

# “Almost a model of its kind”: Les Blanchés Banques Camp for German World War I military prisoners

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Complete surface mapping, combined with sample geophysical survey, has enabled a detailed examination of the layout of the Blanchés Banques Camp for German World War I military prisoners. By combining the new survey data with surviving contemporary images, subsequent aerial photographs and an account by the camp designer, Major T. E. Naish, it is possible to understand the decision-making processes in constructing and maintaining the camp, and the constrained world in which the occupants spent several years of the war. This, one of the best-preserved World War I prisoner of war camps in the British Isles, can still be appreciated by walking over the dunes today, and deserves the highest level of protection for the future.

## **Introduction**

Jersey’s contribution to World War I is perhaps best known, at least locally, from the reputation of the Royal Jersey Militia – including the ‘Jersey Pals’ – the soldiers from the Island recently researched by local historian Ian Ronayne (2009). The centenary of that war, which took place a few years after that book’s publication, enabled us to revisit many local and national stories, not least those which took place upon Jersey’s shores – and upon a former training ground of the Jersey Militia in particular.

In St Helier, a new war memorial to the 603 parishoners who died, unveiled in 2018, marked a major element of the Island’s centenary heritage ventures. Just as the memorial marked the end of the centenary projects, ‘Voices of the Great War’, an exhibition at Jersey Museum, marked the

beginning of the years of remembrance, reminding many that the Island had housed a POW camp in the parish of St Brelade. In conjunction with the exhibition, Jersey Heritage published a book (Ronayne 2014) and a four-year blog on its website<sup>1</sup>, in both of which the POW camp featured.

The Blanches Banques camp, however, had its centenary – otherwise little celebrated, apart from local historian Heather Morton’s book about the camp (2018) – during the years 2015-2019. To mark this event, an archaeological project bringing together experts from the universities of Cambridge, Liverpool and Bristol explored what survived from the camp at its 100th anniversary. Although some features of the camp are familiar to many, the patches of bitumen, concrete foundations, and parts of latrine blocks have yet to be properly fully surveyed and mapped. Other aspects of the camp are hidden in long grass or sand-dunes, and until now it has been unclear – in the absence of excavation – what has survived to the present day.

This paper introduces the findings from the archaeological survey project, and, it is hoped, will allow an extension to existing information panels at the site, as well as contributing to what is known about this important part of Jersey’s heritage at this point in time, one century after the camp was in operation. The prisoner of war camp at Les Blanches Banques was constructed in 1915 to accommodate captive German servicemen. The choice of site and design were the responsibility of Major T. E. Naish of the Royal Engineers, who compiled an account of the challenges and decisions involved in the creation of the camp. The site was chosen for two principal reasons: the uncultivated sand dunes survived as a large area of open ground in the otherwise intensively farmed landscape, and it had a supply of fresh water capable of meeting the daily needs of well over 1500 men (Naish 1955). The population of Jersey at this time was less than half its current level<sup>2</sup>, and the area near the camp was even less populated than it is today.

In the early months of the World War I no standard design existed for such camps, so Naish modelled the layout and structures on permanent infantry battalion camps of the day. The camp measured about 300 by 300 yards (274m by 274m), and was laid out parallel to the adjacent road, Le Chemin des Basses Mielles (Figures 1; 2, top). Naish’s account, which was written in 1920 shortly after the camp closed, gives a valuable insight into the constructions within the camp for the prisoners, as well as those lying outside the perimeter to accommodate the guards and administrative staff. It also gives an insight into the choice of site, the logistical issues which

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1 [www.jerseyheritage.org/ww1-blog](http://www.jerseyheritage.org/ww1-blog), accessed 26 May 2020.

2 The 1921 census of Jersey showed that the population of the Island at that time was 49,519, according to a popular guide book of the period published by Ward, Lock and Co.

had to be overcome in constructing the camp and his meticulous attention to detail in the crucial infrastructure of power generation, drainage and water supply (Naish 1955).

The water supply and drainage proved challenging. Naish identified a small spring at La Moye golf course and later discovered a second, subterranean, spring which he tapped to provide a constant supply of water: this combined with storage tanks was adequate for the camp needs. Galvanised wrought iron pipes carried water into buildings, while drainpipes removed the waste to a septic tank at Le Braye slipway in St Ouen's Bay.

The camp opened on 20 March 1915, only three months after the site was selected. Initially it held 1000 men, with a guard of 100 men in addition to administrative staff and officers. By July 1915 the complement was raised to 1500 men, and the guard to 150, and about 30 officers, requiring construction of additional accommodation for both groups.

The camp was closed temporarily on 29 August 1917 after the prisoners were transported to England to work in agriculture and other roles, but it reopened the following April to accommodate a thousand NCOs who according to the Hague Convention could not be compelled to work. The final closure took place in October 1919. After the war, the camp was demolished, leaving in place the concrete and brick foundations and below-ground infrastructure such as drains and water tanks. Some of these remain visible today, although overgrown and partially covered by sand dunes.

### **Current topography of the sand dunes**

The site of the camp lies with an area of sand dunes (Figure 1), designated as a States of Jersey SSI (Site of Special Interest). Part of the site is dominated by tall spiky marram grass, which stabilises the dunes by trapping sand particles, while other areas, notably to the south and north-east, have low vegetation cover, dominated by burnet rose (Figure 2, bottom).

The construction of the sea wall along St Ouen's Bay has created a 'closed' sand dune system with little sand blown over the site, allowing the dunes to stabilise and develop different vegetation.<sup>3</sup>

The formation of the dunes has been affected by the presence of the camp (Figures 1; 2, bottom). Three distinct location types could be identified where the camp foundations have had an obvious impact on the development of the dunes. The first is the concrete, or in one case bitumen-coated, floors. They remain largely unencumbered by sand, and only low vegetation has

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3 <https://www.gov.je/Environment/ProtectingEnvironment/Land/SSIs/Pages/LesBlanchesBanques.aspx>; see also <https://blog.gov.je/2018/02/28/jerseys-ecological-sites-of-special-interest-les-blanches-banques/>.

been able to establish itself and spread from the edges across the floors. The sand is readily scoured off the hard surfaces and does not settle, which has meant that soil has not been able to form, and it remains a hostile environment for vegetation. The exception is along the raised edges which trap sand particles, creating low vegetated earthworks. The second is the triple rows of concrete and brick piers which supported the huts. The piers act as a trap for blown sand, which has accumulated against and around the piers. The result is that many of the hut locations are evident as prominent raised platforms in which the piers are variously exposed or buried. The third is the long spaces between adjacent hut platforms. These gaps appear as sub-rectangular hollows up to 1.5m deep. The marked difference in height from base of hollows to the top of the platforms shows the effect of the wind scouring sand out of the hollows. This effect is most pronounced where sand surfaces had previously been exposed. The surface vegetation in these areas may have been worn down to the sand by trampling during the life of the camp and suffered severe wind erosion after it was dismantled.

Although there are some irregularly-shaped dunes which do not appear to follow the position of camp buildings or features, others which are linear in form and follow the main axes of the camp buildings may mark the location of other structures. Magnetometry suggests that at least one barrack hut sub-rectangular structure, of which no other surface trace was visible, may have been marked by an accumulation of sand. One low linear bank of sand may mark the southern perimeter fence but this requires further investigation.

There is some evidence that the dunes were not levelled completely before the camp was constructed. The earliest aerial photograph of the camp taken from the south-east shows the open space of the exercise area/parade ground on a raised terrace slightly higher than the nearest row of barracks.

### The archaeology of Prisoners of War

The study of prisoner of war camps and the internees' experience is a relatively new addition to the field of archaeology, but it has become well established particularly in the British Isles and North America (Myers and

**Figure 1:** 1933 vertical aerial photograph of Les Blanchés Banques Camp, with map showing location on Jersey. Aerial photograph: *Société Jersiaise Photographique Archive*; map: R. Philpott.



**Figure 2:** General view of the camp from the east.

**Top:** Photograph of the camp in 1915 (Naish 1955).

**Bottom:** 2019 view from same location.



Moshenska 2011, Carr and Mytum 2012, Mytum and Carr 2013), and has strong methodological links with parallel developments in the study of army camps on the one hand and other forms of incarceration on the other. Army camp studies have concentrated on planning, organisation and construction (Evans 2005), whilst other incarceration sites have also incorporated the inmate perspective, including various forms of resistance and attempts at escape. The two main periods that have attracted study are the American Civil War (Bush 2012, Thoms 2004) and the Second World War (Rees-Hughes et al 2016, Pringle et al 2007). Channel Island archaeological and material culture research on camps has concentrated on the remains of forced labour camps (Carr 2016, Carr and Sturdy Colls

2016; Sturdy Colls et al 2019, 2020) and the artefacts and experiences of civilians (Carr 2010, 2012).

Sadly, the study of World War I prisoner of war camps has been less frequent (Demuth 2009), although some investigation has taken place on the internment of civilians on the Isle of Man (Mytum 2102, 2013). Current British research following involving community fieldwork linked to the centenary of the World War I has included both military and civilian camps, but no results on prisoner of war evidence is yet formally published. It is therefore particularly significant that the well-preserved remains at Les Blanchés Banques should be recorded and interpreted as an innovative contribution to understanding World War I prisoner of war camps in general, and Jersey's experience of the World War I in particular.

### **Project aims and methods**

The aim of the current project was to create a detailed archaeological record of the surviving camp remains. This was to be achieved by a measured survey of the remains, both the internal and external structures, to create a detailed large-scale digital plan, complemented by a magnetometer survey to identify the location of structures not visible above ground. Some structural features are visible within the sand dunes, and these were all numbered and briefly described, supported by a photographic record. The best-preserved upstanding structures were selected structures for 3D photogrammetric modelling.

Construction of the detailed modern interpretive site map has drawn on a range of sources. The evidence from the surveys has been constructed to allow identification of visible and buried structures. Moreover, it has been augmented by other sources to reconstruct the original camp layout. Historic photographs and drawings illustrate some details of the construction and form of the buildings, and general views, both drawn and photographic, while aerial photographs taken after the camp was closed retain valuable information on the camp layout.

Various contemporary illustrations exist of the camp, including a sketch plan, and drawn and photographic views contemporary with its occupation (discussed in more detail below). Primary sources include documentary and pictorial evidence from the camp construction in 1915 and subsequent occupation (1915-1919), including contemporary photographs of individual or groups of huts, and of building interiors, by Captain Eli Bowers and others. A few views consistently depict the overall layout the camp as viewed from the dunes, though not all details correlate across the images, which perhaps may reflect changes to the camp over time.

By far the most valuable and detailed source was the article by Naish

himself (1955). The photograph illustrating his published article is one of the most informative single views. While the archaeological survey and historic photographs can to some extent reconstruct the camp's physical remains, his narrative has the immense advantage of being a first-hand account by the officer responsible for planning and constructing the camp and is particularly informative on the challenges which had to be overcome and the rationale for the decisions made.

There are two important interwar sources. The 1:5000 Ordnance Survey map published in 1935 marks out the extent of the camp and shows its relationship to the topography and road network. Far more detailed is the 1933 aerial photograph at the Société Jersiaise (Figure 1) which, although depicting the camp a few years after demolition, nevertheless captures many details of building platforms and infrastructure before they were obscured by the encroachment of vegetation and dune sand. World War II and post-World War II aerial photographs supplement the 1933 view and retain some detail of the camp layout but lack the clarity of the interwar photograph.

One unexpected source was a surviving hut which was removed from the camp after WWI and was still extant in 2019. It provides a tangible three-dimensional impression of the original structures, although removed from its context and in a sadly dilapidated condition. This is the closest we can come today to experiencing the physicality of the barracks or prisoners' huts.

The record produced by the archaeological project team consists of a series of archive files containing the raw data (GPS, TST, magnetometer, photography), and a report which draws together the key findings on the location, preservation and function of the structural remains. A digital copy of the project archive and detailed report will be deposited in the Société Jersiaise and other appropriate archive repositories. The report represents an important resource for the management of this significant heritage asset, providing a clear evidenced understanding of the location and extent of the camp and its associated buildings. This paper, using key information from the report, contributes to the interpretation and thereby the preservation of the monument, an important element in Jersey's World War I heritage.

An evaluation and consideration of potential middens took place in 2015, allowing an assessment that at least some of the middens existed prior to the camp. A fuller survey was justified, however, because the surface structural features of the camp were unusually well preserved and so deserving further study. In the first full fieldwork season, August 2017, a sample area of the camp interior and exterior was investigated, the efficacy of magnetometry as a technique to record below ground features was tested by sampling 21 blocks of 30 x 30m, the working

method appropriate to surveying the camp buildings was established for the Total Station Theodolite (TST) survey and a photographic and limited photogrammetric survey undertaken. The second season, September 2019, completed the recording of visible features by TST measurement and photography. In addition, in the light of the success of magnetometry as a technique to identify remains of the camp shown in 2017 to enlarge the area covered by magnetometry as demonstrated in 2019 with another ten 30m squares (Figure 3). Three of the best-preserved upstanding structures were also recorded by detailed photogrammetry, which were converted to 3D digital models and images in Agisoft's Metashape programme.

The magnetometer survey began by scanning areas containing visible structures to identify the signal for concrete buildings. It was then extended to cover a range of terrain, both within and outside the perimeter, to locate potential structures, and buried infrastructure, such as drains, which were not visible on the ground surface.

Typically, magnetometer surveys for archaeological purposes attempt to reduce the effect of high readings ('spikes') caused by iron objects as the high response overshadows more subtle archaeological features. In this case the frequent 'spikes' in magnetic response were actively sought by the survey as many of them were generated by iron reinforcement bars and structural ironwork within the concrete and brick structures. The pattern of 'spikes' formed an integral part of the archaeological record and allowed the identification of buried and invisible structural evidence from the camp infrastructure. The magnetometer survey has produced clear evidence for the buried structures within the camp. By comparing the signal of visible concrete structures, it has been possible to confirm the presence of similar structures in other areas where no surface remains are evident.

### **The camp layout**

As might be expected of a prisoner of war camp established by the British army under the command of an officer of the Royal Engineers, the camp was laid out with military regularity and precision (Figure 4). Overall, the camp measured about 300 yards square according to Naish (1955). The interior was subdivided into living accommodation and domestic facilities, which were located in the northern two-thirds, and a large recreation yard set aside for sports measuring about 100 by 300 yards (91.44 x 274.32m) which occupied the southern third.

The accommodation area consisted of four rows each of twelve of wooden huts, aligned east-west, with the long axis of individual huts aligned north-south. Between these rows were washing, toilet and cooking facilities



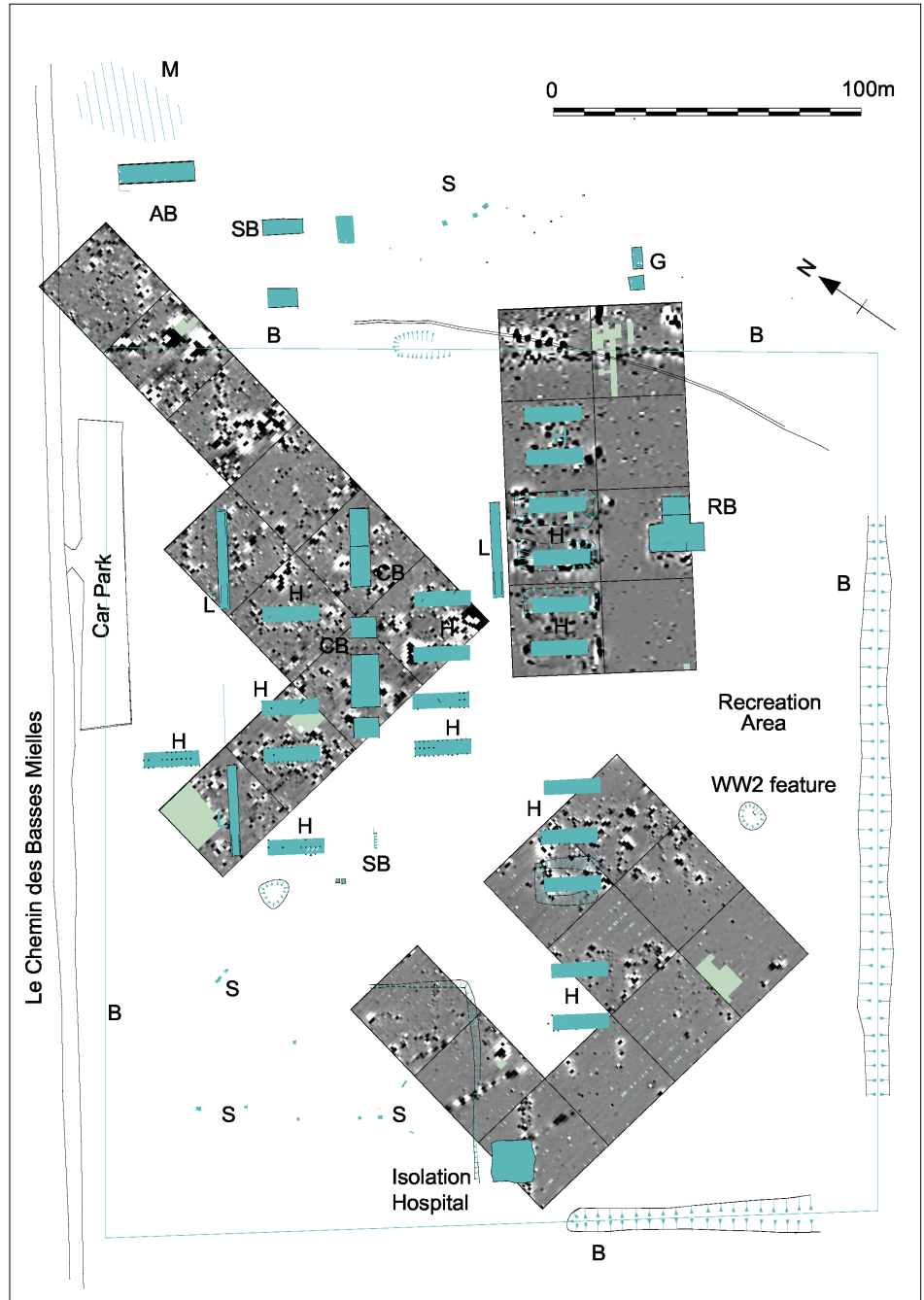


Figure 3: Simplified survey plan with magnetometry survey overlay.

Letter codes: AB: Administrative Building, B: Boundary, CB: Communal building, G: Electricity generator building, H: Hut, L: Latrine block, M: Midden/rubbish dump, RB: Recreation building, S: Sump or water tank, SB: Shower block. *R. Philpott.*

LES BLANCHES BANQUES CAMP



Figure 4: Overall interpretive plan of the Les Blanches Banques Camp.

**Colour key:** Black: features and structures identified on the ground in the TST survey, Grey tone: buildings at least partially identified on the ground, Red: buildings and other features identified from the 1933 aerial photograph, Blue: buildings reconstructed in approximate location from drawings and photographs

**Letter codes:** AB: Administrative Building, B: Boundary, CB: Communal building, G: Electricity generator building, GH: Guards' huts, H: Hut, L: Latrine block, M: Midden/rubbish dump, RB: Recreation building, S: Sump or water tank, SB: Shower block

*R. Philpott.*

in long rectangular blocks, while the wide central row was occupied by a series of large communal buildings, probably the kitchens and dining rooms. At one end of the camp, away from the main accommodation, was the hospital.

Outside the perimeter fence to the east was an area of accommodation and administration buildings for the guard and their officers (Figure 3, top). Also outside the camp were the reservoir and some of the infrastructure for the water supply, as well as the septic tank for the drains.

### **Different structures – typology of construction and use**

A range of structure types and other features was identified in the archaeological and geophysical surveys. These can be considered using the extant remains, contemporary images of the camp, and surviving structures of buildings of this type still surviving. A World War I plan of battalion barrack designs confirms some of the identifications (Draper 2017). In this article, numbers with F prefix indicate the feature numbers used in the written and photographic archive but given the scale of the illustrations are not marked on the published plans: they will be available in the archive.

#### ***Barrack Huts (Figures 4, 5)***

The accommodation for prisoners consisted of wooden huts set on brick and concrete piers. Contemporary photographs and plans show the four parallel rows of huts which dominate the interior of the camp (e.g. Figures 2 top, Figure 5). The huts followed a standardised form of a type which was commissioned as infantry barracks in large numbers by the War Office during World War I. Those for Jersey were supplied by a Norwich firm in prefabricated form. Each measured 60 x 15 feet (18.29 x 4.57m) and housed 30 men. The War Office already held several contracts for the supply of such buildings so 40 were ordered in the first instance with a further batch ordered on the expansion of the camp.

Contemporary photographs and a surviving example (discussed below) show the huts were prefabricated of timber frames set transversely across the hut containing the profile of the walls and the gabled roof, to which were attached framed side panels to form the walls. Horizontal overlapped boarding was attached to the frames as walling. The doors were in the gable ends. Sash windows were provided in each side panel. The huts were lined with three-ply wood, which Naish found to be almost ‘damage proof’. Heating was provided by enclosed coal stoves of ‘Canadian pattern’ and huts were lit by electricity. The roofs were initially of tarred felt but on account of their poor quality they were replaced by corrugated iron nailed over the felt (Naish 1955, 270).

The archaeological remains of the huts survive on the ground as

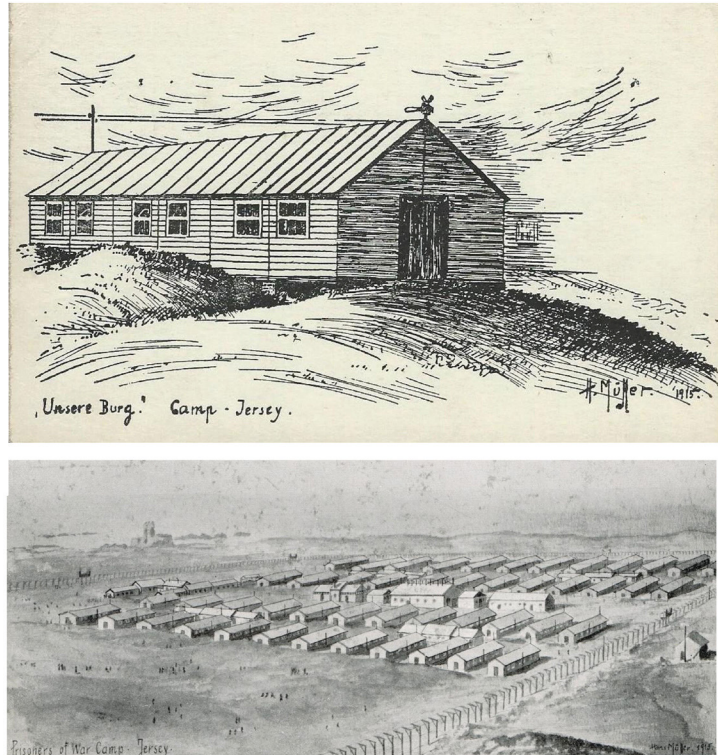
alignments of supports (Figure 6). The supports consisted of three parallel rows of low square piers in brick and/or concrete, on which rested the prefabricated floors panels of the barrack huts. The best-preserved groups confirm Naish's observation that there were 39 piers to each hut, arranged in three rows of thirteen: the supports measured 9 inches square (1955, 270).

Some huts lacked surviving supports but were defined instead by elongated deep rectangular hollows within the dune sand. Their regular arrangement and position precisely on the rows of huts indicated that they too marked the location of huts, although the mechanism by which the hollows developed requires further investigation.

The camp hut drawing with the ironic title 'Unsere Burg' [our castle] and signed 'H. Müller 1915' (Fig. 4, top) shows the undulating dunes built up against the wooden wall of the hut. A photograph by Captain Eli Bowers shows the northern side of the camp where the two nearest visible huts are raised well above ground level. The door in the gable end is reached by a flight of six wooden steps. The space around the base of the hut appears to have been built up to leave no void underneath, perhaps to insulate the floors: if such material were left in place after the wooden structures were dismantled with the closure of the camp, this material will have affected dune formation thereafter.

A barrack hut from the POW camp was reported to survive on the Island, at Le Grève de Lecq. The owner confirmed that he understood it to be from the World War I camp, and there had been three in total, one of which was at Les Landes. The hut had been brought to the site in the 1940s and used as a dwelling. A newspaper advertisement immediately after WWI records the sale by auction of two army huts with their contents taken from the camp.

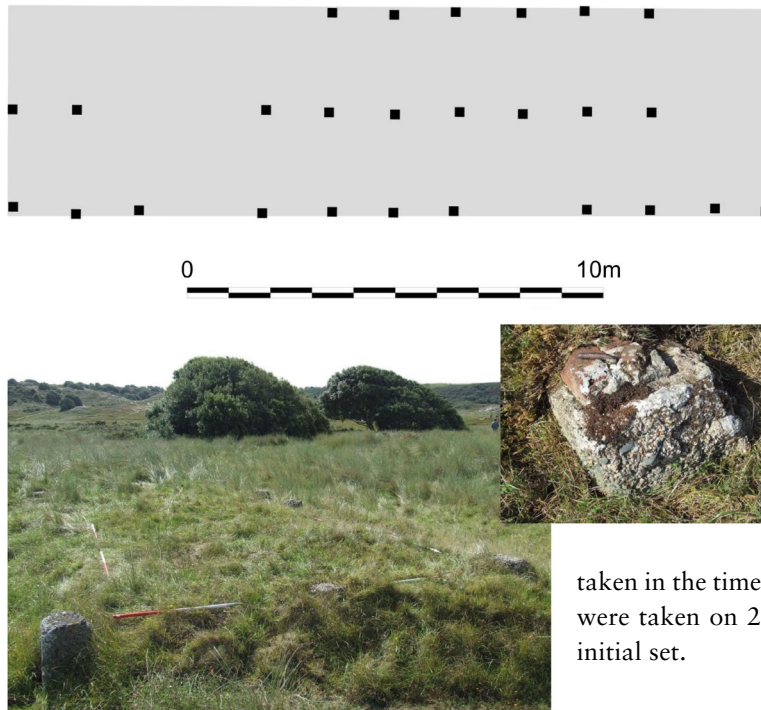
The interior of the hut was inaccessible and the timber boards and frames were visible on only one side, the others being obscured



**Figure 5:** Views of the camp by prisoner of war, Hans Müller, 1915.

**Top:** Ink drawing 'Unsere Burg' showing dunes around the raised barrack block. *Mark Lamerton Collections*

**Bottom:** View of the camp with the central communal buildings and hospital buildings to the far left. *Damien Horn Collection.*



**Figure 6:** Barrack blocks.  
**Top:** Plan of a barrack.  
**Bottom left:** View of a barrack block site.  
**Bottom right:** Concrete pier with brick top.  
 Plan, *R. Philpott*,  
 photographs *H. Mytum*.

***Communal blocks: latrines, shower and kitchens (Figures 4, 7)***

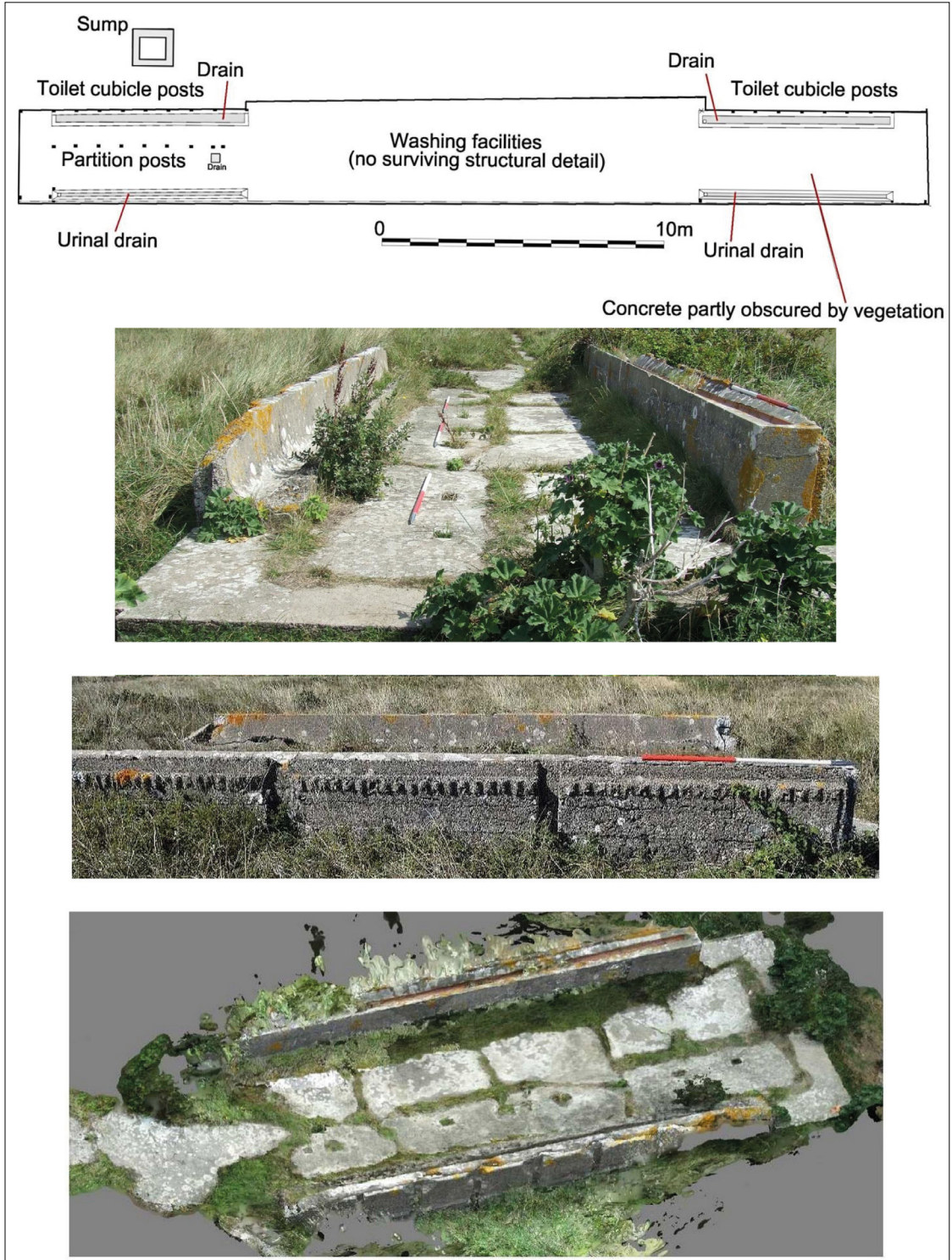
Four of the long communal blocks are some of the best-preserved upstanding structures (Figure 7). They measure about 32.3m long and have low concrete slab walls, in the external faces of which are vertical slots for timber uprights. The exterior of the wall foundations preserves the characteristic wavy impression of corrugated iron in the concrete, and the vertical slots of the timber framing of the walls. The urinal drain along one wall survives as a gently sloping salt-glazed stoneware channel, semi-circular in section, along the walls, while the concrete floor retains post-sockets for individual toilet compartments. As war broke out, Royal Engineer Major Bertie Harold Olivier Armstrong was instrumental in designing a range of military buildings that could be easily transported, erected and used in military contexts (Draper 1917), and his designs were largely followed at the Blanches Banques Camp. Armstrong designed a complex with a toilet block at either end joined by an ablution block for washing, represented in the surviving remains as a featureless concrete floor.

Also readily identifiable are the shower blocks, one for the prisoners (F14), another for the guards (F7), which were characterised by rows of small square cubicle bases in concrete, within larger structures. Sockets for posts to support partitions between the cubicles are visible within the concrete.

Naish records that the accessory buildings were constructed with corrugated iron walls and roof over a wooden frame (1955, 270). The

by rendering. The hut condition was poor, with some decayed boarding exposing the underlying timber frame. In view of the condition, it was an urgent priority to make a rapid photographic survey on the spot. With the owner's permission, a series of record photographs was taken for 3D photogrammetric reconstruction on 25 August 2017 but no measurements could be taken in the time available. Further photographs were taken on 20 Sept 2019 to supplement the initial set.





**Figure 7:** Latrine block.

**Top:** plan.

**Top centre:** View along block, urinals on right,

**Bottom centre:** Exterior view showing corrugated iron imprint.

**Bottom:** Photogrammetric image of part of the

latrine block. Plan,

Photogrammetric image

R. Philpott, photographs

H. Mytum.

bath house and drying house were lined with asbestos cement sheets, while the cookhouse and ‘wash-ups’ were unlined. Other accessory buildings were constructed with corrugated iron walls and roofs on a wooden frame.

#### *Central communal buildings (Figure 4)*

A series of large buildings set along the broad central row between the huts can be seen on contemporary photographs (Figure 5, bottom). These survive as a series of concrete floors laid on the ground surface (e.g. F3, F5). Occasionally the raised lip of the floor was visible, usually with a slot for a timber or asbestos wall but they lack any diagnostic features to enable interpretation. Their location, situated to serve the adjacent blocks of barrack huts, indicates a communal function. Comparison with Armstrong’s plan, which shows that the largest structures are the dining room and cook house, might provide the explanation here. Naish states that barrack huts were used as dining rooms, so there was apparently no dedicated dining hall, so the large buildings may have included the cook house as well as communal drying rooms and ‘wash-ups’.

#### *Water and drainage management features (Figures 4, 8)*

A deep trench (F62) was identified in the south-eastern part of the site, along the eastern boundary of the camp (Figure 8, top), extending for at least 175m, which appears to have been excavated originally for a water main. The excavated trench is visible on at least one contemporary photograph, where the line of excavated spoil lies just outside the camp boundary. However, the current trench is unlikely to result from the original construction but rather from the removal and recovery of the iron water pipe at the end of the camp’s life. A stretch of the trench was identified on the magnetometer survey in 2019 as a zone of high iron readings, and the pipe may not have been removed along this length.

Water supply and drainage formed the two elements of an integrated system of water management for the camp. Together they occupied much of Naish’s attention, both in the original selection of the site and its subsequent layout and construction. The water supply he devised for the camp (Naish 1955, 271-272) was carried in a 3-inch diameter cast-iron pipe. This took water from a reservoir which was located on a rise or ‘saddle’ about 80 feet (24 m) above the camp in order to provide sufficient head of water for pressure for the fire hydrants. The reservoir consisted of six rows each of five galvanised wrought iron tanks linked together end to end, with a capacity of 30,000 gallons (136,382 litres). This arrangement allowed each tank to be cleaned independently.

The various buildings of the camp were fed individually from narrower bore pipes taken from the main pipe although the hospital was supplied directly from the large mains. A shortage of water in late summer 1915

led Naish to search for a more reliable source. This he encountered in the form of a spring above the camp at La Moye golf course. A collecting tank was sunk into the ground and a 3-inch galvanised iron pipe laid to the reservoir. In 1918, the reservoir was supplemented by a series of concrete tanks 'of cell pattern'.

It is likely that the tanks Naish refers to are those situated on a low rise above the camp, represented by three rectangular concrete tanks in a row. The large broadly rectangular hollow recorded during the TST survey (F61) adjacent to the pipe trench (F62) may represent the former position of the collecting tank. Furthermore, alignments of strongly magnetic response in magnetometry which do not correspond with building locations are likely to be buried water pipes.

Water-borne drainage was considered essential for the permanent camp. The alternative, a dry earth system where the waste was carried away and buried, was rejected as likely to create too much of a nuisance to the local farmers to be viable. The key requirements for the drainage system were a steady gradient without dips or rises, which would therefore be self-cleaning and the gradient here was considered just sufficient to meet Naish's requirements. The drainage pipes were laid on concrete to prevent sinking and where dips occurred were bridged on wooden planks standing on piers.

Several elements of the drainage system were observed in the archaeological survey. Short lengths of brown salt-glazed stoneware drains were visible (Figure 8, bottom), most obviously exposed in the north-western part of the camp on the seaward side of the buildings. The drains are close to, and in one case connected to, rectangular concrete tanks or sumps (Figure 8, centre). There is one obvious line of sumps (F21, F50, F52, F54) which were connected by the sewer pipes. The sumps were originally covered, perhaps with cast iron lids, but these have been removed. The function of the concrete sumps was to provide points in the drainage system which would allow cleaning, removal of blockages and general maintenance.

The concentration of these features demonstrates their important role in the collection and channelling of sewage to the area of the camp closest to the outfall. The outflow for the sewerage was fed to a septic tank at Le Braye in St Ouen's Bay. The 1935 Ordnance Survey map marks a 'tank' north of the road, near the Le Braye slipway, which, in view of the absence of other development in the area, is likely to be the septic tank for the camp.

#### *Hospital complex (Figure 4)*

A level area was identified at the western end of the site which contrasts with the undulating character of the dune-scape and had been deliberately cleared and levelled. A pronounced scarp at its northern edge showed the

**Figure 8:** Water supply and management.

**Top:** Robbing trench for water main pipe.

**Centre:** different types of sump.

**Bottom:** glazed pipe for subsurface services, exposed by a sand blow.

*H. Mytum and G. Carr.*





limit of sand clearance. This was identified as the probable location of the isolation hospital which Naish records and which is shown in photographs and sketches as lying in this area (Figure 8, bottom).

The main camp hospital was described by Naish as H-plan, with beds for 44 patients, established within the compound, and connected by covered corridors. The building was of corrugated iron on a wooden frame supported on brick pillars as foundations. Hans Müller's drawing shows two long parallel blocks, resembling barracks, aligned north-south, joined by a cross-building (Figure 5, bottom). A small isolation hospital was also built. It seems likely that the area identified by probing was the isolation hospital, given the small size of the structure.

Within this area, a concrete floor was partially exposed (F20) and its limits determined by probing. However, the 1933 aerial photograph reveals the much greater extent of the main camp hospital footprint before encroaching vegetation obscured the concrete (Figure 1), thus emphasising the identity of the located structure as the isolation hospital. Apart from parts of the concrete floor, no clear trace of the superstructure of the hospital appeared to survive and the brick supporting pillars must either have been removed or buried, if they existed at all for this smaller structure, which appears to have been built straight onto the granite bedrock.

#### *Camp boundaries (Figure 4)*

According to Naish, the boundary of the camp was delimited by a 10 foot high (3.0m) barbed wire fence, with overhanging brackets at the top. Prominent boundary banks were identified to the south and east (F59-60), marking the limits of the camp. The banks observed in the survey (Figure 4) may have resulted from construction of a 'sloping apron' on the inside to which horizontal barbed wire was attached, which was supplemented by coils of loose wire (Naish 1955, 274). The fences may also have contributed to the development of banks by trapping windblown sand and enabling vegetation to thrive

#### *Buildings in the guards' area to the north of the camp (Figure 4)*

A group of buildings lay outside the camp, including a cookhouse, drying house and bath house and office block, stores and administration buildings, and living quarters for the officers and guard (Naish 1955, 270-271), Naish's photograph (1955) shows eight buildings of similar type to the prisoners' huts but aligned at 90° to them (Figure 2, top). They are probably accommodation for the guards. Further west are at least four structures. The two large buildings close to the camp fence may be administrative buildings, while two others are of uncertain function.

The archaeological remains observed in the northern part of this area consist of four well-defined buildings. A large (24.75 x 6.50m) structure

(F44), a long rectangular shower/toilet block (F7) with well-preserved concrete cubicles on either side, a concrete floor sealed with bitumen to render it water- or oil-proof (F75), and a separate concrete floor (F49). No trace of other structures was found.

*Electricity generating station (Figure 4)*

Naish describes how the electricity generation for the camp lighting was supplied by a ‘Pelapone’ oil engine, which ran on paraffin after starting on petrol. The engine and dynamo stood on the same bed plate, both operating at 800 rpm. Although Naish gives no indication as to the location of the engine, several clues enable us to identify it amongst the camp buildings. A concrete floor (F42) with a raised plinth set with four vertical bolts probably formed the engine bed. The neighbouring concrete floor (F43) also has two vertical bolts set in the floor. Illustrations of Pelapone<sup>4</sup> engines in advertisements of the period show vertical bolts securing the engine in position. Confirmation comes from a drawing of the camp by a prisoner Hans Müller which shows the isolated building with a tall pole supporting wires located at the location of F42 outside the camp perimeter (Figure 5, bottom) and contemporary photographs also show this structure.

*Recreation building (Figure 4)*

Naish records that the American YMCA provided materials for a recreation building for the prisoners while the prisoners themselves supplied the labour. The result was ‘a very fine hut’, ‘generally in the shape of a cross’ within which separate reading rooms and games rooms could be opened up into the main hall by folding back partitions. The hall was thus suitable for theatrical presentations (Naish 1955, 273-4). A photograph of a show within the camp may have taken place within this building.

Building (F25) is likely to be the YMCA recreation building (Figure 4). From its position within what was otherwise the open area of the recreation ground, it appears to be a later addition to the main camp structures. No building in this location is shown for example on a photograph taken in 1915 or on the drawing of the same year by Hans Müller (Figure 7, bottom). Its recreational function may have been considered appropriate within this zone of the camp. Although not fully cross-shaped, three arms could be detected in the overgrown concrete floor, with a step at one end. A fourth arm of the cross may have been less permanent in construction or simply remains overgrown by vegetation. The geophysical survey revealed high iron readings which corresponded with the edge of the concrete floor.

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4 The New Pelapone Engine Co moved from Leeds to Dewsbury in 1912 ([https://www.gracesguide.co.uk/New\\_Pelapone\\_Engine\\_Co](https://www.gracesguide.co.uk/New_Pelapone_Engine_Co) accessed 12 December 2019).

It showed that the fourth side, to the west, is much shorter, and this may account for Naish's otherwise enigmatic description.

#### *Peripheral features (Figure 4)*

Two potential midden or rubbish dump sites were identified. One lay to the north-east of the camp beyond the administrative area and was identified by a scatter of ceramic and glass fragments brought to the surface by rabbits (F45). Nearby and part of the same dump, a cutting exposed in the side of a path revealed a rubbish deposit in situ, with metal and glass objects deposited on a sand layer (F46). A 1x1m test pit was explored in this area in 2015 and was found to contain ceramics characterised by a domestic nature, comprising decorated and fine white ceramics, as well as stoneware beer and cider bottles. The location of the deposits, at the foot of the dunes on the nearest area of level ground to the settlement of St Ouen, raises the possibility that the rubbish dump served the local inhabitants before and after the World War I. The lifespan of the rubbish dump can only be confirmed by careful excavation to recover stratified deposits from secure contexts, but the lack of army issue ceramics and the incorporation of midden items within camp concrete indicates that it was already in existence before the camp was constructed.

In the southern area of the camp a prominent mound (F15) with numerous iron fragments in the exposed sides may represent clearance after demolition. At the base of this, large fragments of mustard jar were recorded.

In the north-eastern part of the camp, a series of concrete in-fills of barbed wire post-holes was discovered, heading off towards the dunes in the eastern area of the camp. These posts ran in a broadly north-west – south-easterly direction, but, as they were not in an entirely straight line, it seems likely that many were moved after the barbed wire posts were dug up. A number still contained fragments of wood deep inside the square holes formed in the concrete by the posts (e.g. F27). The presence of sand on top of these wood fragments had acted to protect and preserve the wood. The presence of WWII-style barbed wire angle-irons on top of a small number indicates that there was probably later re-use of these concrete blocks (e.g. F29). The former use of these posts to hold up electricity wires is attested by a fragment of ceramic insulator cap lying on top of one. As at least some of these pieces of concrete have been moved, and their date is uncertain, so is at present difficult to interpret these with confidence.

#### **Conclusions**

The fieldwork – combining aerial, surface and geophysical survey – has allowed a reconstruction of a measured camp plan for the first time (Figure

4), and the identification and interpretation of many of the structures that comprised the camp elements for the prisoners and for the guards. The overall extent of the camp has been identified on the ground, and numerous components of the camp have been located. The physical separation of the guards and the prisoners is recognised, with some of the guard buildings on the slightly higher ground to the North-east, enabling better observation. The camp, organised on the lines of a British battalion camp, comprises groups of barrack buildings and an associated latrine block, with central catering and social buildings down the spine of the camp. The recreation area was to the South, with a large open exercise space and a YMCA recreation building that was added on the Eastern part of this open area. The hospital complexes lie at the far South-west.

Preservation of some camp buildings is outstanding; in most camps in the British Isles, all traces were removed after the war or were retained and later modified during the World War II. The sand dune location of Les Blanchés Banques removed the imperative to eradicate all traces. The items that could be reused or recycled such as metal piping, wiring and fence structures were removed, even if this involved excavating below ground, and one substantial robbed trench has been identified. The below-ground water storage tanks or sumps on the higher ground and the infrastructure of pipes to distribute fresh and waste water and sewage also survive in places — occasionally visible where eroded sand has exposed them— these have also been indicated on the geophysics. This allows some understanding of the planning of the infrastructure to ensure hygiene. The camp designer, Naish, was particularly concerned with water supply, and the archaeology reveals how this problem was solved. The superstructural buildings were removed, some to be rebuilt elsewhere on the Island. Sufficient survives to indicate the ground plan of the whole camp when combined with information from the few photographs of the camp under construction, the prisoner artwork, and the limited descriptions of the site in use.

Traces of some guard buildings foundations survive, and the same is true for some of the barrack blocks indicated by their brick and concrete piers. The best-preserved structures are the latrine buildings which stand to a height. The camp is briefly noted on the existing interpretation panel in the public car park, and many paths across the site pass extant features. There is now the potential for a map of the camp to be presented on a second interpretation panel, with the surviving buildings indicated. A preservation and conservation plan combined with enhanced interpretation within the constraints of the site's ecological significance would be of great benefit to all those who make use of this public open space. Les Blanchés Banques is one of the best-preserved remains of a World War I prisoner of war camp in the British Isles and is therefore worthy of study, interpretation and protection.

## Structure of the project and acknowledgements

The project was initiated and managed by Dr Gilly Carr, University of Cambridge. The Société Jersiaise provided funding for a three-day trial excavation of the midden and for research in the Island's archives in 2015: this facilitated the development of a research design which enabled bids for further funding. The subsequent archaeological survey was directed by Professor Harold Mytum, University of Liverpool, and in 2017 fieldwork was undertaken by Mytum and Carr with the assistance of Professor Nick Saunders, University of Bristol, and Dr Rob Philpott, University of Liverpool. The latter wrote most of the preliminary reports on the results and has produced the line drawings for this publication. The team was joined in 2019 by Ellis Cuffe who undertook the magnetometry and some field survey. The survey reported was funded by the McDonald Institute of Archaeological Research, University of Cambridge in 2017 and 2019, with the 2019 season also funded by the Society of Antiquaries and the University of Liverpool.

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