabs.



Figure 10.9

The Cramond concrete boom under construction in 1940-1. The slots in the sides were to hold reinforced concrete slabs, some of which survive in situ, most of which have now been removed to support a post-war sewage outlet pipe running parallel. The pylons were built on a continuous concrete foundation. The pylons had a further 'stage' built on top (see Fig 10.10). In the background the floating anti-boat boom is visible, at this stage of the tide lying on the sand (Crown Copyright, Historic Environment Scotland © HES)

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A floating boom was put in place to the east of the pylons while they were being built. Both booms are visible on an aerial photograph of the island dated 19 June 1941⁴⁶ and the floating boom was still there in February 1942.⁴⁷ It had been removed by May 1943.

In the Second World War, the boom across the Forth ran directly between Cramond Island and Inchcolm. The Cramond end was shackled to a substantial concrete block which was in turn 'moored' by a chain bedded deep in the rocks of the beach, immediately north of DEL No. 1 (Fig 10.6).

The 12-pdr and 6-pdr guns covered the floating boom to the north, while a fixed 75mm covered the concrete boom: 'Fire will be opened on any unidentified vessel attempting to pass over the floating boom (now dismantled) and the line of Concrete Pillars'.⁴⁸ The initiative for the provision of a 75mm gun on a pedestal or wheels to protect 'the obstruction between Crammond [*sic*] Island and the mainland' came from an inspection of batteries in June 1941 by the Major General Royal Artillery at GHQ Home Forces. A 75mm on wheels was to be provided immediately.⁴⁹ This was recorded as being

ready for action on 8 September 1941.⁵⁰ It is not clear how long the gun was used on its wheels before being mounted on a pedestal in a specially built bunker covering the concrete boom (Fig 10.10).

A second mobile 75mm field gun was first recorded in February 1943 to cover either the maritime approaches or to act in an anti-tank or anti-personnel role. A Defence Scheme dated 25 August 1943 recorded two mobile 75mm guns for close defence. None of the former personnel from Cramond who spoke to RM mentioned either of the mobile 75mm guns that were clearly on the island in 1943, perhaps because they had left the island in 1942, probably before first mobile 75mm arrived.

The entire perimeter of the island was surrounded by barbed wire entanglements and there was also a second line of wire surrounding the area containing the guns of the battery and the 75mm mobile field gun. Cramond was guarded until December 1942 by one warrant officer and 18 other ranks of 30th (Home Defence) Battalion, Royal Scots.⁵¹ In 1940, the battery personnel numbered 66 of all ranks, including 12



Figure 10.10

The northern end of the barrier of concrete pylons. The two-stage casting of the pylons is clearly visible. The anchor point is just visible at the end. Above the barrier is the housing for the pedestal-mounted 75mm gun and, below it, the housing for the fighting light (© Gordon Barclay)

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Royal Engineers.⁵² In May 1943, the garrison of the island was two officers and 88 other ranks.⁵³

In the 'Flood Tide' reduction of coast defence armament, the Cramond Battery (the twin 6-pdr) was still, in June 1943, fulfilling its anti-MTB role, while the 12-pdr guns of Dalmeny Battery were reduced to cadre. A summary list of batteries in January 1944 shows the Cramond and Dalmeny Batteries

as in care and maintenance, and the DELs still manned by Regulars.⁵⁴

The life of the battery

We are fortunate in having the reminiscences of James T Potter, as recorded by RM in 1989, about life on the battery:

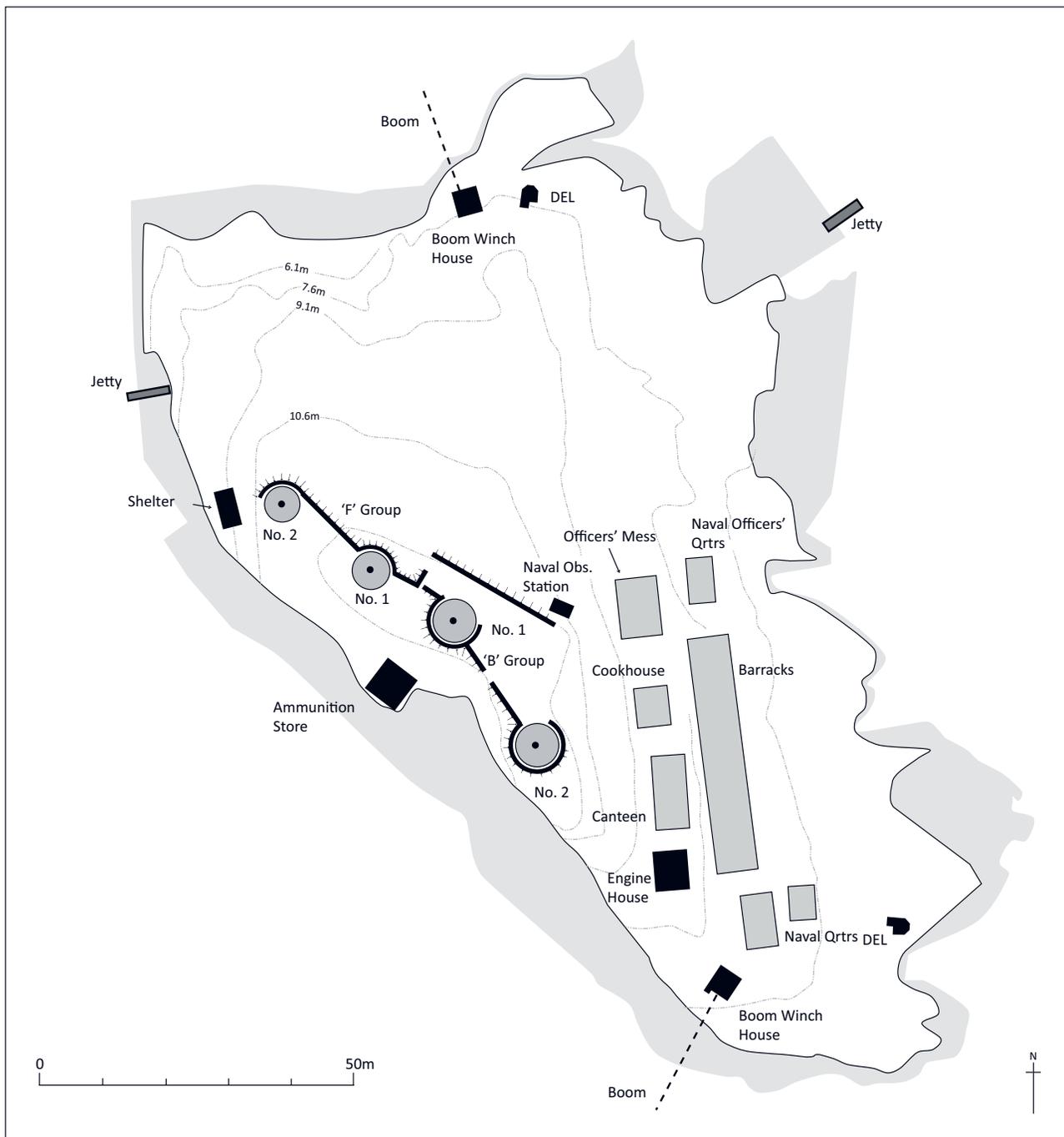


Figure 10.11

Plan of Inchmickery, 1915–16. Structures associated with the fighting of the battery or the operation of the booms are in solid black, more domestic structures in grey (© Gordon Barclay)

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Being stationed on Cramond Island meant we qualified for 'island service' benefits of slightly more pay and leave, etc., due to the isolated locations and time involved in getting on and off the island. Cramond Island was a welcome posting in this regard because during our off duty time, at low tide we could walk ashore and go to the pub in Cramond, or go further afield ...

We manned two 12-pdr guns before the twin 6-pdrs arrived. There was some concern amongst the men over the fact that 12-pdrs were not suitable for engaging torpedo boats and other fast craft, so we were lined up on parade and were ordered to produce our drill books. Then we were ordered to open the page where it stated "12-pdr guns are not suitable for engaging fast torpedo boats". [paraphrased] Then we were ordered to draw a pencil line through the word "not", and so we turned an unsuitable weapon into an efficient one!

At the beginning of the War the island was very busy with contractors building the various works. We were ordered to assist them in order to make the camp ready as soon as possible. The civilian workforce was earning a pound for every shilling we received as pay. Some of them were getting £40 a week! One day the civilian workers were so discontented with the conditions they were working under that they went on strike and threatened to leave the island. The Major, on seeing this and realising the importance of the work, ordered two men to take a Lewis gun to the south end of the island and shoot anyone who attempted to leave. Once the civilian workforce saw he was deadly serious they resumed work and we didn't have much trouble with them after that.

There was a soldier (from Edinburgh) whose wife was having an affair with another soldier, also stationed on Cramond Island. One night the soldier was on guard duty at the south end of the island and shot [dead] the other man who was returning to the island after having been ashore visiting the soldier's wife. The matter was all hushed up and it was said the dead man had failed to give the correct password. It was a clear case of murder, but it was wartime.

During a practice shoot, the grass on the magazine roof caught fire. Someone (correctly) shouted 'Fire' and someone else (correctly) fired a salvo!

Post-war and survival

In November 1952, the 12-pdr guns were listed as surplus to the 'Basic & Reserve Scale of Defences' and detailed for disposal. The precise dates of disposal are not recorded on the Fort Record Book.

The Cramond Battery is surprisingly well preserved, considering it is the most easily accessible of the batteries of the Middle Line. The concrete pylons forming the anti-boat barrier survive in good condition. Some have broken along casting lines, while a group near the middle has been removed to allow the passage of small boats.⁵⁵

10.4 Inchmickery

The small island of Inchmickery lies between Inchcolm, to the north-north-west, and Cramond, to the south-south-west.

The primary sources for Inchmickery are Royal Engineers plans from before and after the reconstruction of 1916,⁵⁶ a War Office special survey of the island dated 1918,⁵⁷ the history of the Middle Defences on the Inchcolm Fire Command FRB,⁵⁸ a series of plans of the island in the Second World War,⁵⁹ and aerial photographs from both World Wars. There are also Ministry of Works files from 1928 to 1957, when the island was included in the lease for Inchcolm Abbey.⁶⁰

First World War

In common with the other islands of the Middle Line, work began on the fortification of Inchmickery in 1914.⁶¹ By 19 November, 'One shed [had been] erected, and excavations for guns completed'.⁶²

The earliest plan of the island, dated July 1915, shows the location of the four simple gun emplacements, an ammunition store, two DEL emplacements, winch-houses for the booms to north and south of the island, and all the ancillary buildings (Fig 10.11). The plan helpfully marks those that were in occupation by the Army and by the Navy (mainly the boom winch huts, their accommodation, and an 'Observing Station (Naval)').⁶³ At this stage, the northern group of guns was 'F' (facing north), the southern, 'B' (facing south and west). The guns could fire almost all round, their arcs of fire restricted only by the other guns.

In July 1916, the RA garrison of the battery comprised two officers (the Gun Group Commander and his relief) and 29 other ranks (including 12 in the gun detachment, with six reliefs, and six in the ammunition handling detachment).

At this stage the island was equipped with two DELs with moveable beams, one on the south-east tip of the island, the other on the north beside the northern boom winch-house. There was an ammunition store on the south-west slope of the island behind the guns. The island is shown as being accessed by a landing stage on the north-east side of the island, equipped with a winch and trolley on rails.

The general revision

By September 1916, significant changes were either completed or in hand, as part of the general revision of the defences of the Forth (Fig 10.12):⁶⁴ completely rebuilt emplacements to take four 4-inch QF Mk III guns from Inchgarvie, with a much more substantial sub-structure of magazines and shelters for the men on watch; and four new DEL emplacements, to replace the original two (marked for removal).

The new four gun positions, in two groups of two ('F' to the north, and 'B' to the south), lay in a slightly crooked line along the crest of the island, at a height of c 12–14m above sea level. The guns were made ready for action between 23 November 1916 and 2 February 1917. The whole west side of the island had been rebuilt to extend the space available and a much larger engine house had been built, as had a new

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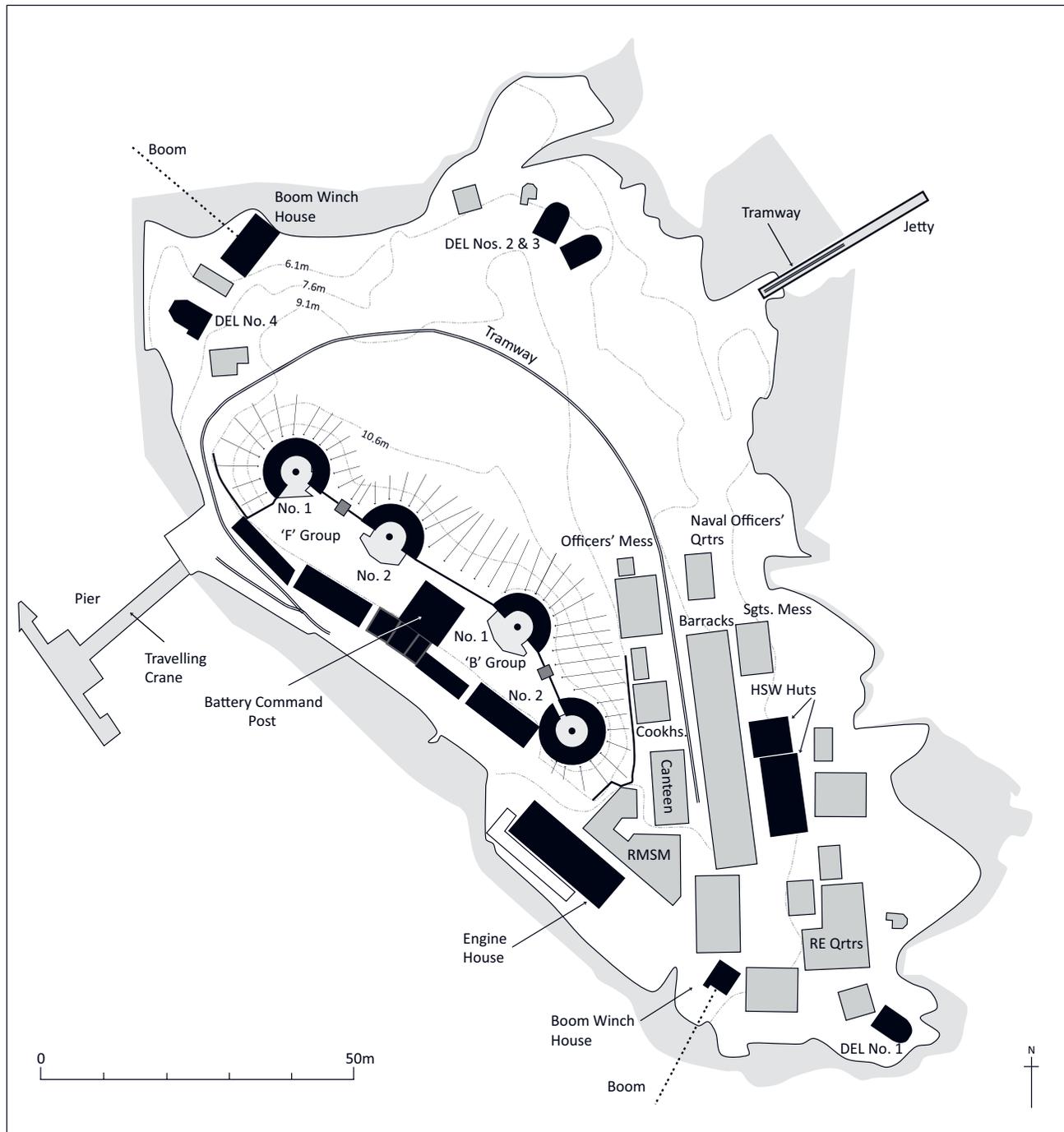


Figure 10.12

Plan of Inchmickery, 1917–18. Structures associated with the fighting of the battery or the operation of the booms are in solid black, more domestic structures in grey; the latter category includes former DEL emplacements and one of the boom winch houses, now given new functions (© Gordon Barclay)

combined Battery Command Post and Naval Observation Station. The accommodation of the island had remained relatively unchanged. The Mine Observation Station (for the controlled mines) is mentioned as being in action by 30 May 1917 and at the same date four DELs were nearly ready, the engines being moved to the new engine house.⁶⁵

An undated Royal Naval Air Service aerial photograph shows the island in the transitional phase of work (Fig 10.13): the new emplacements and the Battery Command Post appear to be under construction; the guns are not yet mounted; a tramway runs from the new pier, which is an advanced state of construction; the new DEL emplacements and winch-house

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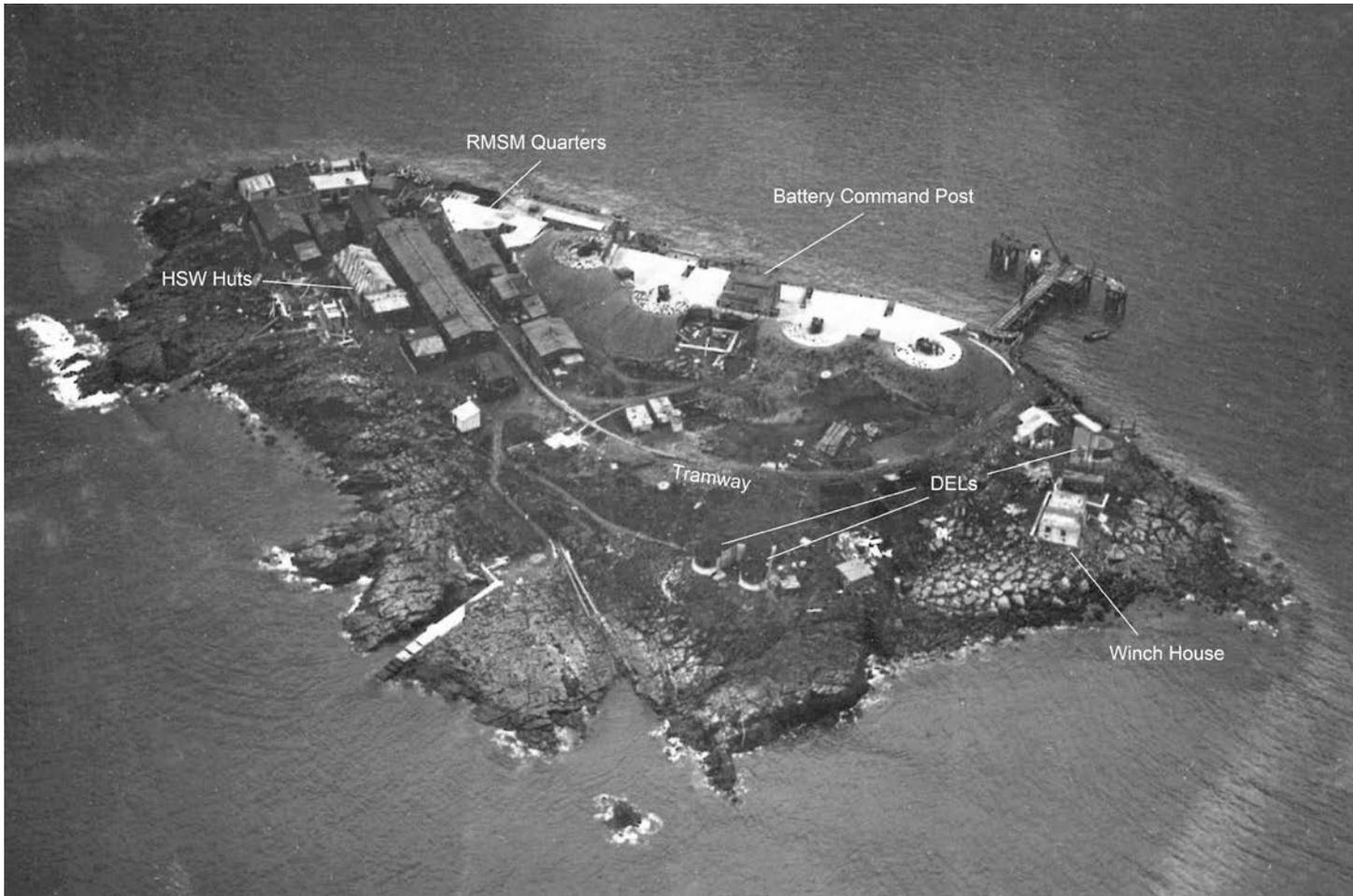


Figure 10.13

Aerial photograph of Inchmickery, from the east. The work of reconstruction of 1916–17 is in an advanced state: the mountings of the guns seem to be in position, although the guns themselves are not yet there. The DEL emplacements, tramway and buildings are complete. The water tank to be buried between the two-gun groups, however, is incomplete (RNAS)



Figure 10.14

Inchmickery from the west, in 2015. Major features of the First and Second World Wars are marked. There is no evidence whatsoever for the widespread belief that the island was deliberately made to look like a ship (© Gordon Barclay)

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are visible. A photograph of the construction of the boom north of Inchmickery also shows the island busy with cranes (Fig 5.8).

A definitive map of the battery, printed by the Ordnance Survey as a War Office 'Special Survey' in 1918, shows in precise detail the location and purpose of all the structures erected to that date. Some of the accommodation buildings had survived on more or less the same ground plan since 1915, but many others had appeared. Four DEL emplacements were recorded as being in operation (two concentrated moving and two 'fixed' 16° lights, nevertheless capable of very limited traverse) (Fig 10.12);⁶⁶ the four lights together seem to have provided 360° coverage.⁶⁷ Two of the earlier DEL emplacements, marked for removal in 1916, survived, labelled as 'stores'. The location is marked of the 'winch house' for the 1916–17 pattern boom to the north of the island; the original boom winch-house was by 1918 a 'smithy'.



Figure 10.15

The Inchmickery 1916–17 Battery Command Post with, in the foreground, the steel Gun Group Commander's shelter between the 'F' Group guns. The GCC would command his two guns from here if the Battery Command Post was knocked out. Beyond is one of the Second World War Director Towers for a 6-pdr twin gun
(© Gordon Barclay)

In February 1917, the four DELs were operated by two Royal Engineer officers and 60 other ranks.⁶⁸

The height of the guns above the rest of the island's accommodation allowed the northernmost and southernmost guns to have very large arcs of fire – around 270° (Fig 10.14). The tower contained not only the Battery Command Post but, below it, the DEL Director Post and, on the ground floor, the telephone exchange and rooms for the on-watch officers of the RGA, RE and Royal Marine Submarine Miners.

Between each pair of guns was a small structure labelled 'G.G.C. Shelter' (Gun Group Commander), the post of the junior officer commanding each pair of guns, from which the guns would be controlled if the BCP was put out of action. What survives on-site is a simple steel shelter (Fig 10.15). A small complex of buildings marked on the 1918 map was the quarters of the Royal Marine Submarine Miners. There is a pair of huts on the 1918 plan, both titled 'H.S.W Hut', which we believe were hydrophone huts. A 'Hydrophone Station' is marked on the equivalent map of Inchcolm and what may be hydrophone installations are marked 'Microphone Hut' on the equivalent maps of Inchkeith.

Inter-war

In January 1921, Inchmickery's armament was still recorded as four 4-inch Mk III QF guns.⁶⁹ By September, the approved armament had been reduced to two guns, B2 and F2, with the comment 'Guns stored at Inchcolm'. By 1924, the War Department was trying to regularise its land-holdings, taking out a lease that year (backdated to 1922) for 99 years, for Inchmickery and Inchcolm, for a rent of £35 per annum, of which £5 was for Inchmickery.⁷⁰

Although the 'History of the Work' on the Fort Record Book states that the battery of four guns was dismantled in 1926, the approved armament of the island was recorded in November 1927 as still comprising the four 4-inch QF guns.⁷¹ All the other structures on the island were abandoned to nature.

On 19 June 1931, the lease for Inchmickery and Inchcolm was passed by the War Office to the Ministry of Works, who had taken Inchcolm Abbey into the guardianship of the state in 1924.⁷²

Second World War

In September 1938, the War Department approached the Ministry of Works with a view to reoccupying parts of Inchcolm and the whole of Inchmickery, this being formally agreed to in October 1939.⁷³ Plans were drawn up in February 1939 for the rearmament of the island. Twin 6-pdr gun No. 1 was to be built in the north-east corner, immediately behind and partly over the sites of two First World War DEL emplacements. This gun was to be provided with three new

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Figure 10.16

Plan of Inchmickery in the later part of 1941, after 'Nissenisation'. The operational buildings are marked in solid black (the magazines labelled 'M'), more domestic buildings and stores in grey. LH = living hut. The 'Billiard Room' in one of the Nissen huts is a notable addition

DELs (with fixed dispersed beams) powered by their own engine room. These provisional gun positions were changed by a few meters by the Royal Artillery (Fig 10.16)

The other twin 6-pdr was built over the southernmost of the 4-inch gun emplacements but required concrete pillars to hold up the front of the gun platform (Fig 10.17). The original

4-inch emplacement seems to have required little adaptation and the ready-use lockers seem to have remained in use. The southern gun was provided with four DELs, three fixed dispersed beams facing south, and one concentrated fighting light facing east. The engine room for this group of DELs was built over the 1916–17 First World War engine room.

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Figure 10.17

The southern 6-pdr twin gun-house, incorporating the southernmost 4-inch emplacement, and built out upon concrete pillars, with the Director Tower behind (© Gordon Barclay)

The armament of the island had begun in August 1939, before the formal agreement was concluded with the Ministry of Works, when a detachment of 12 other ranks from the City of Edinburgh (Fortress) 585 Coy RE under the command of Sergeant Wilson landed with a supply of food and water, 'to make the place habitable, conditions being then so bad that only three days [at a time] could be spent on the island'. Equipment was issued at North Queensferry but difficulties were constantly met in transporting material to and from Inchmickery. The Edinburgh firm of John Best, Contractors, submitted a tender to the War Department in October 1939 to build installations on Inchmickery and Inchcolm.⁷⁴ The completion date, originally March 1940, was extended to 18 June 1940. According to the Inchmickery Fort Record Book, engines and defence lights in six temporary wooden emplacements were ready by March 1940 (two lights each at the north-west, south-east and on the east shore).



Figure 10.18

Inchmickery Second World War DEL emplacements Nos 1 and 2, erected amidst WC stalls and bath-houses of an earlier period, and partially demolished to make room. The small stone enclosure below the WC cubicles at the left is a First World War *pissoir*, accessed down steps and cleaned out by the tide (© Gordon Barclay)

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In March 1940, a detachment of 160 Heavy Battery, RA, who had taken over Cramond in November 1939, went to Inchmickery to assist in the installation of the two twin 6-pdr Mk I guns. The description on the Inchcolm FC Fort Record Book describes the situation in the spring of 1940:

the RE Detachment under Serjeant [sic] Wilson were installing Engines, Searchlights and laying surface cables, while civil contractors ... were building accommodation – huts, cookhouses, latrines etc, and the island was thoroughly overcrowded. Night and day pneumatic drills were working, and so great was the noise that [illegible] on Cramond were kept awake.⁷⁵

The guns were landed on the island with some difficulty in April 1940, the concrete jetty which would have made the task easier not being completed until July. No. 1 gun was moved to its position on a track of sleepers, while No. 2 gun was taken along a pre-existing path past the engine room. When the jetty was completed, it was provided with a tramway along both its arms, linked by a turntable to a length of track that ran to the jetty's eastern end.

The first manning parade on the island was on 10 May 1940. Accommodation was still 'far from satisfactory' and all water had to be brought from the mainland and stored in tanks. The food was 'rough but good'.⁷⁶ By July 1940, two further DELs were in action (one each at north-west and south-east) and the permanent engine room was ready (Fig 10.16). The final two DELs (facing east) were ready in February or April 1942 (bringing the total to ten).⁷⁷ Six of the DELs were fixed diffused beams with a 30° coverage (Nos 1–4, 7, 8); two had a 16° diffused beam, and two were moveable fighting lights with 3° beams (Nos 5 and 6). The island now had two engine rooms: one on the site of the former engine room at the south, and a new one at the north.

The ancillary works and the wooden accommodation huts of the battery were completed by June 1941. A number of buildings of the 1916 reconstruction of the island survived wholly or partly, presumably in use but not marked on the Second World War plans – notably WCs and *pissoirs* located at the east side and south end of the island, as well as bath-houses. The former Royal Marine Submarine Miners' building is one of the few shown as surviving from the First World War and it still survived in 2017. The apparent calm was short-lived.⁷⁸ A low-level aerial photograph dated September 1941 (Fig 10.19) shows the island almost completely crammed with standard wooden Army huts. These were considered to be a fire risk, and the wholesale 'Nissenisation' of the island began, apparently in July 1941:

Inchmickery was beginning to take on the appearance of a real station. All were glad that the noise and bustle were finished and that the RA had the island to itself. Alas! For their fond hopes! Higher authority decreed that the wooden huts constituted a danger through risk of fire and



Figure 10.19

RAF aerial photograph of Inchmickery, 13 September 1941, filed in the Fort Record Book (© The National Archives, WO 192/256)

overcrowding. Accordingly, in July 1941 huts were pulled down, paths were torn up, painstakingly constructed small gardens were ruthlessly buried under debris and Nissenisation has begun.⁷⁹

In October 1941, the island was taken over by 196 Battery, RA, under the command of Lieutenant Pike. In December 1941, the island was described as resembling 'a well blitzed area'. On the 22nd of that month, 247 Battery, RA took over the station. The construction work, by 585 Edinburgh (Fortress) Coy, was completed in May 1942 (Fig 10.16).

The Nissenisation reduced the amount of accommodation on the island; henceforth, one-third of the personnel was always off the island, at Charles Hill, for a week at a time.⁸⁰ The complement of the island is recorded on 18 September 1940 as four RA officers and 111 other ranks, with 12 engine room personnel.⁸¹

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The two twin 6-pdrs on Inchmickery are recorded as part of the armament of the Forth in June 1943, but were not listed by September 1944.⁸²

The anti-aircraft defence of the fort included two Bren guns on AA mounts on the roof of the magazine of No. 1 gun, and two Solothurn AA machine guns⁸³ on the roof of the gun store of No. 2 gun. There were two Unrotated Projectile rocket weapons (the holdfasts for which are still visible) located on the 'top parade ground' (that is, on the old 4-inch battery) and on the 'Quiet Room roof' (the former First World War Royal Marine Submarine Miners' building).

Inchmickery was so crowded with buildings in the Second World War that there was no room for the sort of close-defence structures (trenches, field guns etc) found on the other Inchcolm Fire Command batteries. Some efforts were made, however, to protect the battery. A small narrow pillbox with four loop-holes was built against the 1916–17 magazine structure, probably in 1940–1, to cover the approach to the island along the pier. In front of the pillbox, the engineers erected a triangular stone marked: 'No. 10 Section, 2 Company, C[ity] of E[dinburgh] (F[Fortress]) Engineers. 1939–1940'. On the eastern seaward side of the island, a wall running south from No. 2 gun (in the north-east part of the island) abutting the high brick foundations of a building to the north of the dining hall) presented a high, unclimbable and loop-holed face against any enemy assault.

Inchmickery was listed in January 1944 as being in care and maintenance.⁸⁴

Post-war

There is little information on the closure or disposal of the site. The lease of Inchmickery was still held by the Ministry of Works, along with Inchcolm, until 1960, when it was handed back to the Moray Estates. A note on a Ministry file records that in December 1955 'there are still a few soldiers stationed' on Inchmickery⁸⁵ and members of the Territorial Army practised on the twin-6pdr guns.⁸⁶

Survival

The structures of the second (1916–17), third (1939–41) and fourth (1941–2) phases of activity on the island survive very well. Of the First World War guns, the three northern 4-inch gun emplacements survive in very good condition, albeit with some later changes. The front of the battery has been rather disrupted by the recent collapse of a water tank that had been built within the protective embankment. The southernmost emplacement has been adapted for the southern of the two Second World War 6-pdr twin emplacements but most features are still recognisable. The 1916 Battery Command Post survives in very good condition, the external concrete steps and the wooden ladder to the top

floor all surviving in situ. External steel platforms attached to the eastern side of the building have collapsed. The magazines, shelters etc built behind and below the level of the guns survive in excellent condition, some with internal tanks and fittings.

At the southern end of the island, the irregularly shaped building assigned to the Royal Marine Submarine Miners in 1916 was reused in the Second World War and is still roofed and in reasonable condition. The southern group of Second World War DEL housings survives, albeit with all metal fittings removed. The DEL housings have been inserted rather crudely into the pre-existing buildings, leaving some odd survivals. DEL No. 3 partly overlaps what we believe to be the foundation of DEL No. 1 of the 1916–17 layout. The seaward edge of the foundations of the southern winch-house (1914–15 and 1916–17) may be visible below and just in advance of DEL No. 1.

The Nissen huts of the 1941–2 rebuilding survive as brick foundations and some end walls (notably of the cookhouse). Curved steel roofing trusses from the Nissen huts lie scattered around the site.

The two 6-pdr twin emplacements and their accompanying magazines and battery Director Towers are the best preserved in the Forth, although the curved roofs that provided protection to the rear of the guns have collapsed into the emplacements. Although the Director Towers survive to full height, their steel external access stairs have been removed. The foundation slabs of 1916–17 DELs Nos 2 and 3 are partly visible under the northern 6-pdr twin emplacement. The concrete pillars that hold up the front of the southern 6-pdr twin emplacement are showing signs of movement.

At the northern end of the island, three Second World War DELs, an oil storage tank and an engine house occupy an area that in 1916 had a DEL, a store, offices and the 1916–17 boom winch-house, the low walls and concrete floors of which are visible under and between the later structures. Second World War DEL emplacement No. 8 still has green and brown camouflage paint on its rear wall. All have heavily turfed roofs within a border a single brick high, while No. 7 has a sign painted on its inside wall '(7) BEARING 52°'.

10.5 Inchcolm

The sources of information for Inchcolm are two Fort Record Books (one for Inchcolm, including an aerial photograph and plans showing the proposed and actual arrangements in the Second World War)⁸⁷ and the other for Inchcolm Fire Command);⁸⁸ and maps drawn in 1915⁸⁹ and 1918.⁹⁰

First World War

In the fortification of the middle islands, the island of Inchcolm was ideally situated to provide the headquarters and

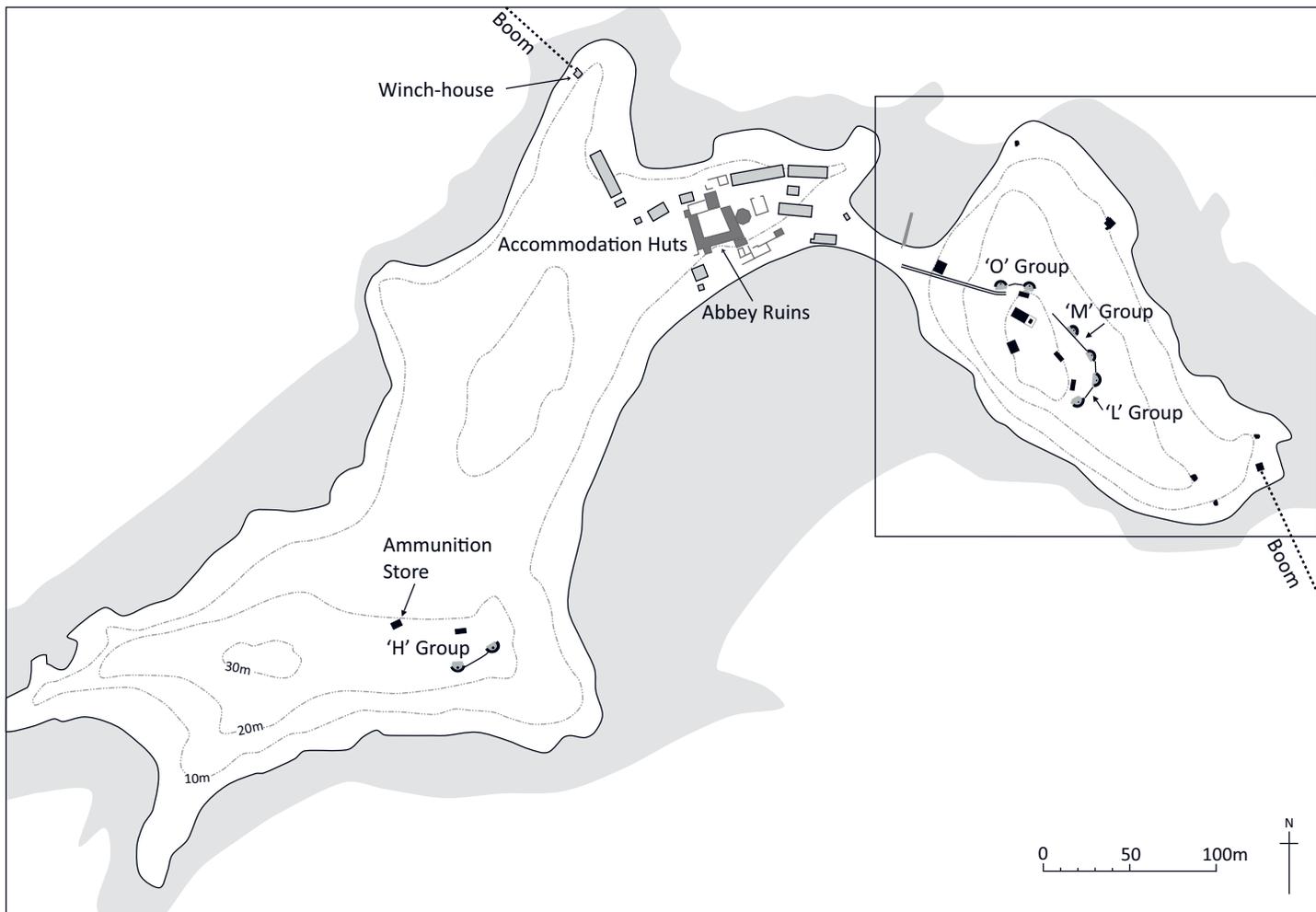


Figure 10.20
Map of Inchcolm, 1915. The box shows the extent of Figure 10.21 (© Gordon Barclay)

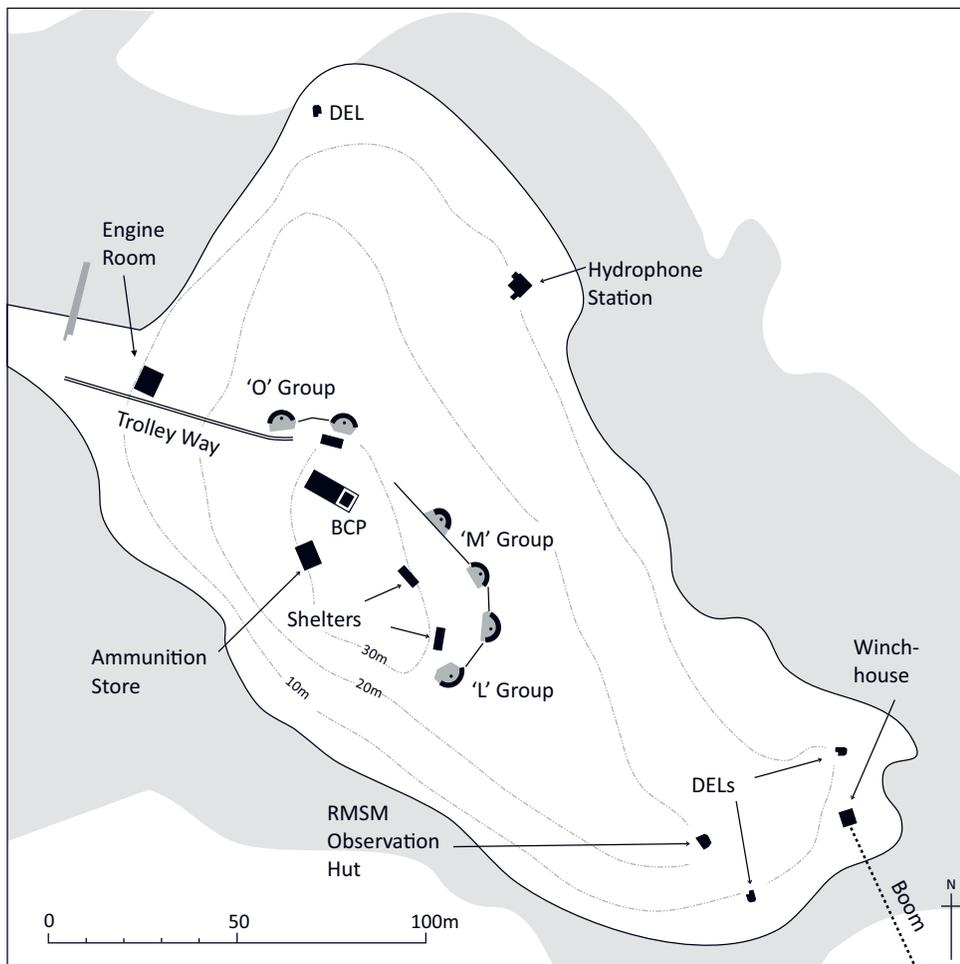


Figure 10.21
Detailed plan of the eastern lobe of Inchcolm, 1915. The few structures in addition to the six 12-pdr (Naval) 18cwt guns and their ancillary structures, include the hut for the hydrophone operators and the observation hut for the controlled minefield (© Gordon Barclay)

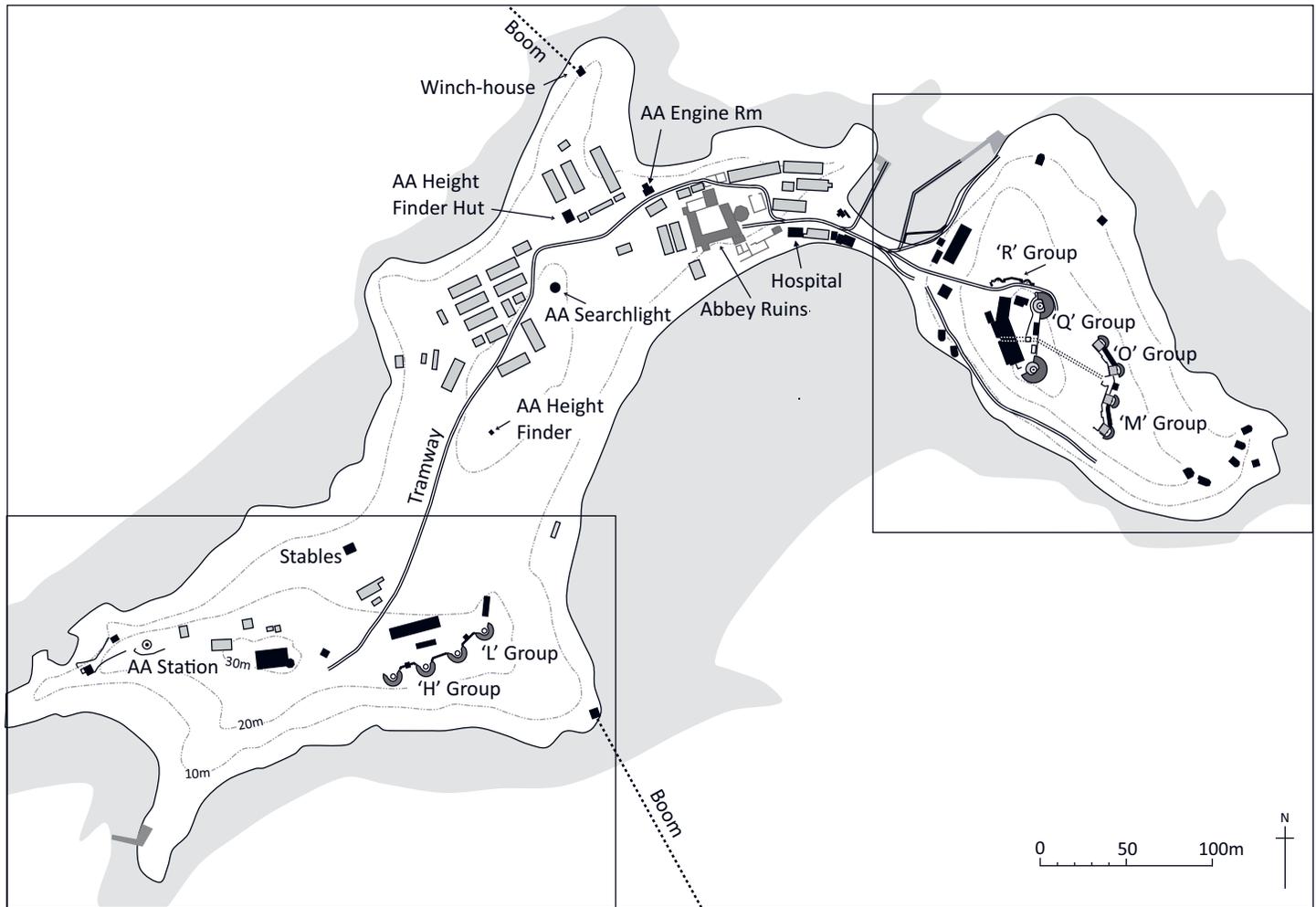


Figure 10.22

Map of Inchcolm, 1917-18. The boxes show the extent of the two detailed maps, Figure 10.23 and Figure 10.27 (© Gordon Barclay)

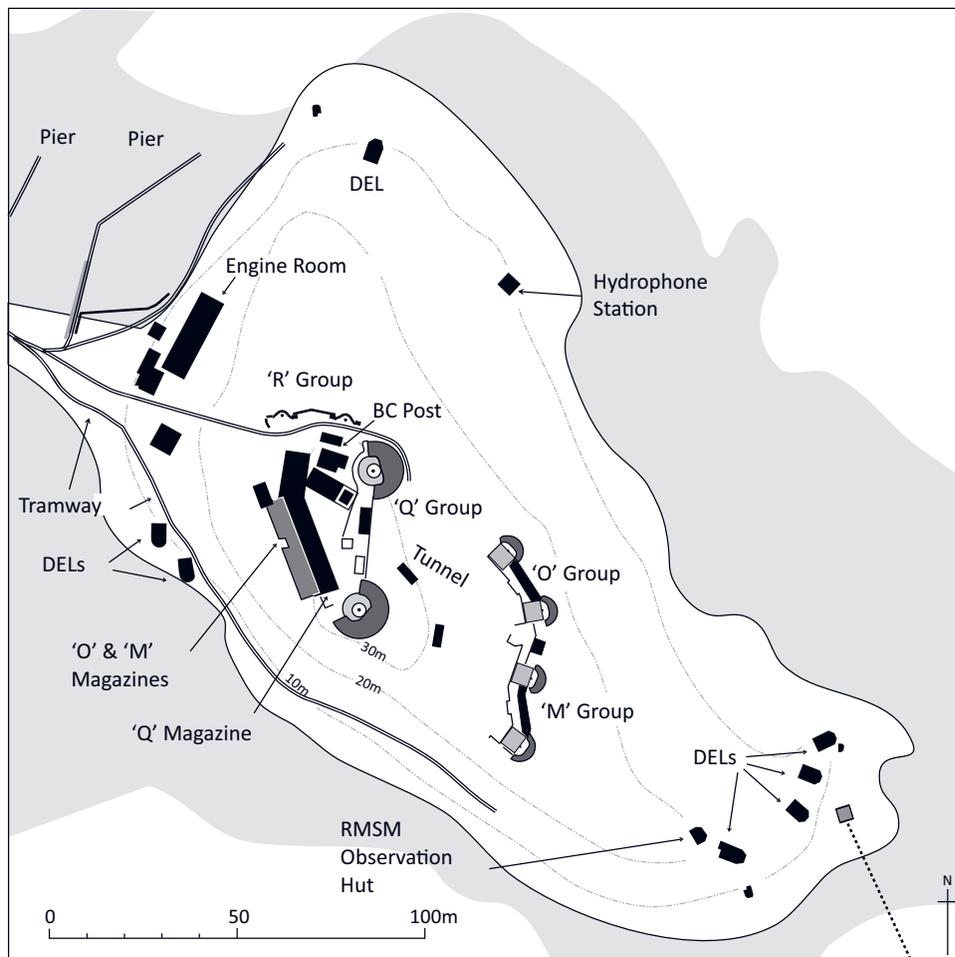


Figure 10.23

Detailed plan of the eastern lobe of Inchcolm, 1917-18, rather more crowded with structures. The magazines for 'Q' Group, the 6-inch guns, lay partly above the magazines for 'O' and 'M' Groups, the 4-inch guns reached by the tunnel. 'R' Group is the pair of 12-pdr (Naval) 18cwt guns, the only remnant of the 1915 armament (© Gordon Barclay)

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Figure 10.24

The access tunnel through the eastern lobe of Inchcolm, viewed from its western end. Where the tunnel narrows there was originally a shaft up into the heart of the 6-inch battery, which was provided with a swivelling hoist on top. The original plan was to run a branch of the tramway system through the tunnel to the 4-inch battery at its eastern end, but this was probably not built (© Gordon Barclay)

strongest point in the line. The island has two ‘lobes’ of higher ground linked by a low, flat area partly occupied by the ruins of St Colm’s Abbey (Fig 10.20). Of the 14 12-pdr (Naval) 18cwt guns in the Middle Line, eight were mounted on Inchcolm, with two DELs to illuminate targets. A progress report on the defences dated 19 November 1914 noted, ‘Landing place at Inchcolm commenced, 6 guns and platforms landed, and excavations for gun foundations commenced’.⁹¹

Typically, the 1914–15 batteries on Inchcolm were very simple open emplacements with limited numbers of

other buildings.⁹² On the west lobe, there were two 12-pdr emplacements linked by a low wall (‘H’ Group, guns 1 and 2), provided with a small ammunition store to the north-west, a small shelter for the watch and their officer, and, a little to the north-north-east, an ‘earth closet’. A winch-house for the boom between Inchcolm and the Fife coast was located near the northernmost tip of the island.

The eastern lobe contained the main armament, comprising six 12-pdr guns, in three groups of two (from north to south, ‘O’, ‘M’ and ‘L’ Groups), curved along the eastern side of the summit of the hill, the overlapping arcs of fire covering from north-west to east to south-west (Fig 10.21). Behind the guns were three watch shelters, one for each group and, at the west edge of the summit, a single ammunition store.

The only other substantial building on the summit was the Battery Command Post, of three stories: the ground floor contained a naval office and store, and the Royal Artillery store; the first floor the Battery Command Post at its south-east end, with naval and RA offices behind, and the Electric Light Directing Post on the roof.

There was a hydrophone station on the north-east face of the eastern lobe that listened out for enemy submarines, operational between May and August 1915.⁹³ An observation hut for the Royal Marine Submarine Miners lay near the south-east end of the eastern lobe, watching a controlled minefield to the east-north-east. The winch-house for the 1915 anti-submarine boom to Inchmickery lay between the two DELs on the easternmost tip of the island.

A simple ‘trolley way’ ran up the steep hill from the landing stage to behind ‘O’ Group. The engine room for three DELs (rather than the two originally planned) lay at the bottom of the hill of the east lobe.



Figure 10.25

The eastern lobe of Inchcolm, from the western, showing the terraces created in 1916 as part of the remodelling of the defences: (1) First World War Battery Command Post for the 4.7-inch guns, repurposed in Second World War as the Fire Command Post; (2) engine house, 1916, raised and repurposed as Ministry of Works tearoom and then, in 1939, as a casualty clearing station; (3) Second World War engine house; (4) First World War DEL housing (foundations only); (5) buildings associated with the Second World War 12-pdr battery; (6) visible edge of First World War 6-inch/Second World War 12-pdr emplacement; (7) visible edge of westernmost First World War 4-inch emplacement; (8) Second World War engine-house; (9) Second World War moveable beam searchlight emplacement; (10) Second World War boom anchor (see Figure 10.32)

(© Gordon Barclay)

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The small hutted accommodation camp was built in the central part of the island, around and to the west of the abbey (Fig 10.20). Four barrack blocks provided accommodation for c 180 men, with a cookhouse and canteen. The southern and western ranges of the abbey provided accommodation, kitchen and a mess for the officers and the mess staff. There was also a barrack hut for 20 naval personnel, with a separate cookhouse/dining room and separate accommodation for three naval officers and a Petty Officer. Immediately to the south-west of the abbey were the quarters for three officers and a Petty Officer of the Royal Marine Submarine Miners (marked as such on both 1915 and 1918 maps of the island). There was a small telephone hut near the north bay.

The General Revision

The armament of Inchcolm was radically reordered and strengthened in the general revision of the armament of the Forth in 1916. Two of the 12-pdrs remained in situ on the original light emplacements (formerly 'O' Group, now 'R' Group) (Fig 10.23). Ten other guns were added in more substantial emplacements. There were also other improvements, including the construction of two substantial piers in the bay north of the spit joining the two lobes of the island.

The four 12-pdr (Naval) 18cwt guns that had formed the 1915 'M' and 'L' Groups were replaced by four 4-inch guns ('O' Group and 'M' Group) in more substantial emplacements, in an irregular line downhill from the previous 12-pdr emplacements (Fig 10.23). While it was originally intended to mount Mk III guns on Mk I mounts, by 15 November 1916 the plans for the emplacements had been amended to allow the mounting of more up-to-date Mk V guns on Mk II mounts, and new guns were issued from store. They were mounted in December 1916 and ready for action between April and July 1917. The gun emplacements had overhead protection.

Because the 4-inch guns were in such an exposed position, the magazine for the battery was located safely behind the crest of the hill, linked to the battery by a tunnel (Fig 10.24). The tunnel survives to an incomplete length of 66m and has a dog-leg 45m from the intact eastern entrance; it is constructed with a brick vault, except at the western end, where a steel channelling roof bears the weight of the magazines of the 6-inch guns above. The 4-inch shell store and cartridge store were sited on either side of the tunnel. An open shaft rose from the tunnel into the middle of the 6-inch battery above it; from this point eastward the tunnel narrows. Above, in the 6-inch battery, there still survives a vertical spindle which probably mounted a hoist or small crane for raising material through the shaft; the fittings for a manual hoist also survive in the shaft itself.

It was originally intended that a tramway would run through the tunnel to the 4-inch battery,⁹⁴ but no such

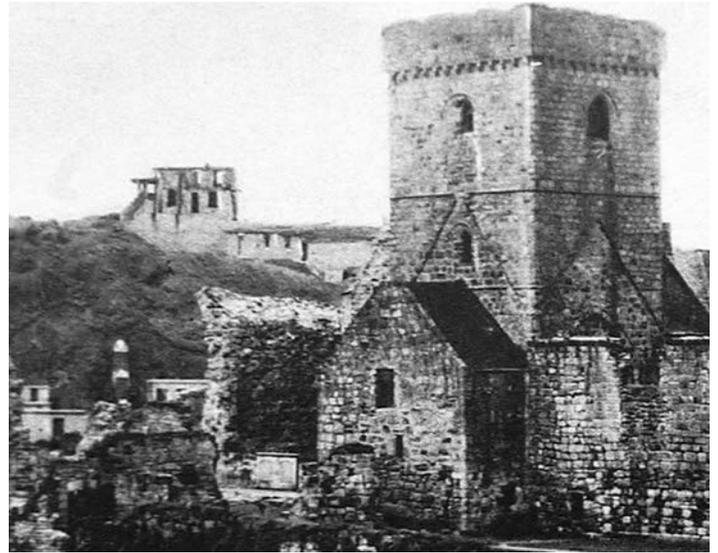


Figure 10.26

Detail of an inter-war postcard of Inchcolm, showing the Battery Command Post for the 6-inch battery visible in the background. This building was demolished by 1931

tramway is marked on the 1918 map of Inchcolm. The tunnel was dug by the RE (Cornwall) Works Coy, who placed a plaque recording their work at the east end of the tunnel. It is likely that the same unit remodelled the western side of the east lobe of the island. Formerly, this area had been a steep rocky slope and the southern point of the island could only be reached by an exposed path on the east side. The two terraces were created in 1916–17 by the removal of considerable quantities of rock (Fig 10.25).

The top of the eastern lobe was chosen as the site for a pair of 6-inch guns ('Q' Group) with a substantial magazine behind, partly dug into the hillside, above the 4-inch magazine and the tunnel below. The new Battery Command Post building lay behind the northern 6-inch emplacement (Fig 10.26).

A large new engine room was built to power a new set of seven DELs on the eastern lobe. Two of these were situated to the south of the engine room and one to the north. The remaining four were grouped at the easternmost tip of the island. In February 1917, four Royal Engineer officers and 105 other ranks were recorded as being required to operate them.⁹⁵

On the western lobe of the island, the two 12-pdrs in the old 'H' Group were replaced in 1917 by four 4.7-inch guns transferred from Dalmeny and Downing Point batteries. As everywhere else in the revision, the structures associated with the new guns were more substantial than those they replaced. The first two guns were mounted in January/February 1917, the second pair in late July (Fig 10.27; Fig 10.29). A new Battery Command Post was built.

To the west of the Battery Command Post, a new Port War Signal Station was built on the highest point of the western lobe, the contract being let in 1916. The imposing building

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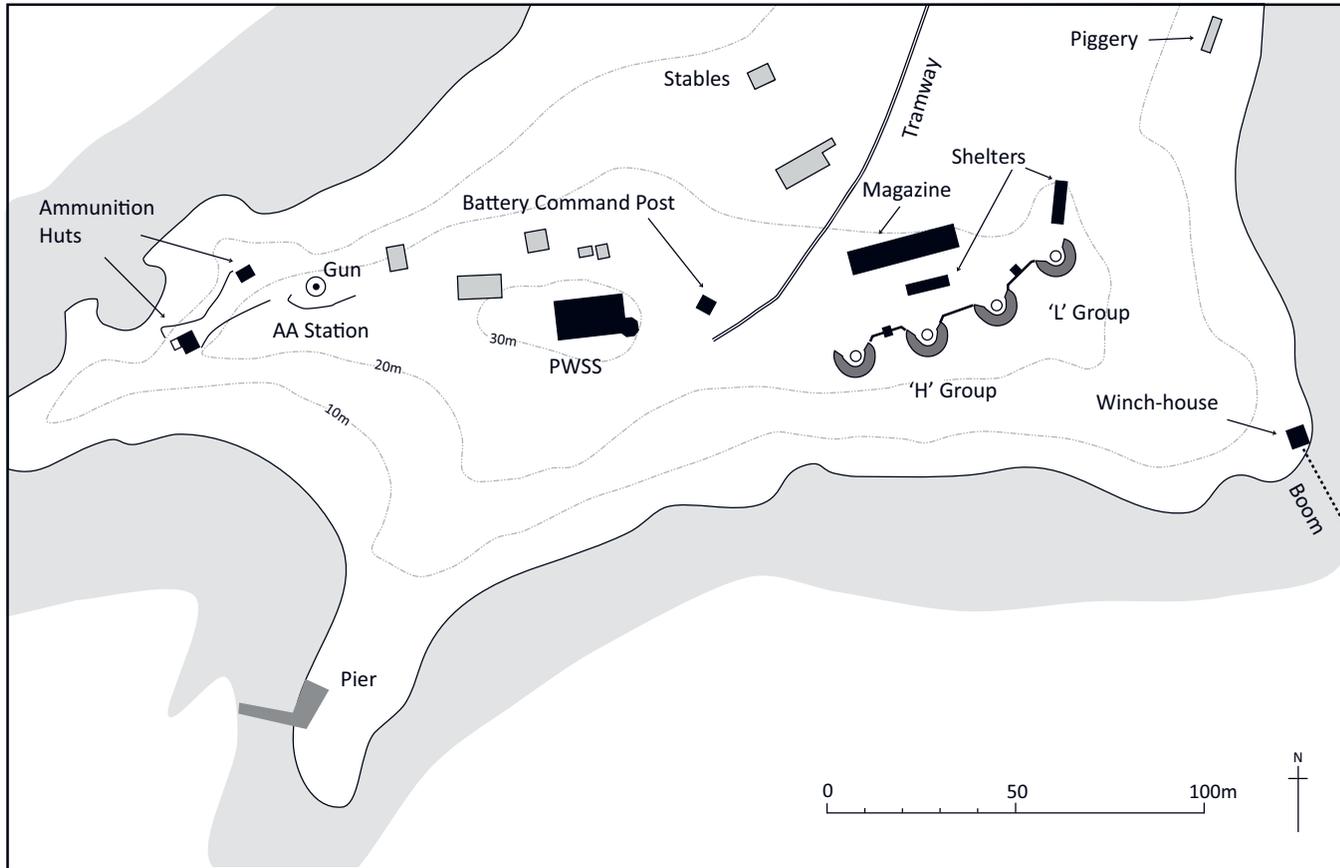


Figure 10.27
Detailed plan of the western lobe of Inchcolm, 1917-18 (© Gordon Barclay)

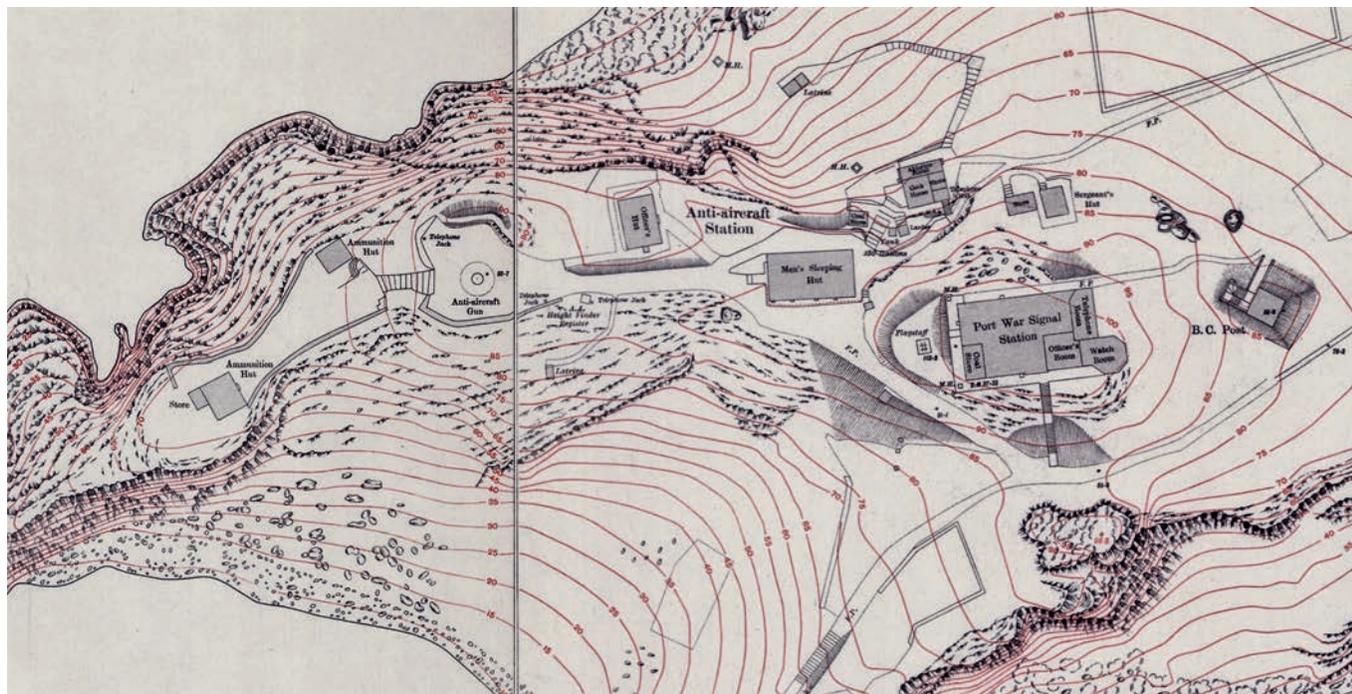


Figure 10.28
An extract from the War Office map of 1918, showing the Anti-Aircraft Station at the western end of the island, the Port War Signal Station, and the Battery Command Post for the 4.7-inch QF guns (Reproduced by permission of the National Library of Scotland)

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was rather more than a 'signal station': it had accommodation for naval signallers (officer, boatswain, yeomen of signals and signals ratings) on the first floor and a 'semaphore room' on the roof; the ground floor also accommodated the Fire Commander's Post, the Fire Commander's 'Retiring Room' and a telephonists' room (Fig 10.2).⁹⁶

Elements of Inchcolm's anti-aircraft defences were scattered around the western lobe of the island. The anti-aircraft gun itself was sited on the narrow north-westernmost point of the island, comprising an emplacement within a low walled area, two ammunition huts, an officers' hut, men's sleeping hut, sergeant's hut, cookhouse and so on (Fig 10.28).

Two 'Telephone Jack[s]' – presumably into which telephone instruments could be plugged – were recorded on the 1918 map. A third jack was located beside a small hut labelled 'AA Height Finder Register'. This seems to have been the 'output' end of a system whose other elements were located to the north-east; a feature labelled as 'AA Height Finder' lay 235m to the north-east on the central ridge of the western lobe, accompanied by a further telephone jack. There was also an anti-aircraft searchlight position with its own telephone link, and just north of the abbey ruins was a small 'AA Engine Room' (Fig 10.22). In the main camp, the 'AA Height Finders' [Accommodation] Hut' was also marked on the 1918 map.



Figure 10.29

Aerial photograph, probably from the 1920s, showing the hatted encampment round the abbey ruins, the Port War Signal Station, on the summit of the western lobe of the island, the anti-aircraft site, and the western pier in the foreground (RNAS. Out of copyright)

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A winch-house was built on the southern side of the western lobe of the island as the anchoring point for the second boom-line established in 1916–17. The most unusual new structure on the western lobe was a ‘Piggery’.

On the flat area in the centre of the island, the post-1916 accommodation camp was significantly larger than before. There were 18 numbered barrack huts (incorporating the earlier camp) as well as new officers’ quarters in two large huts west of the abbey. The buildings were accompanied by cookhouses, ablutions and toilet facilities, and messes, as well as a canteen and recreation hut. A small hospital building was built on the spit joining the two halves of the island. Finally, a building marked ‘Drying Hut’ still survives on the northern edge of the camp.

A notable feature of the post-1916 arrangements on the island was the construction of a complex tramway system, already referred to in relation to the tunnel (Fig 10.22). The tramway ran the full length of both piers, westward to and through the abbey ruins and the hutments, to the magazine and BCP of the 4.7-inch battery. To the east, three lines ran along part of the northern and southern shores (passing a small ‘Magazine’ on the shore), and up to the 6-inch battery and the magazines on the east lobe (Fig 10.23). A hut marked ‘Stables’ near the western end of the tramway was, we believe, for ponies used to pull the wagons (Fig 10.27). A further pier is marked on the 1918 map (not having been marked on the 1915 map) at the south-west tip of the island, with a smooth ramp or footpath running up the steep side of the island towards the PWSS; its date of construction and purpose are not clear. The style of the stonework is consistent with other work from the First World War and the path looks very worn in Figure 10.29.

Inter-war

The Naval Commander-in-Chief, Coast of Scotland wrote to the Admiralty on 12 April 1919 to ask if it was intended to retain the two 6-inch guns on Inchcolm and, if so, for how long. This developed into a correspondence into May about the de-manning of all the guns and lights in the Forth and at Cromarty, which was agreed to.⁹⁷

On 11 October 1920, the Ministry of Munitions advertised in *The Scotsman* the sale by auction of a large number of huts of various sizes and types on Inchcolm: barrack huts, dining rooms, ablutions, offices, sectional huts, stables, sentry boxes, gun shelters, store huts and so on.⁹⁸

In January 1921, the armament of the island was unchanged: two 6-inch; four 4.7-inch; four 4-inch; and two 12-pdr (Naval) 18cwt guns.⁹⁹ By September, the approved armament had been reduced by 50% – one gun from each group of two had been put into care and maintenance (although the weapons were still in position). The table had been later annotated (after 1927, see below) to record that the two 12-pdrs had been returned to the Navy and that the rest had been reduced to care and

maintenance. The War Department retrospectively leased the island for 99 years from the Moray Estates from Whitsunday (15 May) 1922.

The history of Inchcolm between the wars is complicated by the presence of the historically important abbey ruins. In 1922, it was agreed by the Moray Estates that the ruins of Inchcolm Abbey and the central part of the island would come into state ‘Guardianship’, under the terms of the Ancient Monuments Act of 1913; the Deed of Guardianship was dated 15 March 1924.¹⁰⁰ The Ministry of Works file records, ‘I rejoice that this famous building is to come under the Department. It is one of the most charming and significant monuments in Scotland; and although access is far from easy, it should become a great tourist and educational resort’. In relation to the military occupation:

One can only be thankful that the place has escaped injury so much more successfully than one would have expected considering the amount of rock blasting which was necessary to make gun emplacements and to store ammunition ... I therefore feel we owe a debt of gratitude for the care with which



Figure 10.30

RAF aerial photograph of Inchcolm, from the western side of the island, dated 2 October 1941, from the Fort Record Book. The boom between Inchcolm and Inchmickery is visible at the top right. The ramp up from the pier at the bottom right has been blocked by a breastwork of sandbags (© The National Archives, WO 192/254)

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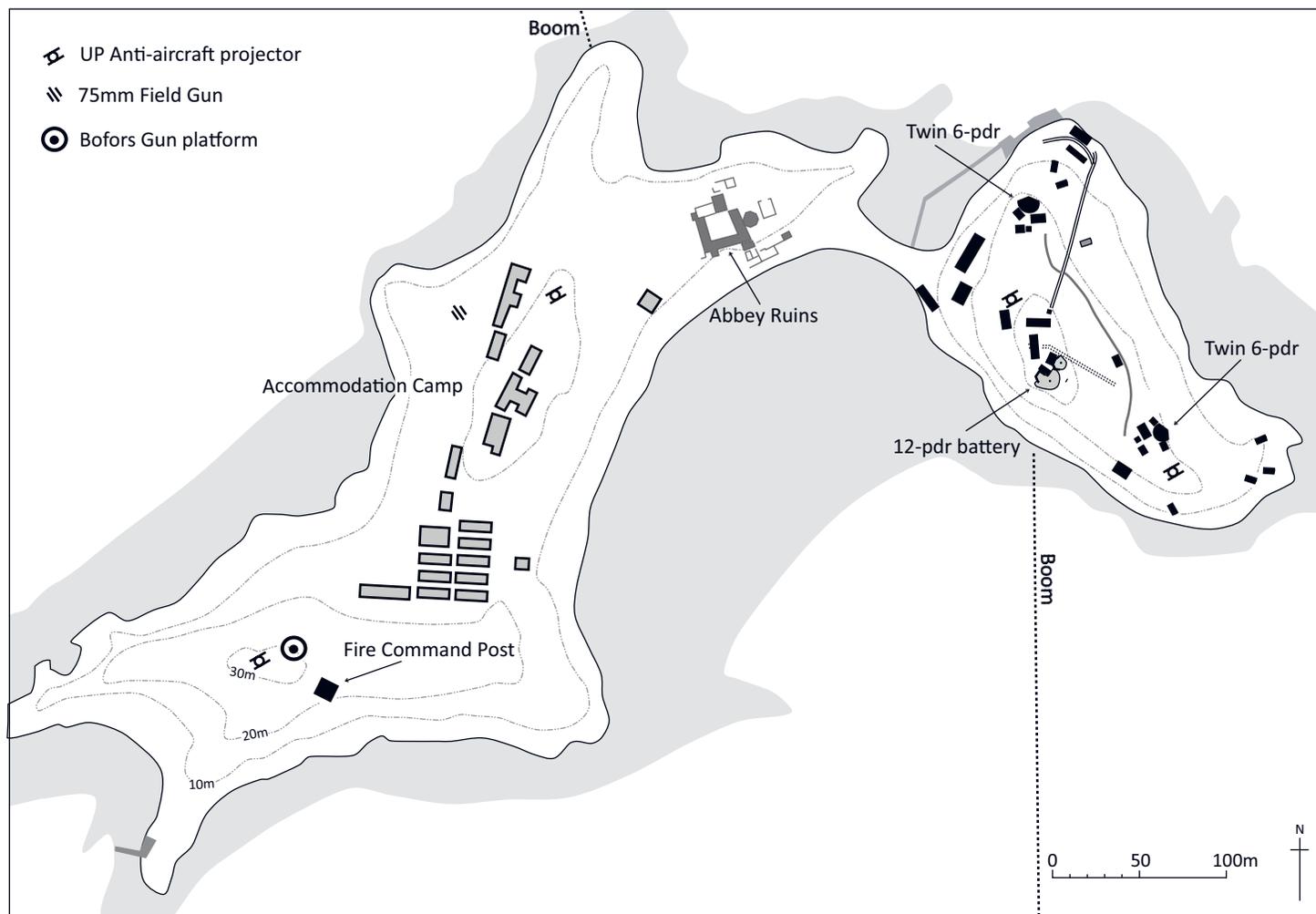


Figure 10.31

Inchcolm in 1942. The area outlined is shown in more detail in Figure 10.33 (© Gordon Barclay)

the buildings were safeguarded, and I can readily forgive the soldiers for the tonnage of tin cans and jute bags, for those foetid heaps of indescribable rubbish, even for their jamming a turpitude right up against the Anchorite's Cell.

The writer had 'never seen waste to compare with the squandering maniacs of the RGA [Royal Garrison Artillery] and the [Royal] Army Ordnance Corps'.¹⁰¹

In November 1927, the 'approved armament' of the island was two 6-inch, four 4.7-inch, four 4-inch and two 12-pdr guns,¹⁰² all of which were recommended for removal. This was done in 1930, with the 6-inch guns being transferred to Inchkeith, the 4-inch guns back to a naval depot and the 4.7-inch guns (which had been first mounted at Kinghorn and Inchkeith in the 1890s) broken up for scrap.¹⁰³

With constrained post-war public finances, the Ministry of Works did not have the resources to undertake much 'tidying up' beyond the immediate environs of the abbey. Although the

guardianship area was not extended to cover the whole island, as the Ministry wanted, the War Department transferred the lease of the whole island to the Ministry of Works in 1930 and a radical programme began to remove or bury the defence-related structures.¹⁰⁴

The fate of the substantial Port War Signal Station was specifically addressed: in January 1930 it was 'in comparatively good condition, and could be habitable again with very slight expenditure'. The key problem, particularly in relation to any use of the building, was the inadequacy of the natural water supply of the island, which was '*just sufficient* to supply the custodian's house and the tea room and water for our workmen who live on the island'. Crucially, 'from a pictorial point of view the Island would be more picturesque without the Signal Station, as the latter to a certain extent competes with the Monastery'.¹⁰⁵ The building was demolished in 1931.

By 18 February 1932 it could be reported that:

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... we are now nearing the completion of the demolition of the War Department buildings. The method of demolition has been in the main blowing up the heavy magazines and gun implacements [sic] and owing to the contour of the ground it has been possible to arrange the fallen debris in such a manner that very little carting or moving of the material was necessary. Hollows have been filled in and soil spread over the fallen debris.¹⁰⁶

On 26 April 1932, *The Scotsman* reported, approvingly, the progress of the Ministry's 18-month campaign. By then, the former engine room near the pier had been considerably heightened during 1931 and turned into a refreshment room for tourists. Areas formerly occupied by military structures had been seeded with grass and sea buckthorn.

Second World War

In 1938, as part of the planning to establish anti-motor torpedo boat defences in the Forth, the War Department approached the Ministry of Works to discuss the partial reoccupation of the island.¹⁰⁷ As in the First World War, the anti-submarine and anti-boat boom touched at Inchcolm. The southern anchor comprised a heavy chain firmly embedded in a mass of sandbags filled with cement and then wetted (Fig 10.32); the northern anchor was a loop of heavy steel bar. Both survive.

The HQ of Inchcolm Fire Command was again located on the western lobe of Inchcolm, as it had been in the First World War, reusing the Battery Command Post of the First World War 4.7-inch QF battery. The contract issued in January 1940 by the War Department to the Edinburgh builder Messrs John Best, 'for structures at Inchcolm and Inchmickery Islands', included the construction of a Fire Command Post, but there is no evidence that a new structure was built. Best was also to build two 6-pdr emplacements, two 12-pdr emplacements, two Director Towers for the 6-pdrs, a Command Post for the 12-pdrs, two engine rooms, six DELs, stores, workshops, latrines, electrical services and, as extras, water supply, drainage and a



Figure 10.32
The southern of the two Second World War boom anchors on Inchcolm
(© Ron Morris)

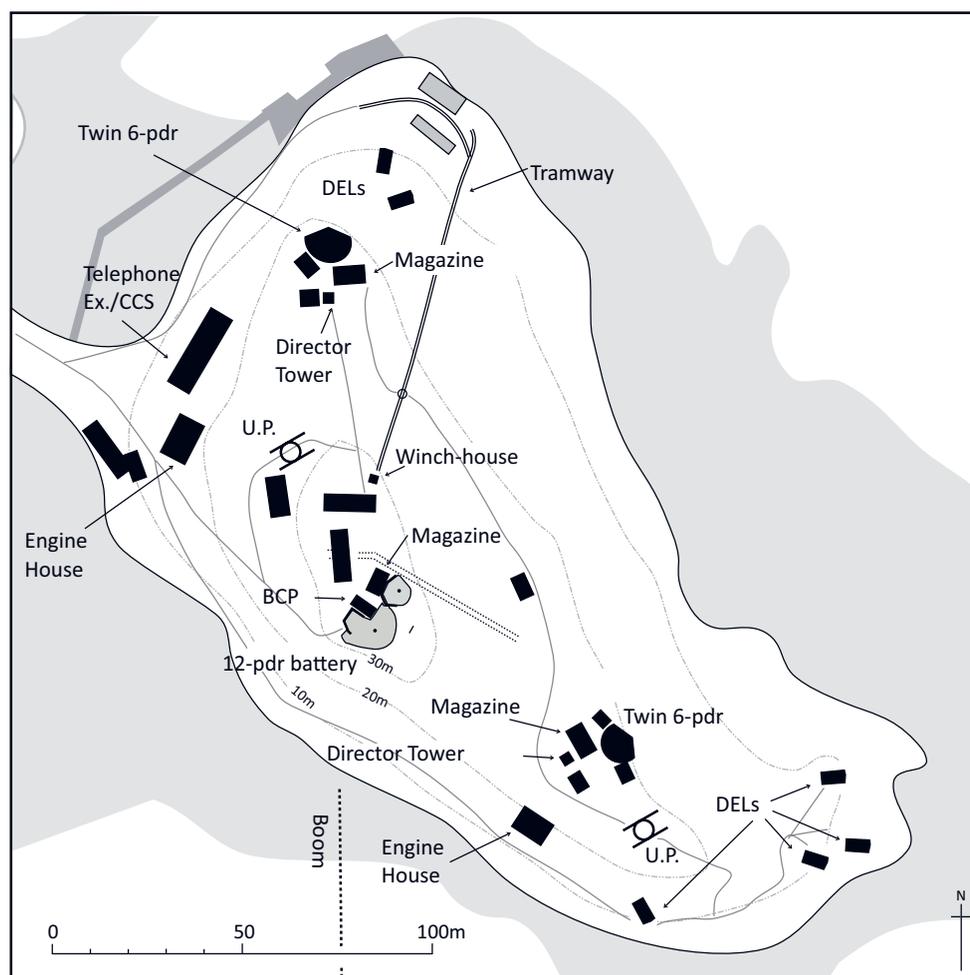


Figure 10.33
Detailed plan of the eastern lobe of Inchcolm, c 1942 (© Gordon Barclay)

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Figure 10.34
The interior of the cabin of one of the Inchcolm 6-pdrs, November 1940
(© Imperial War Museum H5510)



Figure 10.35
The southern of the two Second World War 6-pdr emplacements on Inchcolm, as it was in the 1990s (© Ron Morris)



Figure 10.36
Fixed beam emplacements Nos 2 and 3 near the easternmost point of Inchcolm (© Gordon Barclay)

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winch-house (probably that at the head of the tramway (Fig 10.33). The total cost of the works was set at £21,880.¹⁰⁸

In the Second World War, offensive armament was restricted to the eastern lobe (Fig 10.31; Fig 10.33). The Edinburgh Fortress Company, RE, arrived shortly after the beginning of the war to start work on the island. Temporary DELs were installed in wooden huts and these were operational when the Royal Artillery took over on 20 October 1939. The garrison at that stage comprised three officers and 60 other ranks. Two 12-pdr guns and two 2-pdr pom-pom guns of First World War vintage were mounted and manned the following weekend, the latter deployed in an anti-MTB role, until the 6-pdr twin guns were ready.¹⁰⁹ The 12-pdr battery was installed on part of the First World War 6-inch battery and was called the Kent Battery after the Duke of Kent, who is recorded as firing its first shot at 11.45 a.m. on 27 October 1939.¹¹⁰ Grant remembers that the Inchcolm 12-pdrs were from Carlingnose (Coastguard).¹¹¹ This is contradicted by the Cramond Fort Record Book, which states that the Coastguard guns went to Cramond Island (which Grant states received guns from Inchgarvie).

To accommodate the 12-pdrs, part of the emplacement of the southern 6-inch was cut away. Both guns were provided with high walls to the flank and rear, visible on the contemporary photographs, to provide cover for the crew from air attack and splinters.

Immediately behind the 12-pdr guns were two magazines, the southern with the Command Post above. To the north-west were a shelter and gun store, with a RA store and workshop a little further to the north, beside the winch-house for the tramway, which ran up the steep eastern face of the hill from the shore. A curved extension at the lower end turned towards a Second World War landing stage. Clearly marked on one of the Second World War plans there is, part way up the tramway ramp, a small turntable (still visible on the ground). There were not, however, tramway rails from here to the two 6-pdr gun emplacements; the paths from the turntable were smooth concrete, c 60cm across.

The Fort Record Book records that the two 6-pdr twin guns were installed during 1940, along with a Bofors gun placed on the former PWSS site. The two twin 6-pdrs were known as 'Colm No. 1' and 'Colm No. 2'.¹¹² The installations were built to a pattern standard in the Forth, with a circular emplacement, the rear arc covered by a concrete roof, and shelters and magazine behind; behind the gun was the Director Tower (now demolished) (Fig 10.34; Fig 10.35). The 6-pdrs relied on power from two separate engine rooms.

Six DELs in concrete housings were installed on the island. Of these, No. 1 (on the south-west side of the eastern lobe) was a narrow-beam (3°) moveable light, with a c 2,300m range, and Nos 2–4 (on the easternmost point of the island) were fixed-beams with a 16° dispersed beam and a range of c 1,650m (Fig 10.36). No. 4 was built on almost exactly the

same site as its First World War predecessor. No. 5 (on the northern point of the eastern lobe) was also a fixed light while No. 6 (also on the same site as its predecessor) had a 3° moveable beam with a range of 1,300 yards (c 1,200m). The equipment included 'Fighting Light No. 7', an anti-aircraft-type light connected to the north engine room. The size and internal arrangements of the DEL housings vary; the northern and western have internal rooms, but some of these may date from later use by the Northern Lighthouse Board. No. 3 has a unique survival of glass prisms in its central window. All the other windows on the island are of plain glass. Emplacements Nos 2–4, uniquely in the Forth, have surviving steel doors and internal steel shutters, and even metal grids covering cable channels in the interior (Fig 10.37).

The complement of the Inchcolm batteries, on 18 September 1940, was 109, including four officers and 12



Figure 10.37
DEL emplacement No. 3 on Inchcolm, with its central prism-filled window and its internal steel shutter (© Gordon Barclay)

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Figure 10.38

The large hold-fast (eight bolts in a circle c 1.5m in diameter) near the western end of Inchcolm, for the First World War 3-inch anti-aircraft gun. This photograph was taken in the 1980s (© Ron Morris)

engine room personnel. Inchcolm Fire Command was under the command of a Lt Colonel, with two Majors, four further officers and 39 other ranks, including a Royal Army Ordnance Corps Instrument Mechanic, who presumably maintained all the range-finding instruments in the Command.¹¹³

In November 1943, it was decided, as part of the run-down of coast defence, that Inchcolm Fire Command (504 (The Fife) Coast Regiment) would be progressively disbanded. Only two DELs (No. 1 to the south and No. 6 to the north) were to be left in use, to illuminate the boom, with No. 2 (to the east) as a reserve. All other equipment was reduced to care and maintenance by 11 December 1943.¹¹⁴

Defensive measures

There is a local Defence Scheme on the Fort Record Book, dated 15 July 1943, with a map showing platoon and other



Figure 10.39

The more accessible, southern, of the two surviving DEL housings from the First World War on Inchcolm. This emplacement was built during the 1916 reconstruction of the defences. This photograph was taken in the 1980s or 1990s. The structure is now more overgrown (© Ron Morris)

positions. The scheme refers to a larger garrison of 13 officers and 223 other ranks. The island was surrounded by a perimeter of barbed wire, which formed the first line of physical defence. A reserve of 12 days' rations was held in the Abbey, in case it was impossible for the daily ration boat to reach Inchcolm from Leith. In common with Cramond and Charles Hill, Inchcolm was provided with a 75mm field gun. It had a prepared position north of the officers' mess, with an arc of fire northwards, and was provided with 340 rounds of HE and 60 rounds of AP shell. By July 1943, four Unrotated Projectile anti-aircraft weapons were recorded, along with four AA light machine gun posts (Fig 10.4).¹¹⁵

Post-war

In March 1951, during the Korean War, there were short-lived proposals to build 12 huts, to accommodate about 100 men, on the western lobe. The Ministry of Works was deeply concerned. It was mentioned in passing that the guns and magazines were still in position.¹¹⁶ In November 1952, the 12-pdr guns were determined to be surplus to the 'Basic and Reserve Scale of Defence', and marked for disposal. The guns were sold to a contractor in April 1954 for scrap.¹¹⁷

On 3 July 1957, the Command Land Agent, Scottish Command, wrote formally to the Ministry of Works that 'it is now possible, formally, to hand back this island to your Ministry'. Two huts were to be passed over free of charge for the Ministry's use elsewhere in its estate.¹¹⁸

It is generally reckoned that the disbandment of Coast Defence in 1956 saw the end of all defence measures relating to the estuary, but Ministry of Works files for Inchcolm show that naval interest at least continued for some years. The Navy Works Department at Rosyth wrote to the Ministry of Works in September 1962 about the marking of the anti-submarine boom, should it have to be re-established, using the anchors still in situ on the north and south sides of the island. It was not until 4 February 1977 that the Ministry of Defence wrote to the Ministry of Works that the boom anchors were no longer required.¹¹⁹

Survival

Fortunately, the inter-war and post-war campaigns of 'tidying up' by the Ministry of Works were not as destructive as at first appears. From west to east, the First World War AA gun emplacement survives, along with the gun's holdfast, albeit much overgrown in 2017 (Fig 10.38). The PWSS has been completely removed; its site is occupied by the base for a Second World War UP projector, which in turn has been used as the base for a modern mast. The 1939–45 Fire Command Post (previously the 1916–17 4.7-inch Battery Command Post) survives, as do the emplacements of those guns. The contour of the ground suggests that elements

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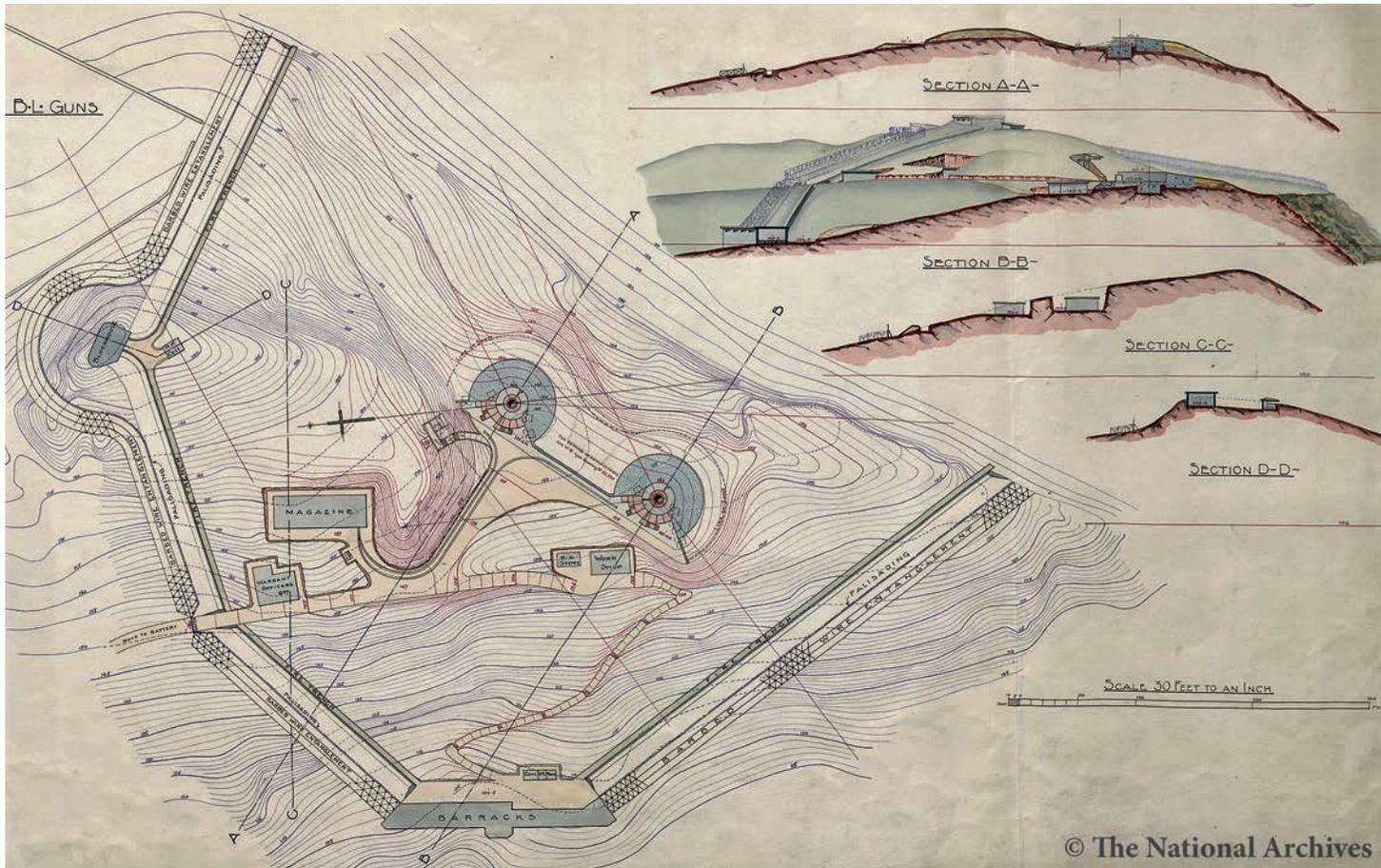


Figure 10.40

Royal Engineer plan of the proposed battery at Braefoot, 1912 (© The National Archives WO 78/5169)

of the 1916–17 magazine and shelter buildings might survive under mounds of rubble behind and to one side of the guns.

A brick-built building, identifiable as the quarters of the NAAFI staff, survives in the camp with, behind it, a substantial concrete underground water tank. In the main camp area, the 1916–17 drying room building survives.

To the east of the abbey the 1916–17 engine room (later, in the Second World War, the telephone exchange and casualty clearing station) now lies below the Historic Environment Scotland shop and display area, accommodating toilets and storage. A modern-looking metal-clad hut to the south of this building, now used for the storage of the HES tractor, trailer and mowers is, inside, clearly a First World War wooden hut, with astragalled windows, a unique survival in the Forth Defences. The internal wooden panelling is painted green below and cream above a dado line. The Second World War north engine room is still in use as the engine room for the island, now accommodating modern diesel generators. Both engine rooms have, uniquely, their complete suite of steel shutters and door.

Both overhead canopies for the 6-pdr emplacements have been demolished, and both Director Towers were blown apart by Territorial Army Royal Engineers. The magazine of the southern battery survives. The buildings associated with the 12-pdr emplacements survive, although the high brick walls protecting the rear of the emplacements have been removed. The First World War 6-inch and 4-inch magazines to the west of the hilltop seem to have been reduced into their own shells and the resulting profiles smoothed. The tunnel survives in good condition for most of its length. The 1916–17 4-inch battery at the east end of the tunnel seems to survive in good condition, but was in 2017 so overgrown by scrub as to be almost invisible.

The flat areas formerly occupied by the First World War hydrophone and RSMS huts are identifiable. Only two of the DELs from 1916 survives, just below the path along the southern side of the eastern lobe (Fig 10.39 – the two marked just south of the engine room). The six DEL emplacements from the Second World War survive in very good condition, although those for the moveable beams are showing signs of corrosion on their metal fittings. One

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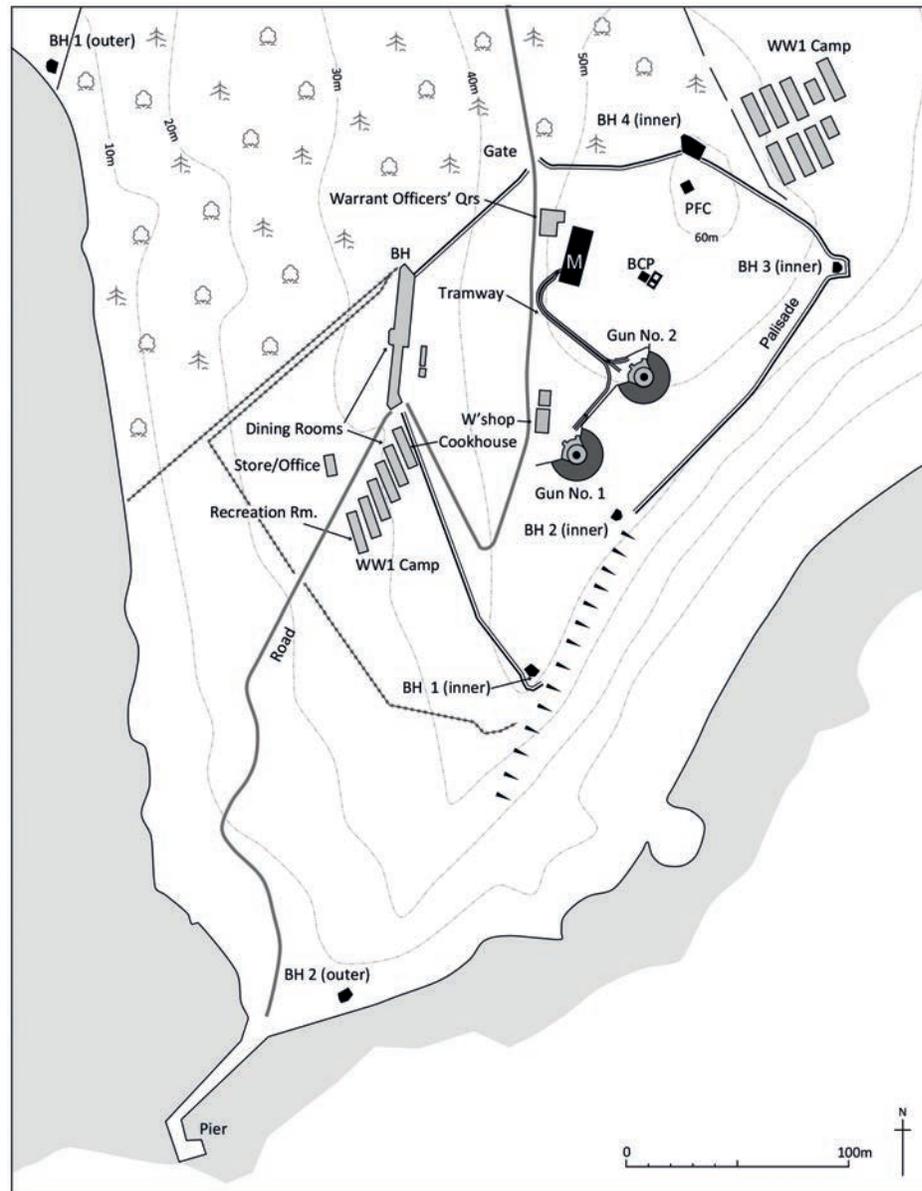


Figure 10.41

Plan of Braefoot, based on the 1918 War Department/Ordnance Survey plan. The four inner blockhouses (BH) are shown, and two of the six outer line. The palisade was part of the original plan in 1912; the barbed wire and the additional accommodation huts had been added by 1918 (© Gordon Barclay)

of the fixed-beam DELs has its central vertical slit filled with original glass prisms, which we believe may be a unique survival, if original.

10.6 Braefoot

Pre-war

The Braefoot Battery of two 9.2-inch guns was not part of the Inchcolm Fire Command, but was co-located with it. There

is no known Fort Record Book but plans, sections, elevations and panoramas survive, dated 1 April 1912, for the proposed battery (Fig 10.40).¹²⁰ The land for the battery was purchased in April 1914.¹²¹ The report of the Owen Committee in 1905 had recommended the strengthening of the Forth's heavy defences (then three 9.2-inch guns on Inchkeith and one at Kinghorn) by the addition of two further 9.2-inch guns, one more at each existing site.¹²² In 1911, the Home Ports Defence Committee reiterated the need for these extra guns, but suggested instead 'a more retired site in the neighbourhood of Vault Point'.¹²³ At

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Figure 10.42

Braefoot. One of the 9.2-inch emplacements, from the rear. Ammunition was stored at ground level, on the emplacement floor, to where it was transported by tramway from the magazine. The gun floor, on which the Setter, Layer and other crew worked, was at the level of the cornice visible just below the parapet. See Fig 2.2 (© Gordon Barclay)

Braefoot, just west of Vault Point, the 9.2-inch guns could be mounted at a height of between 45m and 50m above sea level, capable of firing over Inchcolm.

The battery was built in close conformity to the plans prepared in April 1912. Two gun emplacements set just below the summit of the ridge were linked to the magazine behind the crest of the hill by a tramway (Fig 10.41; Fig 10.42). The warrant officers' quarters lay immediately beside the

magazine, with a Royal Engineers store and workshop just behind the guns. Accommodation for the permanent garrison was provided in a long single-storey stone-built barrack building along the western perimeter of the battery, behind the ridge (Fig 10.43). The 1912 plans are unusual in setting out in detail the landward defence of the battery. The loop-holed barrack building was included in a strong defensive perimeter, formed (from the inside) by a firing trench, a palisade and a

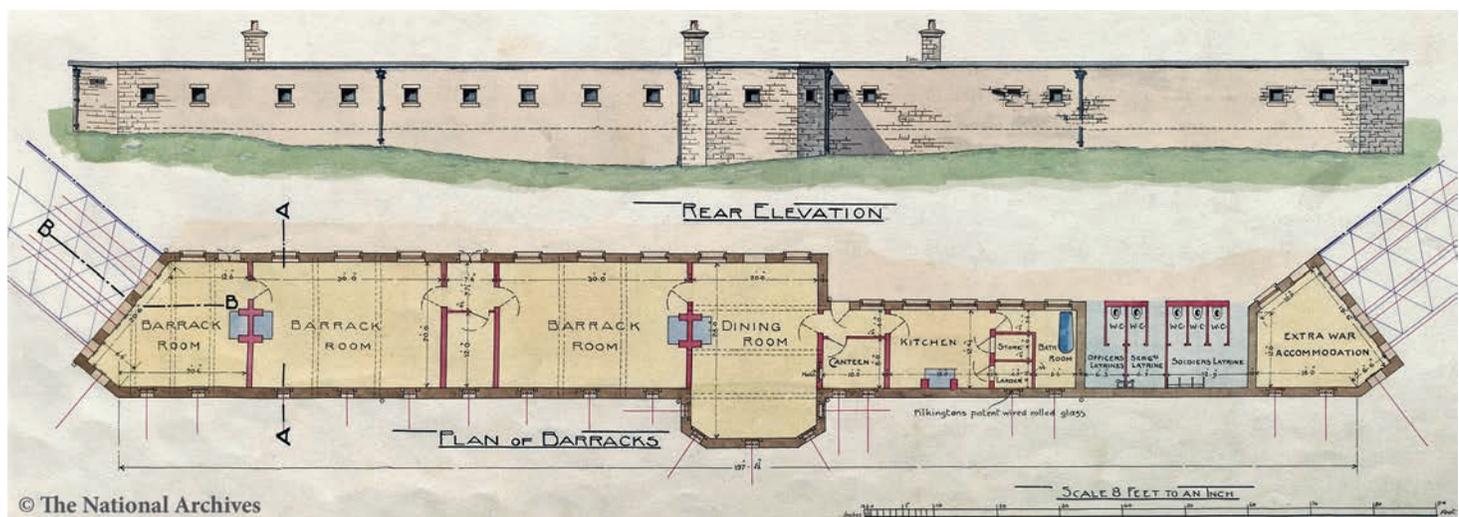


Figure 10.43

Plan and elevation of the proposed barrack block at Braefoot, 1912. It was built to this plan and survives in good condition. Both ends and the outer wall were pierced for firing loops (© The National Archives, WO 78/5169)

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Figure 10.44

The loop-holed western end of the barrack block (© Gordon Barclay)

barbed wire entanglement (Fig 10.40; Fig 10.41).¹²⁴ The western wall of the barrack building and both ends were loop-holed for defence, and a small loop-holed outshot on the north-west side (the dining room) allowed the wall to be enfiladed (Fig 10.44).¹²⁵ A blockhouse was also built at a corner of the perimeter, on the highest point of the site (Fig 10.45).

By 1918, a Position Finding Cell had been built in the northern part of the compound, on the highest point of the ridge, with the Battery Command Post (with officers' quarters behind) between the guns and the magazine and slightly uphill.¹²⁶

The battery, in common with others on the Forth, was provided with a pier, linked to the battery by a road. It still lies just to the south of Blockhouse 2 (outer) (Fig 10.46), which was probably positioned both to cover the pier and the shore to east and west of Braefoot Point.

First World War

After the site was acquired in April 1914, the pedestals for the guns reached Aberdour railway station by January 1915 and work was sufficiently far advanced for them to be mounted at the battery on 1 February.¹²⁷ The gun mountings themselves reached the battery on 23 April 1915 and 23 May 1915. The first gun was mounted on 28 May, the second on 6 July 1915. 'Navvies' were still being advertised for, to work at Braefoot, in the *Edinburgh Evening News* dated 28 October 1915.

The elevated site of the battery meant that No. 1 gun had an arc of fire of 168°, covering the water from the north edge of the rail bridge all the way around to Kinghorn, and No. 2 gun covered the water from Drum Sands on the southern shore around to Kinghorn, an arc of 123°.¹²⁸ Unfortunately, a large part of the arc of fire faced Edinburgh and Leith, and concern was expressed that ricochets might reach the towns, causing damage and alarm.¹²⁹

The landward defences of Braefoot were recorded in 1916 on a plan that also showed the location of two groups of huts additional to the stone-built barracks and the boundary of the site (rather larger than the original compound), and the location of six outer blockhouses.¹³⁰ More detail of the appearance of

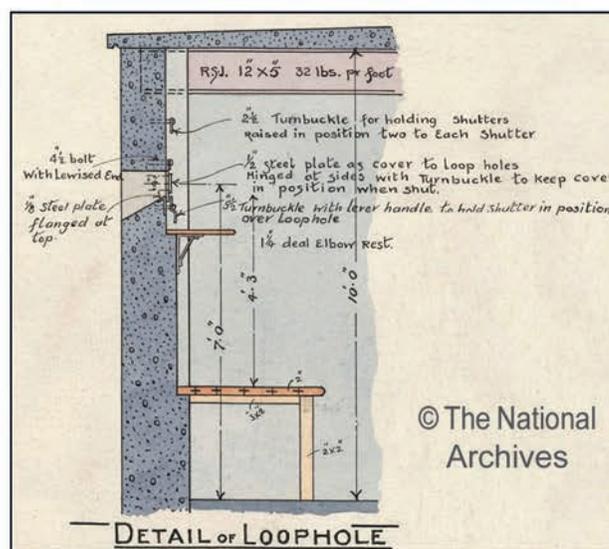
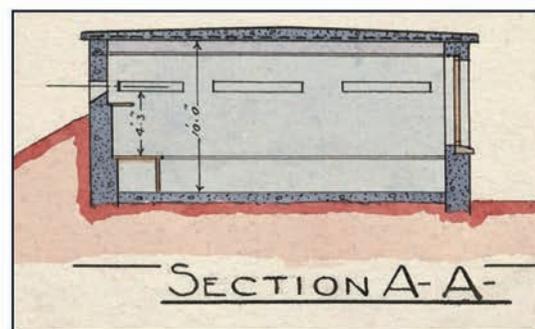
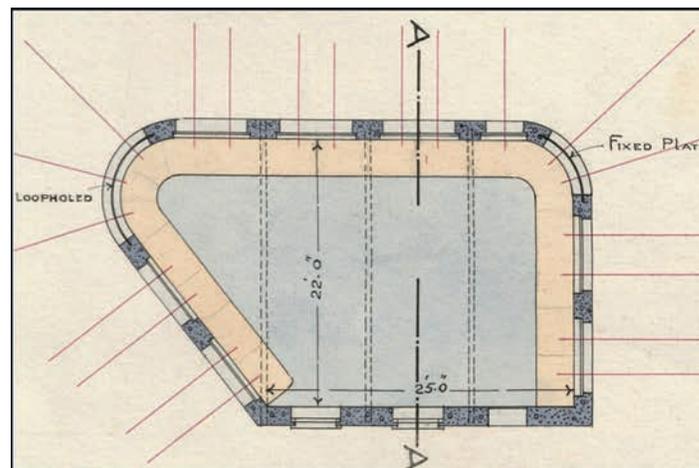


Figure 10.45

Plan and cross-sections of what was to become Blockhouse 4, a large structure on the summit of the hill. As built, it was provided with large windows, even on the outer side. The curtailed labels on left and right of the plan read 'Fixed plate Loopholed' (© The National Archives, WO 78/5169)

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the battery at its greatest expansion is provided by a series of nine plans at a scale of 30 inches to the mile (1:360) prepared for the War Office by the Ordnance Survey in 1918.¹³¹

Although the original palisaded fence was still in position in 1918, by then a larger area had been enclosed within a barbed wire entanglement that enclosed a larger camp. Additional huts (five for men, one for sergeants and two for officers) had been built down the reverse slope of the hill to the east and, just within the old compound, a telephone exchange. There was another camp of nine huts to the north-east (Fig 10.41).

In April 1916, the Reverend Donald Rose of Dalgety Parish Church was appointed officiating clergyman to the Presbyterian troops at Braefoot Battery. The Royal Artillery garrison of the battery was recorded in July as comprising four officers (Battery Commander and Gun Group Commander, both with their relief) and 61 other ranks (the position-finder and range-finder each had a three-man detachment, six



Figure 10.46

The blockhouse at the shore, covering the beach and the pier (© Gordon Barclay)

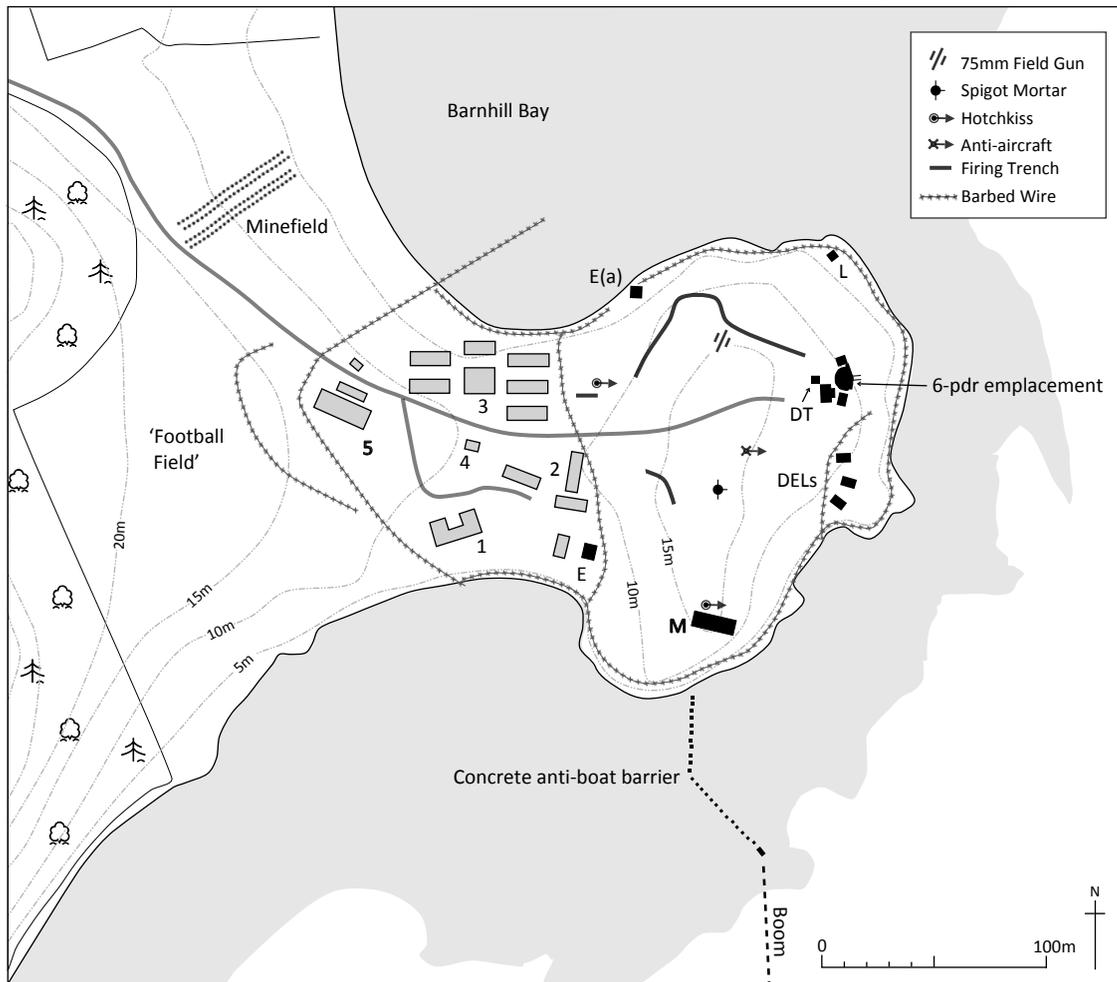


Figure 10.47

Plan of the Charles Hill battery, showing the layout of battery buildings, the gun and lights, and the defences reflecting the position in 1941–2. Where the plans and sketches disagree as to the precise location and orientation of buildings, the April 1941 aerial photograph (Fig 3.85) has been taken as definitive. 'Domestic' structures are marked with numbers; battery structures with letters (© Gordon Barclay)

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telephonists, 26-man gun detachment, 16-man ammunition detachment, storeman, lamp-man and two officers' servants).¹³²

In the general revision of the defences of the Forth in 1916–17, the GOC of the Forth defences suggested that the battery was no longer appropriately located. His suggestion that the battery should be done away with was not approved immediately, but on 4 October 1917 the War Office directed that the guns should be removed to store. The guns were taken to Aberdour Station on 5 and 11 November 1917, although the mountings remained.¹³³ Braefoot was not rearmed.

Survival

The stone and concrete buildings of the Braefoot Battery are very well preserved: the two linked emplacements; behind the southern emplacement, a smithy and store, both roofed; to the north, the magazine, the warrant officers' quarters and the Battery Command Post. To the west, the original stone barrack-block; storage rooms adjacent to the barracks; the telephone exchange; the Battery Command Post; and the four blockhouses of the Inner line, and one of the Outer (No. 5 at the pier).

10.7 Charles Hill

First World War

The Charles Hill site was not occupied during the First World War, but the landward defences of the Braefoot Battery

extended onto the site. In that war, the channel between the Fife coast and Inchcolm was blocked by a line of anti-submarine nets and, to the east, by an anti-boat boom. The former ran between Braefoot and Inchcolm, the latter between the Meadulse Rocks and Vault Point, where it was anchored on a line of concrete pylons linked by steel rails (reused in the Second World War) (Fig 10.47).

Second World War

Charles Hill was the fourth and last element of the Second World War Inchcolm Fire Command. It was sited on a small peninsula with, to the north, Barnhill Bay, a sandy beach that clearly caused some concern in relation to a possible enemy assault. The battery was described in 1997 in a comprehensive article by Heddle and Morris, and that account considerably informs what follows, although our account differs in some details.¹³⁴

The history of the fort is known from the Fort Record Book (including four plans),¹³⁵ first-person accounts gathered by RM from people who served on the battery, and from the physical remains. There is also a series of clear low-level aerial photographs dated 21 April 1941.¹³⁶

At the outbreak of the Second World War, a Territorial camp was nearing completion at Charles Hill; a road had been built to the peninsula and a hutted encampment was erected on both sides of the road. The camp office, guardhouse and stores were located in one long building on the south side of



Figure 10.48

The three DEL emplacements at Charles Hill (© Gordon Barclay)

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the road at the camp entrance (Fig 10.47 (5)), with a sentry post sited on the opposite side of the road. A little way beyond the camp office, a second road led from the main road through the southern half of the camp to the officers' mess and quarters (Fig 10.47 (1)), miniature firing range and training hut, NAAFI canteen and staff quarters (Fig 10.47 (2)), before terminating at the main engine room (Fig 10.47 (E)). On the north side of the main road, four living huts, the sergeants' mess, ablution block, cookhouse and dining-room were grouped together to form the main accommodation site (Fig 10.47 (3)). The hatted camp provided accommodation for three officers and 88 other ranks. In 1942, the establishment of the battery was two officers and 68 other ranks.

After hostilities had broken out, it was decided to convert Charles Hill into a coast defence unit within Inchcolm Fire Command. No permanent emplacements had been completed by December 1939, and two 12-pdr guns were temporarily emplaced on the camp's football field, between the camp and the nearby woodland. They were identified as 'DP' guns; in this context, probably meaning guns for 'drill and practice' (the term used on Armaments Tables) or 'drill purposes' (a term used amongst artillerymen in the Forth). It is possible that these two guns were those that are known to have been mounted for drill and practice on Inchkeith in the 1930s.

The completed battery was armed with a twin 6-pdr gun on a site partly excavated from the side of the hill at a height of 12.5m above sea level. Three fixed-beam DELs in concrete emplacements (each with three vertical slits) were provided to illuminate the boom and the channel between Charles Hill and Inchcolm (Fig 10.47; Fig 10.48). Nos 1 (southern) and 3 (northern) had dispersed beams of 30° and ranges of c 1,600m (main bearing 124° and 084°); No. 2, between them, had a 16° dispersion and an approximate range of 1,920m (bearing 104°). The middle one is longer (6.3m) than the two to either side (4.87m) and the light slits in the outer emplacements are closer together.

Each searchlight was manned at night by a lamp attendant with a single NCO on duty in the lamp directing station. Electric power for the searchlights and the battery generally was provided by two 60kw Ruston Hornsby engines and a 5kw Lister engine in the engine room (Fig 10.47 (E)). A second Lister was housed in an auxiliary engine room at the north side of the peninsula (Fig 10.47 (E(a))).

Work to complete the camp (including the plumbing), emplacements and DELs was done in the first five months of 1940, and the battery was handed over to the gunners by the Royal Engineers in May 1940.

The housing of the twin 6-pdr gun is a standard pattern (Fig 10.50), with a half canopy to protect the crew from the rear. Beside the emplacement were a duty watch room (to the south), a gun store (north) and a magazine (west). The Director Tower (Fig 10.47 (DT)) was just to the west, with the Searchlight Directing Station on the floor below.



Figure 10.49

Aerial photograph of Charles Hill, 1941 (© The National Archives, WO 192/258)

An undated sketch map of the battery shows the location of features related to the landward defence of the battery, including a 'triple wire fence' on the landward side of the camp, and a fence of Dannert wire (coiled barbed wire) between the camp and the battery area and around the entire beach frontage of the camp and battery, with an additional line isolating the DEL emplacements. The 1941 aerial photograph shows a different location for the fences, but it seems likely that they reflect arrangements at different times. Interestingly, a formal inspection by the Major General Royal Artillery, UK Home Forces reported in September 1941 that more barbed wire was needed for close defence in the Forth, as the batteries reported that they could not obtain any.¹³⁷



Figure 10.50

The 6-pdr emplacement at Charles Hill. The canopy over the rear of the emplacement has been removed (© Gordon Barclay)

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Figure 10.51

The emplacement for a Lyon Light covering the vulnerable beach to the north of the battery (© Gordon Barclay)

The sketch map also shows the location of a Spigot Mortar in the centre of the battery area, the site of the 75mm field gun (provided for landward and beach defence and probably also against boats), and two 'Hodgkiss' posts, probably the sites of two Hotchkiss machine guns, probably M1909 pattern weapons (Fig 10.47 (H)). One of these guns was sited to cover the vulnerable landing beach. The position of an anti-aircraft machine gun is also marked. A Lyon Light was emplaced in a concrete emplacement on the north side of the peninsula to illuminate the vulnerable beach of Burnhill Bay (Fig 10.47 (L); Fig 10.51). There was also a minefield, covering the approach to the battery from the north. By August 1943, a 4.5-inch howitzer (another First World War veteran) had been added to the landward defences. There were also, by this time, two 3-inch Unrotating Projectile anti-aircraft weapons, and what may be the platforms for these weapons survive. The medieval 'Monk's Cave' was used as a store for the rockets fired by this weapon; a short flight of concrete steps was built at the south side of the cell (Fig 10.47 (M)).

Concerns were raised by the most senior artilleryman in Scottish Command, Brigadier Rolliston, RA, in February 1941 about the weakness of the coverage of the DELs over the water between Charles Hill and Inchcolm. He made various suggestions about realigning the DELs and adding two new ones, at Charles Hill and on Inchcolm, but nothing seems to have come of this.¹³⁸

From May 1942, Charles Hill provided accommodation for personnel from the increasingly cramped island of Inchmickery; the island's garrison was divided into three sections, each spending two weeks on the island and one week at Charles Hill.¹³⁹

By January 1944, Charles Hill had been reduced to care and maintenance.¹⁴⁰

Post-war

The battery seems to have survived for some time after the war, and the Fort Record Book documents the handover of the battery to 268 Independent (Maintenance) Battery on 26 September 1950. The ammunition for the gun (recorded as 2,000 rounds in 1948/49) was returned to Woolwich Arsenal on 23 September 1956, which presumably marked the final dismantling and abandonment of the site.

Survival

The surviving structures of note are the twin 6-pdr emplacement with its ancillary magazine and shelter, the three searchlight emplacements, the Lyon Light emplacement, a concrete pillar for the Spigot Mortar, the presumed bases for the UP rockets and the Monk's Cave. The First World War anti-boat boom survives as a line of tall concrete pillars linked by steel beams (Fig 10.47). The southernmost block is larger, with additional brickwork built onto the outermost pillar in the Second World War, when it was reused to anchor the boom.¹⁴¹ Substantial dumps of Second World War anti-torpedo net and the anti-boat boom survive on the foreshore (Fig 10.52). A square section metal pin c 30cm tall set in concrete just north of the Monks' Cave may be the mount for one of the other weapons.

Notes

- 1 WO 192/108.
- 2 ADM 137/1075.
- 3 ADM 137/994.
- 4 ADM 137/1075.
- 5 ADM 137/1892.
- 6 WO 33/766.
- 7 ADM 137/1892.
- 8 WO 33/873.
- 9 WO 95/5457.
- 10 WO 78/5170.
- 11 WO 192/258; WO 192/256.
- 12 War Office 1940.
- 13 WO 192/256; WO 192/253.
- 14 DD 27/1209.
- 15 DD 27/3715.
- 16 WO 33/706.
- 17 Barclay 2013.
- 18 Barclay 2013: 64.
- 19 Osborne 2009: 99–100.
- 20 WO 192/258.
- 21 The Solothurn 7.92mm machine gun was a Swiss-made gun not used by the British Army, and it is likely that these were guns captured in North Africa or Italy from German or Italian forces and reissued to coast artillery batteries. A Solothurn 7.92mm AA machine gun is mentioned as being in a display of 'Captured Enemy Equipment' in the *Gippsland Times*, Victoria, Australia, on 5 October 1944.
- 22 WO 192/256.

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Figure 10.52

Surviving torpedo nets and (inset) a spike of the anti-boat boom, piled against the concrete anti-boat boom at Charles Hill (© Gordon Barclay)

23 Grant 2004.

24 Bishop 2016: 188.

25 The holdfast comprises eight bolts in a 1.5m diameter circle that, on the summit of the western lobe, now acts as the base for the mast of an automated weather station. A better-preserved example lies on the high ground immediately west of the abbey ruins.

26 Taylor 2010.

27 John Dods, pers comm.

28 WO 192/108.

29 ADM 137/992.

30 WO 78/4417.

31 WO 33/766.

32 WO 78/5179; WO 33/861.

33 WO 33/810.

34 *The Scotsman*, 12, 16 and 18 June 1920.

35 CAB 36/18.

36 WO 78/5179.

37 John Dods, pers comm.

38 WO 192/253.

39 This is the only reference we have for the date of the disarming of Coastguard.

40 Confusion has arisen between this battery and the original battery named 'Dalmeny' nearby on the mainland, operational between 1901 and 1916–17 (eg Saunders 1984: 476) – see Chapter 9 for information on the first Dalmeny Battery.

41 WO 192/253; John Dods, pers comm.

42 WO 192/253.

43 WO 192/253.

44 John Dods, pers comm.

45 John Dods, pers comm.

46 Aerial photograph NCAP-000-000-154-606 1941 *Cramond and Booms*. National Collection of Aerial Photography, Historic Environment Scotland.

47 WO 192/253.

48 Standing Orders of 22 May 1943.

49 WO 199/942.

50 WO 166/1706.

51 WO 192/253.

52 War Office 1940.

53 WO 192/253.

54 WO 199/954B; WO 199/527; WO 199/528.

55 John Dods, pers comm.

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- 56 WO 78/4417; WO 78/5163.
- 57 Ordnance Survey 1918 *War Office. Plan of Special Survey Inchmickery, Firth of Forth. 1:360.*
- 58 WO 192/108.
- 59 WO 192/256; WO 78/5163.
- 60 DD 27/1209; MW 1/441; MW 1/1033.
- 61 WO 192/108.
- 62 ADM 137/992.
- 63 WO 78/4417.
- 64 WO 78/5163.
- 65 ADM 137/1892.
- 66 WO 33/861.
- 67 WO 78/5163.
- 68 WO 33/810.
- 69 WO 78/5179.
- 70 DD 27/1213.
- 71 CAB 36/18.
- 72 MW 1/441.
- 73 MW 1/1033.
- 74 GD 310/30.
- 75 WO 192/108.
- 76 WO 192/108.
- 77 WO 192/108.
- 78 WO 192/108.
- 79 WO 192/108.
- 80 WO 192/108.
- 81 War Office 1940.
- 82 WO 199/527; WO 199/528.
- 83 See Chapter 10, note 21.
- 84 WO 199/954B.
- 85 MW 1/441; MW 1/1033.
- 86 Undated newspaper cutting in Stenhouse collection.
- 87 WO 192/254.
- 88 WO 192/108.
- 89 WO 78/4417.
- 90 Ordnance Survey 1918 *War Office. Plan of Special Survey Inchcolm, Fifeshire. 1:360.*
- 91 ADM 137/992.
- 92 WO 78/4417; WO 192/254; WO 192/108; Ordnance Survey 1918 *War Office. Plan of Special Survey Inchcolm, Fifeshire. 1:360.*
- 93 Hackmann 1984: 65.
- 94 WO 78/5181.
- 95 WO 33/810.
- 96 WO 78/5171.
- 97 ADM 116/2073.
- 98 *The Scotsman*, 11 October 1920.
- 99 WO 78/5179; WO 192/108.
- 100 MW 1/441.
- 101 MW 1/439.
- 102 CAB 36/18.
- 103 WO 192/254.
- 104 MW 1/441.
- 105 MW 1/441.
- 106 MW 1/439.
- 107 MW 1/1033.
- 108 GD 310/30.
- 109 WO 192/254.
- 110 WO 166/2058. Although some sources state 'November 1939', the War Diary of the Forth Fixed Defence gives the date as 27 October 1939.
- 111 Grant 2004.
- 112 WO 192/254.
- 113 War Office 1940.
- 114 WO 199/954B.
- 115 WO 192/108.
- 116 DD 27/1213.
- 117 WO 192/254.
- 118 DD 27/1213.
- 119 DD 27/3715.
- 120 WO 78/5169.
- 121 Registers of Scotland. Fife, search sheet 9669; *Manchester Courier*; the *Daily Record & Mail*; the *Birmingham Daily Post*, all 20 April 1914.
- 122 CAB 38/19/53.
- 123 CAB 38/19/53.
- 124 WO 78/5169.
- 125 WO 78/5169.
- 126 WO 78/5169.
- 127 WO 192/108.
- 128 WO 78/5169.
- 129 ADM 137/1075.
- 130 WO 78/4396.
- 131 The central sheet covering the core of the battery is in the collection of the British Library (BL Map X.490), while the other eight, and an index map, are in the National Library of Scotland (C18:13(5)).
- 132 *The Scotsman*, 8 April 1916. WO 33/766.
- 133 WO 192/108.
- 134 Heddle and Morris 1997.
- 135 WO 192/258.
- 136 For example, NCAP-000-000-158-193 1941 *Charles Hill and Booms*. National Collection of Aerial Photography, Historic Environment Scotland.
- 137 WO 199/943.
- 138 WO 199/1171.
- 139 Heddle and Morris 1997: 214.
- 140 WO 199/954B.
- 141 Heddle and Morris 1997: 213.