

The Cultural Heritage of Ramla Bay and Environs, Gozo: A Management Plan
- prepared for the Gaia Foundation as part of the Integrated Coastal Management Plan

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1 Introduction

1.1 Terms of Reference

- To layout the archaeological significance of the historical/archaeological monuments in the Ramla Bay Area.
- To review the archaeological research which has been carried out
- To make an assessment of each monument, detailing its present condition, and its exposure to risks from human and environmental factors
- To make recommendations for the conservation, preservation and restoration of each monument
- To make recommendations for further research

1.2 Consultations

The report has been written in consultation with Nathaniel Cutajar (Curator, National Museum of Archaeology, Valletta), Joseph Magro Conti (Planning Authority) and Stephen Spiteri (Superintendent of Fortifications, Works Department).

1.3 Outline of Management Plan

The report not only stresses the importance of the archaeological and historical monuments in the Ramla Bay area but stresses that they are an integral part of the environment. For this reason, the report does not only cover recommendations for the scheduled monuments in the area but also draws attention to the cultural significance of the whole of Ramla Bay and its environs. The first section describes in more detail the integrated approach to the management of the cultural heritage. This is followed by a consideration of the archaeological significance of the geology and landscape of the area including some general recommendations for its management. The next sections focus on the scheduled monuments: a review of the research and publications on the scheduled monuments in the area followed by an assessment of each scheduled monument and recommendations for their management and conservation.

1.4 An Integrated Approach to the Management of Cultural Heritage in the Ramla Bay Area

The Gaia Foundation mission statement states that its main objective is *‘to promote and implement means and ways through which human beings can meaningfully interact with their environment.’*

The cultural remains in the Ramla bay area provide a rich source of information about how human beings have interacted with the environment in the area over the past millennia. Appreciation and understanding of an archaeological monument should not be considered as something separate from environmental concerns. The context of any given monument is part of its intrinsic cultural value and the preservation of both the monument *and* its environment are of paramount importance for understanding how the monuments were perceived and used in the past (e.g. choice of location, purpose of monument, choice of building material, orientation – are all dictated to a large extent by the environmental context of the monument).

This approach to the management and conservation of archaeological remains is in keeping with the Gaia Foundation's Integrated Management approach. The management of the Ramla Bay area by the Gaia Foundation will provide the first potential for such an approach to be put into practice in the Maltese islands.

2. Assessment of the Archaeological Significance of the Ramla Bay Area and Recommendations for its Management

This section assesses the archaeological potential of each broad geographical area in Ramla Bay and its environs and gives some general recommendations for its management. While some general suggestions are made about the conservation and management of the whole area, this report focuses on the scheduled monuments in the Beach Area.

2.1 The Coastline

Changes in the position of the Ramla Bay coastline which have occurred over time are of great importance to increasing our knowledge of the cultural heritage of the area and for understanding changing patterns of land usage. Phase I of the Beach Management Plan will consist of the collection of data regarding the beach/dune system and its immediate environment to be collected from field surveys and existing records and research. The positioning of known archaeological remains may also be useful in determining the positioning of the coastline at certain periods. On the other hand, information gained from this phase of research is likely to be of archaeological value. Nathaniel Cutajar has recommended that a chronological sequence of the positioning of the coastline can also be determined by dating the field systems in the area behind the beach.¹ When this information is known it will be possible to identify sensitive areas for archaeological investigation. In particular, areas of silt identified by ecologists would be of great archaeological importance.

2.2 The Valley Floor

It is recommended that environmental studies carried out on the valley floor aim also to date the changing positions of the coastline over time. This information is of interest not only for understanding the ecology but also the archaeology of the area. Following initial environmental investigations it is recommended that archaeologists become involved in detailed surveys of cultural features in the area. This may also include field-walking in certain areas (this involves the systematic collection of pottery sherds and other cultural artifacts – e.g. worked stone, chert) from the surface of fields which can give an indication of the archaeological potential.

2.3 The Area beneath the Xaghra Ridge

The village of Xaghra is rich in archaeological remains, particularly dating to the Temple period. The slope from Xaghra down to Ramla Bay consists mostly of agricultural land. Eventually a survey of the area and field-walking may reveal archaeological features in the landscape. The area, including Calypso's Cave (which has yielded some Neolithic

¹ Nathaniel Cutajar stressed the archaeological importance of the area and suggests that cultural deposits on the valley floor, may date back to the Neolithic or even the Palaeolithic Period.

pottery sherds) needs to be investigated. During the Brochtorff Circle excavations in Xaghra (1989-1994) field-walking of fields in the area were carried out. It would be worth finding out from them whether they included the land between Xaghra and Ramla and whether they intend to publish, or can let us consult their results.

2.4 The Area Beneath the Nadur Ridge

This area would benefit from surveying as there are a number of features of archaeological interest. The rubble walls around the Nadur Battery seem very old, while others contain reutilised building blocks. Amongst the interesting features observed are: two rock-cut stair-cases leading up to the cave (name?), unusually shaped fields (in particular two very small round fields) and a thick rubble wall built into the side of the ridge. The Mayor of Nadur has reported steps in this area which are inscribed with a coat-of-arms, however they have not yet been identified. These may be the same stairs as Gerald de Trafford reports having seen in this area about 50 years ago. He recalls seeing a stairway of at least a dozen steps which were striking in being very wide and very well-made.

The cave (plates 24-25) itself is presently being used as a storage for animal-bedding but may contain archaeological deposits. It has a rock-cut niche on its Southern side and rock-cut steps lead through the roof of the cave to the top of the ridge, which are still in use and which lead to a private property consisting of a garage and a large open space used for bird-trapping. The cave is divided into separate spaces by rubble walls. There are a number of troglodythic settlements in Malta (e.g. Ghar il-Kbir, l/o Rabat) which were inhabited, particularly during the Medieval period. Hermits and Religious orders are also known to have squatted in caves, particularly during this time. A survey of the ridge including the cave is necessary to come to a better understanding of the cultural remains in this area.

2.5 The Beach Area: Scheduled Monuments at Ramla

In January 1995 the Planning Authority scheduled the area and specifically 9 archaeological monuments, legally protecting them against development or misuse.

Map 187 (Scheduled Property: Xaghra, Gozo – figure 1) marks the earliest known remains in the area belonging to a Roman Villa. These remains and a surrounding buffer zone are scheduled to Class A protection.

Map 185 (Scheduled Property: Xaghra, Gozo – figure 2) marks a further 8 monuments which have been scheduled for Grade 1 protection. Six of these monuments date to the time of the Knights and constitute one of the most intact systems of 18th century defences. These include:

- 1) Underwater Obstacle (Sea Wall) (1, map 185)
- 2) Remains of Belancourt Battery (3, map 185)
- 3) Remains of Retrenchment (4, map 185)
- 4) Salient of Ramla Redoubt (6, map 185)
- 5) Fougasse (7, map 185)

- 6) Nadur Battery (8, map 185)

The two further scheduled monuments are:

- 1) Remains of Pathway (2, map 185)
- 2) Statue of Our Lady (5, map 185)

This report treats each of the above-mentioned monuments separately in the next section. It does not assume, however that these monuments represent the full extent of the archaeological remains at Ramla Bay (including the coastline and seabed). The Ramla Bay area has also been scheduled and it must be stressed that for the reasons outlined above, the whole area has great archaeological potential.

3. Review of Research and Publications on the Cultural Heritage at Ramla Bay

Despite the significance of the known archaeological remains at Ramla Bay, they have so far not received adequate attention and are very understudied. Details on the bibliographic sources reviewed below are listed in the bibliography at the end of the document.

3.1 Roman Remains

3.1.1 Excavation Reports

The Roman remains at Ramla Bay are the only ones in the area to have been excavated first in 1911-2 by Temi Zammit, director of the National Museum of Archaeology, Valletta, and later in 1915 by Thomas Ashby, then director of the British School of Archaeology in Rome. The excavations of the villa and adjoining bathing complex brought to light elaborate mosaics, artifacts and architectural features. The Roman Villa has is the only monument at Ramla to have been excavated (plates 1-6; figures 3-6). Zammit was drawn to excavating the site after hearing reports ‘that the farmers at Ramla were in the habit of picking up large amounts of potsherds from a mound close to the seashore’ (1910-1911, 11). In his notebook (III, 81-81, 93), Zammit records three visits which he undertook to the site at Ramla, on 14th January, 22nd January and 4-5th March of 1911. The National Museum of Archaeology, Valletta holds a small collection of photographs of the Ramla Bay area in 1911 and of the excavations in progress during that year (plates). Zammit’s report caught the attention of Thomas Ashby, renowned Romanist and Director at the British School at Rome, who dug at the Roman Villa in Ramla in 1915. His report gives a room-by-room description of the Villa and Bathing establishment, which are also mapped out in a plan which is cross-referenced with some section drawings. However the quality of excavation reports from this time (1911-12; 1915), when the science of archaeological excavation was still in its infancy, coupled with the fact that the site was covered over following excavation, means that the precise location and the state of the Roman Villa beneath the sand is not known.

The site was discovered in modern times by Temi Zammit, who excavated there in 1911 and briefly recorded his findings in his notebook (notebook III, 81-82, 93) and in an entry in the Annual Report on the Workings of the Museum Department, (1910-1911, 11-12).

3.1.2 A Reconstruction

In 1996, Joseph Magro Conti submitted his BA (Hons.) dissertation on Roman Bathing Establishments in Malta and Gozo which included an account of the remains of the bathing establishment adjoining the Roman Villa at Ramla Bay.² After studying details of the early excavation reports, particularly the account of the architectural features (e.g. mosaics, wall-benches, baths) and artifacts (e.g. pottery, statues), Magro Conti produced a three-dimensional reconstruction of the Roman Villa.

3.1.3 National Museum of Archaeology Database and Archives

The Museum's computer database contains two entries for the Ramla Bay area. The first (RML 11) gives details of the Roman Villa excavation reports. The second, also pertains to the Roman period (RML 1962; Museum Annual Reports 1962, 7) and records the recovery of a large Roman anchor stock and collar from the sea-bed off Ramla Bay, which was presented to the Gozo Museum by J Ripard. The Museum archives contains an album consisting of 28 photos taken during Temi Zammit's excavations. The museum also holds the excavation notebooks of Temi Zammit. A collection of unpublished photos taken during Ashby's excavations are kept in the archives of the British School at Rome.³

3.2 Knights' Monuments

None of the monuments dating to the time of the Knights at Ramla have been studied from an archaeological perspective. Stephen Spiteri (1994) who wrote the definitive account of the Knights fortifications includes information about the structures that formed part of the Ramla Bay coastal defence system, from historical documents dating to the time of the Knights. This information has been crucial in determining the purpose of each monument and their collective importance. However, the monuments themselves, which are all in a state of ruins, have not been studied at all. Archaeological plans and sections have not been carried out for any of the remains, let alone any more in-depth analysis.

3.3 Cultural Heritage Management

In June 1997, as part of a seminar on historical monuments in Gozo, held in Victoria (Gozo), Joseph Magro Conti presented a paper entitled: 'Conservation, Restoration and Interpretation of the Cultural Heritage Resource at Ir-Ramla l-Hamra.' So far, I have only had access to an abstract of this paper. Magro Conti drew attention to the threats to the archaeological monuments from environmental and human factors and called for 'an effective framework for a coastal management scheme . . . to conserve this heritage resource.' He also highlighted the need for recording, research, conservation and restoration of the monuments. Finally he pointed out that interpretation aids should be provided to inform and educate visitors about the cultural importance of each monument and of the area in general.

² Joseph Magro Conti notes that remains of another bathing establishment have been identified in Gozo, in the Lunzjata Valley, Kercem.

³ This information was supplied by Dr. Nicholas Vella, Department of Classics and Archaeology, University of Malta.

3.4 Comments on the State of Research

This bibliography draws attention to the gaps in research, conservation and management of the archaeological resource at Ramla and the need for an increase in interest and awareness of the cultural value of the area. The Gaia Foundation should provide a means of gradually remedying this situation and through its integrated management approach.

4. Archaeology and the Environment at Ramla Bay

4.1 Evidence for Interaction between people and the Environment from the Archaeological Remains at Ramla Bay

Archaeological remains show how humans in the past interacted with their environment. The remains at Ramla Bay throw light on ways in which the environment was utilised in the past and also shows how human interventions could change and affect ecological processes. Table 1 shows the ecological context of each historical monument.

The Roman Villa was situated in a commanding position overlooking a beautiful bay. This setting clearly played a role in the choice of location for the Villa. However, the actual situation of the Villa and its rooms were dependent on another ecological factor. Part of the Villa consisted of a bathing establishment which made use of natural spring water which descended from the Xaghra direction (possibly the spring at Ghajn Barrani). The slope of the mound on which the baths were situated was also utilised to channel water first to the heating system and then to the hottest baths, warm baths and finally (on the lowest level, by which time the water would have cooled further) the cold baths.

A Roman anchor found outside Ramla Bay may indicate that Ramla Bay was used as a place for anchorage and sea-faring. In fact, before the breakwater was built at Mgarr, the most suitable bays for anchorage and coming to shore (particularly of large or numerous vessels) was Ramla Bay and the neighbouring Marsalforn Bay. The orientation of these bays in the direction of Sicily was perhaps also significant in attracting trade towards them.

During the Knights' period, defence of Gozo became a priority and again Ramla and Marsalforn were identified as two of the most vulnerable bays on the island which needed to be guarded. The system of batteries at each end, retrenchment wall across the whole beach (with a central redoubt) show how the Knights envisaged gaining mastery over the terrain in the face of attack. The sea-wall acted as an artificial reef aimed at stalling or wrecking enemy ships, with the fougasses firing from each end. The interaction of the different features of the defence system show how the knights utilised existing features in the landscape to protect the island and take command over enemies. This aggressive defence system, introduced around 1715, focused on attacking the enemy in contrast to the earlier more passive method of controlling the coast through a system of communicating watch-towers.

The retrenchment wall built across the beach as part of the Knights' defence system is likely to have interfered with the water run-off system from the valley into the sea. The impact of this intervention in the ecological processes may be identifiable in certain

environmental features. Excavation of the retrenchment wall may also reveal information about the ecological impact which it sustained.

Closer analysis of each monument may reveal further information about the interactions between humans and the environment at Ramla during past historical periods.

Scheduled Monuments in the Ramla Bay Area

5. Remains of Roman Villa (map 187)

(plates 1-5)

5.1 Location

The Roman remains at Ramla are located on the left side of the modern entry to the bay and rest on foundations of clay and sand (plate 1).

5.2 Present Condition

Following Ashby's excavation of the Roman remains they were covered over with sand with the aim of conserving them for posterity (1915). Today the sand still covers most of the sloping area thought to be the location of the Roman remains. Clumps of sand-binding grasses are dotted over the area. Also humps of earth are exposed at regular distances all over the area (plates 4a and 4b). It is in fact these humps of earth that sustain most of the vegetation. The sides of the humps are free of vegetation and close inspection reveals that they are cultural deposits (e.g. they contain pottery sherds, cut stone, colouring of the earth indicative of cultural remains). It is not clear whether these are the spoil heaps which consist of discarded material from the excavations of Zammit (1911-12) and Ashby (1915) or whether they are part of the mound itself. This question needs to be resolved during a detailed evaluation of the site.

At the moment, the present condition of the Roman remains themselves cannot be determined. First, it is difficult to reconstruct from the excavation report how complete the remains were at the time of excavation and how much was left in situ or destroyed during the excavations. Secondly, since 85 years have elapsed since the excavation and the covering up of the remains with sand, there is no observable indication of what survives beneath the sand to this day and what its state of preservation is. In fact, without close evaluation of the site, and possibly even some surface excavation it is impossible to determine the precise location of the Roman remains.

5.3 Risks from Human and Environmental Factors

The Roman remains seem to be completely covered by sand so their degradation has been minimised as much as possible. The exposed humps of cultural deposits need to be investigated to ascertain what they constitute in relation to the Roman remains. Walking over the area and in particular sitting or resting against the humps of earth may cause erosion. People walking over the remains may be attracted to pick out stones either out of curiosity or else for use (e.g. propping up a barbecue, making a stone and pebble ring around a sunbathing area (see plate -)). It would seem that the humps of earth are exposed to different degrees at different times of year and the movement of the sands in this area should perhaps be monitored. Depending on the extent of this movement, it may indicate

that different parts of the mound are being exposed all the time, while others are being covered up. The humps are also exposed to erosion by wind, salt and rain, but the extent of degradation due to these factors is hard to assess.

5.4 Recommendations

5.4.1 The Preservation of the Environmental Setting

The clay slopes can be seen to underlie the mound beneath which the Roman remains are located, but are the remains really located directly on top of the clay slopes? This is hard to determine without excavation although a detailed examination of the geology of the area may be informative. The excavation reports do not explicitly state the geological context where the remains are located. However, from reading between the opening lines of Zammit's report one may come to an interesting interpretation. Zammit says that he began excavating at Ramla because he had been informed 'that the farmers at Ramla were in the habit of picking up large amounts of potsherds from a mound close to the seashore' (1910-1911, 11). Does this imply that the mound was used for agricultural purposes? It is not clear from this statement but remains a possibility. What the statement may indicate is, that prior to this date the mound was not covered with sand. The geological make-up of the mound needs to be investigated. There is a possibility that this mound is in fact a tell. A tell is a geographical feature common in the Near East. It is interesting from an environmental as well as an archaeological point of view because it consists of an artificial mound, made up of layers of remains of human occupation. Because of the very low soil cover in the Maltese islands and the prevalence of stone in the landscape and as a building material, the environment is not conducive to the creation of tells. In fact, there are no local archaeological sites which have been identified as tells. In locations where many cultural deposits overlay each other the lack of soil cover does not permit the formation of a tell. There are a couple of clues in the archaeological reports which indicate that the mound where the Roman remains are located may preserve stratigraphic layers containing cultural material pertaining to a number of different chronological periods. First, Ashby's report notes that some of the blocks used in the Roman building seem to have been reutilised from an earlier structure, implying that earlier remains underlie those dating to Roman times. Secondly, Zammit mentions amongst the artifacts retrieved during his excavations, a saracenic token and some glass. These artifacts may indicate the presence of Medieval remains on the mound, which would have overlain the Roman remains. The Western part of the mound preserves remains of the Belancourt Battery built in the time of the Knights. Zammit suggests that its construction must have necessitated the destruction of part of the building and possibly the reutilisation of building blocks. Again, proper understanding and verification of these assertions requires that the site is evaluated and studied in detail.

The most recent building to have been situated on the mound is what Zammit describes as a guard room for Custom Officers. A photo taken in 1911 (Museum archive) shows that by the time of Zammit's excavations the building had fallen into disrepair.

5.4.2 Preservation of the Buffer Zone

Map 187 (fig. 2) shows not only that the Roman Villa is classified as a Class A scheduled monument but also a circular buffer zone around the site. This area due to its position at the entrance to the bay is subjected to the bulk of the impact from visitors to the beach with two bars and restaurants and a car park situated within this buffer zone. The Gaia Foundation should liaise with the Planning Authority and agree on a way of monitoring and catering for the influx of visitors to the beach and their demands and at the same time preserving the environment within the buffer zone.

5.4.3 Recording

The exact location of the Roman remains needs to be found by thorough on site study and comparison of the site in its present state with photos taken during excavations, and Ashby's plan. The relocation of the remains may also require investigation of at least one of the mounds through archaeological scraping. An evaluation of the site and the extent of the surviving remains can then be made more clearly.

5.4.4 Access/Conservation

The mound is protected on its South side by a low limestone wall. Non-intrusive fencing should be placed all around the other sides of the mound because of the archaeological of the remains and the ecological importance of the sand dunes.

6. Monuments dating to the time of the Knights: The Coastal Defence System

The system of coastal defence adopted by the knights in the eighteenth century relied on three basic components – the battery, redoubts and entrenchment. Coastal batteries, usually sited at the mouth of the bay were designed to engage with their heavy cannon enemy vessels and attempt to disembark their troops. But once ashore, hostile forces could outflank and capture with relative ease the majority of these works. For this reason the French engineers employed by the Order designed and built infantry redoubts in the middle of most of the vulnerable bays. These were originally conceived as defensible strongpoints against head-on landings and were designed to deny the enemy the possibility of establishing beachheads and concentrating his forces once ashore (539).

7. Underwater Obstacle (Sea Wall) (1, map 185)

7.1 Location

The Sea wall spans the whole length of the bay and is in line with the fougasse.⁴

7.2 Purpose

The purpose of the sea wall was to stall incoming ships giving enough time for garrisons on land to prepare for attack.

7.3 Present Condition

The state of preservation of the wall cannot be determined without carrying out underwater investigation. Many blocks originating from the wall have been removed from their original context and are strewn over various parts of the seabed, in particular

⁴ The Knights' records also refer to a Sea Wall at the neighbouring bay of Marsalforn.

the area close to the shore. The sea wall is a man-made reef that has attracted a variety of marine life that would not otherwise have been present on the seabed that is mainly flat and sandy. The wall is hard to see from land, however it is possible to stand on the remains in certain areas while swimming.

7.4 Risks from Human and Environmental Factors

Joseph Magro Conti pointed out that the wall was at risk from damage from sea-traffic and from the person who hires out boats from the shore. He has observed that a pathway through the sea, constructed to facilitate the passage of hired boats, has been constructed partly with stones taken from the wall. Joseph Magro Conti also pointed out that the risk to the sea wall from currents and rough water should be assessed. From an ecological perspective, accumulations of debris on either side of the wall should also be recorded and would be indicative of prevailing sea movements.

7.5 Recommendations

7.5.1 Monitoring by Wardens

The activities of those who hire out boats should be monitored by wardens to make sure that blocks from the sea-wall are not removed. Boats anchoring in the area should also be monitored. Activities of divers in the area should also be controlled.

7.5.2 Recording

The Sea Wall and its surroundings need to be planned and photographed to scale. Stephen Spiteri commented that the Sea Wall may have been constructed out of blocks from the Roman Villa. The many blocks of stone from the sea wall which are scattered around the seabed must also be recorded. Also the particular impact of marine life on the wall should be recorded and monitored.

8. Remains of Belancourt Battery (3, map 185)

(plates 6-9, fig. 8a)

8.1 Location

The Belancourt Battery is located on the top of the mound slightly to the west of the entrance to Ramla Bay. The remains lie to the West of the concealed remains of the Roman villa and close to the ruins of a room used by a customs officer. It seems that the battery lies on foundations of clay, however, closer investigation may find that at least part of it lies on top of the tell or artificial mound containing layers of earlier cultural deposits. The clay foundations are unlikely to be very sound, adding to the vulnerability of the monument.

8.2 Purpose

The Belancourt Battery marked the Westernmost point of the Knights coastal defence system (figures 7b, 8a) at Ramla and was connected to the entrenchment which ran along the length of the bay. Also known as Xaghra battery and Ramla Left Battery, it was constructed in 1715-1716 at a cost of 295.7.15 scudi. In design it consisted of a simple gun-platform protected by a parapet fitted with six embrasures. At a later date, a small

blockhouse was added to the rear. An entrenchment wall linked the battery to the redoubt in the middle of the bay. It was the only coastal battery in the Maltese islands with a front having a re-entrant angle.

8.3 Present Condition

Its Northern wall is right on the edge of the hill and is preserved for several courses for some of its length. On its East side, much of the wall has tumbled down the hillside which is littered with blocks which have fallen over the past years.

8.4 Risks from Human and Environmental Factors

The site is exposed to erosion from sea-spray and wind-blown sand. The location of the battery on sloping ground, some of which consists of clay foundations also puts the monument at risk. The Northern wall of the battery, situated on the Northern edge of the mound is particularly at risk from falling down over the edge. In fact, many blocks of stone have fallen down in recent years. Within living memory the North wall of the battery stood several courses high. Many of these blocks are now half way down the North façade of the clay slopes (plate). There are signs (charred stones and ashes) that the area has been used for barbeques utilising the remains of the battery.

8.5 Recommendations

8.5.1 Excavation

Stephen Spiteri recommended the partial excavation of the monument so as to expose and record the full extent of the remains. He has remarked that remains of artillery and shot may also be found.

8.5.2 Recording

Zammit also points out that the construction of the Belancourt Battery (Ramla West Battery) during the time of the Knights must have necessitated the destruction of part of the building and possibly reutilised some Roman building blocks.

8.5.3 Conservation

Stephen Spiteri recommended conserving what remains but not restoring it to its original form. He also suggested pointing of the *in situ* blocks to prevent them from becoming dislodged. Some of the fallen blocks can be put back near the foundations of the monument and dry stone-walling should be introduced to prevent further collapse. An architect's opinion is necessary so that the remains can be properly conserved.

8.5.4 Access

Access to the area should be restricted with fencing (as recommended for the Roman Villa which is situated on the same mound).

9. Remains of Retrenchment (4, map 185)

(plates 10-11, figure 7b)

9.1 Location

The Knights records reveal that a retrenchment wall was built across the whole beach, linking the Belancourt Battery, Ramla Middle Redoubt and Nadur Battery (fig). The location of the exposed remains is on the West side of the bay close to the remains of the Roman Villa.

9.2 Purpose

The retrenchment wall was part of the Knights coastal defence system.

9.3 Present Condition

A small part of the wall is exposed on the West side of the bay, close to the remains of the Roman Villa (plate 11). The condition and extent of the remains which survive below the sand are not known.

9.4 Risk from Human and Environmental Factors

The exposed remains of the retrenchment wall are endangered by human activity. Plate 10 shows a person sitting at the end of the exposed retrenchment wall and bicycles resting against nearby rubble. A mixture of rubble and pebbles has been used to construct a sun-bathing circle in the sand (plate 10). The stone is also exposed to erosion from wind and sea-spray. It is not clear how much of the retrenchment wall may lie beneath the sand stretching along the beach.

9.5 Recommendations

9.5.1 Recording

The exposed remains should be recorded with scaled photographs and drawings.

9.5.2 Excavation

Stephen Spiteri thinks that further remains of the entrenchment wall may be found. He suggests carrying out an exploratory excavation of the area between the surviving remains of the retrenchment and the redoubt and also between the redoubt and the East side of the bay. Any remains which are found should be recorded and covered again with sand. The excavation may also help solve a historical question of whether these retrenchments replaced earlier ones. The height of the retrenchments beneath the sand may also be useful for determining changes in the ground level on the beach since the time they were built.

10. Salient of Ramla Redoubt (6, map 185)

(plate 12, figures 7b, 8b)

10.1 Location

The remains of a salient of the Ramla Redoubt (also known as the Vendome Redoubt or the Ramla Middle Redoubt) form a small wall which is aligned with the South-East façade of the pedestal of the Madonna and Child (plate 12).

10.2 Purpose

The Redoubt was part of the Knights coastal defence system. Stephen Spiteri (-) remarks that the Ramla Redoubt (which cost 840.5/4 scudi to build) was similar in design to other pentagonal redoubts found on the northern and north-western coastline of Malta. The majority (eleven) of the coastal redoubts, including those in Gozo (at Ramla and Marsalforn) were pentagonal platforms surrounded by a shallow parapet and fitted with a single block-house at the gorge and surrounded by shallow ditches. Although designed primarily for use by infantry the sizable platform of a redoubt enabled the deployment of a small number of light cannon. The only characteristic feature of the Ramla Redoubt was a vedette or sentry box built on the salient angle of the enclosure facing seawards. During the 1730's the Ramla redoubt was armed with two petit cannon but these seem to have been removed by 1785 because they do not appear in the artillery survey of that year. In 1792 the Congregation of War ordered that the redoubt be armed with two 6-pdr guns.

10.3 Present Condition

The North-East side of the salient is clearly visible, with two to three courses exposed above the sand. The other façade is mostly covered over with sand. Loose stones lie on top of the wall.

10.4 Risks from Human and Environmental Factors

In summer the statue of Madonna and Child and the low wall of the Redoubt Salient provide one of the few shady areas. This makes them a popular place to camp for the day. Graffiti on the exposed courses of the salient is one outcome from people camping in this spot for extended periods (plate 12b). Another risk is displacement of stones for wind-shields, barbeques etc. Joseph Magro Conti has noticed that building blocks have been removed from this area by those hiring out boats and deck-chairs. The Salient is also exposed to erosion from the wind and salt (from sea spray) and from wind-blown sand. Vegetation (large bushes) growing between the building blocks may also contribute to erosion.

10.5 Recommendations

10.5.1 Conservation

Joseph Magro Conti has suggested that to prevent further deterioration of the monument it should be covered up completely with sand. Stephen Spiteri on the other hand, was in favour of exposing the monument further, but this would necessitate that the site is patrolled by wardens. In the short term, it is recommended that the monument should remain as it is.

10.5.1 Recording

The exposed remains of the Ramla Redoubt should be recorded with scaled photographs, plan and section drawings.

11. The Fougasse (7, map 185)

(plates 13-15, figure 7a)

11.1 Location

The Ramla fougasse is one of the best preserved in the Maltese islands (together with those of Salina and Madliena). It consists of a large hollow carved into the sea-facing side of a large boulder.

11.2 Purpose

Stephen Spiteri has pointed out that the Ramla fougasse is unique in this sense as all the other surviving fougasses are excavated into solid bedrock (as it had to withstand high pressure of the explosion). It was strategically located in line with the sea wall. The idea was that incoming ships would flounder on the submerged artificial reef. This would give a chance for the fougasse to be loaded and fired and also ensure that ships were well-positioned to receive a blast from the fougasse.

11.3 Present Condition

The fougasse is filled with water and seaweed during rough weather and this has caused erosion of its surface. However the shape of the hollow is well-preserved and the boulder on which it is located does not seem to have changed in any way since the excavation of the fougasse. A boulder close to the fougasse has three steps carved into it (plate). The purpose of these steps and whether they were associated with the fougasse or with the Sea Wall is not clear.

11.4 Recommendations

11.4.1 Recording

Scaled photographs need to be taken. Plans and section drawings of the fougasse also needs to be carried out. The nearby steps should also be recorded. From the Knights documents it seems that there were originally two fougasses at Ramla Bay. The obvious place for the second fougasse would be in line with the Sea Wall, on the West side of the bay. Exploration of the sea-bed and coastal area around the West end of the Sea Wall may lead to the discovery of this fougasse.

11.4.2 Visitor Awareness

The fougasse is not easily accessible from the side of the bay and is not clearly visible from the beach and is best seen from the sea. Stephen Spiteri recommended that a wooden path over the boulders should be constructed to make the fougasse more accessible to visitors. It is not recommended that this is carried out before wardens are introduced.

11.4.1 Concrete Hut in the Vicinity of the Fougasse

Information about the legality of the small concrete hut behind the fougasse, on the left (plates) should be obtained from the Planning Authority.

12. Nadur Battery (8, map 185) (plates 20-23)

12.1 Location

The Battery is located on the clay slopes in the area above the fougasse.

12.2 Purpose

Also known as Ramla l-Hamra East battery. It cost 260.10.18.4 scudi to complete. In plan it consisted of a roughly semi-circular gun-platform ringed by a parapet fitted with six embrasures. A two-roomed block-house occupied part of the gorge of the work which together with a short stretch of wall helped to seal off the battery from the landward side.

12.3 Present Condition

The four walls of one room of the block-house are still standing and are in relatively good condition. The entrance door, in the wall facing towards the ridge, and a window in the wall facing Ramla bay have been recently restored with new limestone in a style not in keeping with the original structure. A hut has been built onto the remains which have been partially covered in chicken-wire and wooden pallets. The building seems to have been in use by farmers working the land nearby. It is not clear whether the building is still in use as the area within the four walls is very overgrown. Planning Authority received an application for restoration work to be carried out on the Battery in 1995, the same year as the monument was scheduled. Although the application was refused some restoration work had already been carried out. The Planning Authority put an Enforcement notice on the monument to prevent further development. The Gaia Foundation should request details on this case from the Planning Authority.

12.4 Risk from Human and Environmental Factors

Visitors to Ramla Bay do not tend to venture into the area surrounding the battery, which is not clearly visible from the beach. However, farmers in the area have made use of the building, adding many unsightly features with complete disregard for the historical importance of the structure (plate).

12.5 Recommendations

12.5.1 Ownership

The Planning Authority needs to be contacted with regard to finding out if anyone legally owns the structure and if they have information about when the additions were made.

12.5.2 Clearing

All the moveable additions to the original structure should be removed (e.g. chicken wire, wooden pallets). The whole area, particularly inside the four walls, should be weeded. All rubbish should be removed from the area.

12.5.3 Recording

A detailed assessment and plan of the remains of the battery needs to be carried out together with a photographic record. The immediate surroundings should also be recorded as they include field systems and rubble walls probably contemporary with the Nadur Battery.

12.5.4 Architect's report

An architect's report is required to assess the stability of the monument and the best way of removing the recent stone additions and conserving the monument.

12.5.5 Roofing

Following the clearing of the monument, it may be advisable to roof the block-house in some way. Advice from an architect and from Stephen Spiteri is necessary as well as a closer archaeological investigation.

13. General Remarks on the Knight's Monuments

The Coastal Defence System at Ramla Bay is one of the most intact to have survived from the time of the Knights (Spiteri pers.comm.). It is therefore of great importance and the whole system needs to be planned and recorded. This will help in the understanding of how each monument interacted with each other within the particular environment of Ramla Bay. Stephen Spiteri has offered to draw a reconstruction of the whole complex based on plans in the knights documents. Planning the remains and possibly excavation, would enable one to compare them with the historical plans.

14. Other Monuments

15. Remains of Pathway (2, map 185)

(plates 16-17)

15.1 Location

The visible remains of the cobbled pathway lie on the clay outcrop to the South of the Roman Villa Remains and extend in a South-Westerly direction, up the slope into the fields.

15.2 Purpose

This pathway may date back to the time of the Knights (as it ends close to the Belancourt Battery) or earlier and was the main access route to Ramla from Xaghra until the modern road was built.

15.3 Present Condition

Photos taken by Temi Zammit in 1911, during the excavation of the Roman Villa show the pathway in use and in a good state of repair. Today the remains of the pathway are in a poor state of preservation. One section of the pathway has been lost completely dividing the remains into two parts. The Northernmost part is hard to identify as a path because most of the stone that made up the cobbled path are missing or have become loose. Vegetation grows between the many of the cobbles that remain *in situ*. The second part of the pathway, further up the slope, is in better condition. During the winter this part of the path is almost completely concealed from view by vegetation. In summer when the vegetation dies it becomes more exposed.

15.4 Risk of Human and Environmental Factors

Damage to the pathway has largely been sustained during the busy summer months over recent years, when the area has been used as a car park for bathers. The area has also been used by off-roaders. Vegetation seems to have played a role in preserving the pathway by consolidating it but has also caused erosion in certain parts. After heavy rain, loosened stones are easily carried down the clay slopes.

15.5 Recommendations

15.5.1 Conservation

The protection of these remains requires that the area should be completely closed to all types of vehicles at all times of the year. Vegetation should be monitored and plants which dislodge stones (e.g. large bushes) should be removed. The removal of large plants would also make the path more visible to visitors. Low-lying vegetation which grows in the winter months need not be removed.

15.5.2 Recording

The whole extent of the pathway should be recorded with scaled photographs and archaeological plans. The South-West extent of the pathway needs to be identified and clearly marked.

16. The Statue of the Madonna and Child (5, map 185)

(plates 18-19, figure 9)

16.1 Location

The statue of the Madonna and Child is situated in the middle of the beach and was erected in 1881.

16.2 Purpose

One of the inscriptions tells passers-by that if they recite the Salve Regina in front of the statue they will get 100 days indulgence. The statue was erected as a source of protection for sea-farers and bathers.

16.3 Present Condition

The statue, its pedestal and its three inscriptions are in good condition. They are regularly painted in white. The crowns of the Madonna and Child are painted red while the Madonna's veil is in dark blue. The other features on the North-West façade include: a ledge, a small alcove shut with a wooden door and a lantern protruding from its Northern corner. The lantern on the corner is still lit each evening by standing on the ledge and using equipment kept in the alcove. There is another lantern on the North-East façade of the monument. One of the inscriptions consists of the dates 1881-1954. This coincides with the end date when the third inscription was written describing how the statue was replaced because it had been completely corroded. In fact, looking at the statue on its pedestal it does look as though it was the original statue due to its small size in relation to the pedestal. It may be possible to find a picture of the original statue.

16.4 Risk from Human and Environmental Factors

The statue is exposed to wind erosion and salt erosion from sea-spray. However the layers of paint provide sufficient protection to the stonework. The inscriptions are in relatively good condition.

16.5 Recommendations

16.5.1 Conservation

The lanterns should be painted as they give a shoddy appearance to the monument. In the summer heat, the statue provides one of the few sources of shade, while its ledge is a useful shelf for belongings. This does not cause any harm to the statue but may put the Salient of the Ramla Redoubt at risk from misuse (note graffiti in plate 12b).

17. General Recommendations

17.1 Wardens

Wardens must be in a position to monitor human activity around archaeological monuments and must be trained in a basic knowledge and appreciation of these monuments. In particular wardens should prevent vandalism, off-roading, open fires and camping and barbeques on archaeological monuments. Wardens should also discourage people from walking over the monuments. Wardens should be instructed to monitor the activities of those hiring and selling equipment from the beach.⁵ The vast majority of the general public will willingly comply with the regulations set out by the Gaia Foundation for the Conservation of the area. However, a minority of visitors may pose a risk, in particular those whose recreational activities (hunting, offroading, construction and use of illegal buildings) are being banned from the area. The introduction of 24 hour wardens has been recommended, however it is not a practical option for the present time. Because of this great caution must be taken when carrying out conservation policies that the ecological and archaeological heritage will not be submitted to vandal attacks. For example, following the introduction of certain unpopular actions (enforced ban of offroading, demolition of concrete hut), frequent spot checks by wardens should be undertaken.

17.2 Beach Maintenance

Beach cleaners and those maintaining the beach should be instructed not to utilise or damage in any way the archaeological monuments.

17.3 Sea-Bed Maintenance

The movement or removal of stones from the seabed should be prohibited. Those mooring boats, swimming and particularly those hiring out water-sports equipment should be monitored by wardens in this regard. If for any reason the Gaia Foundation wishes to move stones on the seabed (stones in the shallow water these may be seen as

⁵ Joseph Magro Conti has observed that stones, possibly deriving from the sea-wall have been removed by those hiring boats from the beach.

hindering easy access to the beach in some areas) this should involve consultation with an archaeologist as these stones may consist of culturally significant material.

17.4 Afforestation

Because of the archaeological potential of the Ramla Bay area, particularly that of the valley floor, it is recommended that any planned afforestation of the area by the Gaia Foundation must be done in consultation with archaeologists as well as ecologists.

17.5 Farming

Farmers in the area must be prohibited from shifting or removing soil from the area or from introducing soil. The type of equipment used by farmers should also be monitored by the Gaia Foundation. The use of some farming methods, particularly ploughing interferes with archaeological deposits. While this cannot be prevented, a record of the fields which are being ploughed would be useful to archaeologists. Disturbance of archaeological deposits can also occur through planting and through flood-water carrying soil down to the sea. Field-walking can therefore only give a vague indication of areas of importance. The shape of particular fields and the general pattern of the fields may also be suggestive of archaeological monuments. Following a long-term plan of investigations in the area, fields of particular archaeological importance may be identified. These areas could then be protected from intrusive planting, ploughing and natural erosion.

17.6 Control of Building Developments in the Area

The Gaia Foundation should ask the Planning Authority to supply it with information regarding any applications for permits and whether they were granted or approved for the construction or repair of any buildings and for the setting up of any commercial outlets in the Ramla Bay area. The Gaia Foundation should have access to this information so as to be aware of the legality of the existing structures and to be able to aid the Planning Authority in the enforcement of its rules. An arrangement should be made for the Gaia Foundation should be kept informed of any future applications.

17.7 Photogrammetric Survey

This method of monitoring the area being managed by the Gaia Foundation, proposed in the Ramla Bay Management Plan, is also a useful tool for monitoring the state of the archaeological remains.

17.8 Archaeological Planning, Surveying and Photography

It is recommended that all the archaeological/historic monuments and their settings are professionally planned, surveyed and that scaled drawings and photographs are made.

17.9 Information and Awareness

17.10.1 Entrance to Ramla Bay

Information boards providing concise information about the historical importance of the area, including pictures of reconstructions should be placed at the entrance to the bay, and

be integrated with information on its ecological importance and with the regulations for human activities in the area introduced by the Gaia Foundation.

Joseph Magro Conti should be consulted with regard to information about the Roman Villa. In particular he has done a graphic three-dimensional reconstruction of the Villa and the baths. As the Roman Villa is not visible at all, this reconstruction is an important educational tool.

With regard to the monuments dating to the time of the Knights, Stephen Spiteri has offered to draw a reconstruction of the coastal defence system at Ramla Bay.

Information boards should not be put in place until wardens have been introduced.

The materials used and the design of the boards should be as unobtrusive as possible and blend with the environment.

The information boards should be of a type that can be updated at a later stage of the project, when further information is known about the archaeological sites.

17.10.2 At Each Monument

Small unobtrusive information boards (possibly placed horizontally in the ground) should be put up at each monument at a later stage in the project.

17.10.2 Information Centre

The Ramla Bay Management Plan has proposed that at a later stage in the project, the old police station is turned into an information centre. This would enable those visitors who are really interested in the ecological and archaeological importance of the area to gain further information from a source that does not intrude on the outdoor landscape of the beach. This centre could also be an ideal starting-point for specialised tours and nature trails of the area to begin and for explaining the importance of Ramla's cultural heritage to groups of school children⁶ and other visitors to the site.

18. Conclusion

This report has highlighted the cultural significance of the scheduled monuments and the environment and landscape of the Ramla Bay area. This report has drawn attention to the neglect that the scheduled monuments at Ramla Bay have suffered over the years. It is a priority that these monuments are professionally planned and recorded. This information is vital as a basis for evaluating the archaeological significance of each monument including making comparisons with other monuments in the Maltese Islands, and making decisions about the required state of preservation and the potential for excavation. An evaluation of the monuments is also necessary prior to drawing up a long-term management plan for their conservation.

⁶ Joseph Magro Conti used to give tours of Ramla's archaeological monuments to Gozitan school children as part of a Planning Authority initiative. These tours are no longer being organised.

The archaeological potential of the whole Ramla area managed by the Gaia Foundation has been noted in this report, however the area has been understudied and requires surveying in order to pinpoint features of cultural interest.

Archaeological monuments are more than the sum of their parts, they exist in the context of the natural and human-modified landscape (e.g. agricultural fields). The Integrated Management approach of the Gaia Foundation will increase awareness and appreciation of the archaeological value of the area and contribute towards its preservation.

To enable the Gaia Foundation to carry out these tasks, sufficient resources have to be allocated and budgeted within the context of a long-term plan of management and conservation policies. Table 2 consists of a four-stage plan for implementing the recommendations. A more detailed plan will need to be made when adequate funding has been allocated to the care of the archaeological/historic remains.

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Plates

1 – View from the entrance to Ramla Bay, showing clay slopes in the foreground, and mound with remains of (east-west) retrenchment wall, Roman remains, Customs house remains, and Belancourt Battery remains. Also three existing notices to visitors (including – a warning against strong currents in rough weather; a notice that topless bathing is prohibited; and a triangular sign)

2a – Ramla Bay – looking East towards the bay from the mound from in front of the remains of the Belancourt Battery

2b – Western part of Ramla Bay taken from in front of the Western façade of the statue of Madonna and Child

3 – Northern side of the mound at the entrance to Ramla bay, beneath which lie the Roman remains, showing gradient of the slope, the back of the notice-boards (see plate 1) (map 187)

4a and 4b – Close-ups of the humps of exposed at intervals on the sandy lower slopes of the mound where Roman remains and possibly other cultural deposits lie buried (map 187)

5a – Taken from half way up the mound, facing West. Building?? in the background. On the mound, the remains of the customs room are on the left, and the wall on the right is part of the remains of the Belancourt Battery (3, map 185)

5b – view of the fields on the slope up to Xaghra taken from the top of the mound, to the right are the remains of the customs building.

6a – View of the Westernmost part of the mound showing the remains of the Belancourt Battery. Clay slopes in the foreground. Also in view in front of the wall, some of the trees recently planted by the Gaia Foundation (3, map 185)

6b – Remains of the Belancourt Battery. In the background the Northern wall of the monument (3, map 185)

7a – View of the Northern wall of the Belancourt Battery taken facing East – CHECK (3, map 185)

7b – view of the corner of the Northern wall with the Western wall (3, map 185)

8 – North wall of Belancourt Battery, showing a fallen chunk of the wall resting on the hillside, which is still in one, piece and could possibly be put back (3, map 185)

9a – View of Ramla Bay facing East, showing the clay slopes and the remains of the Belancourt Battery. Note the fallen stones on the slope beneath the battery (3, map 185)

9b – Detail of Clay slopes with Belancourt Battery (3, map 185)

10a – View of the Bay from the Roman Remains looking Eastwards. A man is seated on the exposed remains of the Knights retrenchment wall (4, map 185)

10b – Another angle on the retrenchment wall (4, map 185)

11 – Close-up of the retrenchment wall (4, map 185)

12a – The back of the statue of the Madonna and Child the wall adjoining the East side of the statue is the salient of the remains of the Salient of the Ramla Redoubt, here largely concealed by vegetation (6, map 185)

12b – The other side (North side) of the remains of the Salient of the Ramla Redoubt, a wall three courses high with some loose stones resting on top (6, map 185)

13a – The Fougasse from the sea, in its context on the East side of the bay (7, map 185)

13b – The Fougasse from the shore, in its context on the East side of the bay (7, map 185)

14a – The Fougasse from the end of the shore (7, map 185)

14b – The Fougasse, taken from sea level (7, map 185)

15 – Close-up of the Fougasse (7, map 185)

16a – Old Pathway leading down to Ramla from Xaghra, stopping in front of the mound, view facing North-East (2, map 185)

16b – The pathway overlying the clay slopes, till recently this area has been used as a car park, view facing South-East (2, map 185)

17 – Detail of the pathway showing area degraded over recent years when the area was used as a car park (2, map 185)

18 – Statue of Madonna and Child, which faces out to sea. Note the three inscriptions on the pedestal, the alcove closed with wooden door, the ledge (used as a shelf for clothes) and the two lanterns (5, map 185)

19 – Statue of Madonna and Child and the Nadur Ridge in the background (5, map 185)

20 – The approach to Nadur Battery from the direction of Ramla Bay – the Fougasse is situated to its left further down the slope (8, map 185)

21 – South/entrance wall of blockhouse of Nadur Battery, also East wall and overgrown internal floor (8, map 185)

21b – North wall of Nadur Battery blockhouse, showing recent additions (8, map 185)

22a - West wall of blockhouse of Nadur Battery, showing recently restored window and rubble wall which seems to date to the same period (8, map 185)

22b – Top part of South wall of blockhouse of Nadur Battery, showing recent additions and rock which the battery is partially cut into (8, map 185)

23a – Blockhouse of the Nadur Battery, showing entrance (8, map 185)

23b – Detail of 23a showing rubble walls in front of the Blockhouse which appear to date to the same period (8, map 185)

24a – View of slope beneath Nadur Ridge showing cave, ancient rubble walls and steps (8, map 185)

24b – Detail of Nadur slope, showing old and unusually thick rubble walls to the East (right) and one of two small round fields in the foreground

25a – View South from the cave, showing rock-cut niche and view of the valley inland from Ramla Bay

25b – Back of the cave showing rubble wall partitioning and steps leading through the roof of the cave to the ridge above.

Awaiting Photos taken in 1911-12 from National Museum of Archaeology Archives

Figures

1 – Scheduling of Property (Planning Authority), Government Notices 5, Xaghra, Gozo, map 185

2 – Scheduling of Property (Planning Authority), Government Notices 5, Xaghra, Gozo, map 187

3 – Plan of the Roman Villa, Ramla Bay from Ashby's (1915) excavation report

4 – Section drawings of the remains of the Roman Villa (Ashby 1915)

5 – Section drawings of the remains of the Roman Villa (Ashby 1915)

6 – Telamon found during excavations of the Roman Villa (Ashby 1915) (lost – the artifact never reached the Museum) (map 187)

7a - Drawing dating to the time of the Knights showing how the Fougasse works: a long fuse chord was lit which would burn its way down to the gunpowder barrel at the base of

the fougasse. The explosion would catapult the rubble piled into the fougasse a distance of approx. 300 m. (After Spiteri 1994, 585) (7, map 185).

7b – Plan of the Knights coastal defence system at Ramla Bay, showing a battery at each end (East end with 4 cannons and West end with 5 cannons), ‘*new retrenchments*’ and a central redoubt with two small cannons (Spiteri 1994, 559 – original:). (4, map 185)

8a – Reconstruction of the Belancourt Battery with its small adjoining blockhouse (Spiteri 533, 1994) (3, map 185)

8b – Plan and Reconstruction of Ramla Redoubt (Spiteri 1994, 545) (6, map 185)

9 – Text from the three inscriptions from the pedestal of the statue of the Madonna and Child (5, map 185)

Tables

Table 1 – monument with ecological context, date and purpose

Table 2 – 4-year plan

Appendices

Appendix 1: Summary of the Excavation Reports of the Roman Remains

Appendix 2: The Fougasse

Appendix 1: Summary of the Excavation Reports of the Roman Remains

Zammit's (1911) Excavation of the Roman Remains at Ramla

Zammit reports that after a few days of excavation the floor of a room was laid bare. The pavement is made of white and coloured marble slabs with a dark band all round the room. About 1 metre of walls remain standing, which were once covered with stucco, coloured to imitate marble, with red, yellow and green veins . . . To the East of this room, just beyond it, an octagonal bath was cleared, lined with Gozo marble slabs. From the fragments collected, it is clear that it was ornamented with small pillars and statuettes' (Zammit, 1910-1911, 11).

'Stuccoed walls, mosaic pavements, tile pavements, stone benches, stone channels, furnaces and a great amount of potsherds and fragments of glass, marble tablets and marble statuettes were discovered' (Zammit 1910-1911, 12).

Zammit (notebook III, 93) describes finding two rooms full of clay which appeared to have been kneaded and he reported another five or six rooms as containing the debris of furnaces. On the basis of these finds as well as the large quantity of pottery sherds in the area, Zammit suggests that they were 'a factory of pottery.' He also found clay pipes rectangular in section, lozenge shaped tiles and 6-sided tiles

Ashby's (1915) Excavation Report of the Roman Remains at Ramla

Ashby's plan shows the villa as having 19 rooms (fig.). Ashby identified two types of room: rooms 1-6, and rooms 7-19 which he found to 'make up a fairly complete set of baths' (Ashby 1915, 71). The heating system for the baths accounts for Zammit's 'furnace' while the clay piping which he found made up the water-conduits.

Ashby states that the buildings are constructed with local stone, many being large rectangular blocks, some of which appeared to have been reutilised blocks from an earlier structure. Throughout the structure, Ashby reports that no flooring survived intact and natural clay(type) lay directly below the floor-level. Zammit's (1911) report, on the other hand, indicates that he found the floor of at least one room intact.

Room 1

This is the highest room in level, built against the clay hillside. Remains of painting survive on the plaster, consisting of yellow and red lines and panels on a white background, probably in an attempt to imitate marble. Remains of the foundations were found, though no flooring remained in place. Ashby (72) suggests that fragments of a mosaic pavement (blue-black and white tesserae) found in the room had fallen either from the ceiling or from a room on a higher storey. Outside the room an open gutter (26 feet of which were found) ran in a South-Easterly direction. Its purpose was no doubt to supply water from a spring (which still exists in the hillside – the same spring as gives its name to Ghajn Barrani??) in the hillside behind the Villa and on the West side of the bay.

Room 2

It is entered by a doorway connecting it with room 1 (fig.). In the South-West corner of the room was a low stone bench (fig.). Some fragments of dark red plaster survive on the walls. In the East-South-East part of the room 'was found a telamon in local stone, representing a nude and youthful satyr, with the mouth open, pointed ears, and ivy in the hair' (plate). The lower part has been lost and stands, as it was found at 1 foot 9 inches high, the head being 8 ½ inches high. Its back suggests that it was fixed to a wall.

Room 3

The room had at least one door, in the West-South-West, but because of the collapse it is not possible to be certain of its connections with other parts of the Villa.

Room 4

The South and West walls of this room are exterior walls of the Villa. An door connects room 4 with room 5.

Room 5

This is a passage leading to the exterior of the house.

Room 6

This room was only accessible from its North-North-West side.

Room 7

This room, according to Ashby (1915, 72) served as the connecting room between rooms 1-6 and the bathing complex. Loose lime found in this area may be remains of the flooring.

Room 8

This room communicates with room 7 and room 11 and is paved with limestone-concrete.

Room 9

/

Room 10

This room was paved with small diamond-shaped tiles and retains some fragments of painted plaster on its walls above the stone bench. The remains of a bench were found in the South-West corner of the room (fig.). Ashby's (1915, 73) observations led him to believe that there was originally a door leading into room 13 which was later blocked by the stone bench. On the basis of the benches in the corner (similar to those in Room 2 and Room 11), Ashby (1915, 73) suggests that Room 10 was a dressing-room (or, apodyteria).

Room 11

This room is paved with limestone-concrete like that in Room 9 and, like Room 10 preserves remains of stone benches. It was accessible from Room 11 and gave on to the

cold bath (Room 19) and the hot rooms (Rooms 14-18). This relationship with other rooms leads Ashby (1915, 73) to imagine that it is a form of waiting-room.

Room 12 (not numbered in Ashby's plan – fig.)

This was a passage that gave access to Room 9 and Ashby suggests that it was here that the stoke-hole for the hypocaust system opened.

Room 13

He describes it as 'by far the finest [room] in the building, 15 feet 2 inches square, with a pavement of various coloured marbles. The outer border is formed of Gozo stone, within which is a band of gray marble, enclosing a thin band of black. Another band of gray, a thin band of red and a third band of gray follow successively, framing a centre of eight slabs of fine breccia.' A stone bench survives in its South-West corner (fig.). Fragments of painting in imitation marble remained in some places on the wall and were also found on slabs of stone within the room. On the North-North-West side is a bath, 4 feet 6 inches long by 2 feet 7 inches wide, with an outlet channel running along the external wall of Room 19 and receiving the water from that room also. Some 33 feet further on the channel becomes buried in the sand. The channel is lined with stone slabs and paved with cobbles and at its upper, more regular end it is 1 foot 7 ½ inches by 1 foot 7 inches.

Rooms 14-18

South of Room 13 lie a series of five rooms which reveal fragmentary evidence of a hypocaust heating system. The floors which were slightly higher than those of Room 13, were not preserved intact but small hexagonal bricks were found. Pillar supports for the floor were found and were formed out of baked tiles. In room 15, stone pilae and short stone walls seem to have been supports for the floor. Many fragments of rectangular flue-tiles were found in these rooms. All these rooms show signs of having been linked together through openings below the floor-level. In Room 18 a rectangular bath was found.

Room 19

The cold bath was located in this octagonal room, which was approached through room 13 by three steps, one wide one and two narrow ones made of 'Gozo stone.' The room is lined with gray marble and also had remains of two intact stone bases, and two more in fragments. Round pipes drained the water from the North-West angle into the water channel mentioned above (Room 13).

Appendix 2: The Fougasse

Shortly after embarking on the task of fortifying the island's coastline the knights realised they did not possess enough troops to man all the defences. In a desperate attempt to increase the fire-power of the coastal fortifications the Knights introduced a novel form of weapon, the fougasse. This was basically a conical hole cut into solid rock and was designed to be used as a stone-firing mortar. In 1715 the council ordered that sixty such stone mortars were to be cut around the various bays but apparently no action was taken. A list of 48 fougasses for Malta was proposed in 1717 (same) but it was only in 1740 that action was taken and the project actually implemented after a test of the fougasse. The knight Marandon excavated an experimental fougasse on the seashore beneath the bastione delle Forbici, Valletta and on 28 Sept 1740 fired it in the direction of Dragut's Point (MS 590). This was loaded with a huge quantity of stones and fired with gunpowder. The shot fired by the fougasse travelled some three hundred metres (160 cannes) and rose to a maximum height of 60-80 metres. Marandon was pleased with result but preferred to view this new defensive weapon as one that would hinder further the enemy advance rather than as the answer to the defensive problems of the coastal area. By 1770 fifty fougasses had been excavated in Malta

The fougasse consists of a deep conical pit with a slightly larger diameter at the mouth than at the base. The records state that the fougasse was cut in the solid rock at an angle of 50 degrees from the horizontal (Spiteri 1994). At the base of the pit was another hole designed to receive the charge of gunpowder that was required to propel the mass of projectiles from inside the first pit. The average depth of the pit or barrel of the fougasse was some 3 m with a diameter of 6 feet at the mouth and 5 piedi at the base. The fougasse was armed by first placing a barrel of gunpowder (100 au 120 livres de poudre) inside the inner chamber. A long fuse was then secured to the powder casket and passed through a narrower culvert in the side of the fougasse. The gunpowder barrel was then covered with wooden planks and filled with a large number of stones from the surrounding countryside (fig. 7a).

Table 1

Monument	Ecological Context	Date	Purpose
Roman Villa (map 187)	Clay Slopes	Roman/Punic	Habitation
Anchor (Museum Database, RML 1962)	Sea-bed	Roman/Punic	Sea-traffic
Underwater Obstacle (1, map 185)	Sea-bed	Knights	Defence
Belancourt Battery (3, map 185)	Clay Slopes	Knights	Defence
Nadur Battery (8, map 185)	Clay Slopes	Knights	Defence
Retrenchment (4, map 185)	Sandy Beach	Knights	Defence
Ramla Redoubt (6, map 185)	Sandy Beach	Knights	Defence
Fougasse (7, map 185)	Boulder Shores	Knights	Defence
Pathway (2, map 185)	Clay Slopes	Knights?	Route
Statue of Our Lady (5, map 185)	Sandy Beach	1881	Religious

Inscriptions on the pedestal of the Madonna and Child (5, map 185)

The pedestal supporting the statue contains the following three inscriptions on its North-West façade. They are written in black capital letters on marble plaques:

Upper Inscription

1881-1954

Middle Inscription:

MONS. G. PACE ISQOF T'GHAWDEX
JAGHTI 100 JUM INDULGENZA
LIL MIN JGHID SALVE REGINA
QUDDIEM DIN IX-XIEBHA
TAL-MADONNA TAR-RAMLA
15 T'AWISSU 1954
SENA MARJANA

Lower Inscription

FI 1881 GANNI GAUGI
SURGENT TAX-XTUT MIX-XAGHRA
IWAQQAF DIN L-ISTATWA TAL-
MADONNA TAL-ISPERANZA
LI BILLI KIENET TMERMRET
SARET MILL-GDID A SPEJJES TA
IBNU FRANGISKU
F-1965

Table 2

4-Stage Plan

Stage 1

scheduled monuments described in information board at entrance to Ramla Bay
fencing around Roman Villa/Belancourt Battery
clearing of Nadur Battery
architect's report on Belancourt Battery and Nadur Battery
monitoring of scheduled monuments by wardens

Stage 2

Ongoing study and monitoring of the sites including:
Detailed Evaluation of archaeological significance of each monument
Scaled plans, sections and photographs of each monument

Stage 3

Wooden pathway built to ease access to Fougasse
Maintenance of year 1's achievements
Information board to be placed close to each monument

Stage 4

Setting up of information for Information Centre
Survey and possibly field-walking of whole area managed by Gaia Foundation for traces
of further features of archaeological and historical interest