

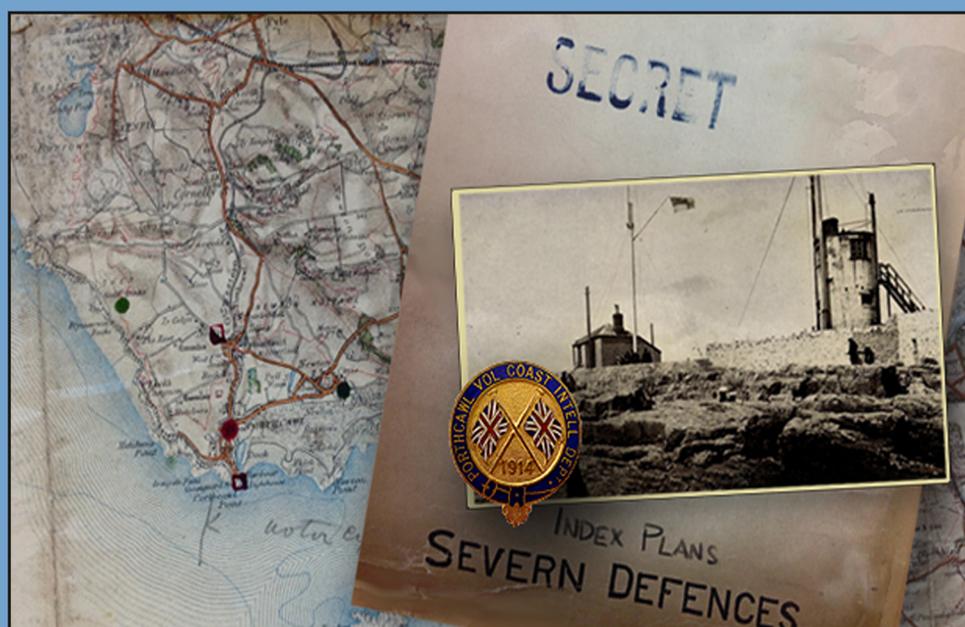
GGAT 137: Defence of The Realm: Coastal defences and port facilities

South East Wales and the First World War

March 2018

A report for Cadw
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GGAT report no. 2018/010
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SUMMARY

This project has been undertaken as part of the commemoration and thematic investigation of the physical legacy of the First World War on South East Wales. As a national border, the coast's security was an enduring concern. The availability of the fleet as a first line of protection, backed by defences on land, underpinned the strategy for Defence of the Realm. The potential vulnerability of the Bristol Channel area to hostile attack had been recognised since the 18th and 19th centuries and with the outbreak of the First World War, just as in the Second World War, there was a very real fear of German invasion. The defence on the Welsh side of the Bristol Channel consisted of the Severn Defences, a line of defence which stretched from the Severn Tunnel to the Burry Estuary, and was comprised of fixed and mobile defences, communication centres and central HQs.

Through assessment of historic maps and aerial photography the report establishes the location and survival of the coastal defence sites, and assesses the potential for survival of above and below-ground archaeological evidence. The project has assembled and collated information about these sites and has made conclusions concerning their physical legacy, with specific and general recommendations based on the results. An initial scoping project Crawford (2014) and a further more in-depth report (Crawford 2016) recorded nine sites associated with the Severn Defences within the Glamorgan-Gwent area. However, further research of primary sources has discounted one of these, Nells Point Searchlight (PRN 02018s), as being erroneous and the description has been amended. An additional seventeen sites have been recorded, along with further information to those already known.

This project does not seek to rewrite the histories of each site, which are available elsewhere. Instead it seeks to understand the significance of each site and to identify which surviving elements embody that significance and those which are of national and regional importance.

1. INTRODUCTION

1.1 Project Background

The physical impact of the First World War on the home front, and therefore the archaeological legacy, has been an area of increased interest in recent years, primarily spurred by the centenary of the start of the war. Cadw commissioned a scoping study in 2013 to establish a baseline of information concerning the survival of archaeological sites relating to the First World War period (Crawford 2014). The results of this study highlighted several significant strands that have been developed by the Trusts into a thematic approach to examination of the legacy of the First World War. These being:

- **The Sinews of War** - Industry/manufacturing
- **The Call to Arms** - The militarised landscape
- **Casualties of War** - Hospitals and welfare facilities
- **Defence of the Realm** - Coastal defences and port facilities
- **Their Names Liveth for Evermore** - Commemoration and remembrance

All past project reports are available to download from the Trust website
http://www.ggat.org.uk/cadw/first_world_war/reports.html

1.2 Defence of the Realm

The current study seeks to examine and assess the archaeological legacy of coastal defence within Glamorgan and Gwent during the First World War.

The generation that witnessed the events of the First World War has gone and there is no longer the opportunity to collect oral testimony of the changes that took place. Therefore, it is now important to look at the physical remains before they are lost and can no longer be recognised.

The potential vulnerability of the Bristol Channel area to hostile attack had been recognised since the 18th and 19th centuries and with the outbreak of the First World War, just as in the Second World War, there was a very real fear of German invasion. The defence on the Welsh side of the Bristol Channel consisted of the Severn Defences, a line of defence which stretched from the Severn Tunnel to the Burry Estuary, and included coastal batteries at Penarth Head (PRN02010s), Lavernock (PRN02017s), Flat Holm (PRN01962s, 01963s, 01964s, and 02138s) Nell's Point, Barry (PRN02018s) and the Tutt, Swansea (PRN02243w). The last two batteries were constructed in the early 20th century after a general review of Britain's coastal defences known as the Owen Report. These five artillery batteries provided fields of fire that overlapped with those of the forts at Brean Down and Steep Holm Island and with the batteries at Portishead and Avonmouth, and were designed to sink enemy shipping threatening the Bristol Channel ports.



Plate 1. Map highlighting the defences of the South Wales Zone (WO33/541)

In addition to these fixed defences, the coastline was subdivided into smaller sections with their protection assigned to a local platoon. Within each of these, a guardhouse or communications centre was set up, such as at Blaen y Cwm, Monknash (PRN05052s) where the presence of a telephone in the house was clearly key to its use as a guard post (Crawford 2016).

1.3 Objectives

The current report is part of a thematic approach to examine the physical impact the national war effort had on the creation and adaption of the South East Wales landscape. The aim of the project was to quantify and contextualise the physical legacy of First World War military activity within Glamorgan and Gwent. Cadw is endeavoring to improve the protection and management of military remains, perhaps the most important aspect of Wales's recent history.

The primary objective of the project is the identification, location and recording of key surviving features and structures in order to make recommendations to Cadw for statutory designation, both scheduling and listing. An initial scoping project Crawford (2014) and a further more in-depth report (Crawford 2016) recorded nine sites associated with the Severn Defences within the Glamorgan-Gwent area. However, further research of primary sources has discounted one of these, Nells Point Searchlight (PRN 02018s), as being erroneous and the description has been amended. An additional seventeen sites have been recorded, along with further information to those already known.

The current project ties in with Cadw's priorities for 2011—16, conserving and protecting the historic environment of Wales through 'Continuing to identify significant historic assets, including monuments, marine historic assets and historic buildings, parks and gardens', the projects and specifically recommendations resulting from the project are also likely to feed into several other of the identified priorities, for example 'Promoting distinctive regeneration and sustainable development through heritage', especially through capturing distinctiveness, and tackling heritage at risk. Outreach objectives include some from the current series of operational objectives agreed by our trustees as part of a Forward Strategy agreed by the Trustees which articulates how the Trust currently delivers its object through permitted powers. This project will help the Trust deliver the following of those objectives (second bullet point onwards in the outreach section).

The aim of the project was to be achieved through achieving the following objectives:

Archaeological objectives

- ❑ Raising awareness, understanding and appreciation of the cultural remains of the First World War
- ❑ Promote the role and assets of the Trust
- ❑ Disseminate information about the Welsh Historic Environment
- ❑ Carry out regional wide monument, historic landscape and other surveys
- ❑ Encourage, support and assist investigation and research into the historic environment in Southeast Wales

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1.4 Acknowledgements

The project was grant-aided by Cadw and undertaken by the Glamorgan-Gwent Archaeological Trust (GGAT) in their remit as the regional archaeological body responsible for the understanding and preservation of the archaeological resource in southeast Wales.

The Author would like to thank the staff of Porthcawl Museum, especially Ceri Josph, Roger JC Thomas of Historic England, and the staff at the National, Gwent, Glamorgan and West Glamorgan Archives.

The report was prepared by Paul W Huckfield. The fieldwork was undertaken by Paul W

Huckfield. The photography and illustrations for the project was undertaken by Paul W Huckfield. The report was edited by Dr. Edith Evans and Martin Tuck. Any mistakes or omissions are the author's own.

1.5 Copyright Notice

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2. METHODOLOGY

The way in which this project has been approached mirrors that of previous scheduling enhancement projects undertaken by the Welsh Archaeological Trusts with grant-aid from Cadw. The four Welsh Archaeological Trusts work to agreed guidelines. In order to deliver key information to Cadw, this study primarily focuses on coastal and port defences. The emphasis is on the most significant elements of the sites which reflect their function and how the site developed. At the discretion of the project staff the studies may diverge from this principle, but only where the most significant and functionally distinct elements of each site fall outside this defined zone. The project used data from the Regional Historic Environment Record (HER), the National Archives, and the three Regional Archives (Gwent, Glamorgan and West Glamorgan), along with other secondary sources and field visits to assess the potential for enhancing the schedule of ancient monuments. This work will feed into and support projects being run by other Welsh heritage organisations, the National Library, National Museum, as well as country-wide projects co-ordinated by the Council for British Archaeology and Imperial War Museum.

Each site is assessed using documentary sources prior to undertaking field visits in order to build an understanding of the site and to ascertain fieldwork priorities. Maps, plans and aerial photographs are consulted and map regressions produced for each site. A database is produced and accompanying new point- and polygon-based data compiled as a result of the research. This information is fed back into the regional Historic Environment Records in order to provide a basis for heritage management and development control, while recommendations for designation are submitted to Cadw in a separate report.

2.1 Aims

- ❑ Assess the current state of survival/preservation, conservation and the recording requirements of the sites identified.
- ❑ Inform future protection and management issues, including future scheduling proposals
- ❑ Inform the relevant Unitary Authority on military issues in the planning process, including forward planning.
- ❑ Assist in assessing the wider impact of future proposed development on associated landscapes
- ❑ Assist in the evaluation of the aesthetic or amenity value of the military and submerged landscapes
- ❑ Assist in measuring the effect of individual development proposals on the overall historic integrity and coherence of such landscapes, with particular reference to the issues of outright removal, severance, fragmentation or dislocation of the historic elements
- ❑ Assess the cumulative effects of secondary or piecemeal changes over time with regards

to military landscapes.

2.2 Identified tasks

- ❑ Desktop appraisal utilising the HER and secondary sources
- ❑ Consultation of the NMR (RCAHMW) to check for further information on sites, where lacking in HER
- ❑ Identification from documents, historic mapping, aerial photography of surviving and potential new sites within the project area
- ❑ Creation of a general publicity campaign employing various media streams to publicise project, including local press; GGAT website, GGAT members email list, local groups list, social media (Facebook, Twitter, blogs, etc.), and specific web forums
- ❑ Liaising with local heritage groups in order to obtain additional information on a local level
- ❑ Site visits to ascertain extent and condition of surviving remains
- ❑ Creation of written and photographic inventory of surviving remains
- ❑ Evaluation of remains to determine their importance in both a regional and national perspective
- ❑ Preparation of grey literature reports
- ❑ Preparation of popular version of results for dissemination via the Trusts website
- ❑ Integration of new data in HER (HER enhancement)

The specification for the project identified fieldwork as forming a minor part of the project, so only 10% of the sites identified were actually visited. Nevertheless, the field visits allowed the condition and significance of the resource to be assessed. The documentary and cartographic evidence supported the project's early assertions that there would be little in the way of archaeological or architectural evidence surviving, due to the transient nature of some sites and the continuity of others (for further detail see Conclusion), and therefore little need for visits to selected sites to confirm the impression of the archival evidence. A proforma, similar in essence to that used for the Community Survey on the Northeast Gower Coastline (GGAT 140, Huckfield 2016), was used for field recording. Digital mapping (point data) of sites were checked and updated with the level of detail increased (using MapInfo 9). Polygon data was created for the sites. These polygons identify the presumed extent of the sites and where possible associated features, e.g. buildings, enclosures, or other related structures.

The scheduling criteria as set out in Annex 3 of Circular 60/96 were applied to assess the significance of the remains. For this project the period had been set, and the diversity criterion was considered to overlap other criteria. As the site type is not one considered intrinsically rare, rarity was considered most likely to be better demonstrated by the other criteria, such as Survival/Condition, and Group Value. The criteria utilized by the project can be summarised as follows:

Period: reflecting sites identifiable in the HER and other documents as belonging to the modern period – this is set, and not scored in the assessment.

Group Value: reflecting the incidence of surviving features within complexes, and also any direct association with other designated assets.

Survival/condition: where survival can be identified condition is more likely to relate to above ground features, either the ruinous remains of standing buildings, or earthworks. This will reflect the number, type and quality of surviving/identifiable features. Given the fact that many sites will have seen continued use and adaptation during the intervening

period, subjected not only to abandonment, but also urban development, this has been set at a relatively low level.

Fragility/Vulnerability: considered where immediate threats can be demonstrated

Potential: considered only where sites retain significant features that help understand the nature of activities carried out at the particular site.

Based on the above, a simple matrix using the four main criteria (Group Value, Survival/Condition, and Fragility/Vulnerability) has been utilized for the appraisal/assessment process. A scoring system of 1-5 - low to high or poor to good was devised to produce a ranking of sites; this is given below:

2.3 Scoring System

The criteria below were used to evaluate the overall significance of the individual interests:

Group value: particularly if there are a number of identifiable related elements, or where a direct association with other designated assets can be demonstrated.

1 – None: No related elements on HER/NMR, or identified on historic mapping

2 – Low: Associated with one other related element on HER/NMR, or identified on historic mapping

3 – Moderate: Associated with two or three related elements on HER/NMR; or associated with one related protected element, or identified on historic mapping

4 – High: Associated with four or five related elements on HER/NMR, or identified on historic mapping; or associated with two related protected elements.

5 – Very High: Associated with six or more elements on HER/NMR, or identified on historic mapping; or associated with three or more protected elements. Or where there is a known direct association with other designated assets.

Survival/Condition: survival of main elements must be fairly complete; condition of any related elements must also be fairly complete.

1 – Poor: Destroyed: site now largely lost.

2 – Low: Near Destroyed: Some features survive, buried remains.

3 – Moderate: Damaged -remains likely to survive intact though not complete, some of the original form can no longer be established

4 – High: Near intact - Not complete, but sufficient features survive to allow the original form to be established, with some superstructure remains surviving.

5 – Very High: Intact: Complete, reflecting its original

A sixth category of ‘Converted’ has also been used. However, as structures falling into this category cannot at present be considered for protection via Listing it has been assigned the same value as *Damaged*.

Condition rating: This provides a further level and nuance about the current state of the structure than the current HER ‘Condition’ form. The additional category helps prevent inaccurate representation of the structures, e.g. if a building still maintains its original external form but has undergone interior conversion.

The terms used here derive from the current HER terminology.

1 – Intact: Complete, reflecting its original

2 – Near Intact: Not complete, but sufficient features survive to allow the original form to be established

3 – Damaged: Not complete, some of the original form can no longer be established

4 –Near Destroyed: Some features survive, probably only as buried remains and excavated

features

5 – *Destroyed: Site completely destroyed*

6 – *Restored: Building or feature no longer in its original form, but retaining elements of its original form*

7 – *Converted: Building or feature no longer in its original form*

8 – *Not known: Site not visited*

Fragility/Vulnerability: Sites that are threatened, or where the site is in a neglected/derelict state.

1 – *None: Robust/unlikely to be damaged (e.g. listed or scheduled sites – though if immediate threats are noted during the field visit this will be higher)*

2 – *Low: Insignificant level of fragility/vulnerability (sites with low levels of threat)*

3 – *Moderate: Moderate level of fragility/vulnerability (including sites under long term threat of damage/collapse)*

4 – *High: Fragile/vulnerable (including sites under medium term threat of damage/collapse)*

The overall archaeological significance arrived at was allocated one of the following values:

- A – National Significance
- B – Regional Significance
- C – Local Significance
- D – Minor Significance
- U – Unknown/Un-established

3. SOURCES CONSULTED

The most significant sources consulted are presented in the Bibliography Section.

In common with previous research into the First World War and South East Wales, the majority of information was derived from primary sources held by the three regional record offices and by the National Archive, Kew. An increasing number of online secondary sources have become available since the centenary of the beginning of the war and contain a great wealth of information, the most notable of these being the Welsh Newspapers Online Archive provided by the National Library of Wales. Other sources consulted primarily included the Historic Environment Record (HER) held at GGAT, Swansea, and National Monument Record (NMR), held at the RCAHMW, Aberystwyth. The HER, relevant data and information held by the RCAHMW (NMR records and the online Coflein resource) were accessed as was up-to-date information on scheduled and listed building held by Cadw. This information was supplemented by other readily available primary and secondary data. The search of the NMR data provided through Endex was augmented by information held on ‘Coflein’, the RCAHMW’s digital web resource. In addition, the NMR collection records were also consulted as were their aerial photographic sources. Additional information was also consulted from that held by the local and national museums within the study area.

Analysis of Historic Maps, the 2nd to 4th edition 25-inch OS maps (LANDMARK Historic Mapping), in conjunction with consultation of digital aerial photographic material (Google Earth) was also employed, to check for example on whether a site might survive, or whether it had been moved/rebuilt etc. The Ordnance Survey mapping produced mixed results during map regression. The edition of the OS maps that was produced generally between 1917 and 1921 and which might be expected to show the most radical changes caused by the war, is often silent as military sites are explicitly omitted from such sources. The most extreme example of this is the absence of the majority of the battery sites from the 2nd and 3rd edition map. These omissions, done for reasons of security or lack of access, have made the job of identifying the pattern of military activity along the Glamorgan and Gwent coastal zone difficult.

4. Results

COASTAL DEFENCES

As a national border, the coast's security was an enduring concern. The availability of the fleet as a first line of protection, backed by defences on land, underpinned the strategy for Defence of the Realm, supplemented in the 20th century by the need for air defence. But the coast has not remained constant: changing sea levels, erosion and silting waterways required adjustments to invaders' and defenders' strategies, influencing where defences were built. In the hinterland, rivers, valleys, roads and hills, suggested invasion routes and holding positions for a defender. Defences tell a story of thrust and counter-thrust, with new defensive measures needed to respond to innovations in attack. Advances in military technology and artillery rendered fortifications more vulnerable to attack, forcing a rethink of design, and gradual height-reduction from lofty and visible structures to attempted near invisibility by the end of the 19th century and the use of new approaches to construction. Many fortifications displayed Continental planning influences, which were greater before the 19th century, after which British innovation in design became more assertive. Fortifications were, however, one element of the broader interaction of the field army, the fleet, and later the air force. Transport was an all-important dimension for field forces, including use of roads, water routes and, later, the railways, a subject needing to be adequately explored. Gaining pace from the early 19th century was a spread of facilities for the military training of home forces and for those to serve overseas.

The potential vulnerability of the Bristol Channel area to hostile attack had been recognised since the 18th and 19th centuries but the rise of the strategically vital ports of Swansea, Cardiff, Barry and Newport provided added impetus for the establishment of a defence system focussed on a chain of coastal artillery batteries. Initially designed to counter the threat of the expansionist French emperor Napoleon III, these defences, occasionally referred to as 'stone frigates' involved a series of coastal artillery batteries at Mumbles Head, Lavernock, Flat Holm Island and on the English side of the Bristol Channel, Brean Down and Steep Holm Island, all of which had interlocking fields of fire. The majority of these sites had become somewhat neglected by the late 19th century, and were the subject of a programme of modernisation in the early 20th century, prompted by a general review of Britain's coastal defences known as the Owen Report, after its chairman, one Colonel Owen. Two additional batteries were constructed, at Nell's Point, Barry and Penarth Head, Cardiff as a result of this review.

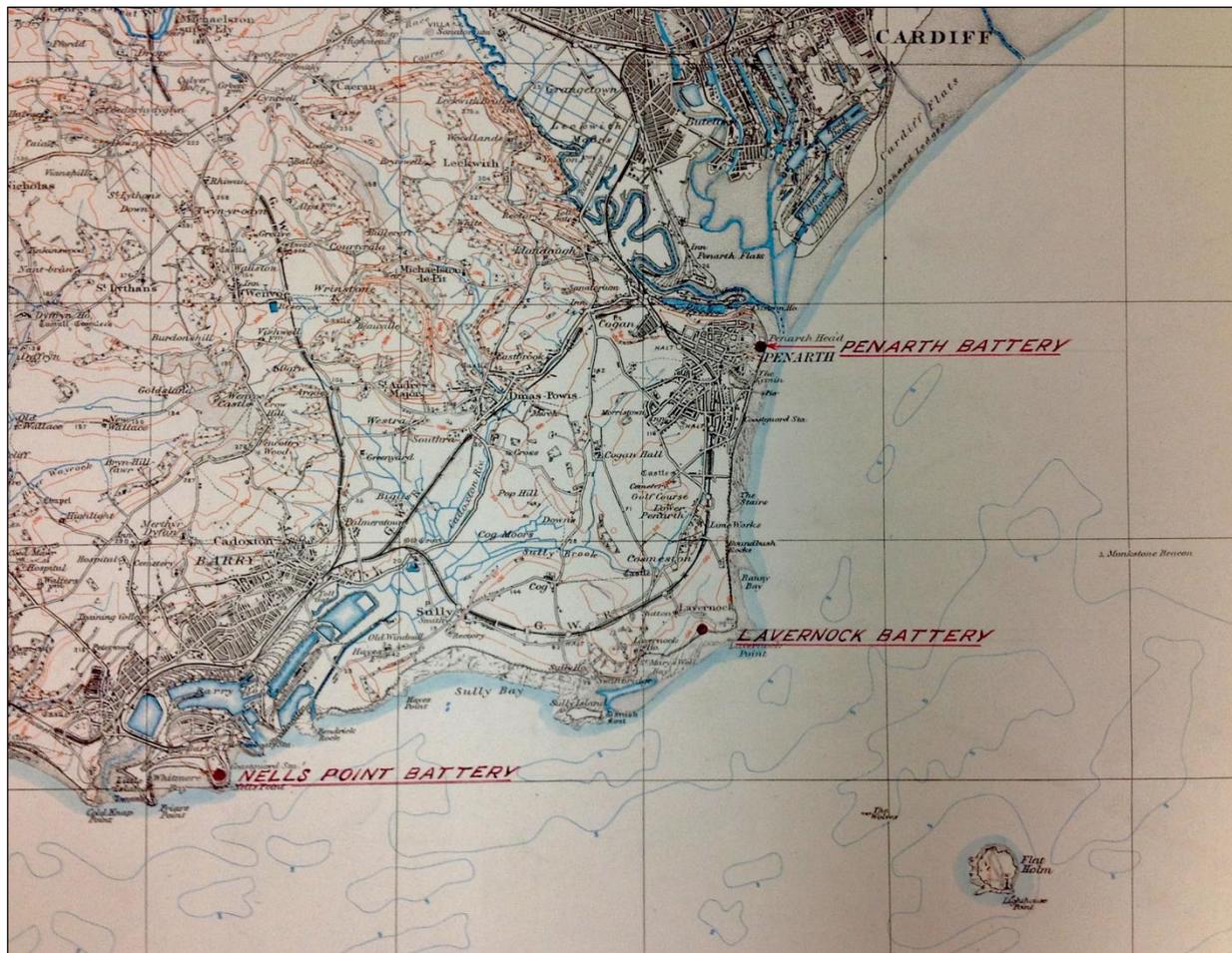


Plate 2. Map depicting 3 of the batteries that make up the Severn Defences (NA WO78/5215)

4.1 BATTERIES

By the outbreak of the First World War, the Welsh side of the Bristol Channel included the coastal batteries at Penarth Head, Lavernock Point, Nell's Point in Barry and the Mumbles battery near Swansea. Artillery pieces at these locations had fields of fire that overlapped with those of the forts on Flat Holm and Steep Holm islands and were designed to sink enemy shipping threatening these ports. It was assessed that the biggest threat came from unarmoured cruisers and lighter vessels such as torpedo boats and therefore the guns selected to replace the plethora of Victorian pieces were standardised on the 6 inch Mark VII gun, a naval gun that came into service in 1898 and represented a good compromise of weight of shell and rate of fire (Gander 2011).



Plate 3. Map showing the extend and plan of the Penarth Head Battery (WO78/4940).

ID No	CD001
PRN	02010s
Name	PENARTH HEAD BATTERY, PENARTH
NGR	ST 50516 87439
Type	Battery
Description	<p>Penarth Head was the site of a two gun coastal battery forming part of the defences of the Severn Estuary and the approaches to Cardiff and Penarth docks. The defences were constructed in the late 19th or early 20th century and are recorded in a detailed set of drawings, dated 1919, held by the National Archives (WO/78/4324/001-006). These plans show both gun positions, each housing a 6 inch Mark VII gun, together with the buildings and storerooms required by the garrison. An aerial photograph held by the RCAHMW (WPW029385) dated 1929 shows the battery buildings but the Number 1 gun appears to have been removed. No. 2 gun is possibly present but obscured by what appears to be tarpaulin. It is possible that this coincided with the decommissioning of the battery sometime in the 1920s. The site was sold off at public auction in October 1931 (DSA/6/895). A site visit was undertaken in 2017 confirming that the remains of the coastal battery have been completely demolished and the area covered with housing. It is likely however that buried remains survive, particularly given the strength and depth of the foundations required for this type of structure. Nevertheless, a single surviving War Department boundary Marker (PRN05567s) was discovered.</p>

Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Documents



Plate 4. Heavily eroded War Department boundary stone, Penarth Head.

ID No	CD002
PRN	05567s
Name	WAR DEPARTMENT BOUNDARY MARKER PENARTH HEAD
NGR	ST1895971958
Type	Boundary Stone
Description	Remains of a heavily eroded War Department boundary marker discovered during site visit August 2017. Both the arrow and W D initials are just about legable. The stone has been incorporated into the front wall of a property at the junction of Penarth Head Lane and Clive Place and is all that survives of the Penarth Head Battery.
Condition	Damaged
Condition rating	Damaged
Period	Modern
Form	Monument by Form

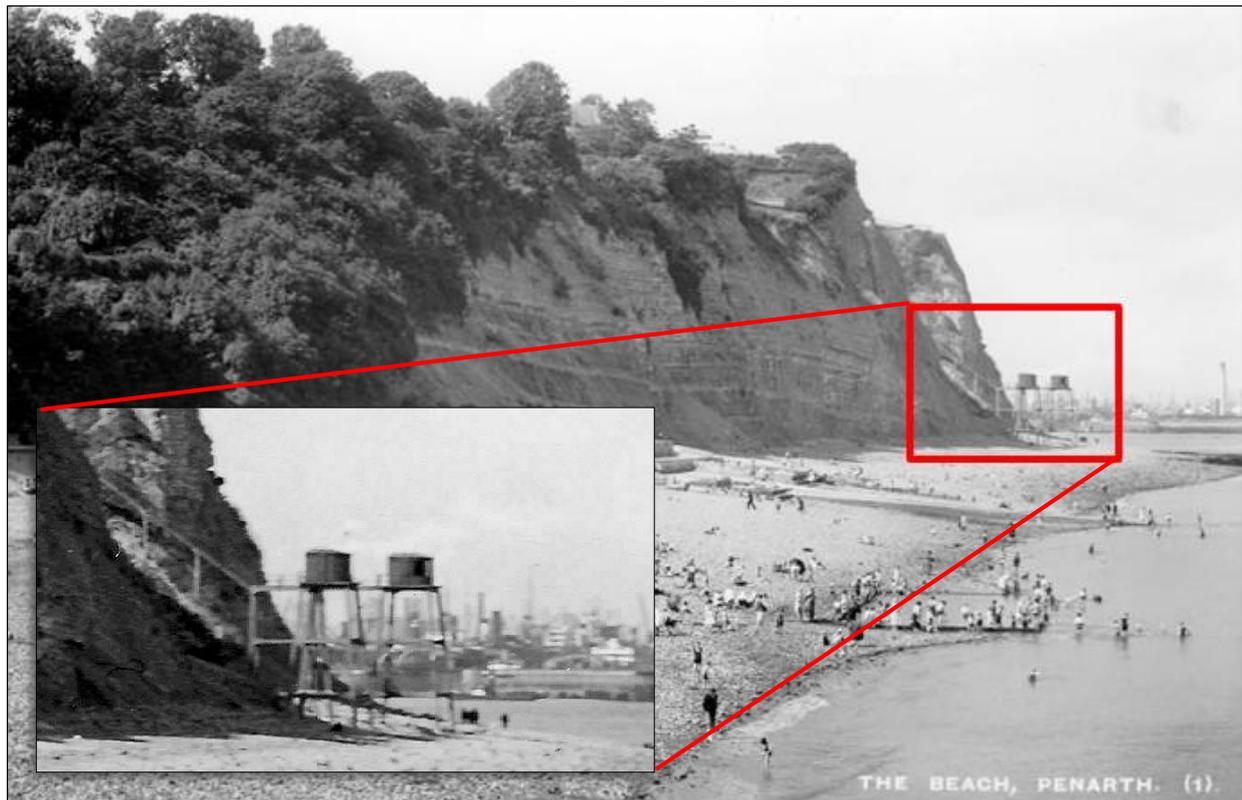


Plate 5. No.1 and No.2 Emplacement Defence Electric Light (DEL).

ID No	CD003
PRN	05568s
Name	DEFENCE ELECTRIC LIGHT EMPLACEMENT, PENARTH HEAD
NGR	ST1913771871
Type	Searchlight Battery
Description	<p>A series of concrete footings and sections of superstructure scattered across the beach is all that remains of No.1 and No.2 Emplacement Defence Electric Light (DEL). This battery was a defensive searchlight covering shipping into the Cardiff and Penarth Docks. The light housing was constructed from steel and concrete with a steel shutter across the front. This was set on runners so that it could be drawn across the whole front of the structure. The searchlight housings were in turn mounted on a set of reinforced concrete legs, to set them high above the beach. Access to the site was from a set of concrete steps from the Penarth Head Battery above. The emplacement was manned by No 3 Electric Light Company. The site was still in use up until 1920, when the lights are shown on the Severn Defences Index Plans as having been 'withdrawn' (Map No. 4 WO78/5215). The Penarth Head Battery site and the DEL were sold at public auction in 1931. Local knowledge suggests the lights were still in place however up until the 1950, when they were demolished.</p>
Condition	Near Destroyed

Condition rating Near Destroyed
Period Modern
Form Documents



Plate 6. Remains of the searchlight battery are still to be found scattered across the beach. Scale 0.5m divisions.



Plate 7. Racketed winding gear and bolts found amongst the remains of the searchlight battery

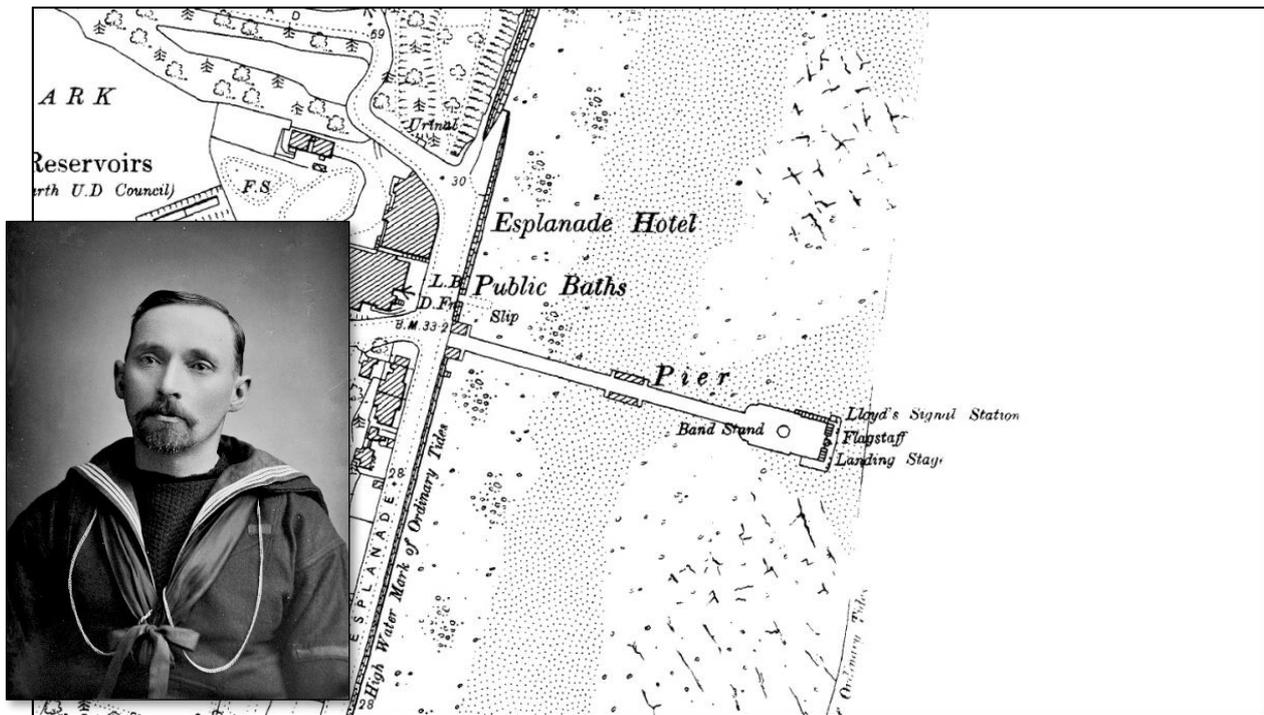


Plate 8. Penarth Pier on the 2nd edition OS map. Inset: J Leonard, Pier-Master, Penarth (DBAP42/42/1)

ID No CD004
PRN 00642s
Name PENARTH PEIR
NGR ST1912771287
Type Other Structure

Description Penarth Pier was designed by HF Edwards and built in 1894. It is constructed on cast iron piles but both ends have been rebuilt in reinforced concrete.

Shortly after the outbreak of the First World War in 1914, Penarth Pier was requisitioned. The Royal Engineers mounted a single searchlight at the end of the pier. The purpose of this was to protect the entrance to the vitally important Cardiff and Penarth Docks from enemy attack. Most ships were still fuelled by coal and the zenith of exports was around the same period. To enhance the searchlight efficiency, it was moved (and another added) to the base of the cliffs, below the Penarth Head Battery (PRN05568s).

Condition Restored
Condition rating Restored
Period Modern
Form Building

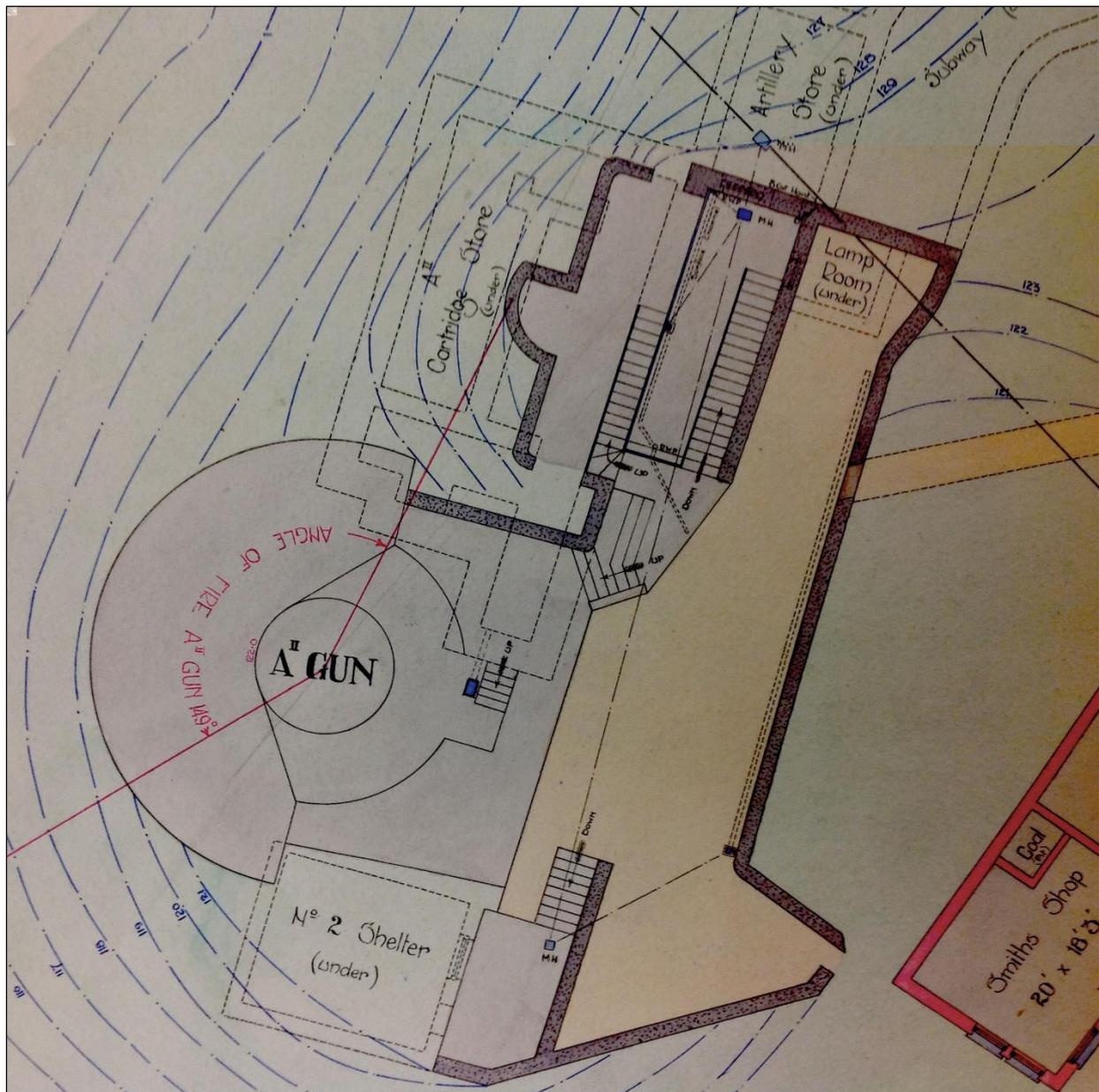


Plate 9. Plan of A Gun Lavernock Battery (WO 78/2281).

ID No	CD005
PRN	02017s
Name	LAVERNOCK BATTERY
NGR	ST18316810
Type	Battery

Description Lavernock Point Battery was conceived as part of the defence scheme for the Severn estuary in the 1860s. It was designed to defend the channel between Barry Island and Flat Holm and was an enclosed work on the north east shore of the channel at Lavernock Point near Cardiff. Its first armament consisted of three 7-inch RMLs (Rifled Muzzle Loading guns) on Moncrieff disappearing carriages although an armament returns for 1895 states four 7-inch RMLs were mounted, this being confirmed on the

plan of the battery held by the National Archives (WO 78/2281).

The 1880 plans of the battery show a defensive ditch and bridge, barrack quarters, four gun pits, a laboratory, a magazine and a parade. The 1889 plans (WO 78/4938) show the modifications planned for the installation of two 6-inch BL (Breech Loading) guns, the work for which effectively destroyed much of the original battery. By 1903 Lavernock was armed with two 6-inch Mark VII BL guns mounted at right angles to each other, one firing up the Bristol Channel and one towards Flat Holm Island. The original 6 inch Mark VII guns were replaced with updated versions with greater range during the Second World War but it is unclear what modifications would have been necessary, if any, to install the new weapons. In 1984 the magazines for the 6-inch BLs were still visible but the gun pits were filled with earth and rubbish. One magazine had a swimming pool built over it. One Moncrieff pit was also identifiable in 1984 (RJC Thomas 2016 pers. comm.).

A site visit was conducted on 20th January 2016 and again in March 2018 to ascertain the extent of surviving remains (see Crawford 2016, Huckfield this report). The site is now used as the Marconi Holiday Village, with much of the road layout originating with the military use. Whilst much of the battery's structures have been destroyed, the emplacements for both the No. 1 and No. 2 gun were present, having been incorporated, to various degrees, into the fabric of the holiday village. The earth and sand banks that originally formed part of the front of the glacis had in both cases been removed, revealing the concrete core of the glacis and details of the construction of the emplacement in the form of timber shuttering in the concrete.

The No.1 Gun emplacement is heavily overgrown with scrubby vegetation and much of the original form has been destroyed or modified to accommodate the construction of a swimming pool area. It is clear from comparison of photographs taken in 1984 with those taken in 2018 that significant damage has been done to the remains of the No. 1 emplacement through modification to their current purpose. The remains of the Moncreiff emplacement previously noted, and which were visible in 1984 have now been buried beneath a building. According to the original plan for the battery held by the National Archive, the No. 2 emplacement was always intended to be more extensive on the surface and this is reflected in the remains that are still visible. Elements of the cartridge store with recesses for both shells and cartridges, are visible at the rear of the emplacement but comparison with photographs from 1988 suggests that the emplacement itself has slowly become buried beneath waste and rubbish. A length of original iron railing remains intact on a walkway close to a semi-circular projection, now damaged and blocked. This projection is shown on the 1898 plan and contains the remains of a mounting in the floor which is likely to have housed a rangefinder or similar. The battery accommodation and headquarters depicted on the map is likely to have been incorporated into a building now used as a public house and social venue for the current holiday park, although little can be recognised from the plans and much modification appears to have occurred.

In summary, extensive remains relating to the Lavernock coastal battery survive but they are in a damaged and in places overgrown condition. Whilst the emplacements themselves are relatively intact, the demolition and modifications that have taken place, even since 1984, have had a detrimental effect on the overall integrity of the site although it is likely that significant portions of the battery survive buried beneath the ground, particularly magazines and shell/cartridge stores. Other features of the battery have been incorporated into the current ground plan of the camp. The Coastal Artillery Search Light (CASL) emplacements and the generating buildings associated with the battery have been destroyed, although these are possibly Second World War. A CASL emplacement (PRN02729s) does survive overlooking St Mary's Well Bay, almost 600m to the south west of the battery but again is Second World War in date.

Overall, the remains of the Lavernock coastal battery are the most extensive to survive within Glamorgan and Gwent and as such are of especial note.

Condition	Restored
Condition rating	Converted
Period	Modern
Form	Building



Plate 10. Remains of the front edge of the glacis and subterranean cartridge store for the No. 2 gun.



Plate 11. Lavernock battery rear of No. 1 emplacement



Plate 12. Remains of camouflage studs on the rear of No. 1 emplacement

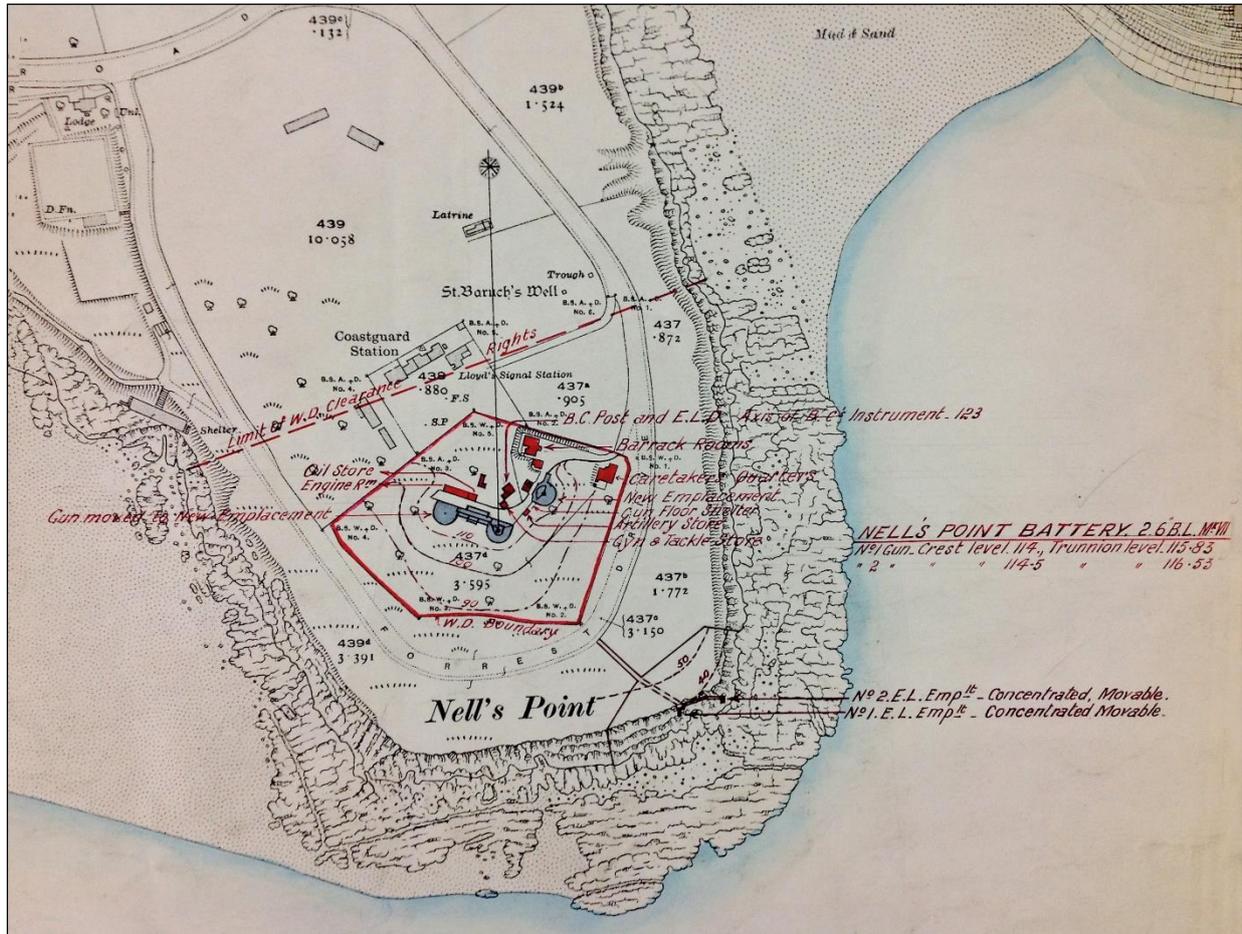


Plate 13. Drawing No. 8 of the Seven Defences Index Plan. Detailing the features and boundaries of the PRN02018s (WO78/5215).

ID No	CD006
PRN	02018s
Name	NELLS POINT BATTERY
NGR	ST1195666292
Type	Battery

Description The entrance to Barry Dock was defended by the positioning of a coastal artillery battery on Nell's Point, an area of high ground on Barry Island overlooking the dock entrance and the Bristol Channel.

The Nell's Point battery did not form part of the original mid-Victorian Severn defences, presumably due to the fact that Barry was not significant as a port until the later Victorian period. Land was purchased in 1897, and work commenced on construction of a battery of six 4.7 inch guns and associated buildings. However, the Owen report of 1905 recommended their replacement with a pair of 6 inch Mk VII guns, similar to those already present at Penarth and Lavernock, and work was completed by 1908. During the First World War, an additional gun position was constructed adjacent to the No. 2 gun emplacement in order to better cover the dock entrance but the gun was never mounted, as can be seen from the

plan of the battery (WO 78/4338). A 13 pounder gun was instead mounted in between the two six inch emplacements and was used as the 'examination gun' *i.e.* the gun used to fire across a ships bows in the event it failed to stop for examination by the authorities; this was done primarily to conserve 6 inch ammunition. The Western Defended Ports document for Cardiff and Barry record the battery as also possessing two Maxim machine guns on cone mountings and tripods as alternatives (WO 33/555 Part III). In addition to the coastal battery the site also housed the Port War Naval Signal Station, from which the Royal Navy could control the movements of all shipping in and out of both the adjacent dock, but also the Bristol Channel. This communication was done using flags and new wireless sets allowing close liaison with the battery gunnery control.

The vacant 6 inch emplacement was finally provided with a 4 inch naval gun in 1940, with gun houses (covered shelters) being built for all the emplacements. These additions necessitated some re-modelling of the Battery Observation Position but the site remained largely unchanged until 1956 when the site was sold and became part of a holiday camp. The camp was in turn sold and the remains were destroyed or buried in order to create the modern housing estate that now covers the entire site.

Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document

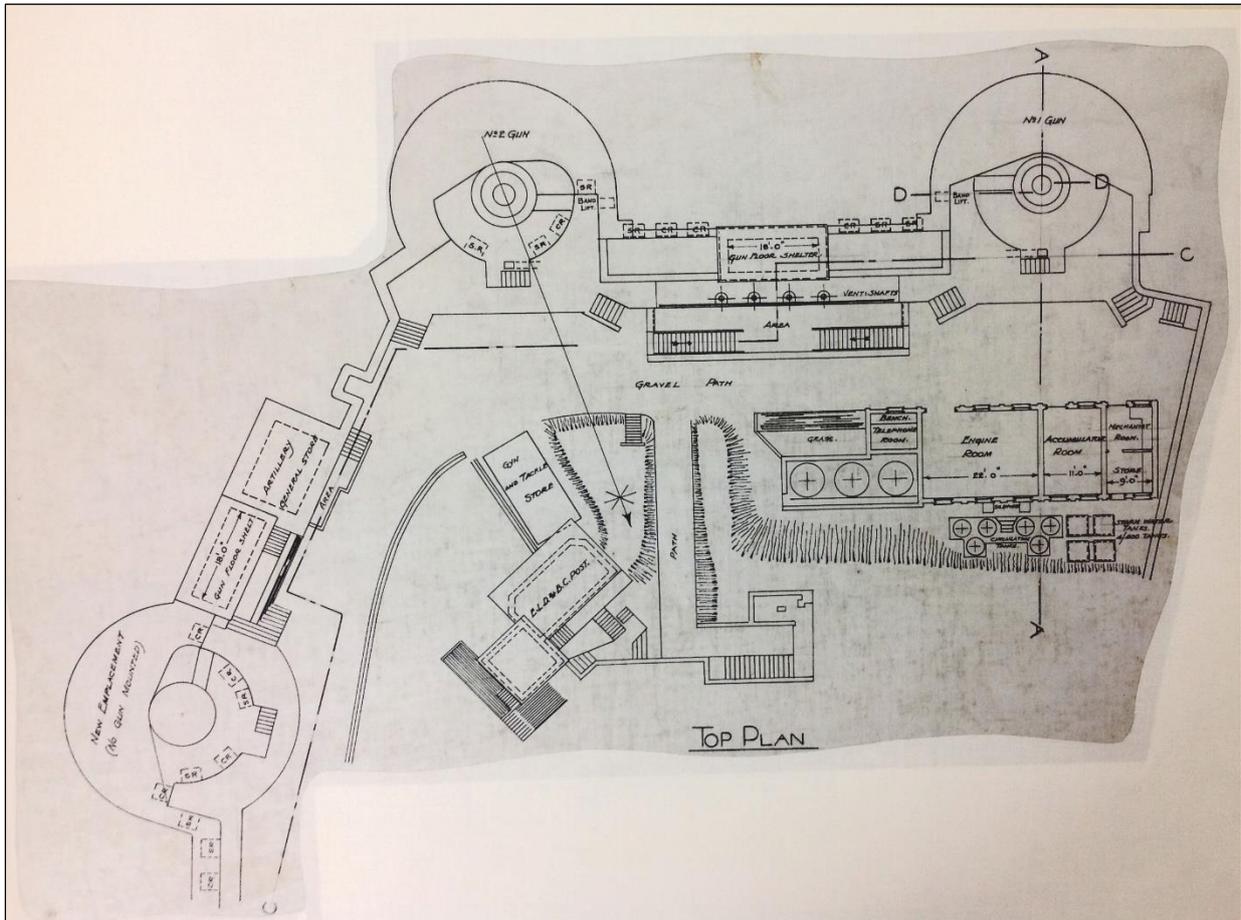


Plate 14. Plan of the Nells Point Gun Battery showing the new emplacement, but the gun was never mounted (WO78/4338).

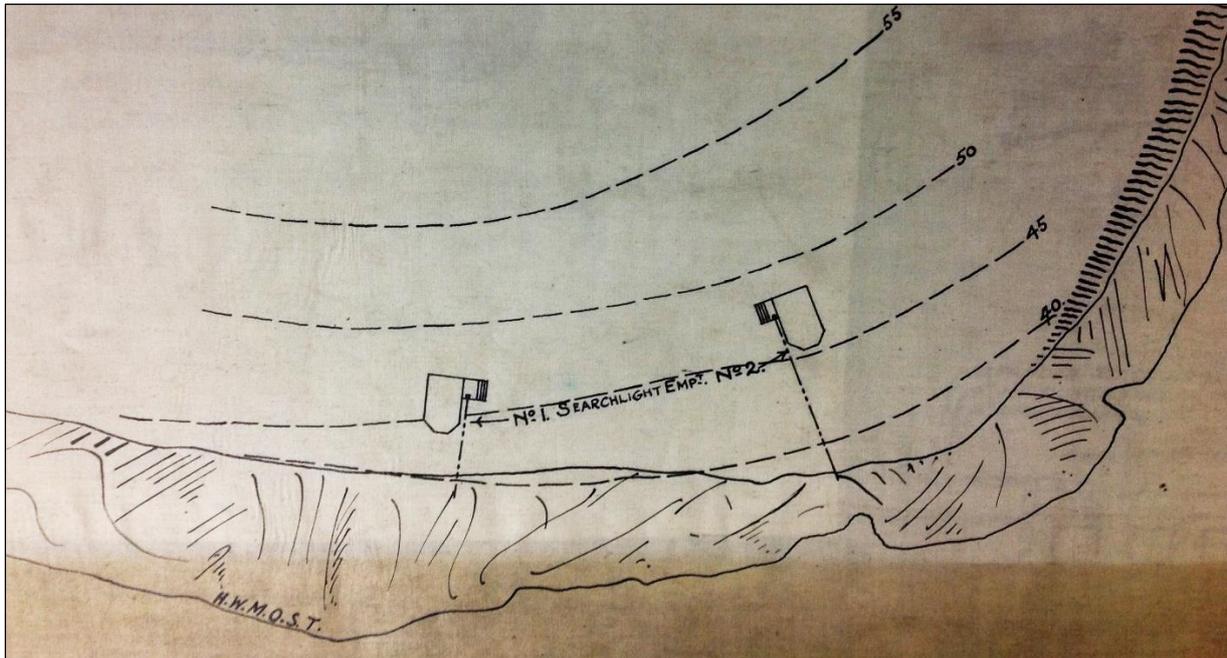


Plate 15. No.1 Searchlight Emplacement. Nells Point Battery. (WO78/4338)

ID No	CD007
PRN	05569s
Name	NELLS POINT No.1 DEL
NGR	ST1202566179
Type	Searchlight Battery
Description	<p>Two searchlight positions (No.1 and No.2. Defence Electric Light or DEL emplacements) together with generating facilities and a directing station were added during the First World War, these being located in the south east corner of Nell's Point to illuminate the approach to the dock. During a field visit in 2016 it was believed that No.1 emplacement has been destroyed, whilst the No.2 emplacement had been incorporated into the base of the present Coast Watching Service tower. Originally the DEL emplacement may have appeared similar to those still extant as part of the Forth defences at Charles Hill Battery in Fife, Scotland. After further research it discovered that this was erroneous and the HER description has been amended.</p> <p>The Nell's Point lights would have been directed by an Electric Light Officer or ELO who was co-located with the battery commander, within the main battery position. The location of the additional generators for powering the DEL battery is not shown on any of the plans and it is possible the existing engine house had the capacity to generate the required electricity.</p>
Condition	Destroyed
Condition rating	Destroyed
Period	Modern

Form

Document



Plate 16. Aerial photograph of Nells Point showing clearly the two searchlight emplacements and the coastguard watch tower constructed between (image courtesy of Britain from Above. English Heritage).

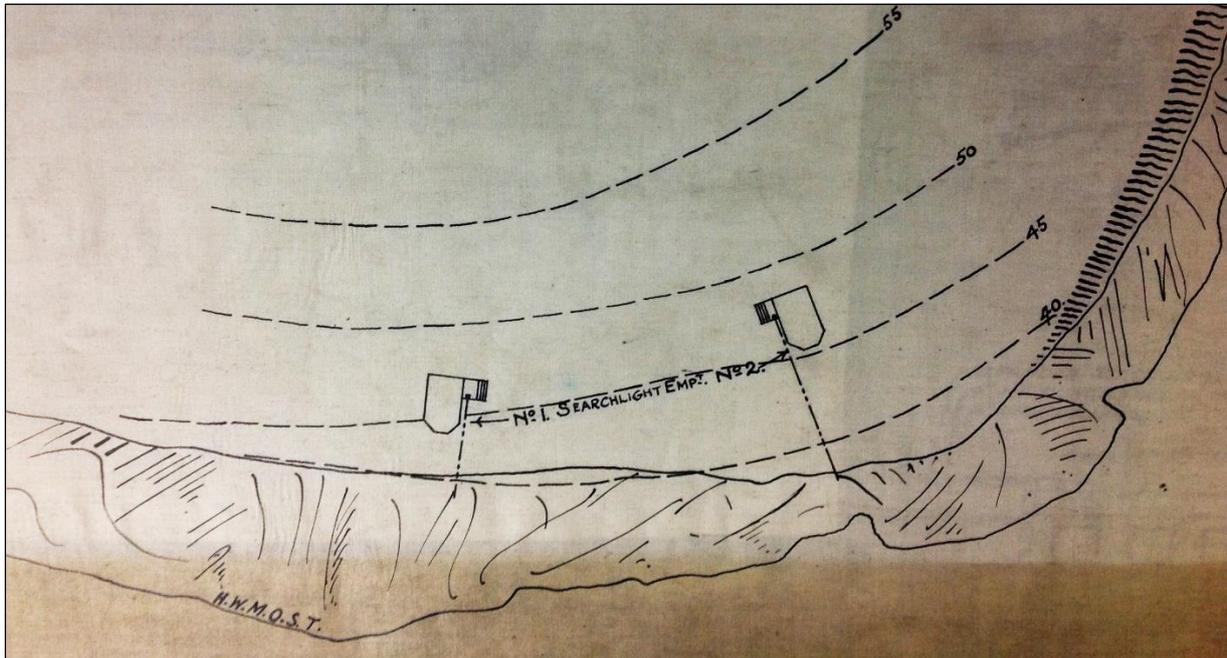


Plate 17. No.2 Searchlight Emplacement. Nells Point Battery. (WO78/4338)

ID No	CD008
PRN	05570s
Name	NELLS POINT No.2 DEL
NGR	ST1205766197
Type	Searchlight Battery
Description	<p>Two searchlight positions (No.1 and No.2. Defence Electric Light or DEL emplacements) together with generating facilities and a directing station were added during the First World War, these being located in the south east corner of Nell's Point to illuminate the approach to the dock. During a field visit in 2016 it was believed that No.1 emplacement has been destroyed, whilst the No.2 emplacement had been incorporated into the base of the present Coast Watching Service tower. Originally the DEL emplacement may have appeared similar to those still extant as part of the Forth defences at Charles Hill Battery in Fife, Scotland. After further research it discovered that this was erroneous and the HER description has been amended.</p> <p>The Nell's Point lights would have been directed by an Electric Light Officer or ELO who was co-located with the battery commander, within the main battery position. The location of the additional generators for powering the DEL battery is not shown on any of the plans and it is possible the existing engine house had the capacity to generate the required electricity.</p>
Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document

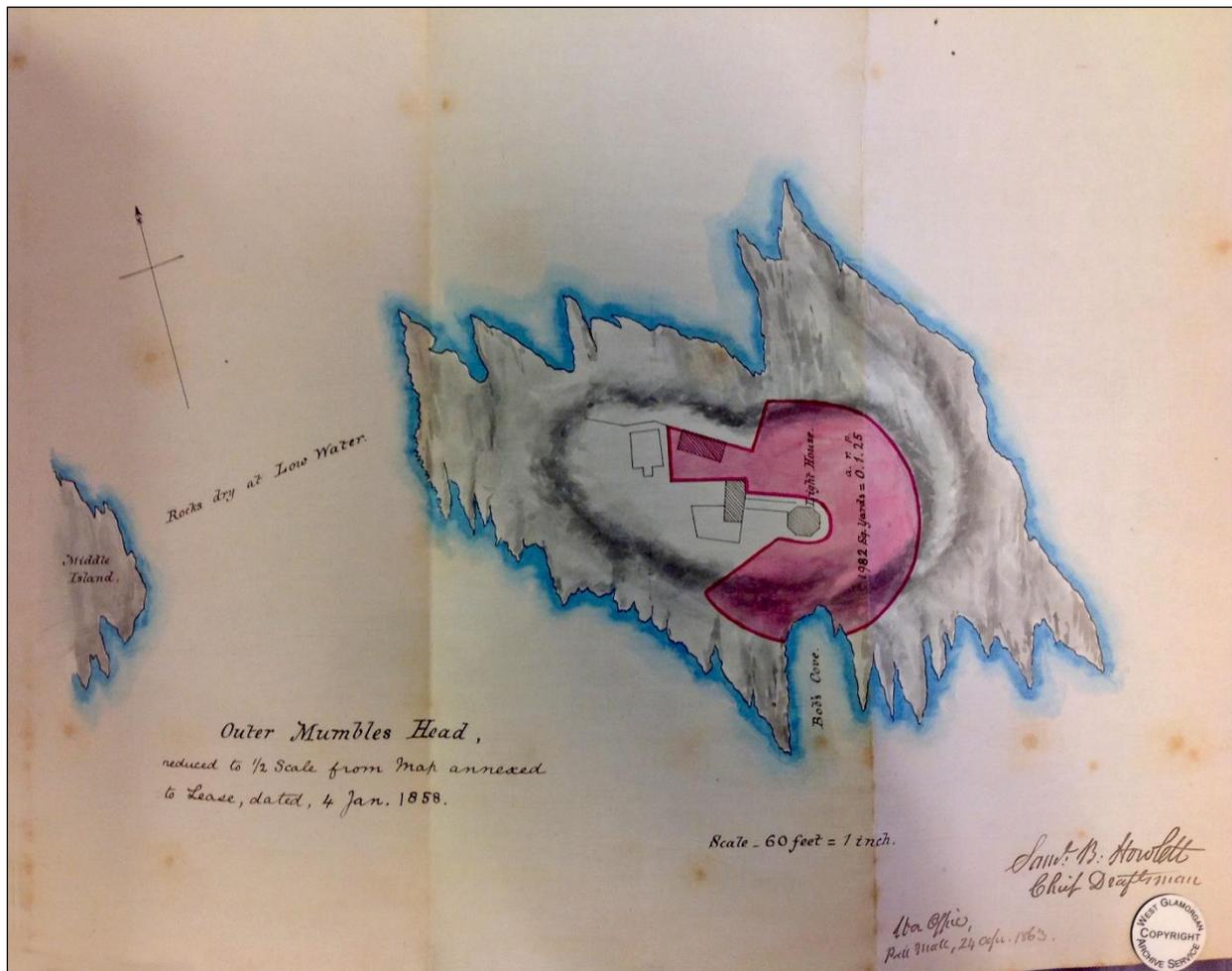


Plate 18. Sketch map of the proposed battery site, taken from the lease document between the Duke of Beaufort and the War Office (D/D PRO/MOD)

ID No CD009
PRN 02243w/96547/LBII
Name MUMBLES BATTERY
NGR SS63508720
Type Battery

Description Mumbles Battery is on the north coast of the Bristol Channel overlooking the shipping lanes into Swansea dock. It was built around the base of the Mumbles Lighthouse (PRN00828w) and was designed to protect Swansea Bay. Construction of the battery began in 1859 and was completed by 1861 at a cost of £8,760 (Saunders *et al* 2001, p9).

It originally mounted five 80 Pounder Rifled Muzzle Loading (RML) Guns, two in casemates and three on the roof. From 1892 the battery was reduced to care and maintenance and used for practise by the Glamorganshire Artillery Volunteers. Between 1899 and 1901 the obsolete RML guns were removed and replaced by two 4.7-inch Quick Firing (QF) guns on the roof of the battery and two Maxim .303 machine guns on cone mountings.

The First and Second Edition O.S. maps show a number of buildings within the island, though the 1921 map of the island is suspiciously blank, which may suggest that military facilities were present and that the details were to remain secret. The Defence Scheme for Western Defended Ports (WO 33/555 Part II) written in 1910 lists the Mumbles Battery as having a complement of 84 Artillery men (4 gunners from the Royal Garrison Artillery and 80 from the Glamorgan Royal Garrison Artillery). It is not known however whether the battery was modernised for, before or during the First World War although this was the case with other batteries such as Nell's Point and Lavernock. The site also housed the Port War Naval Signal Station, from which the Royal Navy could control the movements of all shipping in and out of both the adjacent dock, but also the Bristol Channel using flags and new wireless sets, keeping close liaison with the battery gunnery control.

Condition	Intact
Condition rating	Converted
Period	Modern
Form	Building

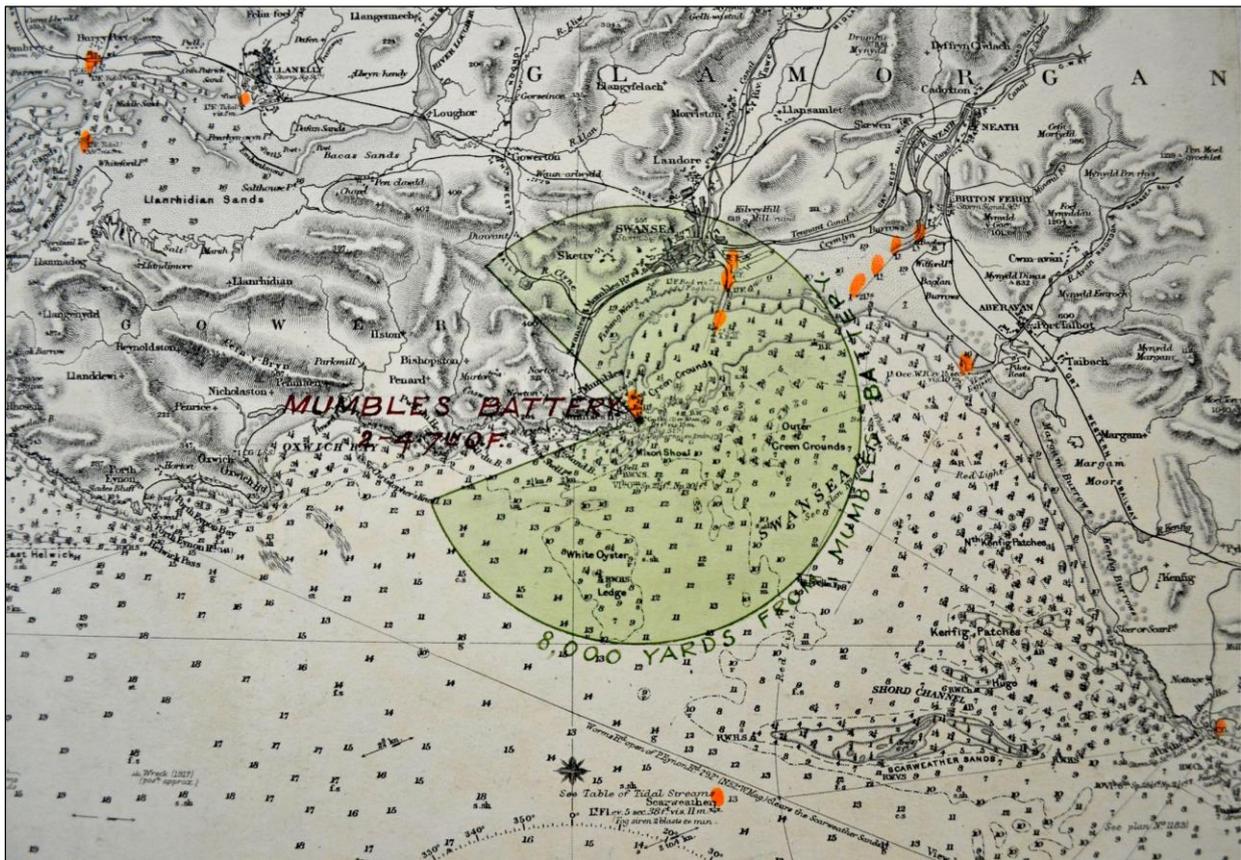


Plate 19. Map, dated 1912, showing the range of the Mumbles Battery guns (WO 78/5223).

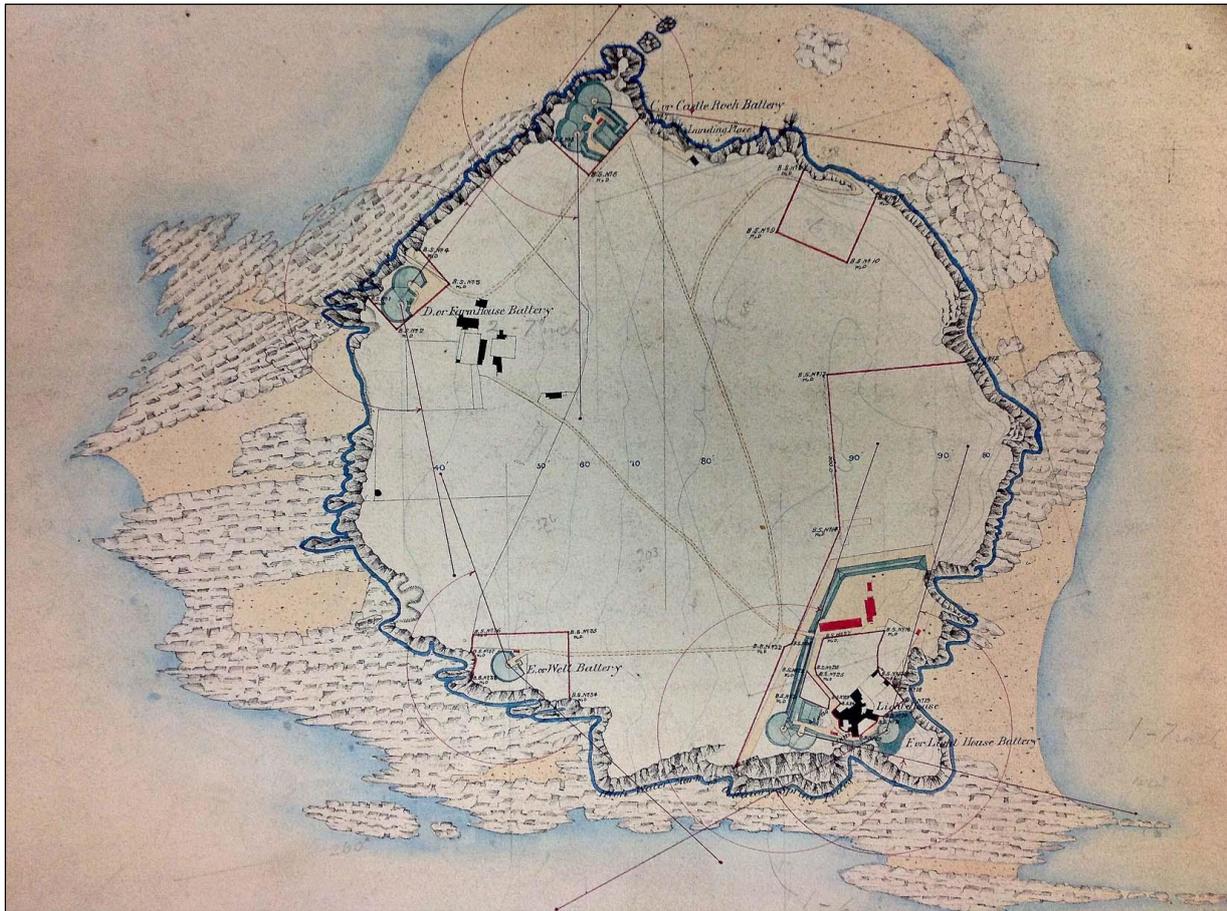


Plate 20. Map of Flat Holm showing the location of the various batteries (WO 192/155).

ID No CD010

Name FLAT HOLM ISLAND BATTERIES

NGR SS63508720

Type Battery

Description

Flat Holm Island, as befits its strategic location within the Bristol Channel possesses remains from a series of artillery batteries, beginning with the mid-Victorian Moncrieff battery positions. Each battery has a separate listing but has been assigned a group number for ease of reference for this project. All four battery sites, are also Scheduled Ancient Monuments. The sites are:

- Castle Rock Battery: three guns in two Moncrieff pits and one open-backed pit with adjacent underground ammunition store.
- Farm House Battery: two guns in one full Moncrieff pit and one open-backed pit.
- Well Battery: one gun in an open-backed Moncrieff pit. The gun was removed by Army Apprentices in 1964.
- Lighthouse Battery: three guns in two full Moncrieff pits and one open backed pit with adjacent underground ammunition store.

It was not possible to visit the batteries for the project and the entries onto the Regional HER focus on the Victorian period of activity as well as the

later Second World War occupation.

One of the few sources to mention Flat Holm during the First World War (Barrett 1992) states that the old Victorian forts were not occupied and that no guns were mounted. More research is required on the occupation of Flat Holm during the First World War as the lack of weapons in the batteries would appear to compromise the defences of the Bristol Channel.

Condition	Damaged
Condition rating	Damaged
Period	Modern
Form	Building

4.2 DEFENCE HEADQUARTERS

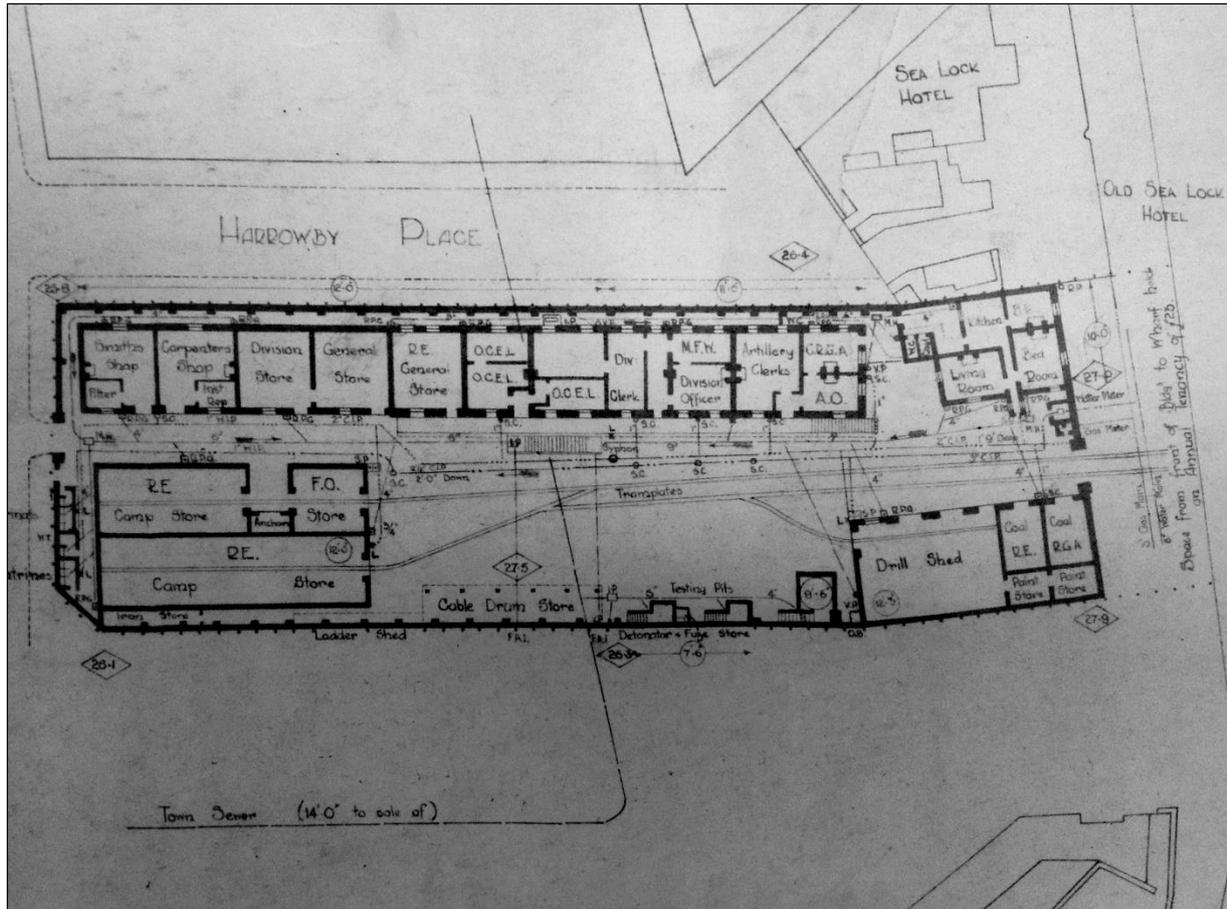


Plate 21. Plan of the Headquarters Severn Defence at Harrowby Place, Cardiff. (WO 78/3331)

ID No CD011
PRN 05571s
Name HEADQUARTERS SEVERN DEFENCE
NGR ST1870774435
Type Military Headquarters

Description The building was constructed in October 1887 and originally housed the Submarine Mining Establishment. In June 1914 the building was requisitioned as the Severn Defence HQ and a series of refurbishments undertaken. The ground floor of the building housed the workshops (blacksmiths, carpenters, instrument repair) and stores (general, Division, camp stores, fuse and detonator stores), as well as offices for the Quartermaster and Artillery Clerk. The central courtyard was fitted with tram plates in order to help load and unload equipment and stores. The upper floor was converted to living rooms and sleeping quarters. In 1914 it housed 1 NCO (married), 2 NCOs (Unmarried and in separate rooms) and 12 Rank and File of the Royal Engineers. However, by 1924 the HQ was occupied by both the Royal Engineers and the Royal Artillery, housing 6 NCOs (married).

Nothing now survives of the original building, a new building stands on the original footprint.

Condition	Destroyed
Condition rating	Converted
Period	Modern
Form	Document

ID No	CD012
PRN	07415w
Name	HEADQUARTERS SEVERN DEFENCE SWANSEA
NGR	SS6503592574
Type	Military Headquarters
Description	<p>Shown as the Royal Arsenal on the 1st and 2nd edition OS maps, it was shown having expanded and re-named as the Central Drill Hall on the 3rd edition map of 1921. The original structures consist of ranges of buildings around a central courtyard. A large rectangular drill hall had been constructed in the courtyard by the time of the 1921 map, almost certainly to accommodate the outlying volunteer units upon re-organisation into the territorial Army in 1908. In 1914 the Western Defended Ports document for Swansea (WO 33/555 Part II) list it as the Headquarters of the Swansea Defences and home of B, C and D Companies 6th (Glamorgan) Battalion The Welsh Regiment.</p> <p>The site is still used as an Army Reserves centre, although nothing now survives of the original building having been completely rebuilt.</p>
Condition	Destroyed
Condition rating	Converted
Period	Modern
Form	Document

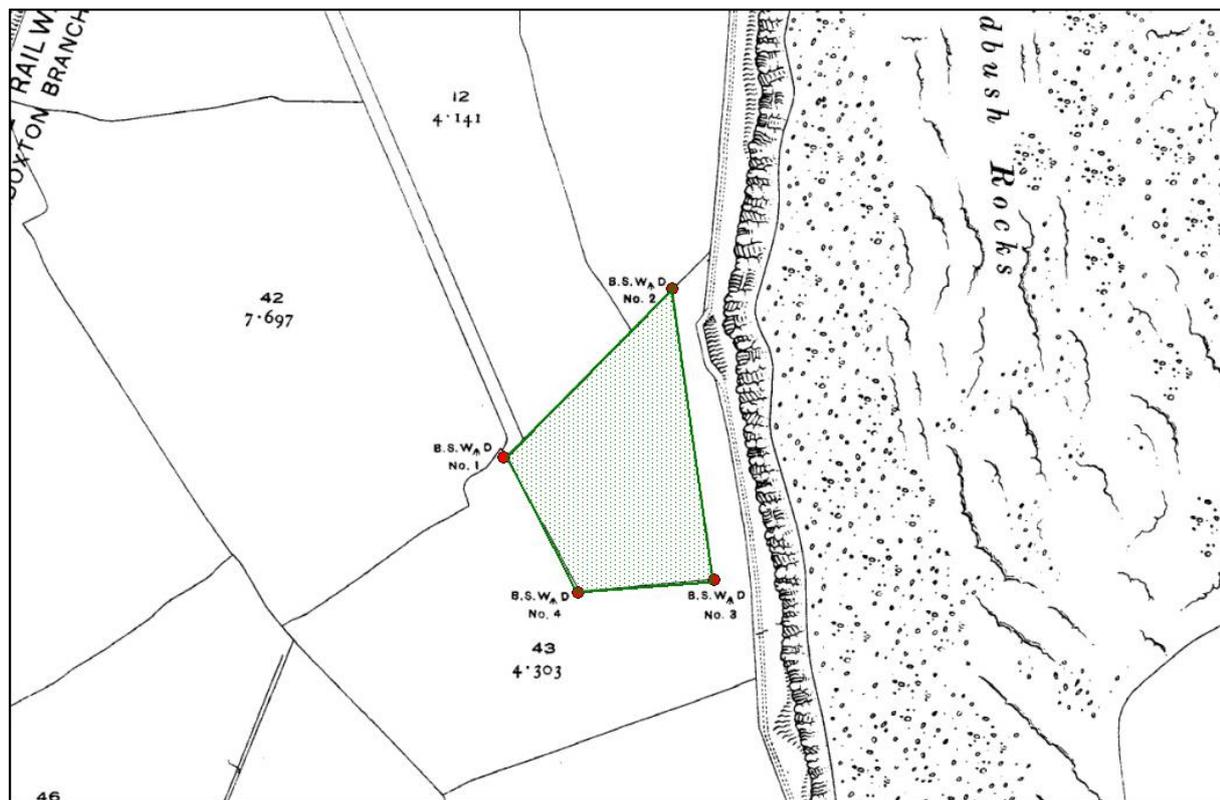


Plate 22. 3rd edition OS Map showing extent of War Department land at Roundbush Rocks

ID No	CD013
PRN	05202s
Name	SEAWARD DEFENCE HEADQUARTERS
NGR	SS63508720
Type	Military Headquarters
Description	<p>The 3rd edition OS map (1920) shows a quadrilateral area of land at the top of the Roundbush Rocks cliffs bounded by four War Department boundary stones. It has been suggested that this area contains the remains of the Seaward Defence Headquarters, one of the only ones known in South Wales (pers. comm. Roger J C Thomas). The remains at the time consisted of a series of brick and concrete structures that included a latrine block, an observation post and shelter, and two concrete structures of indeterminate use. Red bricks bearing the stamp of the Star Brick Company, Newport were observed within the construction. The observation post and shelter consisted of a bottle shaped construction, with the shelter at the north and the observation post at the south. It was made of concrete and had a riveted steel roof. Access to the observation post was gained by two flights of steps separated by a 'courtyard'. A site visit conducted in 2018 demonstrated that the site was almost certainly destroyed, with demolished material piled into a mound. Any further First World War remains have been obscured by bramble undergrowth and scrub vegetation. All of the War Department boundary stones still survive, as does the ornate cast iron fence posts that surrounded the site.</p>

The buried remains of a Cold War era nuclear monitoring bunker were observed and it is likely that the bunker beneath survives. Any trace of the First World War era remains has been obscured by bramble undergrowth.

Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document



Plate 23. Remains of the First World War fencing that surrounds the site. Note the ornate fence tops and the piles of chamfered brick beyond.



Plate 24. War Department Boundary Marker No.1 now removed from its original location.

ID No	CD014
PRN	05572s
Name	WAR DEPARTMENT BOUNDARY MARKER No.1

SEAWARD DEFENCE HEADQUARTERS

NGR	ST1852468974
Type	Boundary Stone
Description	A War Department boundary marker, inscribed 'WD No.1'. These boundary markers are shown on the 3 rd edition OS map (1920) defining a quadrilateral area of land at the top of the Roundbush Rocks cliffs. It has been suggested that this area contains the remains of the Seaward Defence Headquarters (PRN05202s) for the South Wales, which were recorded by Roger JC Thomas in the 1980s (pers. comm.). The stone has been removed from its original position at (NGR ST1850068990) by person or person's unknown at some point and now lies 28m to the southeast.
Condition	Intact
Condition rating	Removed
Period	Modern
Form	Monument by Form



Plate 25. War Department Boundary Marker No.2.

ID No	CD015
PRN	05573s
Name	WAR DEPARTMENT BOUNDARY MARKER No.2

SEAWARD DEFENCE HEADQUARTERS

NGR	ST1857469061
Type	Boundary Stone
Description	A War Department boundary marker, inscribed 'WD No.2'. These boundary markers are shown on the 3 rd edition OS map (1920) defining a quadrilateral area of land at the top of the Roundbush Rocks cliffs. It has been suggested that this area contains the remains of the Seaward Defence Headquarters (PRN05202s) for the South Wales, which were recorded by Roger JC Thomas in the 1980s (pers. comm.).
Condition	Intact
Condition rating	Intact
Period	Modern
Form	Monument by Form



Plate 26. War Department Boundary Marker No.3.

ID No	CD016
PRN	05574s
Name	WAR DEPARTMENT BOUNDARY MARKER No.3

SEAWARD DEFENCE HEADQUARTERS

NGR	ST1858768933
Type	Boundary Stone
Description	A War Department boundary marker, inscribed 'WD No.3'. These boundary markers are shown on the 3 rd edition OS map (1920) defining a quadrilateral area of land at the top of the Roundbush Rocks cliffs. It has been suggested that this area contains the remains of the Seaward Defence Headquarters(PRN05202s) for the South Wales, which were recorded by Roger JC Thomas in the 1980s (pers. comm.).
Condition	Intact
Condition rating	Intact
Period	Modern
Form	Monument by form



Plate 27. War Department Boundary Marker No.4.

ID No	CD017
PRN	05575s
Name	WAR DEPARTMENT BOUNDARY MARKER No.4 SEAWARD DEFENCE HEADQUARTERS
NGR	ST1853168929
Type	Boundary Stone

Description	A War Department boundary marker recorded as No.4 on the OS map. The stone now lies at an inclined angle and the lower half can no longer be seen, the inscribed 'WD' however is still visible. These boundary markers are shown on the 3 rd edition OS map (1920) defining a quadrilateral area of land at the top of the Roundbush Rocks cliffs. It has been suggested that this area contains the remains of the Seaward Defence Headquarters(PRN05202s) for the South Wales, which were recorded by Roger JC Thomas in the 1980s (pers. comm.).
Condition	Intact
Condition rating	Intact
Period	Modern
Form	Monument by Form

4.3 FIXED DEFENCES

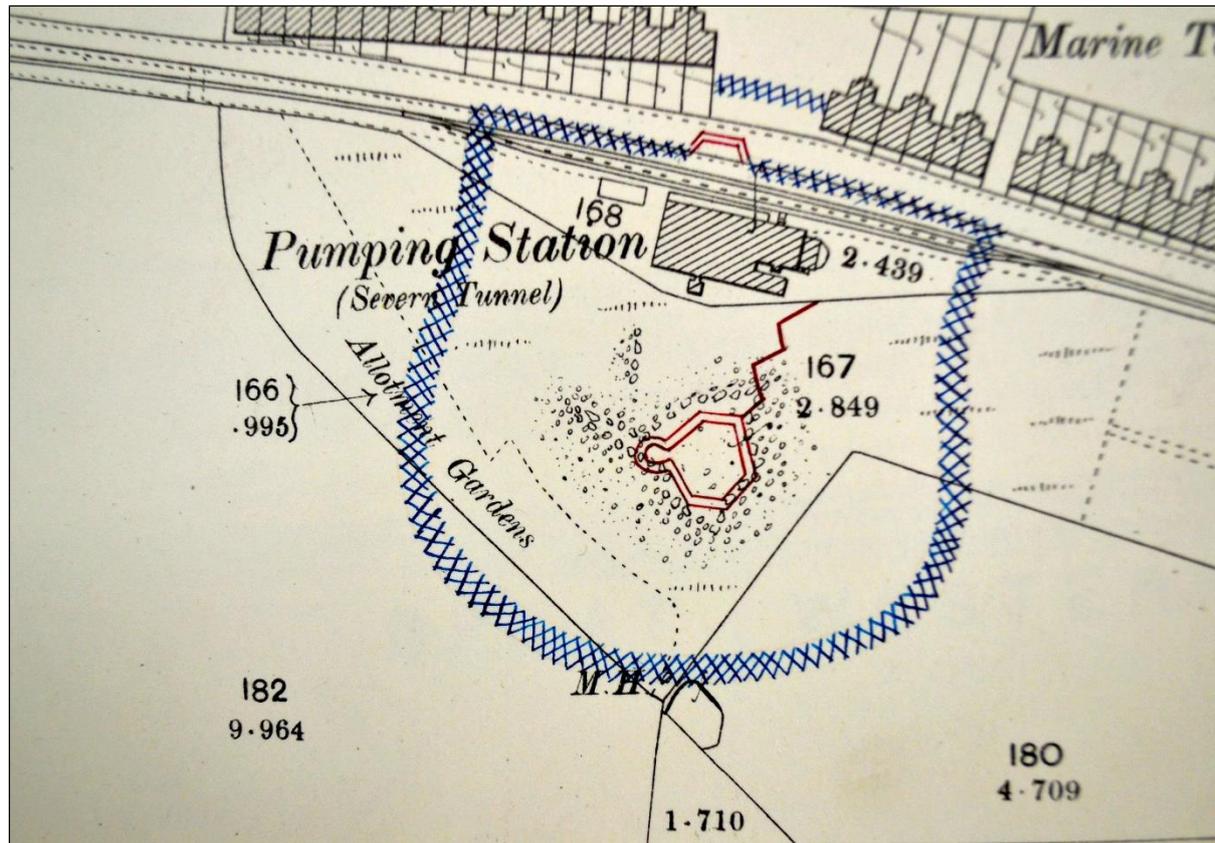


Plate 28. A series of fixed field defences surround the pumping station at Sudbrook (WO 78/4397).

ID No	CD018
PRN	11630g
Name	FIXED DEFENCES SEVERN TUNNEL PUMPING STATION
NGR	ST5019487530
Type	Fortification
Description	A series of fixed field defence, comprised of a central and secondary blockhouse, with a crenellated fire trench all enclosed by wire entanglement, protecting the Severn Tunnel pumping station at Sudbrook. This is one part of a series of defences that were constructed to defend the Severn Rail tunnel and associated features. A site visit in December 2017 found that the original pumping station had been replaced and no First World War features were visible.
Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document



Plate 29. View to the east of the site of the original pumping station and defences.

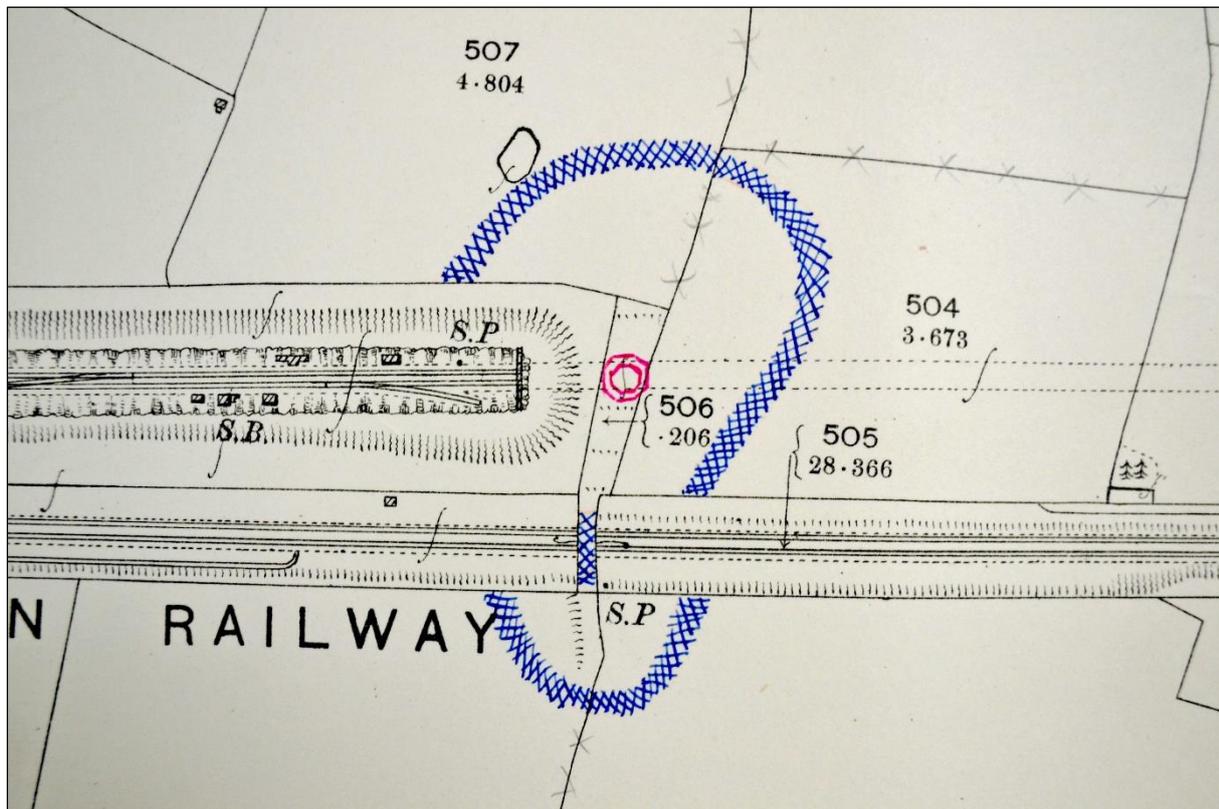


Plate 30. A series of fixed field defences surround the Severn Tunnel rail entrance at Caldicot (WO 78/4397).

ID No	CD019
PRN	11631g
Name	FIXED DEFENCES SEVERN TUNNEL ENTRANCE
NGR	ST4808587627
Type	Fortification
Description	A series of fixed field defence, comprised of a blockhouse enclosed by wire entanglement, protecting the Severn Tunnel rail entrance at Caldicot. This is one part of a series of defences that were constructed to defend the Severn Rail tunnel and associated features. A site visit in December 2017 found that the area had been significantly developed and the First World War features destroyed.
Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document



Plate 31. View to the north of the site, The blockhouse would have stood adjacent to the green fence.

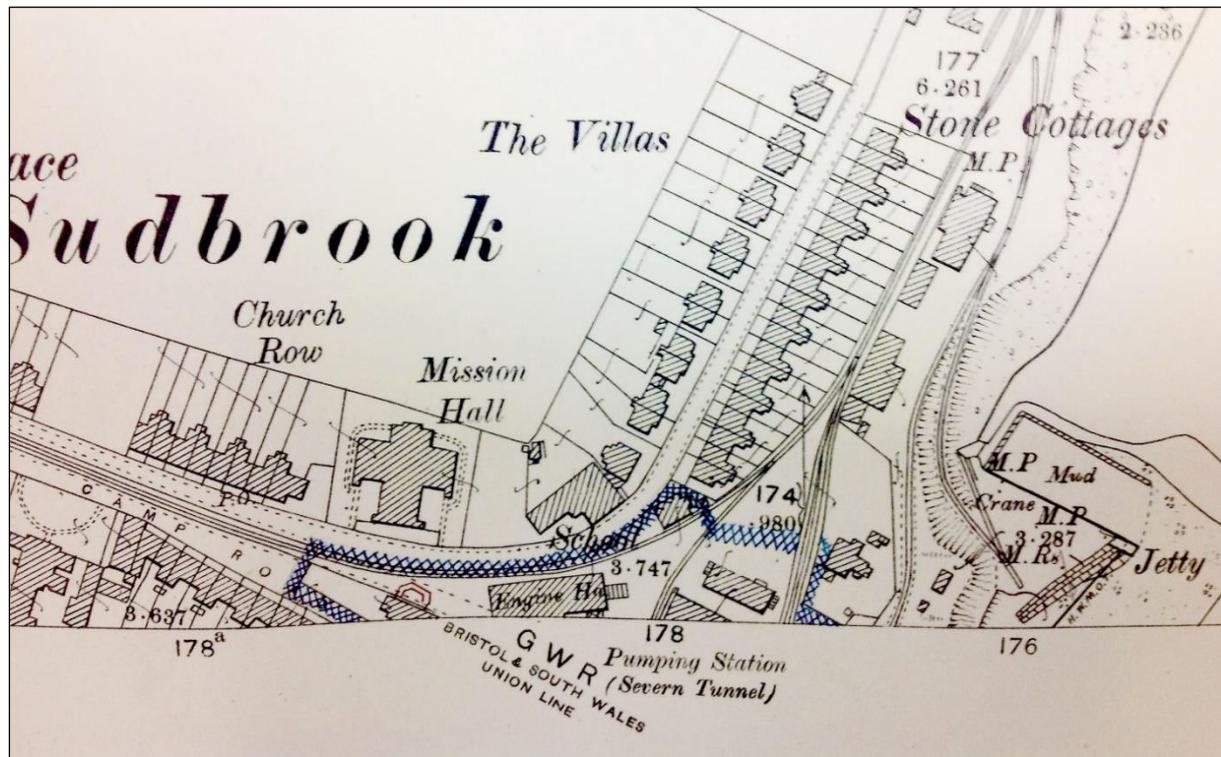


Plate 32. A series of fixed field defences surround the Severn Tunnel engine house at Sudbrook (WO 78/4397).

ID No	CD020
PRN	11632g
Name	FIXED DEFENCES SEVERN TUNNEL ENGINE HOUSE
NGR	ST5069187442
Type	Fortification
Description	A series of fixed field defence, comprised of a blockhouse enclosed by wire entanglement protect the Severn Tunnel engine house at Sudbrook. This is one part of a series of defences that were constructed to defend the Severn Rail tunnel and associated features. A site visit in December 2017 found that the area had been significantly developed and the First World War features destroyed.
Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document



Plate 33. View to the southwest of the engine house. The wire entanglement would have run from left to right behind the white building on the left of the photo.

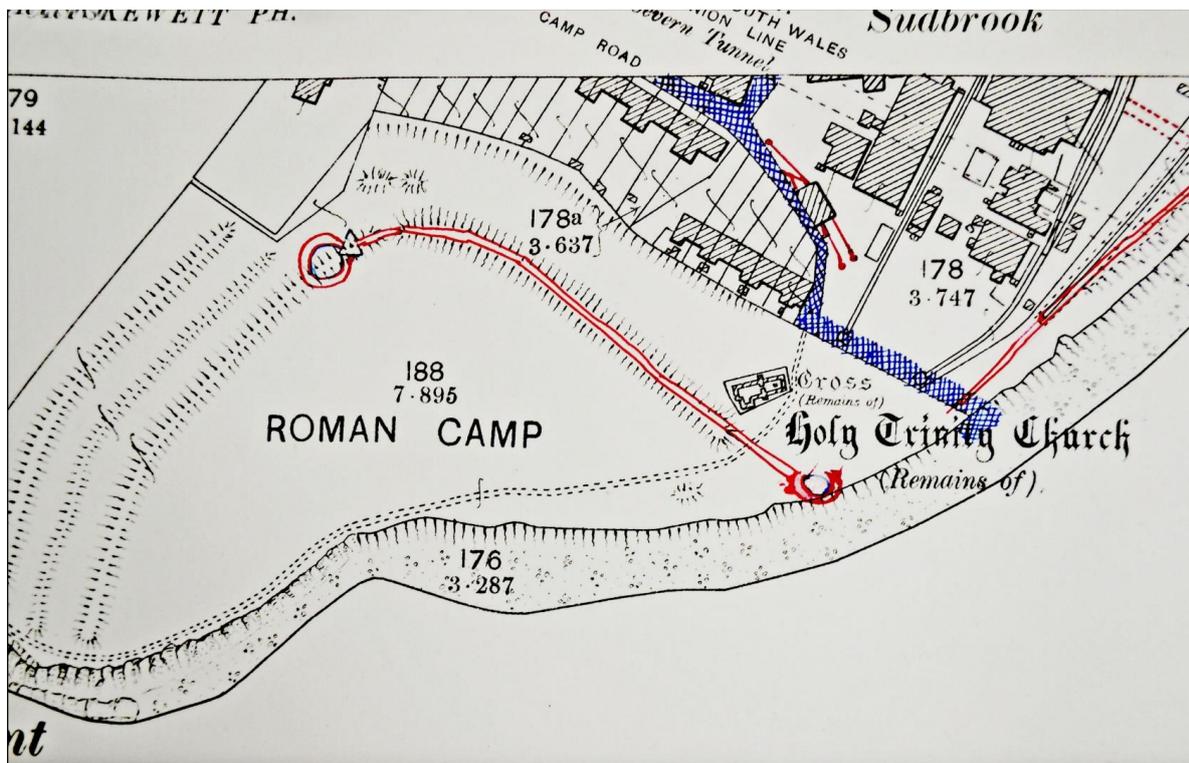


Plate 34. A series of fixed field defences surround the Severn Tunnel engine house at Sudbrook (WO 78/4397).

ID No CD021
PRN 11633g
Name FIXED DEFENCES SEVERN TUNNEL ENGINE HOUSE II
NGR ST5059987350
Type Fortification

Description On the southern side of the Severn Tunnel engine house were located additional field defences, comprising two blockhouses, a series of entrenchments and further wire entanglement. What is interesting about these fieldworks are that they are cut into the remains of the Roman Camp (PRN06169g) at Sudbrook, which is a Scheduled Monument and we can only wonder if an archaeologist was present during the excavation of the defence trenches.

This is one part of a series of defences that were constructed to defend the Severn Rail tunnel and associated features. The Roman earthworks were heavily overgrown during a site visit in December 2017 and no features associated with the First World War occupation of the site were visible. In addition, coastal erosion had removed a section of land where the southern blockhouse would have once stood. A series of concrete pads were noted and recorded to the north of where the blockhouse once would have stood. However, it is suggested that these relate to the later Second World War occupation on the site.

Condition Destroyed

Condition rating	Destroyed
Period	Modern
Form	Document



Plate 35. View to the south from the top of one of the Roman Camp earthworks, This would have been the view from the blockhouse out into the Channel.

In addition to the established centres of defence around the ports and strategic assets, documentary evidence has been found for the mobile forms of defence in the form of elements patrolling coastal areas. These coastal patrols were carried out by regular units, such as the Welsh cycling battalions, (see 4.3 Communication below), but also by groups of organised volunteers. In Porthcawl 120 coast and channel watchers were enrolled. These men patrolled the coast from the mouth of the Ogmore River in the east, to Kenfig in the west, and were known as the Porthcawl Volunteer Coast Intelligence (The Gem September 1914). This group, supported by the local Boy Scouts operated day and night and were stationed in the pilot watchtower, which was adapted for the purpose at a cost of £12 (The Gem September 1914).



Plate 36. To encourage volunteers to join the coastwatchers group at Porthcawl, a special badge was struck to be worn when on duty (Image courtesy of Porthcawl Museum).

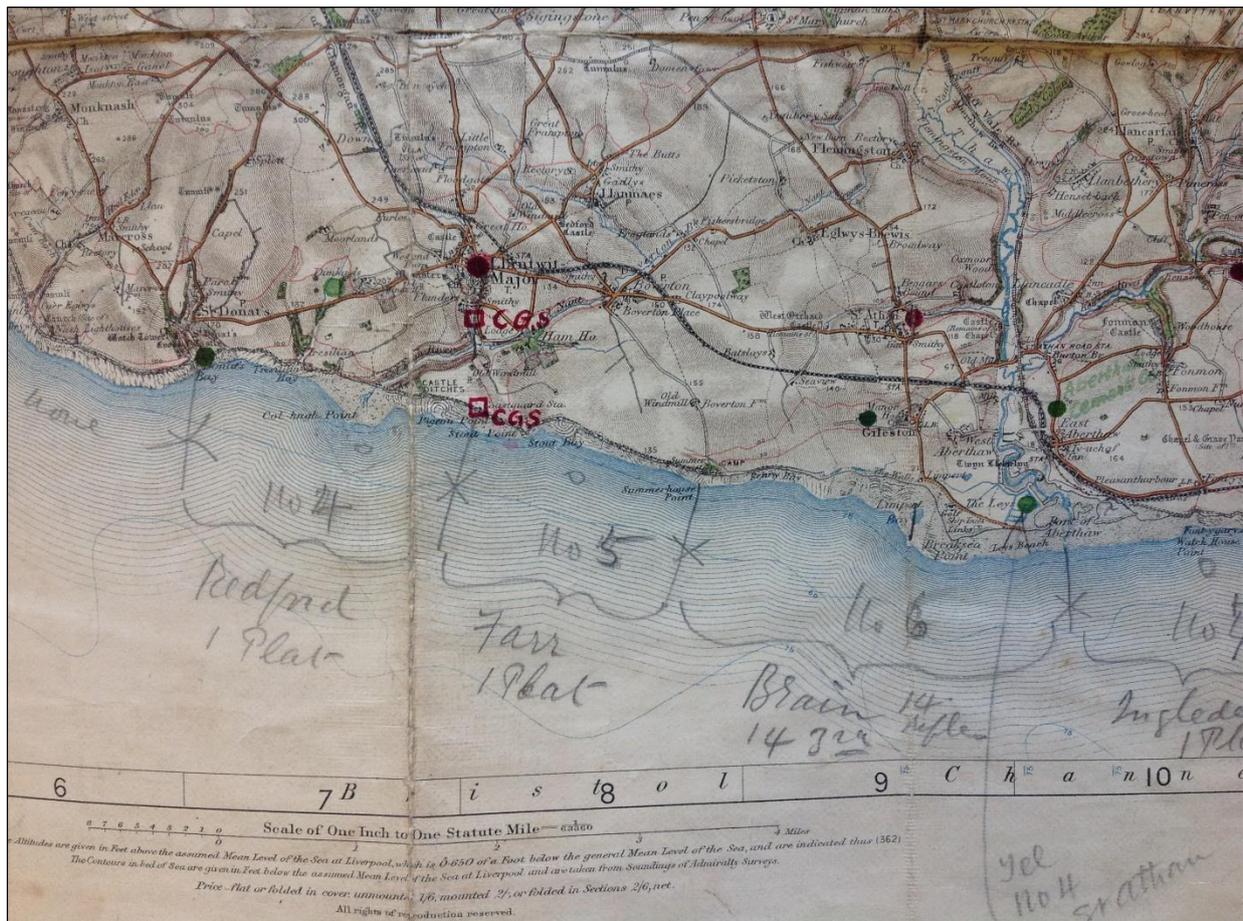


Plate 37. Annotated OS map belonging to Sgt Greyson (No 7. Cyclist Battalion Welsh Regt) marked with the location of post office, private, coastguard and battery telephones. Responsibility for guarding particular stretches of coast has been divided between platoons, marked in pencil (DX789/1).

4.3 COMMUNICATION

Communication played a vital key role in the Severn Defence and evidence from the Western Defended Ports documents (WO 33/555 Part II&III) lists a range of communication methods that were to be employed in defence of the coast. The primary communication sites were the Port War Signal Stations. These were located at the Mumbles Battery (PRN 02243w) and the Nells Point Battery (PRN02018s). From these two locations the Royal Navy could control the movements of all shipping both in and out of the adjacent docks, and also the Bristol Channel using flags and new wireless sets, keeping close liaison with the gunnery control in the room below. The next tier of the communication chain was the Naval War Signal Stations. The majority of the sites utilised pre-dated the outbreak of conflict, particularly the purpose built sites constructed by commercial companies including Lloyds and Marconi, but also the Navy, Coastguard and GPO. These sites were not of a standard design but varied according to their location and role. In addition to the standard semaphore and Day shapes mast, they were also installed with a GPO phone line and wireless sets.

At the outbreak of war, the British wireless network in home waters was much the same as had been established in 1909, but it rapidly became obvious that wireless was a technology of great strategic importance. The running of the Marconi IWC and GPO ship to shore stations was passed to the War Office soon after the commencement of hostilities. British interception of enemy wireless traffic developed very rapidly from August 1914, although there had been virtually no organisation in existence for this purpose previously. The British government immediately took control of parts of the Marconi Company, including transatlantic stations in Wales and its factory

in Chelmsford, and an ambitious training programme for wireless operators was instigated. The War Office created the Wireless Signal Company as a unit on 2nd January 1915, their remit was to operate wireless sets in the field and to run the British stations (Wander, Nd).

All of these forms of communication were supported by a network of Cyclist's battalions. During the conflict two Battalions operated in South Wales. No 7. Cyclist Battalion Welsh Regt. who were stationed in Llantwit Major and Barry and were recorded as undertaking coastal defence duties. (Glamorgan Gazette Friday 11th of December, 1914) and the 1/7th (Cyclist) Battalion TF: who were billeted in Newport Road, Cardiff on the 4 August 1914. Before being sent: to Scotland (Berwick and Montrose) in 1915: Then to Saltburn early 1917, Seaton Carew, Durham. Summer 1917, to Middlesbrough where it remained as part of Tees Garrison.

Cyclist's battalions. had a series of uses, not only did they rely orders from the coastal batteries and headquarters, but they were also given the order to 'man' the actual coastline itself, and keep a watch over the beaches and Channel. Such units leave little in the way of physical archaeological remains and their part in the protection of the South Wales coast would be lost were it not for documental evidence.



Plate 38. Soldiers from the 7th Battalion Welch Regiment with their bicycles in Llantwit Major.

4.3.1 NAVAL WAR SIGNAL STATIONS



Plate 39. The Worms Head Coastguard Station, During the First World War the site was used as an Admiralty Signal station.

ID No	CD022
PRN	05678w
Name	COASTGUARD LOOKOUT STATION, WORMS HEAD
NGR	SS4037187468
Type	Military Signaling Site
Description	<p>Located at the end of the headland looking out to sea is a small Victorian masonry building built as a lookout post for the coastguard. The building is aligned northeast-southwest, built of mortared dressed local conglomerate stone with decorative work around the windows and doorway done in light coloured brick. The windows have concrete sills and wooden frames; a large window occupies the full length of the wall facing southwest. An extension has been built in the same manner as the rest of the building abutting the northeast wall, its design suggesting it was probably added soon after the original building was complete. A later stone built porch way has been added around the main doorway on the northwest wall, with a water storage tank to the northeast of that. New plastic guttering and fascia boards have been added during recent renovation work. Inside the building consists of two empty rooms, currently unoccupied; the building has been recently refurbished. The main building measures 8.1m long and 4.4 to 4.7m wide. The building was used as a lookout point for the coastguard, hence the</p>

large southwest facing window, and remains one of the last remaining Victorian coastguard lookout stations in Britain.

In front of the building are various iron rings, set into concrete pads, that have been suggested once held storm warning equipment. (Poucher 2003-4). However, further research suggests that these were used to support the cables of the Signal Mast that stood some way to the southwest of the structure. The building is in good condition, having been recently renovated. The building is currently owned and used by The National Coastwatch Institution, which was set up in 1994, and operates nearly 50 stations across the UK.

During the First World War the site was used by the Admiralty as a Naval War Signal station and would rely information from the Naval Centre at Pembroke Dock to the Port War Signal station and Officers Commanding the Defence HQs.

Condition	Intact
Condition rating	Restored
Period	Modern
Form	Building

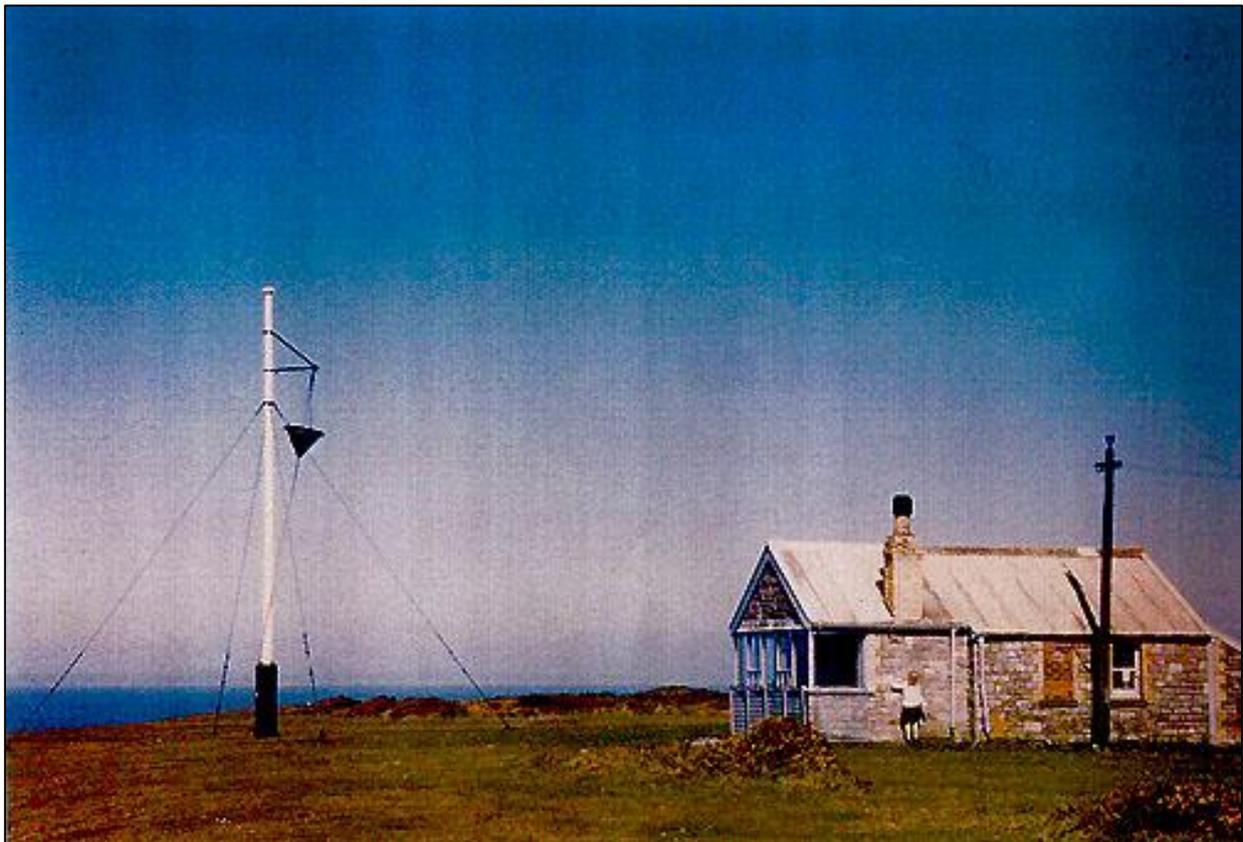


Plate 40. Rhossili Coastguard Lookout photographed during the 1960s. Note the Day shapes signal mast still in place. (Photo Courtesy of Coastwatch).



Plate 41. One of the iron hooks that originally held the tensioning cables of the signalling mast.



Plate 42. View to the northwest of Porthcawl Lookout Tower when visited in 2017

ID No	CD023
PRN	08382m/19359/LBII
Name	PORTHCAWL LOOKOUT TOWER
NGR	SS8189176374
Type	Military Signaling Site

Description

The Pilot Lookout Tower is situated at the eastern end of the Esplanade at Porthcawl. It was built in 1870, and is a Grade II listed building. It is a circular tower, slightly tapered, rendered and white painted, a small gap in the rendering shows stone rubble originally lime washed. It has a flat roof now of concrete, supported internally by cast iron piers on the seaward side where there are four replaced large glazed viewing panels. There are two protruding ledges of unknown purpose at eye level on each side. At upper floor level on the right is a small recessed light, apparently unaltered, and facing the town. To the rear are doors on each level with iron lintels. A timber flight of steps ascends to the first floor. There are sea guidance lights and flag poles on the roof.

The lookout was in use during the First World War (when it was manned by the Porthcawl Volunteer Coast Intelligence Department) and Second World War and has been used for various activities between those conflicts up until the 1960s. The building is currently owned and operated by The National Coastwatch Institution, which was set up in 1994 and operates nearly 50 stations across the UK. The lookout has been refurbished with grant funding from the Townscape Heritage Initiative, by Bridgend County Borough Council with the full support of Porthcawl Town Council.

Condition	Intact
Condition rating	Restored
Period	Modern
Form	Building



Plate 43.1914 postcard depicting the Watch Tower and signal mast (Image courtesy of Porthcawl Museum)



Plate 44. Llantwit Major Admiralty Signal Station. (Photo courtesy of People's Collection Wales).

ID No	CD024
PRN	05201s
Name	LLANTWIT MAJOR COASTGUARD STATION
NGR	SS9678267221
Type	Military Signaling Site
Description	A coastguard station near Llantwit Major was utilised as an Admiralty Naval War Signal station during the First World War and would rely information from the Naval Centre at Pembroke Dock to the Port War Signal station at Nells Point and to Officers Commanding the Defence HQs. The station is recorded as destroyed and a site visit in 2017 confirmed these findings. A single photograph is the sole piece of evidence located for its use by the Royal Navy. It is shown on the 3 rd edition OS map as a coastguard station and is labelled as possessing a semaphore signal system.
Condition	Destroyed
Condition rating	Destroyed
Period	Modern
Form	Document



Plate 45. Photograph of coastguard's station and old harbour, Barry Glamorgan 1899_(COPY 1/444/96)

ID No	CD025
PRN	13401
Name	BARRY KNAP WATCHTOWER
NGR	ST1036166314
Type	Military Signaling Site
Description	<p>Circa 1860. Built as coastguard station. Two storey tower of lias Limestone rubble, battered at the base, with a corbelled parapet and a string course above the east facing window. The seaward elevation has a corner chimney stack to the first floor chamber, which is lit by segmental-headed window. The former boat entrance has a segmental headed arch, and the lower part has been blocked to turn it into window. The west elevation has a wide square-headed entrance with boarded doors below, and camber-headed window above. The east and north elevations are blank.</p> <p>This structure is recorded on an annotated OS map (DX789/1) belonging to Sgt Greyson (No 7. Cyclist Battalion Welch Regt) which had been marked with the location of post office, private, coastguard and battery telephones that could be used during an enemy invasion.</p>
Condition	Damaged
Condition rating	Damaged
Period	Modern

Form

Building



Plate 46. The old coastguard station when visited August 2017.

4.5 PORTS

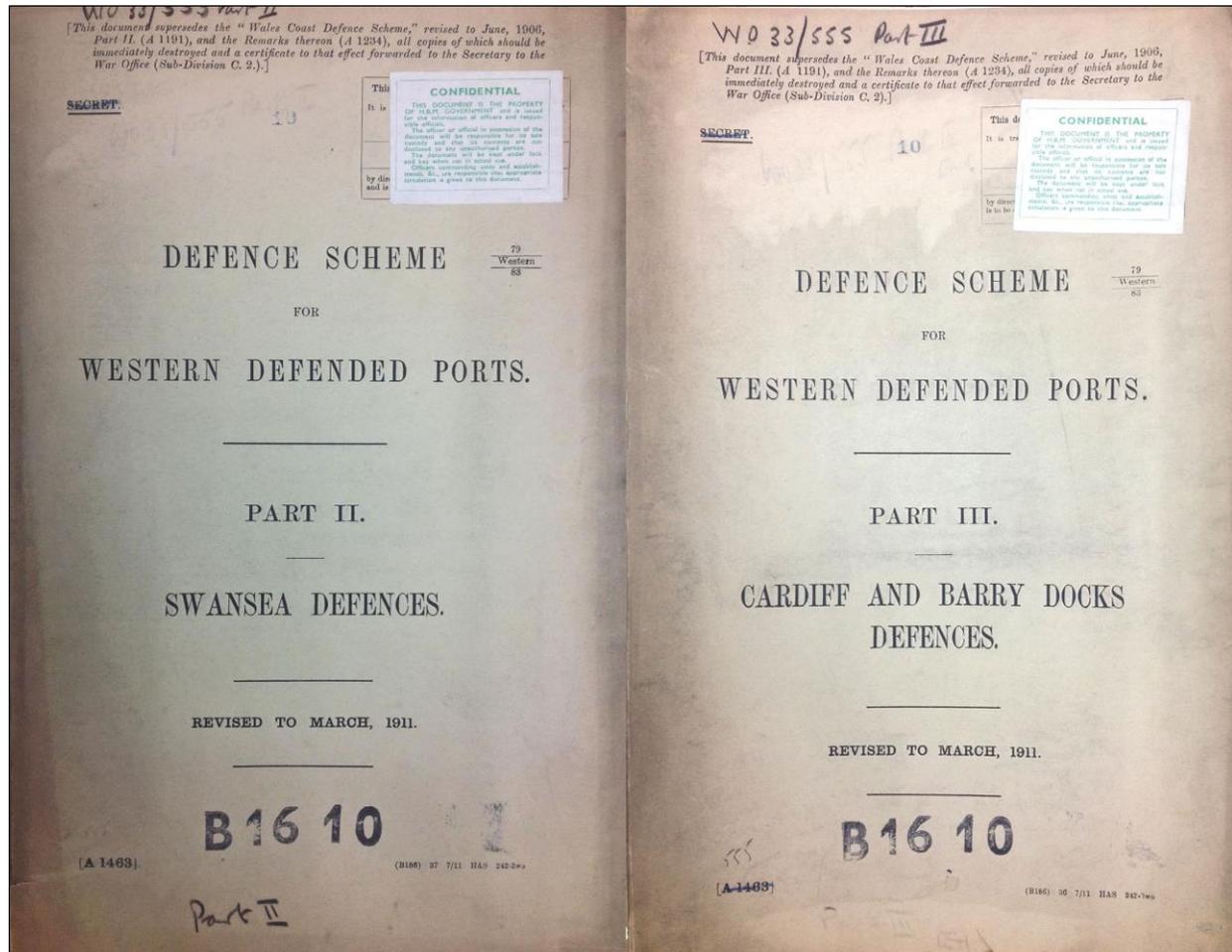


Plate 47. *Western Defended Ports* dates from 1911 and outlines the defence of the South Wales ports if attacked (WO 33/555 Part II&III)

The 1904 Entente improved Franco-British relations and Germany was increasingly seen as the more likely future enemy and invader. With the greater confidence in the ability of the Royal Navy, the Defence Committee now considered that invasion was basically a naval problem (CAB 38/16/2). The *Western Defended Ports* documents, drawn up in 1911 (WO 33/555 Part II&III), list the forms of probable attack to the South Wales ports. These attack scenarios come primarily from the sea in the form of ‘Attack by unarmoured cruisers’ or ‘by small raiding party’. In order to combat and repel enemy action the reports go into great detail outlining the strategic defence network –from Coastal Battery fortifications to Infantry Division- that underpins the Seven Defence scheme. On 1 August 1914 there were 11 Fortress Companies at home and 15 overseas, all on coastal defence duties. Some were entirely for Electric Light (that is, searchlight) duty; others also had works responsibilities. On mobilisation, men of the Territorial RE took over the home stations, releasing men for duty with the British Expeditionary Force - although not all regulars were withdrawn right away but were released gradually, their places being filled by men who were unfit for overseas service. Territorial troops also moved out to take over some of the overseas stations. Fortress companies provided support for RGA units, particularly with searchlights and associated equipment (Rinaldi 2008 p291). Archaeological evidence for this military activity is ephemeral at best. Troops stationed at the South Wales ports would almost certainly made use of pre-existing facilities which would have required little in the way of adaption for military service and would go unrecognised with no archeologically visible legacy and would be impossible to quantify. The use of the transit sheds as accommodation by the Manchester Regiment at Cardiff Docks is certainly not unique and similar arrangements are

likely to have been found at all the South Wales Ports. Yet again however, the archaeological legacy is non-existent due to the transitory nature of the occupation.

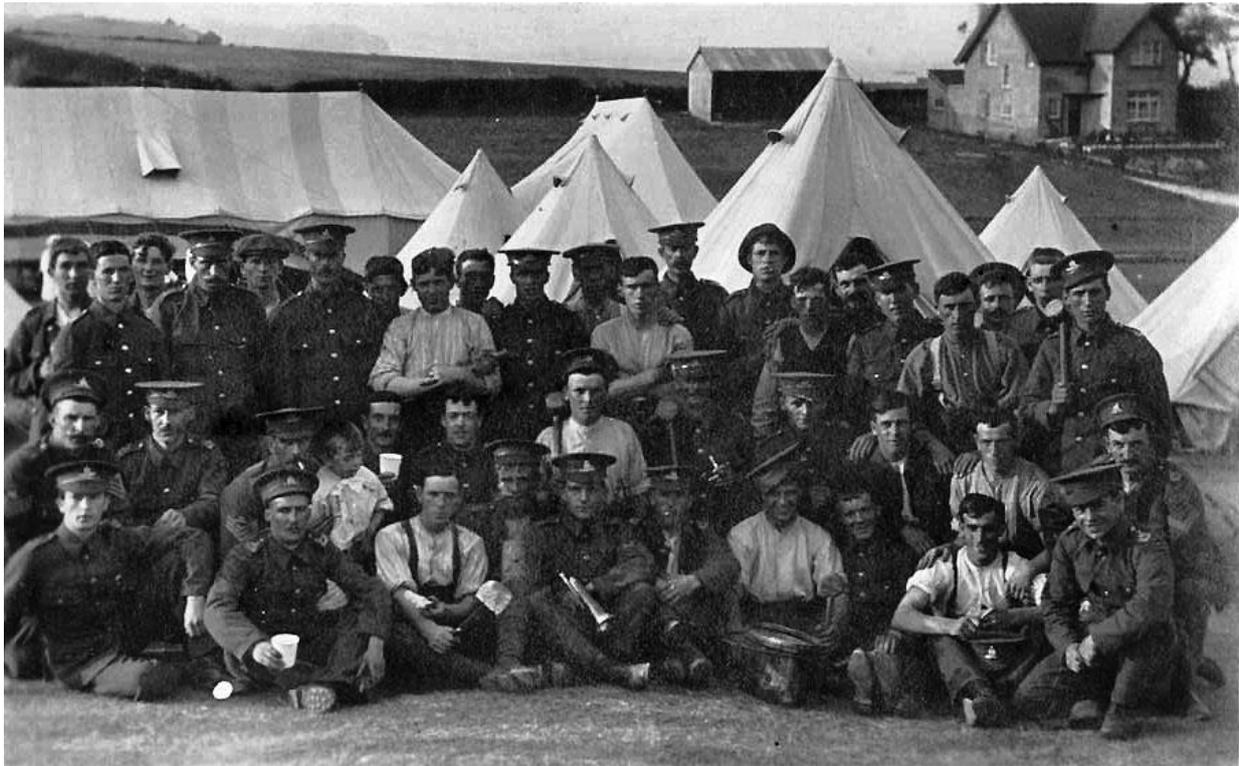


Plate 48. Men of the Glamorgan Royal Garrison Artillery (Image Courtesy of Porthcawl Museum).

Despite the significance of the Newport port, possibly being greater than either Cardiff or Barry at the time, no First World War defences have been recorded in the Newport area, and it does not have a sub-section in the Western Defended Ports documents. It is probable that no ship was expected to be able to survive the run up the Channel as far as Newport but it is more likely that the generally flatter topography of the Newport area was unfavourable for the siting of coastal artillery due to the difficulty of observation. Two emergency coastal guns appear to have been installed at Cardiff's Alexandra Dock during the First World War although most sources ascribe a Second World War date to the installations. It has been suggested that lighter artillery pieces were mounted at Newport, although no record of any such installations has been located (Crawford 2016). This assumption is supported by a directive of Committee for Imperial Defence, who suggest guns be deployed at defended ports throughout the British Empire. (CAB 38/16/2 p13). The guns suggested however are the BL 9.2 inch Mk X gun. This was a British breech loading 'counter-bombardment' gun, designed to defeat ships up to heavy cruisers armed with 8 inch guns.

4.5.1 The Navy

Despite the presence of four major ports in the region (Swansea, Cardiff, Barry, and Newport) the Royal Navy presence in Glamorgan and Gwent remains poorly understood. Swansea patrol was based in the port, responsible for the holding and inspection of cargo vessels but little is known concerning facilities within the port for this service. Evidence from the Western Defended Ports documents (WO 33/555 Part II&III) and papers from the Home Ports Defence Committee (CAB 38/16/2) suggest that the presence of a major naval base at Pembroke Dock negated the requirement for a significant Royal Navy presence further up the Bristol Channel. Nevertheless, Welsh waters were vitally important to the British war effort. Much of the shipping to and from Liverpool passed the Welsh coast, while coal shipments from Cardiff and other South Wales ports were essential to the functioning of the Royal Navy. Nevertheless, the waters around Wales were

less heavily defended than other British waters, such as the English Channel, and this meant that merchant ships continued to be attacked and sunk by U Boats in Welsh waters until the end of the war.

One of the strategies that the British Admiralty developed to lure U-Boats to the surface and engage them head-on was to arm and disguise merchant ships

4.5.2 Q-SHIPS.

It was hoped that a U-boat would surface close by to board the ships before destroying them. The disguised merchant ship would be able to hit back as the unsuspecting U-boat came close. These armed merchant became known as Q-ships—possibly because of a prominent Q-boat base at Queenstown, or because the wartime signal for ‘unidentified merchant ship’ was ‘QQQ’. Discipline, an ability to act and to think quickly on one’s feet in the service of that act were required of both captains and their crews. Crews would have to remain still, even when shelled, while ‘merchant seamen’ hurriedly evacuated and rowed away in lifeboats — pretending to abandon ship as if it were a civilian merchantman. This was known as a ‘panic party’. If they stayed close to the ship, the U-boat would approach to ask them for the ship’s papers and to take charge of the ‘helpless merchant ship’, and would then be sunk by the ship’s small guns (Chatterton, 1922, p6). The South Wales docks played host to a number of Q-Ships during the war, with Cardiff, Swansea and Barry, all acting as a base for fitting-out or repair (Chatterton, 1922). However, such activities would leave little trace in the archaeological resource.



Plate 49. Buildings used by the garrison at Alexandra Dock, Cardiff in 1915. Penarth Head in the background (Image courtesy of the Glamorgan Archives).

ID No	CD026
PRN	02015s
Name	ALEXANDRA DOCK BATTERY, CARDIFF
NGR	ST 50516 87439
Type	Battery

Description The seaward side of the Alexandra Dock Cardiff contains the remains of two 6 inch coastal gun positions which are generally believed to be Second World War in date. However, there is some evidence to suggest that these battery positions may in fact have an origin in the First World War (*Guns across the Severn*, Saunders *et al* 2001). Circumstantial evidence for the presence of a battery comes from the photographic archive held by the Glamorgan Archives of a garrison of soldiers from the 8th Battalion The Manchester Regiment, in the same area of the dock in 1915. Whilst the troops may also have been responsible for security around the docks, it is possible that they were also there to defend the landward side of a gun battery, something which is known to have been done in Pembrokeshire and Lavernock. The garrison is believed to have been accommodated in transit sheds on the dock side which whilst being eminently practical at the time, would have left little in the way of archaeological evidence, even were the shed still extant, which unfortunately it is not. The remains of the gun battery are believed to include a holdfast raised gun platform 3' 2" (0.96m) high incorporating ammunition lockers, ammunition issue hatch

and a magazine/shell store. A duty room is also said to be evident although much of the original structure is believed to have been destroyed. It has not been possible to access these remains and the actual condition of these positions is unknown. Separate identification of phasing for dating purposes could only be undertaken by physical examination and even then may prove problematic without documentary evidence.

Condition	Unknown
Condition rating	Unknown
Period	Modern
Form	Unknown

5. CONCLUSIONS

The project has established that the survival of visible military archaeological remains directly attributable to First World War coastal defence within Glamorgan and Gwent is minimal. Though this report has identified 17 sites, the majority though in use during the period, originated before ever the first shots were fired during the War to end all Wars. The coastal defence batteries defending the Welsh side of the Bristol Channel are a prime example. Initially constructed amid the anti-French paranoia of the 1860s, modernised and rationalised during the Owen review of the coastal defence of Britain during the 1900s and then used to defend these shores during the 1914-18 war. However, their story does not end there. Almost all were disarmed during the post-war period or sold off by the War Office. By the time of the Munich crisis of 1938, an awareness of the inevitability of war once again meant that those surviving batteries were further altered, updated when a second conflict overcame this Isle. This longevity of sites is something we have encountered throughout the First World War project; as most military structures are built in locations for good practical reasons which tend not to change over time. This, coupled with the fact that the military is an organisation with an extensive corporate history backed by a government department perhaps noted for its parsimony, tends to favour long periods in continuous occupation. For such sites, it is perhaps problematic to look through the relatively arbitrary lens of a specific time frame (1914-1918) as opposed to taking a more general view of the occupation.

Nevertheless, what this project has succeeded in demonstrating is that primary archival work is key to sewing together the complex histories and relationships of sites leading to the location and possible discovery of unknown surviving physical remains. Previous studies into coastal defence have remarked on a general unpreparedness of Glamorgan and Gwent for war (Crawford 2016). Documentary research has displayed that our coastal defences as a whole, were in a high state of readiness at the outbreak of war, thanks to the close attention to home defence and the appreciation of the potential German naval threat during the previous ten years. Much of the information generated for this report falls firmly within the historical archaeology branch of the profession, where written and photographic documents are a primary means of assessing sites in concert with the physical evidence. The boundaries between ‘history’ and ‘archaeology’ are rather looser than conventionally encountered, particularly for sites where the only surviving evidence is documentary. However, such a distinction is somewhat artificial, for no site survives in isolation and were it not for the historical documents, there might be no record of human activity in that area, with the very real consequence that were a particular site ever to be excavated or become subject to development, any archaeological remains that are encountered (e.g. deposits of discarded surgical and medical equipment) might easily be misunderstood or dismissed. The author makes no apology for this emphasis on documentation, even if it only demonstrates the relative absence of archaeology; the process still answers valid questions.

In summary, the physical military legacy specifically relating to the First World War within Glamorgan and Gwent is largely invisible. This is due primarily to the transitory nature of the original sites and to a dearth of research in the past which could have recorded such sites prior to their destruction. What does survive is a number of palimpsests of sites where there is military usage dating from the 1840s to the present day, some of which is already subject to legal protection, but much of which is not and has already been damaged or destroyed.

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**Glamorgan-Gwent
Archaeological Trust Ltd**



QUALITY CONTROL

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Report Date: March 2018

Report Number: 2018/010

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