Plymouth Palmerston Forts
Stage C: Strategic Summary and Individual Site Statements
Woodland Fort, Knowles Battery, Bowden Battery and Fort Austin

Prepared for:
Plymouth City Council and English Heritage
Revision Schedule

Plymouth Palmerston Forts
Strategy for the Northern Fortifications

May 2011

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>Details</th>
<th>Prepared by</th>
<th>Reviewed by</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>April 2011</td>
<td>First Draft</td>
<td>Andrew Harris</td>
<td>Barry Woodfin</td>
<td>Annette Roe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Associate</td>
<td>Principal Consultant</td>
<td>Director</td>
</tr>
<tr>
<td>02</td>
<td>May 2011</td>
<td>Final Draft</td>
<td>Andrew Harris</td>
<td>Barry Woodfin</td>
<td>Annette Roe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Associate</td>
<td>Principal Consultant</td>
<td>Director</td>
</tr>
</tbody>
</table>

Scott Wilson
15th Floor
McLaren Building
46 The Priory Queensway
Birmingham
B4 7LR
United Kingdom

Tel 0121 2123035

www.urs-scottwilson.com

This document has been prepared in accordance with the scope of Scott Wilson’s appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole and confidential use and reliance of Scott Wilson’s client. Scott Wilson accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of the Company Secretary of Scott Wilson Ltd. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document do not provide legal or tax advice or opinion.

© Scott Wilson Ltd 2011
# Contents

1. **Introduction**  
   - Scope of Project  
   - Scope of Stage A and B Studies  
   - Stage C Report Format  

2. **Plymouth's Northern Palmerston Fortifications - A Strategic Vision**  
   - Historical Development Context  
   - A Fortified Plymouth  
   - Summary  

3. **Conservation Management Recommendations**  
   - Summary of Issues  
   - Towards a Conservation Strategy Planning Policy  
   - Conservation Policy Recommendations  

4. **Use and Development Recommendations**  
   - Development Options Summary  
   - Northern Fortification Public Access Strategy  
   - Other Considerations  
   - Future Use and Management Strategy  
   - Funding Strategy  
   - Development and Public Access Recommendations  

5. **Individual Site Statement: Woodland Fort**  
   - History and Role  
   - Description  
   - Significance  
   - Condition  
   - Development Opportunity  
   - Management and Operation  

6. **Individual Site Statement: Knowles Battery**  
   - History and Role  
   - Description  
   - Use and Ownership  
   - Condition  
   - Significance  
   - Issues  
   - Public Access Opportunity  

7. **Individual Site Statement: Bowden Battery**  
   - History and Role  
   - Description  
   - Use and ownership  
   - Condition  
   - Significance  
   - Development/Public Access Opportunity  
   - Issues and Considerations  

8. **Individual Site Statement: Fort Austin**  
   - History and Position  
   - Description  
   - Ownership and use  
   - Condition  
   - Significance  
   - Development Opportunity  
   - Other Issues and Considerations  

Vulnerability  
Issues  

58  
60  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80
1. Introduction

1.1 Plymouth City Council commissioned URS/Scott Wilson to undertake a strategic review of Plymouth’s Palmerston Fortifications, especially the Northern Fortifications, and to prepare action plans to address any conservation and management issues identified.

1.2 The terms of reference and scope of the study are outlined in the Brief for Consultants, with the aim to develop a clear strategy for securing the future for Plymouth’s Northern Palmerston Fortifications, in the context of the wider ring of contemporary fortifications which surround the city. In addition, it is intended that the study inform planning and conservation policy and proposals for the areas in which the forts sit. In particular, it is to be used to inform emerging Local Development Framework documents.

1.3 The study has been undertaken in three principal stages starting first at the strategic scoping level (Stage A) developing an evidence base, and then subsequently concentrating in more detail to prepare a strategy for consideration of the northern defences (Stage B); and finally a series of individual action plans for specific locations (Stage C)

Scope of Project

1.4 Plymouth’s Palmerston Forts are assets of historic significance, potentially able to contribute to community welfare, regeneration, and the broader townscape of the settlements in which they reside. Many of these heritage assets are classified as being at risk either through under use or inappropriate management. Potential new uses as part of neighbourhood regeneration proposals, alongside appropriate conservation of the monuments, present an opportunity for the assets to become focal points in the neighbourhoods, contributing to a sense of place and providing public amenity value.

1.5 It is the purpose of this document, therefore, to present the scope of development options that will assist in realising the community (in its widest sense) and conservation value for Plymouth’s Palmerston forts. Moreover, views need to be formed based on the strategic position of the forts as an interrelated group of historic monuments that present an integral part of the city’s history.

1.6 The investigation process has been concerned with providing the background and baseline position upon which informed proposals can be made. The evidence included presents the historical background to the Palmerston Forts and assesses the nature and extent of their significance. It explores issues that might be common to the group that could affect opportunities for use and examines these in the context of other contemporary fortifications. The conservation needs of the assets and management issues are also assessed, as are the potential opportunities for inclusion of the assets as part of the Derriford and Seaton Area Action Plan and within the Sustainable Neighbourhoods Development Plan Documents.

1.7 In accordance with the brief, specific attention is given to the Northern Fortifications, their condition, planning context and future use options. The recommendations are required to take account of the opportunities both in economic and amenity terms that these assets represent, whilst at the same time ensuring a proper approach to the conservation and management of the monuments themselves.

Scope of Stage A and B Studies

1.8 The recommendations presented in this document have been devised through a detailed assessment of the conservation needs, management issues, threats and vulnerabilities of each of the forts. Likewise, the direction for development for the forts is based on a rationalisation of the condition, location, management and market issues. These are identified in more detail in the Stage A
and Stage B reports:

- Stage A study - The Stage A Strategic Scoping Study represents an over-arching scoping study that sets the scene for all of Plymouth's defences. Specific attention is given to the current status and condition of the Northern Fortifications as a group which in turn presented the basis from which additional studies associated with Stages B and C were conducted.

- Stage B study - Recommendations made within the Stage A study in relation to the Northern Fortifications were considered in greater detail within the Stage B study. The Stage B strategy report focuses more specifically on each of the individual sites, identifying and assessing their significance, condition and future uses as well as other matters such as setting, natural environment and future management. The Stage B report includes specific recommendations in respect of policies to safeguard the role of the forts and explores matters such as the drafting of opportunities for future use and development to be considered within LDF documentation, funding arrangement and partnerships.

1.9 Although this report has been prepared to act as a stand-alone report covering the salient points of the Stage A and Stage B studies, it is recommended that the reports associated with these stages are referred to in order to gain a more detailed understanding of the issues covered.

Stage C Report Format

1.10 The Stage C report is the culmination of the Stage A and B process. The report presents the recommendations, actions and management needs of Plymouth's Northern Forts. In order to capture both the strategic value of Plymouth's Northern Forts as a collective within Plymouth and the sites as individual entities with activity, conservation and management interests, the Stage C report will present the following:

- A Strategic Vision - an overview of Plymouth's fortifications, their design, and heritage value. Over-arching recommendations and actions are made in relation to the Northern Fortifications to better conserve and strategically integrate the forts as a ‘theme of interest’ for residents and visitors to the city.

- Individual Fort Statements - more detailed statements on the conservation needs and management requirements for Knowles Battery, Woodland Fort, Bowden Battery, and Fort Austin. These sites have been identified through the investigation process as having greatest need and scope for specific conservation, development and/or management needs. These statements include specific actions for enhancement, restoration, and greater use of these sites to improve sustainability.
2. Plymouth’s Northern Palmerston Fortifications - A Strategic Vision

2.1 The fortifications across Plymouth are intrinsically linked. They were originally developed as a means of protecting Plymouth, its people, and its naval docks; which in turn was strategically important for the protection of the South West region, the United Kingdom, its population, and its interests overseas. As such, any report concerning the protection and future use of these sites needs to consider not only the value of the heritage in situ, but also its wider linkages.

2.2 The following ‘Strategic Vision’ for Plymouth’s Northern Forts seeks to present this broader strategic context in order to establish the over-arching approach to maximising the heritage and amenity value of the sites both individually and collectively. This culminates in a series of recommendations and actions to better conserve and strategically integrate the forts as a ‘theme of interest’ for residents and visitors to the city.

Historical Development Context

2.3 The fortifications developed in Plymouth were designed to have an integral role not just in the defence of the coast of the South West but as part of a strategically integrated coastal defence system of Britain. The following section examines in more detail the strategic position of Plymouth in terms of the other coastal defence systems. It also examines the condition of these forts and their existing uses.

The 1859 Commission

2.4 A major review of Britain’s defences was undertaken by a Royal Commission set up under the instruction of Lord Palmerston in 1859. The Commission was set up ‘to consider the Defences of the United Kingdom’ and was specifically charged:

• to enquire into the state, sufficiency and condition of the Fortifications existing for the Defence of our United Kingdom and an examination had into all works at present in progress for the improvement thereof, and consideration given to the most efficient means of rendering the same complete, especially all such Works of Defence as are provided for the protection of Our Royal Arsenals and Dockyards’.

2.5 The Commission looked specifically at the defence of the principal naval yards located at Plymouth, Portsmouth, and the Medway. The Commission was to look into the design of a defence system that would:

• a) enable a small body of troops to resist a superior force, or
• b) enable partly trained bodies of men to contend successfully with those more perfectly disciplined than themselves.

2.6 The Commission considered the defences of each of the major naval yards. The destruction of Chatham Naval Base by the Dutch in 1667, and the subsequent threat to London still created fearful memories. Furthermore, the French were investing in their naval presence at Cherbourg; and at just fifty miles south of Portsmouth was regarded with some alarm.

2.7 Ultimately, the Commission considered that the defence of each of the major naval yards was paramount. The following list demonstrates the naval yards within this remit and the amount of monies that the commission allocated to each for its defence:

• Plymouth - £3,020,000
• Portsmouth - £2,800,000
• Chatham - £1,350,000
• Pembroke - £765,000
2.8 The relative importance of these sites reflected both their geographical proximity to the enemy and their strategic significance. As a counter to developments at Cherbourg, Plymouth’s position in the South West was regarded as key to the defence of the western approaches.

2.9 Whilst not all of the original plans were fulfilled, a significant proportion of the defence system was established, with Plymouth, Portsmouth, and Chatham (along with other measures along the Thames Estuary) being the key focal points. The forts were positioned in a manner that would present an integrated ‘ring of fire’ to repel any invading forces.

2.10 The UK also had a number of interests abroad. The key positions were those in the Mediterranean specifically Gibraltar, Corfu, Cyprus and Malta. During the Crimea War, the strategic importance of Malta as both a supply base and advanced base for the expeditionary force was realised and at the same time its weaknesses became apparent particularly in its ability to defend against a land-ward attack on the naval dockyard and arsenal. In common with other Palmerston era reviews the proposal was initially to provide a concentric ring of detached forts to defend these approaches.

2.11 The value of highlighting these other fortification complexes is to demonstrate that Plymouth’s Forts form part of much broader defence system that not only has links with other fortifications in the UK, but also internationally. This wider role and integration of the different Palmerston forts and defence systems can often be forgotten or overlooked when focussing on a single site.

A Fortified Plymouth

2.12 Plymouth’s Forts formed part of a wide network of fortifications defending Plymouth and the South West. To the west, in Cornwall, the western defences comprised major forts at Tregantle, Scraesdon and Mount Edgcumbe, interspersed with batteries and lesser emplacements which were located on high ground defining a defensive circuit to command the west approaches to Plymouth Sound and the River Tamar.

2.13 To the east, the Staddon Heights defences comprising Fort Stamford and Fort Bovisand linked by road to the central major position at Fort Staddon command the eastern approaches to Plymouth Sound and the Plym estuary (see Map 1).

2.14 When the 1859 Commission looked at the defence of Plymouth it divided the problem into two aspects, first, the measures necessary to prevent a naval attack, and second the landward defence of the Dockyard. The Commission concluded that there were basically four areas from which the Dockyard could be attacked and recommended that these locations be fortified:

- The Peninsula between the St Germain’s River and the sea, which the Commissioners called the ‘Western Defences’
- The Peninsula between the Tamar and St Germain’s rivers, the ‘Saltash position’.
- The area inland of Plymouth between the Tamar and the Cattewater - the North-Eastern or Northern Position.
- The area between the Cattewater and the Sound - the ‘Staddon Position’.

- Woolwich - £700,000
- Portland - £630,000
- Medway - £450,000
- Dover - £335,000
- Thames - £180,000
- Cork - £120,000
2.15 Having considered a number of scenarios for the defences, the key fortification sites that were eventually developed in Plymouth consisted of the following.

Drakes Island

2.16 Drakes Island which is located within the Sound has been fortified since at least the 16th century and it was substantially refortified as part of the Palmerston review to comprise a new casemated position with high angle battery, extensive underground rooms, and barracks.

2.17 Drakes Island fortification is a Scheduled Ancient Monument (SAM) and in addition the barracks are a Grade II listed building.

2.18 The fort was vacated by the MoD during the 1960s, and was used initially as an outward bound centre until closure in 1968. The island is currently in private ownership.

Breakwater Fort

2.19 Breakwater Fort forms part of the inner defences to Plymouth. The Fort, which is located behind the 1850s breakwater, is a SAM. It is currently in a vacant condition, but as with Drakes Island, the range of potential uses is constrained by the lack of land access.

2.20 It should be noted that, within Portsmouth, two such site have been subject to regeneration – Spitbank Fort (currently being developed into a luxury venue for private parties, weddings, and conferencing) and No Mans land Fort (previously a luxury home/hospitality centre for high-paying guests, although its future is unknown at present). However, the constraints to development of such fort sites are magnified by access issues in particular.

The Eastern Defences

2.21 The Eastern Defences consist of a line of fortified positions that overlook the eastern approaches to the Sound. The Staddon Line was built around the central principal fort at Fort Staddon linked by defended military road to smaller forts at Fort Stamford to the north and Fort Bovisand to the south. The southern extent of the line was additionally provided with batteries at Staddon Point and Watch House.

2.22 The Eastern Defences are located in a rural location to the south east of Plymouth. Although Fort Stamford is located within Plymouth District, Fort Staddon and Fort Bovisand are located within South Hams District.

2.23 Fort Stamford, a Scheduled Ancient Monument, is in private ownership and intensively used as a leisure complex with the parade occupied by ‘park homes’. The location of the fitness centre is within the eastern ditch.

Staddon Fort, which was the principal fort within the lines, is presently an undesignated heritage asset though clearly worthy as being designated as a SAM in common with all of the other Palmerston Forts in the Plymouth area. The fort is very well preserved and remains in MoD use with the parade ground occupied by a communications mast. The ramparts are mostly clear of vegetation and remain particularly legible. Land in front of the Gorge to the west is in use as a golf course (Staddon Heights Golf Club established in 1904) and there are modern buildings and a club house and parking immediately in front and to the side of the fort.

2.24 Fort Bovisand comprises a long range of casemated battery with arched embrasures reinforced with wrought iron plates. The fort is in relatively good condition and occupied by a naval diving school. However it is believed that this use may soon end and the fort become redundant. The fort and the vacant Staddon Heights battery are classified as a SAM.
The Western Defences

2.26 The Western Defences are located in Cornwall and defended the south approaches to the sound from the west. The fortifications comprise a number of battery positions with a principal fort at Fort Tregantle at the west extent. Some of these forts including Tregantle remain in military use which is generally sympathetic in nature.

2.27 Polhawn Fort, a Grade II* listed building has been successfully converted for a wedding venue and hotel use. Cawsand Fort and Fort Picklecombe have both been converted to residential use. Likewise, Tregonhawke Battery is in use as holiday accommodation.

The Northern Defences

2.28 The need for landward defences of Plymouth arose from the steady expansion of the city over the centuries and the rapid developments in the range of artillery. The dockyard was already protected from the east by the Devonport lines, but these consisted of basic earthworks around gun positions and their value had already been eroded by the houses that had encroached around them and the greater range that artillery now possessed. The Commission's recommendation, therefore, was for a series of landward facing forts, the 'Northern Fortifications' - a ring of 11 fortified positions from Ernesettle in the west to Laira and Efford in the east with a central fortified position at Crownhill and a defended keep at Eggbuckland.

2.29 In the mid-late 19th Century, the land acquired in Eggbuckland and St Budeaux Parish for the construction of the northern defences was primarily rural in character and largely undeveloped. Inter and post war expansion of Plymouth has resulted in the fortifications now being located within residential areas, the former military road having been retained as a major trunk road.

2.30 The fortification structures that were subsequently established along this line were Ernesettle Battery, Agaton Battery, Knowles Battery, Woodland Fort, Crownhill Fort, Bowden Battery, Forder Battery, Eggbuckland Keep, Fort Austin, Efford Fort, Efford Emplacement, Laira Battery and Laira Emplacement (see Map 2).

Fort Design

2.31 The Marquis of Montalembert published his seminal work La Fortification Perpendiculaire in 1778 and in this he set out an entirely new method of defensive structure based on providing overwhelming frontal fire on any besieging army. Although his ideas did not gain universal support France did nonetheless from about 1800, build a series of early casemated positions along the coast between Montreuill and Dunkirk including casemated barrack accommodation at Boulogne and Gravelines and caponiers at Ostend.

2.32 The Marquis' preference for a simple polygonal plan without the need for geometric bastions began to gain favour, and his ideas were explored and developed further in the 1850s by research undertaken by Major Jervois, assistant to the Inspector General of Fortifications, General Burgoyne.

2.33 The development and increasing usage of the pointed and explosive shell which had been proven to reduce masonry structures to rubble gave rise to a widespread review of coastal defence sites. In 1844, existing batteries and fortifications around the major ports and harbours were re-armed with the latest gunnery and re-fortified with low earthen banks and capped with earthen ramparts so to absorb the explosive effect of the new shells; forts along the Medway, Thames and Solent had their exposed masonry flanks reinforced by wrought iron plates.

2.34 In 1859, W E Armstrong, who had long been experimenting with rifled guns, was able to gain approval from the Fortifications Committee
for the manufacture and use of his new rifled breech loading guns (RBL). The advantage of breech loading over muzzle-loading was that it enabled both a quick rate of fire as well better protection for the gun crew during re-loading. However, although Armstrong's breech-loading guns met with some approval they were not universally accepted and the army continued to use rifled muzzle-loading guns (RML) until the 1880s.

2.35 Although rifling significantly increased the accuracy of naval gunnery, the traditional timber warship still remained vulnerable to sustained attack from a well armed battery. However the dominance of the coastal battery was soon to be threatened by the arrival of the iron clad warship. The first iron clad warship was a French vessel, La Glorie launched in 1858 and followed soon after by the launch in 1860 of Brunel's HMS Warrior. For the first time warships were now better equipped to withstand coastal fire. The realisation was that now for the first time a land invasion was not only possible but achievable.

2.36 Iron clad steam driven vessels enabled a more rapid crossing of the Channel than had been previously possible. The worry was that a French invasion fleet would be able to cross the channel before being intercepted by a massed British fleet and that furthermore the use of iron clad barges would afford some protection to the soldiers within.

2.37 These worries over an invasion still persisted despite an improvement in Anglo-French relations arising out of the alliance that was forged during the Crimean War of 1853-1856. The Crimean War illustrated both the capabilities of steam barges to make an effective landing; and the ability of well defended coastal fortifications such as those at Sebastopol and Sveaborg to successfully repel a sea borne attack from the massed allied fleets.

Design and Form Layout of Plymouth’s Northern Forts

2.38 Each of the forts is different in its detailed design to take advantage of both its strategic and topographical position within the defensive line. Despite these differences there is nonetheless a series of features which are common to all of the forts representing the best of military thought and planning at the time.

2.39 The forts are all approached from the rear and entered through the gatehouse which projects forward of the gorge wall. At Agaton Fort, Knowles Battery and Bowden Battery the approach is through an entrance arch alongside which is a defended guardhouse. The ditch in front of the gorge was crossed by means of a drawbridge and the mechanism for this is evident particularly at Bowden Battery and Woodland Fort.

2.40 The parade, which is accessed through the entrance arch, is a large open space and buildings are generally arranged around its edges. A common feature of the parade is the planting of lime trees around the perimeter and these have been retained at both Woodland Fort and Crownhill Fort.

Ditch and ramparts

2.41 The outer perimeter of the forts is defined against a ditched rampart. There are variations in detailed design for instance the ditch at Knowles Battery did not include the gorge whilst at Fort Efford and Laira Fort their elevated locations determine that the ditch was not provided to all sides. The ditch was used not only to defend the forts but, as at Knowles Battery, Bowden Battery, Efford Fort and Laira Fort, projects beyond the line of the forts to provide a fully integrated defensive system which also included elements of the military road (Fig 1).

2.42 The ditch is cut 30ft deep into the rock and is of near vertical sides with a flat bottom (Fig 2). In several locations where additional
stability was required the ditch was provided with a built stone revetment and instances of this are clearly shown on the War Office plans of the 1890s.

2.43 The rampart to the rear of the ditch is an earthen structure that was raised to provide a bomb proof covering to the various galleries, passages, magazines and barracks. It also provided a platform upon which the guns were mounted in open battery. At Crowhill Fort a stone parapet was raised on the scarp of the ditch at the base of the rampart and provided a chemin de rondes with musket gallery that encircled the entire perimeter. At other forts, and particularly well preserved at Fort Austin, an un-defended berm was maintained between the ditch and rampart.

2.44 The rampart was accessed from the parade either by ramped access as at Crowhill Fort and Woodland Fort or as in most other cases by means of stairs as at Bowden Battery, Laira Battery, Efford Fort and Fort Austin.

**Gun positions**

2.45 The open gun emplacements comprised concrete positions, their front faces covered in earth. A small square opening within the emplacement is referred to as an expense magazine and was used to store a small quantity of munitions ready for firing. Fully casemated magazines were provided at intervals along the rampart and were serviced from the main magazine buried within the rampart.

2.46 The forts were each armed with a range of gun types, sometimes later to be modified and re-armed. Most of the forts had at least one flanking gun mounted within an earth covered emplacement known as a haxo-casemate. Haxo-casemates are particularly well preserved at Crowhill Fort and Woodland Fort (Fig 3). At Laira Fort three guns were mounted in a continuous haxo-casemate. A haxo-casemate was also provided at the Laira Emplacement.
2.47 The guns were mounted on a traversing platform or slide set on curved racer rails allowing the gun to be traversed in an arc. There are broadly two types of position evident in the Northern Forts (others are recognised elsewhere) and these are denoted by the pattern of their racers. The A pivot comprises two concentric racers without a pivot (Fig 4). The C pivot comprises a single continuous racer around a central pivot position (Fig 5). The Moncrieff disappearing gun was installed at Crownhill Fort and is evidenced by a deep concrete faced emplacement. The War Office records identify that several of the forts were intended also to be armed with mortars. These are typically mounted in positions on the lower slope of the rampart accessed by vaulted passage and steps from within the fort. As well as those at Crownhill Fort
well preserved mortar positions are evident at Bowden Battery and Fort Austin.

**Caponiers and other positions**

2.48 The specification for each of the forts determined that the ditches were to be enfiladed by caponiers mounted within the ditch. Caponiers are masonry structures that project into the ditch thereby providing fire along the length of the ditch (Fig 6). The caponiers are accessed by means of passageways through the rampart and comprise two or three storey structures typically including embrasures for a traversing gun as well as musket loops for close support. At the lower level they also commonly provide a sally port to enable troops to enter the ditch.

2.49 A similar defensive position was provided by the counter-scarp gallery. This is a masonry structure set into the counter-scarp (front face) of the ditch. At Fort Austin and Woodland Forts it is located at the junction of the front and flanking ditches so to enfilade both locations (Fig 7). Similar positions known as flanking galleries, primarily for muskets were located in strategic locations at Crownhill Fort and Efford Fort. At Crownhill Fort a passage extends forward from the counter-scarp to an outer ditch with flanking gallery that was provided to defend Drakes Leat a source of water supply to the city. At Efford Fort the flanking gallery is
positioned within the ditch that extends to the flank beyond the gorge towards Efford Emplacement.

2.50 The gorge wall defends the rear approach to the forts. It is a substantial masonry structure built upon the scarp of the ditch in front of the rampart. The gorge is provided with musket loops along much of its length with access provided by a Chemin de Rondes (Fig 8). A continuous Chemin de Rondes is evident at Crownhill Fort but within the remainder of the forts the Chemin de Rondes was confined to the gorge - as at Woodland Fort and Fort Austin, for example.

2.51 Entrance to the fort was by means of a gatehouse. These comprised a central vaulted carriage arch with defended guard chambers to each side. The gatehouses at Woodland Fort and Fort Austin are particularly well preserved. The gatehouses are often embellished with architectural form. At Crownhill Fort, this has been designed in the Romanesque style. The gatehouses were provided with a drawbridge the mechanism. This has been retained at Woodland Fort.

2.52 Knowles Battery and Bowden Battery had a simple entrance arch flanked to one side by the guardhouse, a defended position similar in all respects to the gatehouses elsewhere within the group. More elaborate arrangements for defending the entrance through the gorge by means of flanking guardhouses and other positions are evident at Fort Agaton, Efford Fort (Fig 9) and Laira Fort.

**Barrack blocks and magazine**

2.53 The barrack block is typically a casemated structure set within the rampart. At Crownhill Fort and Woodland Fort these comprise two storey buildings with a balcony to the upper floor. At all other locations the barrack block is a single storey range set within the rampart. The architectural form typically comprises a broad
arch into which are set flat arched windows and doors, often in a tripartite composition as is evident at Efford Fort, Fort Agaton and Laira Fort.

2.54 The main magazine is a casemated position, its external architectural composition being broadly similar to that employed on the barracks. The internal arrangement comprises a large central vaulted chamber with side passages and ancillary spaces provided with a vertical shaft linked to the magazine located upon the rampart. At Fort Austin, Knowles Battery and Bowden Battery the magazine was located adjacent to the guardhouse / gatehouse. Recesses built into the walls to house lamps are evident at Woodland Fort.

Other ancillary structures

2.55 As well as the main barracks and magazines the forts were variously provided with additional buildings comprising cookhouses, general stores and carriage stores as denoted on the War Office Plans. These buildings are often detached and free-standing arranged around the edge of the parade. An extensive suite of stores and other buildings is retained at Crownhill Fort.

2.56 A cookhouse and store are built against the gorge at Agaton Fort whilst at Woodland Fort the cookhouse is fully detached and set on one side of the parade. The building is of a single storey with a veranda on its long side and a pitched slate roof. At Efford Fort there is a large single storey armaments shed with curved corrugated metal sheet roof which is similar in extent similar armament sheds at Crownhill Fort.

Summary

2.57 The Palmerston Forts were established to protect the coast of Britain from invasion. Technically speaking, the forts were never used for the purpose that they were designed for, hence they have through history been dubbed the ‘Palmerston Follies’ on account of the significant expense incurred to develop them. However, there is another school of thought that the defence systems created around the naval bases presented a significant deterrent and that opposing forces feared any invasion would itself prove ‘folly’.

2.58 It is arguable that the lack of military ‘theatre’ surrounding the forts has added to the subsequent lack of interest in the heritage concerning the individual sites over time. As a result, many sites have fallen into disrepair or have been taken over by other (sometimes unsympathetic) forms of use. However, collectively, the fortifications of Plymouth, when combined with those in Portsmouth, Chatham, and Milford present a significant part of the reason why there has not been a successful invasion of Britain since 1667.

2.59 Of these three principal locations, Portsmouth has been the most successful in determining a heritage product and a brand around its defences - The Defence of the Realm - although Chatham and the Medway too has a growing reputation for naval heritage. Moreover, the Palmerstonian forts are being utilised to help interpret the respective stories at these locations.

2.60 To date, Plymouth’s forts lack the same gravitas as sites of heritage access from which both residents and visitors can gain a greater ‘sense of place’ in relation to Plymouth’s development as a settlement. Nevertheless, as this study has demonstrated, Plymouth’s fortification sites are as complete and in as good a general condition as those within Portsmouth.

2.61 In addition, the story around the defence of Plymouth is as important to the ‘defence of the realm’ as Portsmouth is. For instance, both Portsmouth and Plymouth have similar defensive rings and the forts of the Gosport lines bear similarities to Plymouth’s northern defences in that the lines were designed as an integrated system, with each fort or position being supported by its neighbour. There is also similarity in fort design, each characterised by an open
parade, casemated positions and earthen rampart and caponiers. There is also much similarity in the design of barrack blocks at Fort Brockhurst in Portsmouth and Crownhill Fort in Plymouth.

2.62 The principal difference between the two areas is that, whereas Plymouth appears to have allowed market conditions to determine how the forts have been developed since disposal by the MoD, in the case of Portsmouth both the City Council and Hampshire County Council managed to take a more comprehensive look at the heritage significance and potential of the fortifications and opportunities for reuse at a relatively early stage.

2.63 The result for Plymouth has been the ad hoc disposal of the sites, leading to each fort having a variety of different uses. Many of these uses would not usually be seen as being conducive to fortification sites, particularly nowadays. However, the sites have been adapted over time to a position where these uses have, in fact, allowed more of the forts to be retained rather than would otherwise have been possible. Moreover, the uses have ensured that the forts have not, on the whole, fallen into a condition of disrepair that has deemed then to be in a ruinous state - a fate that has bestowed other forts of this type elsewhere in the country.

2.64 Nevertheless, it has also meant that the forts have lacked systematic investment to retain their historical integrity and local cognisance as part of the heritage fabric of communities. It is this aspect of the current position of the Northern Fortifications that this study has sought to address.
3. Conservation Management Recommendations

Summary of Issues

3.1 The investigation process has identified a number of issues that are common to all the fortifications. Key issues concern matters such as heritage conservation ecology, management and viability of use. The issues were explored fully in the Stage B report and the key findings are summarised below.

Statutory Designation

3.2 All of Plymouth’s Northern Forts are designated SAMs, with Eggbuckland Keep grade II* listed. In terms of the SAMs, the extent of the designation varies to include the entire fort and glacis or is defined only to include the ramparts and associated structures. In some cases the scheduling description was found to be ambiguous with the result being that some historic buildings within the fort appeared not to benefit from statutory control.

3.3 In other instances there was evidence to suggest that the need for statutory consent for works was not always appreciated by site managers. In these circumstances, designation of some structures as listed buildings would give rise to a consenting regime the mechanisms of which would be familiar to most site managers or their agents. In this respect, it is recommended that the statutory basis on which the forts are currently managed be reviewed.

Conservation and Retention of Heritage Values

3.4 The Northern Forts are heritage assets. Although all of the forts are in some form of occupancy and use, historic components such as the guardhouses and caponiers remain unused with a threat to their long-term heritage value. In other cases, it is the intensity of current use that is of potential threat to their long-term heritage values.

3.5 It is recommended, therefore, that proposals which retain heritage values should be encouraged and, in cases of business planning or redevelopment, opportunities for enhancement of both the existing and ‘under threat’ heritage values should be promoted.

3.6 Although each fort has a heritage value in its own right, the true significance of the fortifications as part of Plymouth city’s heritage only becomes clear once the forts are viewed as a whole. Therefore, as well as the individual heritage value, it is important that the forts are considered in relation to their collective value. From a strategic perspective, it is also recommended that any future development associated with one site be reviewed against the implications that it could have for others (or all) of the fortification sites.

Condition and Use

3.7 Although the forts are in use, underuse of historic key structural components is giving rise to concerns regarding their long term future. The guardhouse and gatehouse are structures that appear to be particularly vulnerable to underuse, whilst the caponiers and associated structures are at risk arising from abandonment.

3.8 Despite some identified constraints to use, it is generally deemed possible for the gatehouses in particular to present a ‘townscape’ amenity and, in some instances, a usable space that contributes to the viability of the site (see Use and Development Recommendations). Where possible, these gatehouses should be brought back into a viable use as a means of improving their condition long-term.

Maintenance

3.9 Although routine maintenance is being undertaken across the group, its nature and scope varies. Those parts of the forts that are in regular use are generally well maintained. However, the size and complexity of most of the forts represents a challenge to both owners and occupiers. Income and costs are major factors
in determining an appropriate level of maintenance. Where possible, it will be important to encourage improved maintenance of the sites across the board, however financial assistance may be required on occasion for this to be delivered. In instances where maintenance activities are likely to be duplicated between several forts (e.g. vegetation clearance), it is recommended these respective forts be grouped together to improve economies of scale.

Towards a Conservation Strategy Planning Policy

3.10 The statutory framework in respect of development control and obligations concerning the management of SAMs is The Ancient Monuments and Archaeological Areas Act of 1979 which sets out a number of provisions in respect of the need for consent for works that affect SAMs.

3.11 Each of Plymouth’s Northern Forts is a SAM and thus is subject to the statutory controls brought about by this designation. The extent of the ‘Scheduled’ area varies from site to site and the scheduling entry is quite specific in what is excluded. Consequently, certain historic elements fall outside of statutory control.

3.12 A more holistic approach to the historic environment has been brought about by the publication of PPS 5 which addresses issues pertaining to the management and conservation of heritage assets. Elements that make up the historic environment are called ‘heritage assets’ and this term includes all heritage features whether designated or not. Heritage assets comprise SAMs, buildings, buried archaeological sites, parks and gardens, sites and landscapes.

3.13 Whilst the PPS does not replace the obligations set out in statute, it does nonetheless set out the current views of Government and English Heritage on matters of development control and conservation of the historic environment.

3.14 Because conservation and development policies within PPS 5 apply to all heritage assets, control extends to those elements that currently fall outside of the scheduled area. It is for this reason that PPS 5 is an appropriate basis on which to formulate a conservation strategy for management of the Northern Forts.

Conservation Principles

3.15 In 2008, English Heritage published ‘Conservation Principles policies and guidance’. Within this publication English Heritage promote 6 key principles of good conservation.

- The historic environment is a shared resource.
- Everyone should be able to participate in sustaining the historic environment.
- Understanding the significance of places is vital.
- Significant places should be managed to sustain their values.
- Decisions about change must be reasonable, transparent and consistent.
- Documenting and learning from decisions is essential.

3.16 Whereas PPS 5 provides the policy context for management of the forts, these six conservation principles are to form the basis that underlies the management approach to be adopted. These six principles are to be applied to all conservation management decisions that affect the heritage values and significance of the assets.

Significance

3.17 The significance of heritage assets is determined and assessed in consideration of their heritage values. These values are defined in ‘Conservation Principles’ and are broadly carried through to PPS 5 where they are identified as heritage interest. The values (interests) that give rise to significance comprise:
3.18 The aim of government policy as set out in PPS 5 is that the significance of heritage assets should be identified, sustained and enhanced. The English Heritage practice guide states that this can be done by ‘supporting their maintenance and by requiring that change to them is managed in ways that sustain and where appropriate enhances their heritage significance’.

Conservation Objectives and Practice

3.19 The English Heritage practice guide sets out a number of key objectives in meeting the policy requirements of the PPS and these general considerations are to underlie the approach to be taken in respect of the understanding, management and conservation approach to be adopted in respect of the Northern Forts.

3.20 Whereas much of the PPS is concerned with Development Management the associated practice guide contains statements of more general application in respect of the management and retention of significance. Key sections address matters including:

- Assessing the significance of assets;
- Heritage benefits;
- Design;
- Archaeological and historic interest;
- Setting;
- Recording and understanding; and
- Public engagement.

3.21 In addition to expanding upon the policy requirements of the PPS, Section 6 of the practice guide provides specific guidance on making changes to historic assets. This section of the guide addresses issues such as repair and restoration and examines best practice in respect of each of these interventions.

3.22 In developing a conservation strategy to be implemented across the group, it is recommended that all management decisions are made in full cognisance of the policy requirements of the PPS and its practice guide with specific regard to guidance in section 6 of the practice guide.

Appropriate Levels of Conservation

3.23 Each of the forts and their associated structures require works of conservation and repair to varying degrees. In these circumstances it is not appropriate to dictate across the group, to what degree works of conservation, repair or restoration should be undertaken. A more appropriate approach is that the conservation needs of the forts and their associated structures should be determined in accordance with a set of general conservation policy recommendations. Having determined a general conservation approach the detailed conservation needs of individual assets should then be considered in respect to its:

- proposed and existing use;
- significance;
- accessibility;
- authenticity and legibility;
- public and heritage benefit; and
- future maintenance inputs, cost and viability

3.24 A full and comprehensive restoration of the assets is likely to involve reinstatement of much new work with a potential to harm
heritage values and significance. A full restoration of this sort is not being proposed other than where there are particular circumstances that such an approach can be justified in respect of the conservation or better revealing of heritage values and public benefit. The cookhouse at Woodland Fort is one structure where an approach of this sort might be appropriate.

3.25 Rather, it is recommended that the processes of decay should be identified and halted, with the main requirement primarily involving the removal of vegetation and the prevention, or management of future vegetative growth. Areas of particular structural decay whereby the structure is at risk will be addressed and localised repair or strengthening introduced if necessary.

Conservation Policy Recommendations

3.26 The following conservation policies are recommended as a means to ensure appropriate management and conservation of Plymouth’s Northern Forts. The policies offer a series of general guidelines and principles that are recommended to Plymouth City Council (PCC) and English Heritage for adoption. Specific policies relevant to individual forts will be developed as part of the ‘Individual Fort Statements’.

Understanding the Asset

A full understanding of the asset, its historical development and significance should be made prior to any programme of conservation, alteration or extension. Understanding the asset would normally entail historical research and building assessment and may also include invasive examination or opening up works if these would help in providing answers to specific questions relating to condition or form.

Statutory Designation

English Heritage and the Local Planning Authority should undertake a review of the statutory designations that currently apply to Plymouth’s Northern Fortifications.

Engagement with site owners

Plymouth City Council and English Heritage to engage with site owners to promote conservation and good management of the forts.

Principles regarding works to heritage assets

Proposals for works of repair or alteration to historic assets should be prepared to take into account the principles of good conservation as documented within Section 6 of the PPS 5 English Heritage Practice Guide.

Authorisation of Works

English Heritage and Plymouth City Council are to monitor works to the forts and ensure that all appropriate and necessary consents have been approved.

Retention of heritage values

Works of repair, alteration or extension to heritage assets should only be undertaken if these would sustain, retain or better reveal the heritage values of the asset.

Reuse of Historic Buildings

Proposals for the reuse of disused historic buildings will be encouraged where such use can be demonstrated to retain or better reveal heritage values.
**New Development**

Proposals for new buildings within the forts will only be considered where it has been demonstrated that the use can not be accommodated within existing historic structures.

New buildings should be sited and designed to sustain or better reveal heritage values.

**Conservation of Ecological Values**

A primary bat survey is to be undertaken across the fortification group to determine the extent of bat activity.

Proposals for reuse of building or new development should take into account potential impacts on the ecological resource.

Proposals for vegetative clearance within the forts, upon their slopes and within the ditches should be undertaken in accordance with an approved management plan to safeguard ecological value.
4. **Use and Development Recommendations**

4.1 **Development Options Summary**

Stages A and B of the investigation process was used to examine a series of use and access options for each of the Northern Fortifications. The following presents a summary of the key findings.

4.2 **Ownership, operational issues and existing uses restrict the future development of several of the fortifications, including Ernesettle Battery, Agaton Fort, Knowles Battery, Forder Battery, Egguckland Keep, Efford Fort and Laira Battery/Emplacement. However, this does not preclude consideration of the heritage they contain from a wider visual, interpretation and the conservation perspective; for example. It is conceivable that each site be included within a ‘Heritage Trail’. Moreover, the visual aesthetics of the sites should be utilised to present a key heritage feature within the neighbourhoods in which they reside.

4.3 **The sites that represent the greatest opportunity for new development and activities are those estates owned by the PCC, namely Woodland Fort and Fort Austin. In the case of Woodland Fort, it is important that the future uses should complement the important and existing community functions that have been built up at the centre over time. The Woodland Fort Community Club (WFCC) currently manage the site and provide access to other user groups for activities such as snooker, table tennis, youth clubs, to name but a few.**

4.4 **As a solely volunteer group, the WFCC needs to be commended for both maintaining Woodland Fort and for presenting the site as a valuable community resource. However, there are associated risks with this operation, not least the voluntary nature of the WFCC and the nature of the management arrangements between WFCC and PCC (as owners of the site) which is not currently formalised. Both of these positions need to be addressed to secure its operation as a community centre in the long-term.**

4.5 **Fort Austin is currently home to Plymouth Community Homes, however the lease arrangement is set to expire in the near future. Despite being considered for a number of alternative uses, the most feasible for the site is for it to continue to be utilised with industrial/office space in mind. Part of the rationale for this solution is that much of the historic fabric of the site has already been adapted for this use through the years, meaning that any attempt to revert the site back to any its former state would be overly costly. Furthermore, site constraints such as size, location and access act as constraints for other forms of commercial use.**

4.6 **The investigation process has highlighted that there is interest in using the site as a place that presents workspace for either the arts, digital media, or both. Strategically, these are two sectors that stakeholders such as the University of Plymouth, Plymouth College of Arts, and Flameworks, for example, are already pursuing through projects such as the Ocean Studios Project.**

4.7 **Initial discussion and site visits with a series of organisations were undertaken as part of the investigation process. This has highlighted that the site could become an attractive propositions for these uses subject to certain modifications. From the arts perspective, the site has prospects of providing for the ‘heavier’ side of the arts that involve welding, construction pieces (e.g. set construction), and large canvas prints, to name but a few. These would ideally be suitable to the warehouse structures available on site. In contrast, the digital media sector would be better suited to the office spaces already available on site. It is for this reason that, in order to maximise income generation from the space available, it is felt that it would be appropriate to consider accommodating both uses, or combining with other interested operators such as RIO.**
4.8 One of the key findings of the investigation process is that, despite being the best kept and most interesting of the forts, Crownhill Fort is not being utilised as a visitor attraction nor is it acting as an interpretation centre for the forts as a whole. LMT, as owners and operators, has operated a visitor centre at the site in the past but a combination of the location of the site and the current lack of strength in depth in maritime attractions in Plymouth inhibited performance making the operation unsustainable. Currently, the fort’s public access functions are being orientated towards tours and special events, especially weddings. Although from a strategic perspective this is regrettable given that Crownhill Fort is the ‘flagship’ site on the Northern Line, it is understandable given the associated costs and lack of visitor footfall being achieved.

4.9 In contrast, Bowden Battery already has a public (customer) function as a garden centre. It is estimated that the site attracts around 250,000 customers per annum, many of whom also use the cafe. On the whole, Plymouth Garden Centre (PGC), the operators of Bowden Battery, are sympathetic to the heritage setting of their commercial operation. Moreover, the PGC are keen to maximise the ‘interpretation’ value of fort as a means of encouraging new customers, longer durations of stay, and use of an extended and (ideally) repositioned cafe. In this respect, there is a prospect of utilising the cafe jointly as an interpretation centre to tell the history behind each of the northern fortifications and how they collectively presented a defensive barrier to invasive forces on a landward approach.

**Northern Fortification Public Access Strategy**

4.10 From a strategic perspective, it is clear that three of Plymouth’s Northern Forts have considerable potential to be utilised for public access. These are Woodland Fort, Crownhill Fort, and Bowden Battery. However, a key purpose of the investigation is to examine and highlight options and opportunities for improving access and legibility within the townscape of each of the forts. This is needed because the story of the forts only becomes truly appreciable once they are viewed collectively.

4.11 As a result, and in accordance with the findings outlined above, it is recommended that the public access at each of Plymouth’s Northern Fortification Sites is developed within one of the following Tiers:

- **Tier 1** - General front-of-site information board and inclusion within a heritage tour leaflet providing basic information on the role of each fort. No public access rights to the forts itself, although access to parts of the fort may be possible through other means (e.g. as part of a nature reserve or other green space). Certain sites (e.g. Laira Battery/Emplacement) are to have general access as green or open spaces but with a heritage interest.

- **Tier 2** - Community access to certain areas of the site (e.g. guardhouse) for clearly defined functions, or for specific events. These sites will also include a general front-of-site information board and will form part of a heritage tour leaflet providing basic information on the role of each fort.

- **Tier 3** - Public access is encouraged through various initiatives for a variety of different functions and events. These functions and events will take place at regular intervals and publicised locally and, where relevant, regionally. These sites will also include a general front-of-site information board and will form part of a heritage tour leaflet providing basic information on the role of each fort.

- **Tier 4** - Main Plymouth Northern Fortification interpretation site(s) through a dedicated centre(s) that includes interpretation of the whole of the Plymouth Northern Fortifications and how they are interrelated.
4.12 The following section will explore the implications of this tiered system, however to summarise the forts that are to be included within each tier are as follows (see Map 3):

- Tier 1:
  - Ernsettle Fort
  - Forder Battery
  - Egguckland Keep
  - Efford Emplacement
  - Efford Fort
  - Laira Battery/Emplacement

- Tier 2:
  - Agaton Fort
  - Knowles Battery
  - Fort Austin

- Tier 3:
  - Woodland Fort
  - Crownhill Fort

- Tier 4:
  - Bowden Battery

4.13 These sites are included in Tier 1 due to the access constraints presented by ownership and current uses. The purpose of developing interpretation boards either attached to, or close to each fort, is to allow the local community and visitors to appreciate the heritage value of these sites despite access constraints. Through their inclusion within a ‘Northern Fort Heritage Discovery Trail’, these sites will also become better recognised locally.

4.14 Perimeter trails could also be established, especially where the fort links into other assets such as a Local Nature Reserve (e.g. Efford Marsh, Forder Valley and Woodland Wood Local Nature Reserves); or could eventually link in with other developments supporting public access and engagement with heritage and open spaces (e.g. Efford Fort and Laira Battery). In the case of Laira Emplacement, the site could be presented as a green and open space with heritage interest and affording views over the River Plym.

**Tier 2**

4.15 Agaton Fort, Knowles Battery and Fort Austin have been identified as Tier 2 forts for public access due to their potential to develop the gatehouse which in turn could be presented for community/public use. The following provides the rationale behind this premise.

**Agaton Fort**

4.16 Agaton Social Club, a community centre, is located directly adjacent to Agaton Fort. Although VOSA, the current owners of the site, has indicated that it is reluctant to open the site for uses other than its own, the guardhouse is currently unoccupied and could be brought into use through some moderate renovation works. This could be utilised by Agaton Social Club and/or other local community groups. This premise needs to be explored further as part of a collective programme of bringing these types of heritage spaces into community use.

**Knowles Battery**

4.17 Knowles Battery already has a community function in terms of being the location of Knowles Primary School. However, the
school generally turns its back on the fort in terms of usage at present.

4.18 A potential solution to this would be for the guardhouse to be renovated and re-opened for use as a more general community amenity. One obvious option would be to utilise the site as changing facilities for sports groups utilising the playing field directly adjacent to the Fort. This would utilise the lower level area.

4.19 An option for the upper area would be for it to be utilised by the Plymouth Forts ‘Your Heritage’ project, a project that is seeking to utilise Plymouth's Northern Forts for educational groups. The idea of the project is to help younger school children interpret the Northern Forts. This will be undertaken by a series of ‘hands-on’ tasks such as building models of the forts and placing them on a giant map at the right location. This latter option would actually elevate Knowles Battery into a Tier 3 public access site, however the project is still at an early stage of development.

Fort Austin

4.20 Fort Austin resides within a residential area that is recognised by the Sustainable Neighbourhoods Development Plan Documents as having few ‘community amenities’. The prospect of utilising space within Fort Austin especially the guardhouse, which is of good size, for community use would therefore be of considerable benefit locally.

4.21 The availability of the guardhouse will be dependent upon the main use of the site (see below), however this premise should be explored with the prospective new user groups (namely the arts and creative industries) as part of a collective programme of bringing heritage spaces into community use.

4.22 The proximity of Fort Austin to the Forder Local Nature Reserve also presents an opportunity for encouraging public access, with elements of the fort (i.e. rampart, ditch and counter-scarp gallery) already encompassed within this environmental designation.

Tier 3

4.23 As Tier 3 sites, Woodland Fort and Crownhill Fort already have valuable public access activities. However, there is scope to develop this access further. The opportunities associated with each fort are explored in more detail below.

Woodland Fort

4.24 Woodland Fort already has community access functions activities as provided by the WFCC. As a priority, these are to be retained and secured through improved management arrangements (see Future Use and Management Strategy).

4.25 In addition, there is capacity for the existing functions to be complemented by several other activities that have a more commercial focus. This is particularly true should the possibility of reinstating the Old Cookhouse as a usable building and the reopening of the second gateway to the site be implemented. This in turn will allow more controlled and safer vehicular access to the site.

4.26 The additional activities could feasibly include:

• a café that is open during the day, utilising the second bar area to support existing day-visitors, users of Woodland Park, and users of the new activities outlined below;

• a children’s play area, with the prospect of the restored Old Cookhouse presenting an opportunity for this type of facility;

• band practice and amateur dramatics suites by bringing rooms some rooms (e.g. the gatehouse) back into use;

• small-scale outdoor community events such as jumble sales, car-boot sales, small-scale farmers markets, small-scale concerts for up-and-coming ‘local’ talent, and outdoor amateur dramatic
performances; and

- more indoor sporting activities (e.g. indoor bowls, ballroom dancing) and other fitness-type programmes directly aimed at the more vulnerable elements of the local community.

4.27 Being adjacent to the Woodland Wood Local Nature Reserve, there is also an opportunity to utilise the fort as a gateway for wildlife discovery and learning.

4.28 Overall, therefore, it is recommended as a strategic aim that Woodland Fort continue to represent a primary community centre that supports a range of activities and interests for local residents and beyond. Through this provision, it is also recommended that other council services concerned with the health, welfare, integration and education of society be encouraged to utilise Woodland Fort as a community-outreach centre in order to directly engage with local citizens in need.

_Crownhill Fort_

4.29 Crownhill Fort previously had a more apparent visitor and interpretation function through a dedicated visitor centre. However, the visitor numbers were insufficient to support the costs associated with this amenity. As a result, the Landmark Trust (LMT), as operators of the site, decided to rationalise public access to Crownhill Fort through open days, group events, and educational visits.

4.30 Within each of these categories, the LMT is keen to target more frequent visits than at present. In particular, it is keen to explore the potential for tours to operate from the city centre. The PCC and its partners could assist in this process through publicity and promotion. However, it is recommended that this initiative be trialled in order to understand the level of demand.

4.31 In addition, the LMT will continue its primary role of offering Crownhill Fort for holiday-lets as a means of generating public access and understanding of the fort. The LMT is also strengthening its association with an operations partner, Wedding Matters, to deliver more weddings and other forms of social events in the fort on a more frequent basis.

4.32 As the flagship site, it is likely that Crownhill Fort will continue to provide the public ‘face’ of Plymouth’s Northern Forts. As such, there may be scope to improve interpretation of the site over time (depending upon demand) to a level where it becomes a Tier 4 public access site.

4.33 One of the key issues facing Crownhill Fort is that, despite its position, the site lacks visual awareness. Part of this problem is created by the fact that the glacis, the most ‘visible part of the fort from the A386, is covered by vegetation and thus camouflaging the site from its surroundings. The LMT has highlighted that it would be beneficial if the landscaping of the site were more beneficial to raising awareness locally, whilst also protecting the surroundings from inappropriate development. This is critical to safeguarding the historical integrity of the site given that its primary role was to defend the northern line from land-based attackers advancing from the valley below. Any development within the Derriford and Seaton Area Action Plan will need to consider its impact on the fort on being able to tell this story in the future.

_Tier 4_

_Bowden Battery_

4.34 Bowden Battery is currently considered the only Tier 4 site in terms of public access. This is largely because the site has the greatest potential of any of the existing sites to operate as the main centre for information on the forts.

4.35 Operating as a Garden Centre, the site already receives 250,000 visitors per annum (i.e. garden centre customers). Although the site already contains a modest café, there is the prospect of a larger...
cafés to include heritage interpretation. This has been discussed further with the site operator, the PGC, who has indicated that it would be willing to consider this option subject to the operation being commercially viable. Indeed, the option has been explored before but was not pursued due to planning issues.

4.36 Subject to a suitable design solution, this type of facility would place Bowden Battery at the centre of interpreting the Plymouth Northern Forts collectively. It is only by telling the story as a whole that the importance of the area and its forts from a strategic position becomes evident. In this respect, the interpretation should explore the original function of Bowden Battery and its key fortification features and their importance, whilst also placing Bowden Battery within the context of the Plymouth Northern Fortifications, and indeed the overall ‘Ring of Fire’.

4.37 Due to the café setting within a commercial operation, the interpretation boards and imagery should be conducive to casual browsing. For the interpretation of Bowden Battery, this should include easy-to-read boards within the café, mock-artillery weaponry upon the gun emplacements, and some strategically positioned ‘artist impressions’ of the site during its use as a fortification. For the interpretation of Plymouth’s Northern Forts and the Plymouth ‘Ring of Fire’, a combination of ‘artist impressions’ and written text should be explored to depict how the sites would have worked in combination to defend and repel either land or sea-based attacks. This latter aspect is an important component of the story, yet it is little understood because of the fact that the forts were never called upon in this manner. The prospect of utilising Bowden Battery to present this story is therefore regarded as a compelling opportunity.

Other Considerations

Heritage Trail using Green Infrastructure

4.38 One of the key observations of the study is that the line of the Northern Fortifications generally coincides with part of the proposed sustainable transport corridor within the Plymouth Green Infrastructure Plan.

4.39 Discussion with Natural England (NE) has identified that there is a synergy between green infrastructure (GI) and the heritage of the forts. In this respect, the forts have the capacity to be utilised as features of interest along the GI corridor. Moreover, the forts themselves can be used to signpost and act as ‘gateways’ to the GI Corridor and associated assets (e.g. the local nature reserves and the proposed Derriford Community Park) within their respective communities.

4.40 The GI corridor would also provide a ‘safer’ and more pleasurable route from which locals and visitors alike can be encouraged to explore the forts. Although the military road is largely intact, as an on-road route, cyclists would be competing with other road traffic and walkers would have their route impeded by the need to cross road junctions. This would be largely avoided through using the GI corridor route, thus there is the prospect of an off-road heritage trail that incorporates each of the fortification sites, supported by a leaflet guide and at-site interpretation boards.

4.41 The Plymouth Green Infrastructure Plan has recently been launched and is now in the process of being delivered. It is recommended that the PCC and Natural England (NE), as stakeholders and partners of the Plan, utilise this opportunity to not only realise greater public access to green and open spaces, but also to the Northern Forts as places of heritage importance. This should be in the form of a ‘Northern Forts Heritage Discovery Trail’. This should consist of a leaflet and baseline information on each of the forts, plus a waymarked map of the route and key access points. The full extent
of this aspiration will need to be explored in association with other GI initiatives.

4.42 In addition to the above, it is understood that the scope for development, improving consistency, and associated marketing and promotion of different trails around Plymouth is being outlined as part of the Visitor Management Plan for the city. Discussion with the consultants leading this project, Blue Sail Consulting Ltd, has acknowledged that the opportunity for creating Northern Forts Heritage Discovery Trail has a synergy with the need for ‘Telling Stories’ of Plymouth through new and innovative means. This is seen as a key component of an overall plan that is seeking to re-position Plymouth as a city destination. One of the likely priorities of this is to ensure that there is a consistency and integration between the different trails that exist and are currently emerging. As a result, the action to establish the Northern Forts Heritage Discovery Trail needs to be closely aligned with any emerging objectives and actions emanating from the Plymouth Visitor Management Plan.

**Mini Heritage Trails**

4.43 In addition to the main Northern Forts Heritage Discovery Trail, certain forts can be grouped to provide mini community trails that are circular in nature. The natural configuration of the trails, given the position of the forts, would be:

- Ernsettle Fort, Agaton Fort, Knowles Battery and Woodland Fort
- Bowden Battery, Forder Battery, Egguckland Keep and Fort Austin
- Laira Batter/Emplacement and Efford Fort

4.44 The benefit of creating these mini trails is that they can be completed in lesser time and as circular routes that return the user back to an identifiable start/finish point. This option also integrates another key heritage asset, the Military Road, into the overall package and another feature that could be interpreted. The fact that these trails are shorter distances means that the potential obstacles to use such as traffic and road crossings also become less prominent than for the whole trail.

4.45 Crownhill Fort is not included within the shorter trails because of the access constraints from the exiting Military Road. However, trail connectivity is still envisaged via the proposed Green Corridor.

4.46 Fort perimeter trails are also possible around Woodland Fort, Cornhill, Fort Austin, Bowden Battery and Efford Fort. For Woodland, Fort Austin and Efford Fort, these walks would have the added advantage of providing access to the associated Local Nature Reserves (see below). The site visits have denoted that tracks already exist in certain locations that could be used to provide these trails. However, consideration will need to be given to appropriate access and any potential damage risks associated with increasing access to these sites.

**Heritage and Ecology Conservation**

4.47 As is highlighted elsewhere, the forts not only concern heritage conservation but also ecological conservation. This relationship is certainly apparent in respect of Woodland, Fort Austin and Efford Fort which are directly adjacent to Woodland Wood, Forder Valley and Efford Marsh respectively. The implications of this in terms of heritage conservation are that solutions to rectify issues caused by overgrowing vegetation, for example, will need to give suitable consideration to the management of ecology and vice versa. An initial appraisal of the ecology of these sites indicates that it should be possible to overcome any conflicts that this may give rise to through appropriate vegetation management and removal at certain times, although this will need to be completed on a step-by-step basis.

4.48 A further issue facing the forts and the surrounding vegetation is that the sites are known to be habitats and foraging grounds of
bats – specifically the lesser and greater horseshoe bats. Bats are a European protected species. This means that no works can be undertaken until ecological assessments have been undertaken in relation to bats. This will not only include the fortifications themselves, but also the adjacent land (i.e. trees and vegetation) and the connecting landscape between each of the sites as there is likely to have been bat migration between them. The presence of bats will not necessarily preclude future development but detailed bat surveys will need to be undertaken such as activity surveys, dusk dawn emergence re-entry surveys (to cover spring, summer and autumn), hibernation and summer roost visits/inspections and passive bat detector surveys. All works should be undertaken by experienced bat ecologists and licensed personnel and follow strict guidance published by the Bat Conservation Trust http://www.bats.org.uk/pages/guidanceforprofessionals.html. These surveys will inform any mitigation, compensation, enhancement or license requirements that may be needed as part of the of any future development venture.

4.49 It is important that none of the proposed works be undertaken without prior consultation with an experienced bat ecologist. Any plans, projects, developments, architectural designs for the fortifications should not be undertaken without consulting a bat ecologist at the conception stage of any proposed venture.

Heritage and Ecology Interpretation

4.50 The environmental character of the areas immediately adjacent to the forts is generally characterised as naturalised vegetation upon the ramparts and within the ditches, as well as the mature and semi-mature woodland that has become established on the glacis of many of the forts. This has given rise to increasing amenity value with some of the woodland, currently managed as part of a network of local nature reserves.

4.51 It is certainly conceivable that the Tier 2, 3 and 4 forts could be used as a means of presenting locally important ecological information as well as heritage information. In particular, the Forder Valley Local Nature Reserve adjacent to Fort Austin is well connected to the fort through a series of footpaths and trails that also present access to the rampart, ditch and counter-scarp gallery. Encouraging use and providing interpretation of the reserve could therefore present a further public access function of the fort. A similar initiative could also be presented at Woodland Fort and Efford Fort and their associated Local Nature Reserves, with any perimeter walk being as important to showcasing the these reserves as they would be heritage of the fort itself.

4.52 In addition, despite the warnings concerning bats, it may be possible to utilise their presence within the forts as a means of promoting bat ecology concerns to the wider public. For example, there is the possibility of incorporating artificial bat roosts within existing buildings and/or structures that would be considered valuable conservation and a potential education tool if done correctly. In addition, operational bat webcams could be strategically placed in roosts so the general public can observe the bats remotely from the potential community centres.

Marketing and Promotion

4.53 Public access to the forts needs to be supported by appropriate marketing and promotion of the sites. As highlighted above, not all of the sites will have general public access and it will be important to stipulate this in any material developed in order to avoid trespassing and degrading the experience. However, all of the sites can be included in the Northern Forts Heritage Discovery Trail.

4.54 The leaflet describing and waymarking the trail will need to be readily available through the Plymouth Tourist Information Centre,
local libraries, and downloadable from the Internet. As mobile information technology becomes more prevalent, the opportunity to create a downloadable ‘App’ to highlight the tour, to provide more detail on the forts and local history, and to provide interactive content should be explored.

4.55 The Plymouth Visitor Management Plan is also to highlight broader marketing and promotion options for attracting visitors. It will be important to ensure that the Discovery Trail and its leaflet are represented within any actions emanating from this section of the plan.

Future Use and Management Strategy

4.56 As identified previously, the existing ownership, operational issues and existing uses restrict the future development of several of the fortifications. However, the PCC has direct responsibility for two sites, namely Woodland Fort and Fort Austin. The overall use and management options are discussed in detail in the respective Individual Site Statements. The following summarises these recommendations.

Woodland Fort

4.57 Largely due to the effort, ingenuity and dedication of the Woodland Fort Community Centre (WFCC), a voluntary organisation, Woodland Fort has become a valuable community asset, supporting a range of different activities. However, in terms of site governance and financial management, the current position is deemed to be a significant risk that could, at least theoretically, result in the loss of the site for community use at some stage in the future.

4.58 In order to secure a more sustainable future, it will be necessary to address these issues, ideally through a new governance structure. The structure should seek to include the WFCC and ensure its long-term use as a community facility. However, the WFCC will need to be supported in terms of the maintenance, conservation and indeed maximising the use of the fort's space for community and commercial gain.

4.59 This support will need to be provided by the PCC as owners of the fort, and partners such as EH, NE, and Groundwork Trust, for example. It is recommended that this support be galvanised through the creation of a ‘Woodland Fort Trust’ which will have an oversight brief to retain the historical integrity of the structure. Within this context, it is envisaged that the WFCC will continue to have an over-arching management role, although this will need to be supplemented by an individual or organisation that can assist WFCC in extending the opening hours of the site so that it can be accessed throughout the day.

4.60 The primary role of the Woodland Fort Management Trust will be to:

- own and be responsible for Woodland Fort as a heritage asset, preserving and restoring its historic fabric;
- assist in leveraging support for the WFCC through its member’s network in order to maximise the community, heritage and environmental value of the site;
- present the lead body for accessing funding to support ongoing conservation works for Woodland Fort (and indeed other forts as required); and
- be responsible for, and preside over, any contractual arrangements concerning either the use or maintenance of the fort.

4.61 As a site with a predominately community function, it needs to be recognised that the revenue generated from this site will be modest. As highlighted above, it is recommended that some form of commercial function be integrated into the site in order to generate some form of regular income to support regular maintenance. However, it is unlikely that this alone will be sufficient to undertake
any major works.

4.62 There is also an option of selling part of the land that is currently cordoned off to a private sector operator, an option that has only come to light at the end of the investigation process. However, this would restrict the prospect of once more opening up the whole of the fort, which from a heritage perspective is the preferred scenario. Nevertheless, this option would need to be considered within the specific business plan associated with the restoration of the Old Cookhouse.

**Fort Austin**

4.63 A change of use of Fort Austin is expected in the near future with the current occupiers, Plymouth Community Homes, actively seeking new premises.

4.64 As highlighted previously, the investigation process has identified the option of presenting Fort Austin as workspace for either the arts or digital media (or both) represent the most feasible solutions, with potential users identified. However, both of these user groups will require some ‘adjustment’ of the site and its facilities to better accommodate their needs. For example digital media will require the latest generation in Information Communication Technologies (ICT), particularly high-speed, fibre optic Internet connection; and the industrial arts will require the retention and potential adaptation of the workshops and storage spaces. Within this concept, the use of the gatehouse as live/workspace could also be considered in order to provide some additional security for the site. However, this will need to be considered against the additional costs incurred and how this may affect viability.

4.65 It is also important that sustainability measures such as waste reduction, energy reduction, and green technologies are incorporated into any re-development proposals; as is the need to relieve pressure on the historic fabric of the site itself.

4.66 It is beyond the scope of this study to examine these site specific issues in more detail. As such, it is recommended that these issues now be pursued through a partnership approach to examine the implications for the site, the end users and the PCC as owners. In addition to Plymouth College of Arts, Formation Zone and Flameworks, it should be noted that other potential operators, such as RIO, have also indicated an interest in examining the potential of Fort Austin as a site that could host some form of associated function. Each of these operators has the credentials to present a partner, either individually or in some form of combination, to the PCC in this venture.

4.67 Within this approach, key issues that will need to be addressed are:

- types of activity envisaged, the spaces required, and the likely terms of contract (either for the end-user or the operator should this be an option);
- options for combined arts and digital media use and implications for the ‘market’ in terms of compatibility;
- requirements for conversion or adaptation of existing structures;
- requirements for relieving pressure on historic fabric of the site and restoring certain key heritage features; and
- requirements for integrating community access.

4.68 At this stage in the process, we have assumed that the site will be retained by the PCC as there is not a clear indication of the final composition of the uses for the site at present. However, subject to these discussions, it is recommended that the management arrangements for the site be reviewed, again with the prospect of establishing a Fort Austin Trust to be considered. As with Woodland Fort, the advantage of doing this will to open up funding options and opportunities to support conservation and maintenance that may be unavailable to the PCC on its own. However, the PCC needs to retain its presence on the Trust to provide the structure
with greater long-term security.

4.69 The main income source would be through the lease of the buildings for their desired purpose. As highlighted in Stage B, a ballpark revenue from the fort would be somewhere between £25,000 and £72,000 per annum depending upon the composition of the fort. The terms and rates of business would need to be discussed in more detail with the partners in order to determine a more robust business case.

Funding Strategy

4.70 Funding for heritage projects continues to be challenging, partly due to the demand for existing resources (especially the Heritage Lottery Fund) but also due to the pressure for reducing resources across other commercial sources of heritage project funding (e.g. English Heritage and local authority budget cuts).

4.71 However, the prospect of improving community engagement as described within each of the public access ‘Tiers’ will require investment, particularly associated with Tier 2 and 3, with intervention also possible within Tier 4 (Bowden Battery) to assist with delivering greater information and interpretation of the forts as a collective.

4.72 In times of increasing pressure on funding sources, piecemeal and ad hoc applications for individual forts could struggle given the investment requirements will run into significant sums.

4.73 To act as a guide, the nature of the works for conservation works for Agaton Fort, Knowles Battery, Woodland Fort, Bowden Battery and Fort Austin are outlined within the ‘Individual Site Statements’. Included within this assessment is the restoration of the guardhouses and the restoration of the Old Cookhouse at Woodland Fort. Combined, the total conservation works for these sites is estimated at £605,500. Please note that this excludes conversion of the spaces for other uses.

4.74 The level of funding required to support these works is beyond the means of most of the fort owners, including the PCC as owners of Woodland Fort and Fort Austin. As such, it is recommended that a more strategic approach be adopted that seeks to group certain forts together in terms of key areas of need as a means of concentrating investment and presenting best value for money. As a guide, it is envisaged that the investment needs of the forts can be summarised into the following categories:

- Conservation Management:
  - Possible restoration and repair of walls (repainting, resetting) - Knowles Battery, Bowden Battery, Woodland Fort.
  - Renovation of historic fabric such as doors, windows or parade ground - Agaton Fort, Laira Battery, Knowles Battery, Fort Austin, Woodland Fort, and Efford Fort.

- Ecology and Landscape Improvements
  - Bat roost monitoring - all forts, especially where development is likely to take place.
  - Invasive vegetation clearance - ongoing at most of the forts.

- Public Access:
  - Information boards and inclusion within the heritage trail - all forts.
  - Development of additional spaces to encourage community access - Agaton Fort, Knowles Battery, Fort Austin.
  - Development of additional spaces to encourage community access and improve heritage interpretation of Plymouth's Northern Forts - Woodland Fort and Bowden Battery (heritage public access initiatives only).

4.75 It is our view that funding sources will be more receptive to this type
of approach because it will deliver a broader range of conservation benefits and has the prospect of reaching a wider audience base.

The Role of English Heritage

4.76 English Heritage, through its support of this study, has demonstrated a willingness to assist in the preservation and conservation of Plymouth’s Northern Forts. English Heritage has a variety of funding mechanisms that it has, in the past, used to fund capital works and community/heritage projects. Although English Heritage is still committed to supporting heritage projects through grant aid, the recent announcement of significantly reduced funding from the Department of Culture, Media and Sport means the organisation will need to reduce its grantmaking by around one third. Therefore, other sources of funding will need to be given priority.

Heritage Lottery Fund

4.77 The major conservation works aimed at improving conservation and public access of the forts generally conforms with the aspirations of the major funder of heritage projects in the UK, namely the Heritage Lottery Fund (HLF).

4.78 Projects of the type outlined above would normally be considered under Heritage Grants (Grants above £50,000) - projects that relate to the national, regional or local heritage of the UK.

4.79 In order to ensure that all forts as outlined are incorporated into a project that is presented to the HLF, it is recommended that the tiered approach be highlighted as a means of establishing a strategic umbrella for projects designed to breed new life into Plymouth's Northern Forts.

4.80 Among the key considerations when preparing an approach to HLF include:

• the partnership or lead organisation in the delivery of the project;

the financial sustainability of the project (especially if the project will result in generating revenue); and

• the level and continuing engagement and involvement of the local community.

4.81 The collective nature of the forts therefore needs to be reflected in any approach, demonstrating that the project is supported by a combination of public, private and voluntary sector interests. This will need to be co-ordinated through one vehicle, however, which we recommend should be the PCC.

4.82 All projects considering an approach to the HLF should begin dialogue through the Pre-Application procedure. This procedure has been designed to allow the HLF to assess the merit of projects and help guide applicants in terms of key components that need to be addressed within the full application process. Full applications are expected to undertake a two-stage process, with the second stage potentially taking up to 18-months to compile the evidence base and for the HLF to reach a decision. As a competitive process that is highly subscribed to, the funding from HLF is not guaranteed even for those projects that are successful in getting to Stage 2.

Other Funding Options

4.83 There are other funding options that could be considered. The following briefly identifies those which are most pertinent to the forts and their future uses:

• Heritage-based Funding (source: Heritage Link):

  • Architectural Heritage Fund (Grants for Building Preservation)
    - A grant of no more than £25,000 for project development to help building preservation trusts to pay for costs of development and coordination.

  • CLA Charitable Trust - through small grants, supports the provision of facilities for the disabled and disadvantaged to
take part in recreation and education in the countryside.

- Robert Clutterbuck Charitable Trust - a small trust that supports other charitable organisations that gives specific attention to personnel within the Armed Forces and Ex-Servicemen and women. The funding is usually to support the purchase of specific items to assist projects.

- The Craven Trust - small grants (£100-£1000) designed to support community groups and projects in terms of set-up, purchasing, and revenue costs.

- The Esmee Fairbairn Foundation - one of the largest independent grantmaking foundations supporting innovative and ground-breaking projects. Has a specific ‘heritage’ strand, although this mainly focuses on collections.

- Charles Hayward Foundation - offering capital grants to charitable organisations of between £1000 and £20,000 for developmental or innovation within community-based heritage and conservation programmes.

- Idlewild Trust - a grant making trust that supports registered charities for education, the encouragement of the performing and fine arts, and the preservation for the benefit of the public of lands, buildings and other objects of beauty or historic interest in the United Kingdom. The organisation tends not to fund projects considered to of local or parochial interest only.

- Leche Trust - The Trust has the power to make grants for any object or purpose which is recognised as charitable. This includes supporting charitable bodies or organisations associated with the preservation of the nation’s countryside, towns, villages and historic landscapes.

- Pilgrim Trust - Under the heading of ‘Preservation & Scholarship the Trust supports the preservation of historic buildings and architectural features, especially projects giving a new use to buildings of outstanding architectural or historic importance; the conservation of monuments or structures important in their surroundings, including buildings designed for public performance. Trustees will consider supporting core costs and the cost of initial exploratory works for organisations seeking to rescue historic buildings. The fund is not available for match-funding, for example to help support HLF applications.

- The Trusthouse Charitable Foundation - Grants of between £1000 and £30,000. In the field of ‘heritage, grants are targeted at smaller heritage projects, with a particular interest in industrial and maritime projects in areas of deprivation, which provide employment and/or volunteering opportunities for the local community and contribute to the regeneration of the area.

- Social/Community Funding (source: GrantNet):
  - The Asda Foundation - Assists charities, people and projects within the UK that require financial assistance. This fund will support local charities, local community groups, schools, playgroups, community centres and football teams.
  - Awards for All - England - Grants of between £300 and £10,000 to cover a variety of project costs proposed by voluntary, community, parish or town council, school or health body.
  - Bernard Sunley Charitable Foundation - The Foundation provides grant funding of between £500 to £10,000 in support of a wide range of charitable projects that aim to improve the quality of life for the young, deprived, disadvantaged, disabled and elderly in the UK.
  - CEMEX Community Fund (for projects within 10-miles of a CEMEX Operation) - Grants of between £1000 and £15,000 for projects that provide or improve community facilities; deliver biodiversity conservation for UK species or habitats; or restore or repair buildings which are of religious, architectural or historical interest.
• Devon Community Foundation - Grants of up to £5,000 for voluntary grass roots community groups working to relieve the effects of poverty and disadvantage in the county of Devon.

4.84 An approach to one or a combination of sources could be an option subject to the type of project and funding required. However, this is more of a piecemeal method that may not be suitable for each of the forts, particularly as many sources will only fund charitable organisations.

4.85 Another option would be the Regional Growth Fund which has just entered Round 2 of the bidding phase. This is the main bidding phase, during which some £1 billion will be allocated to a variety of different projects across the UK. The key component of the project is that it must assist in leveraging £2.5bn in private sector investment that will create or safeguard over 27,000 direct jobs and close to a further 100,000 indirect jobs. Given this context, it may not offer the best solution for Plymouth’s Northern Fortifications.

4.86 Lastly, by no means least, there is a growing move towards greater philanthropy concerning heritage structures. This has recently been purported by the HLF, with its future strategy likely to support the notion of private supporters of heritage through donations, assisting with fundraising, and raising awareness.

4.87 Plymouth is still strongly linked with naval heritage, with some of Plymouth’s forts being utilised by the MoD within living memory. A comment received through the recent Sustainable Communities Consultation process demonstrates this premise:

“...I just wanted to tell you that I worked in Crownhill Fort with Headquarters, 24th Infantry Brigade who took the fort over from the Devon & Cornwall Sub-District Headquarters which then became defunct.

4.88 This comment was received by the secretary of a local company with a charitable remit. This is just one story, but there are likely to be many other ex-naval personnel that have fond memories of forts, some of whom may now be willing to ‘put something back’ to help support the forts and their upkeep. This type of endeavour needs to be actively sought.

**Partnership Arrangements**

4.89 The Plymouth Northern Forts, as a collective, already includes a series of key organisations with a vested interest in the upkeep and maintenance of the forts, albeit for their own purposes. A key finding of this project is that only one of these organisations is actually utilising the spaces and heritage that the forts provide, namely the LMT. In the majority of the other instances, the organisation and operation has either turned its back on the fort or is using the spaces that the fort provides for activities that are not specific to the environs of the fort.

4.90 This position is understandable given the condition of some of these spaces at present. However, going forward, it will be important in terms of any funding application that there is an acknowledgement amongst all of these groups and organisations that heritage conservation, the sympathetic usage of spaces, and continued investment to retain the heritage value are all paramount.
4.91 The consultation process has also demonstrated that there is a role for other organisations in relation to the forts that could help strengthen their position and sustainability of these sites as heritage assets. For instance:

- **Agaton Fort** - Agaton Social Club (or other local community group) could be encouraged to access Agaton Fort.
- **Knowles Battery** - The Plymouth Fort ‘Your Heritage’ project team would best be suited at Knowles Battery given the context of the project as an educational tool for school children.
- **Woodland Fort** - Groundwork Trust has identified an interest in the conservation of Woodland Fort, which could be strengthened by the fact if a space became available for them to use in some form of capacity.
- **Fort Austin** - Plymouth College of Arts, Formation Zone, Flameworks, and RIO (depending upon final composition of the fort’s future use and other projects being pursued) have each declared an interest in any proposition to utilise Fort Austin for the arts and/or digital media.

4.92 The fact that the full list of interested parties includes constitutionally robust organisations through to local interest groups and community representatives is certainly a strength that needs to be harnessed more in the future. Please note that it is not the intention of this list to preclude the opportunity for other organisations to come forward as a means of becoming a partner. Rather, it simply demonstrates that partnership support for the forts is, by an large, available.

4.93 Continuing community engagement and involvement will also be vital in securing funding. The WFCC, as a community organisation with a healthy membership base, will be a critical partner in this respect. However, ensuring that other community groups are also engaged (e.g. the Agaton Social Club) will also be vital. Although these organisations have comparatively modest resources, it is the energy and enthusiasm of its members as volunteers in management, conservation and education initiatives that will be taken into consideration as match funding through ‘in kind support’ and ‘voluntary man hours’. Longer term, community events organised by these and other groups will also form a critical part of future audience development as well as ensuring conservation management costs remain manageable.

4.94 To summarise, the key recommendations in relation to developing Plymouth’s Northern Fortifications and improving public access and understanding of these heritage assets are follows

**Public Access**

Follow the ‘tiering’ principle for improving public access and interpretation of Plymouth’s Northern Fortifications, namely:

- **Tier 1 Forts** - Create general front-of-site information board and include within a heritage tour leaflet providing basic information on the role of each fort. Generally there will be no formal public access rights to the forts, although access to parts of the fort may be possible through other means (e.g. as part of a nature reserve or other green space).

- **Tier 2 Forts** - Community access to certain areas of the site (e.g. guardhouse) to be encouraged for clearly defined functions, or for specific events. These sites will also include a general front-of-site information board and will form part of a heritage tour leaflet providing basic information on the role of each fort.
• Tier 3 Forts - Public access is to be encouraged through various initiatives for a variety of different functions and events. These functions and events will take place at regular intervals and publicised locally an, where relevant, regionally. These sites will also include a general front-of-site information board and will form part of a heritage tour leaflet providing basic information on the role of each fort.

• Tier 4 Forts - Main Plymouth Northern Fortification interpretation site(s) through a dedicated centre that includes interpretation of the whole of the Plymouth Northern Fortifications and how they are interrelated. This site(s) will also present the central information hub on each of the forts, and promotion point for the ‘Northern Forts Heritage Discovery Trail’

**Integrate Heritage and Green Infrastructure**

Establish a Northern Fort Heritage Discovery Trail that utilises the Green Infrastructure Corridor. The forts should also be identified as strategic gateways to the Green Infrastructure Corridor and associated green spaces within their associated communities. The forts are to be utilised as features of interest to encourage use of the GI Corridor.

**Mini Trails and Perimeter Trails**

Group forts to create circular mini trails that utilise the Military Road and utilise existing tracks around certain forts to create perimeter trails.

**Integrate Heritage and Ecology**

For Woodland Fort, Fort Austin and Efford Fort, utilise the forts and perimeter trails as gateways to neighbouring Local Nature Reserves. These reserves should also be utilised to highlight components of the fort which now form part of the Local Nature Reserve, such as the ditches and glacis.

---

**Woodland Fort Future Use and Management**

Establish a development and operation plan for Woodland Fort. The plan should be specifically designed to:

- retain and improve upon the community function of the fort;
- establish operational activities that extend opening hours and generate new revenue through both the existing spaces and the re-development of the Old Cookhouse;
- establish a new organisation (i.e. Woodland Fort Management Trust) to provide oversight governance of the conservation of the property.

The Trust will have an overriding remit to retain the historical integrity of the structure, however the overall management of the site will be retained by WFCC, but with the assistance of other organisations.

**Fort Austin Future Use and Management**

Engage with organisations and potential end users involved in the arts and digital media to understand their needs and requirements for space and support services at Fort Austin.

Examine the implications of these requirements in relation to existing spaces and the heritage value of the site.

Look to secure a preferred end use prior to the end of the existing lease period to enable a plan for adapting the site to be developed in advance of the site becoming vacant.

**Funding**

Initiate discussion with major funders (i.e. the HLF) over a project that will help realise the public access aspirations
for each of the forts as outlined in the “Northern Forts Public Access Strategy’. The first step will be to input a ‘Pre-Application’.

Examine the role of other funding sources in relation to specific tasks/potential match funding. Specific forts should be grouped by task where appropriate.

Encourage other means of funding (e.g. philanthropy) and benefit in kind (e.g. volunteering) as a means of assisting in the future conservation of the forts.

**Partnerships**

Continue to engage with different stakeholders at a local, regional and national level that have a vested interest in heritage conservation, community welfare, and environmental improvement in order to establish suitable partnerships to help secure a sustainable future for Plymouth’s Northern Fortifications individually and collectively.
5. Individual Site Statement: Woodland Fort

History and Role

5.1 Woodland Fort was constructed between 1863 and 1869 and is positioned to cover the front of Knowles Fort and the flank of Crownhill fort. It was built for 18 guns with two in haxo-casemates.

5.2 The fort was disarmed 1893 and sold in 1930 with land facing the gorge and fronting the military road acquired by the County Council for purposes of widening the road.

Description

5.3 Woodland Fort is of rhomboid plan with rock cut ditches and earthen ramparts to all sides with a stone gorge wall. The gorge is enfiladed by a central entrance gateway and guardhouse. The ditches are enfiladed by a single caponier in the north west ditch and counter scarp gallery in the north east that enfilades the north and east ditches (see figure 5.1).

5.4 The sales catalogue of 1930 describes the fort as being substantially built and constructed of dressed stonework with a guardhouse opening to a spacious quadrangle. At the time of the sale the barrack building was in use as tenant dwellings. The sales details refer to the land to the south of the fort being transferred to the County Council for the purposes of widening the road.

Gorge and gatehouse

5.5 The gorge wall is of local stone with granite coping. Musket loops are evident for much of its length with stone dressings. The chemin de rondes is retained though the levels, particularly on the east side of the gatehouse have been raised.

5.6 A modern opening with iron gate has been inserted on the west side of the gorge to give access to the former builders yard.

5.7 The casemated defended gatehouse is built of local stone with dressed stone quoins and is designed in the Romanesque style. The central arch and brick vaulted passage, is flanked by polygonal positions that enfilade the east and west sides of the gorge. The entrance arch retains the drawbridge mechanism pulley and chains though the drawbridge itself has been lost. The earthen rampart is overgrown.

5.8 The gatehouse is presently sealed and all openings have been closed. The guardhouse windows facing the gorge retain vestigial traces of decorative iron work.

Parade

5.9 The entrance leads to an extensive open parade planted with mature limes to its east side. The open parade is now partitioned on the west side by a modern stone faced concrete wall with remains of various lean to sheds on its west side erected whilst this part of the site was used as a builders yard.

5.10 The parade is laid to tarmac with a modern concrete central drainage gully, there is evidence upon the surface of a series of service trenches that have previously been cut the length of the parade.

5.11 A flight of steps is located at the far side of the parade and leads to the lower level in front of the barrack building. The steps are of granite stone with granite stone coping to the sides. The tubular handrail is a recent addition.

5.12 The lower level path in front of the barrack block is laid with flagstones, an original granite stone gully is located at the foot of the grass bank.
Figure 5.1

WOODLAND FORT
Cookhouse

5.13 The ruined cookhouse is set against the west rampart. The single storey building is stone built with dressed quoins and window reveals. The roof is mostly collapsed and is of close boarded timber with a simple timber truss. The covering is now corrugated tin.

5.14 The building is of three cells with single part brick stack and vestigial evidence in the stone party wall for a fire setting. Each division was provided with a single doorway and single flat arched window facing the parade. To the front of the building was a covered veranda of 5-bays supported on simple iron stanchions. The building was extended in more recent times with a concrete block work structure which is also now in a ruinous condition.

Barrack Block

5.15 The two storey casemated barrack block is set within the north rampart at the far end of the parade. The building has a linear plan form and is divided into 4 bays each of which is articulated on the exterior elevation comprising a single flat arched door with glazed segmental arch fan-light flanked to each side by 2 over 2 pane segmental arched sash windows. The window and door arches have prominent key stones. The external fabric is of random coursed local ashlar. There is a prominent rounded cornice to the parapet and prominent forward set stone chimney stacks.

5.16 The first floor balcony is of asphalt, possibly over stone and is carried on iron stanchions supporting an iron beam structure. The railings and posts are all original and carried down the stone stairs that are located at each end of the balcony. Stone cantilevered stairs at the western end rise up to the parapet and rampart.
5.17 At the lower level the external elevation of the building is obscured behind a vestibule that extends beneath the balcony. A pair of two storey toilet blocks project in front of the balcony and are linked by a single storey lean-to structure. These structures are all concrete rendered with simple window and door apertures and are likely to date to the period when the barrack was in use as tenant dwelling prior to its disposal by the War Office in 1930.

5.18 The interior spaces on the ground floor have been truncated to provide for present use as bar and common room facilities. Walls and ceilings have all been lined, though the ceiling structure appears to be supported on timber beams. There is generally good retention of original timber boarded floors. Vaulted passageways at each end of the barrack lead to the caponiers and counter-scarp gallery and have both been closed.

5.19 The first floor comprises a series of brick vaulted spaces showing only minor truncation. Each of the spaces retains its central ventilation open work iron grill.

**Magazine**

5.20 The main magazine extends beneath the east rampart and comprises a series of brick vaulted spaces and passage ways. The exterior elevation is of random coursed ashlar which rises to parapet level. The cornice that is continued from the adjoining barrack block is only part continued. The ground floor openings are of irregular character comprising simple arch headed doors and small flat arched windows and other ancillary openings. The stairs that rise up to the balcony level are carried on a broad stone arch.

5.21 The main magazine a large double height vaulted space which is set within the depth of the structure with a narrow stone vaulted passage on all sides. The main entrance passage is provided with a series of small deep recesses for the positioning of safety lamps.

A suite of three smaller inter-linked rooms is arranged to the front of the magazine each with separate external access. Whereas the windows seem to be either replacements or possibly later insertions the doors retain their original joinery and furniture.

**Ramparts**

5.22 The ramparts are accessible by an earth ramp alongside the west arm of the gorge and adjacent to the chemin de rondes. The ramparts extend around the flanks and front of the fort. The east rampart retains a single stone and brick built haxo-casemate with an A pivot setting. The haxo generally retains its earth covering. Single gun positions are located to each side of the haxo with concrete facing and expense magazine. The position at the north east salient retains a C pivot setting the other position having an A
pivot setting. There is a single earth covered magazine with brick vaulted chamber accessed by means of a small passage.

5.23 The front rampart retains a single earth covered magazine which is set centrally between the two positions mounted at the salient angle. Whereas vegetation on the east and front rampart is generally managed and controlled vegetation on the west rampart is more rampant and obscures the rampart positions. Nonetheless the west rampart does retain its haxo and other open gun positions as well as a covered magazine.

5.24 On the west rampart alongside the gorge wall there appears to be evidence of a shallow irregular zig-zag ditch which may be remains of a WWI practice trench.

5.25 The lower slopes of the rampart are overgrown and partly eroded. A narrow berm is preserved alongside the scarp of the ditch.

5.26 The ditch has been retained to the flank and front of the fort. The ditch is mostly rock cut of near vertical sides though in places this is strengthened by an inclined stone built facing. The base of the ditch is flat bottomed and is now waterlogged.

Caponier and counter-scarp gallery

5.27 The single two storey stone built caponier enfilades the west flank and is provided with both gun embrasures and musket loops. It is accessed by means of the passage located beneath the stairs adjacent to the west side of the barrack. Access is currently blocked and the interior of the caponier has not been inspected.

5.28 The counter-scarp gallery is a two-storey stone structure built into the north east salient to enfilade the north the east flanks. It comprises both gun embrasures and musket loops. Access to the interior is not possible, it is accessed from the passage located in the east angle of the barrack.

Significance

5.29 The fort retains good legibility, though the integrity of the parade ground has been harmed by its truncation. The legibility of the fort is particularly apparent from the rampart where good survival of positions contributes to overall historical character and evidential value. The barrack and main magazine are good examples of their type and retain significant evidential historical and aesthetic values. The interior spaces of the barrack and magazine including joinery details are generally well preserved and these contribute to overall value.

5.30 The barrack is similar in design to that at Crownhill Fort and though on a smaller scale is comparable in its execution and architectural articulation. Its aesthetic values are slightly diminished by the extensions of the 1930s, but these are themselves features that now characterise the composition. The integrated magazine retains good detailing including lamp placements and together with the barrack has both group and aesthetic value.

5.31 The gatehouse and gorge are characteristic features of the northern forts and though on a smaller scale the composition at Woodland Fort is comparable to those at Fort Austin and Knowles battery. Other than that at Crownhill Fort, the gatehouse at Woodland Fort is the only structure to remain in use and complete. The gorge is a prominent feature in the townscape and contributes to visual amenity of the urban environment.

5.32 The cookhouse with veranda is the only example of its type within the group and retains historical significance on that account. Sufficient fabric remains to give evidential value. The structure and size of the cookhouse are similar to the cookhouse at Agaton Fort.

5.33 The haxo casemate and other gun positions and magazines on the rampart are all typical of the group and though well preserved have
no unique value. There is good legibility and retention of historic layout and authenticity.

5.34 The caponier and counter-scarp gallery are externally well preserved with good retention of detail. The structures retain historical authenticity and legibility with the ditch and rampart. The counter-scarp gallery is comparable to that at Fort Austin and the single caponier similar to that at Agaton Fort. The caponier is a design feature of the Palmerston fortifications and its use on the smaller fortifications in conjunction with the counter-scarp gallery as at Woodland Fort demonstrates well its defensive intent.

5.35 Overall Woodland Fort retains good preservation and legibility of those key elements that characterise the design intent of the Palmerston era fortifications. As a smaller fortification Woodland Fort exemplifies a typical fort of Plymouth’s Northern defences which were each the design responsibility of Capt Du Cane.

Condition

5.36 The barrack and magazines are generally in a good condition and well maintained on account of continued use. There is some evidence of decay of timber joinery particularly on the upper level window frames. The interior of the barrack blocks shows evidence of some water ingress through the roof and there are significant deposits of limescale on the exterior facade below the cornice level.

5.37 The Old Cookhouse is in a ruinous state and as with other parts of the western part of the parade very overgrown.

5.38 The ramparts show evidence of occasional management of vegetation but are generally overgrown with scrub and mature planting that has become established particularly on the lower slopes of the rampart and within the ditch. The haxo casemates have been vandalised and there is evidence of graffiti.

5.39 A new vehicular opening has been made through the gorge to gain access to the former builders yard. The gorge ditch has been infilled.

Ecology and Natural Amenity

5.40 Greater horseshoe bats have been recorded within Woodland Fort and common pipistrelle, pipistrelle species, brown long-eared bat and greater horseshoe bat have been recorded within 2 km of the site.

5.41 The gatehouse has a grass rampart and there are small cracks and crevices within the brickwork, but no obvious access or egress points were identified that may be used by bats. Other potential structures of use to bats include the haxo casemate, magazines and caponier and passageways.

5.42 There is an avenue of mature small-leaved lime (Tilia cordata) trees located within the parade on the east side of the entrance, a comparable grouping is absent on the west side where the rampart is more overgrown. Perimeter planting of Limes around the parade appears to be a historic design feature of the forts and elements are retained also at Crownhill Fort.

5.43 Semi-natural broadleaved woodland extends to the front and flank of the site and is dominated by oak, beech, ash and sycamore. The field layer includes heart’s tongue fern, common polypody, bramble and ivy. There are rooks (Corvus frugilegus) nesting (rookery) in the woodland.

5.44 The site has good connectivity to Woodland Wood Local Nature Reserve adjacent the site. The 1896 War Office plan shows Woodland Wood to have, at the time, been confined to the west flank of the fort. The glacis to the front and east side of the fort is shown as rough grassland. None of this rough grassland is now evident and Woodland Wood is now encroaching upon much of
the north glacis. The slope of the glacis is however evident as a feature within the woodland environment. On the east flank the glacis has been landscaped and the land is now a closely mown and managed public amenity space.

Development Opportunity

5.45 Woodland Fort already has community access functions as provided by the WFCC. As a priority, these are to be retained and secured through improved management arrangements (see below).

5.46 In addition, there is capacity for the existing functions to be complemented by several other activities that have a more commercial focus. This is particularly true in relation to the Old Cookhouse, which has the capacity to be returned once more into a usable building. The removal of the dividing wall within the parade ground would have the impact of re-opening the second gateway to the site, which in turn will allow more controlled and safer vehicular access to the site (see figure 5.2).

5.47 The additional activities could feasibly include:

- a café that is open during the day, utilising the second bar area to support existing day-visitor, users of Woodland Park, and users of the new activities outlined below;
- a children’s play area, with the prospect of the restored Old Cookhouse presenting an opportunity for this type of facility;
- band practice and amateur dramatics suites by bringing some rooms (e.g. the gatehouse) back into use;
- small-scale outdoor community events such as jumble sales, car-boot sales, small-scale farmers markets, small-scale concerts for up-and-coming ‘local’ talent, and outdoor amateur dramatic performances; and
- more indoor sporting activities (e.g. indoor bowls, ballroom dancing) and other fitness-type programmes directly aimed at the more vulnerable elements of the local community.

5.48 Being adjacent to the Woodland Wood Local Nature Reserve, there is also an opportunity to utilise the fort as a gateway for wildlife discovery and learning.

5.49 Overall, therefore, it is recommended as a strategic aim that Woodland Fort continue to represent a primary community centre that supports a range of activities and interests for local residents and beyond. Through this provision, it is also recommended that other council services concerned with the health, welfare, integration and education of society be encouraged to utilise Woodland Fort as a community-outreach centre in order to directly engage with local citizens in need.

Management and Operation

5.50 Largely due to the effort, ingenuity and dedication of the Woodland Fort Community Centre (WFCC), a voluntary organisation, Woodland Fort has become a valuable community asset, supporting a range of different activities. However, in terms of site governance and financial management, the current position is deemed to be a significant risk that could, at least theoretically, result in the loss of the site for community use at some stage in the future. Among the key concerns are that:

- the WFCC who manage the site do so on a highly limited budget and limited external support at present;
- as a voluntary organisation there is a risk that should the group fold for any reason, the access to Woodland Fort for the current uses may cease; and
- there is no formalised agreement between the PCC as owners of the site and WFCC as operators over the site’s management and operation, a situation that presents a risk for both parties.
Perimeter walk to provide access to the Woodland Wood LNR and link to the Green Corridor.

Barrack block to continue as community centre. Look to extend use, opening times and commercial value.

Old Cookhouse to be re-developed and given commercial use.

Wall dividing the parade ground to be removed.

Second Gate to be re-opened to improve access.

Gatehouse to be restored and brought into use.
5.51 In order to secure a more sustainable future, it will be necessary to address these issues, ideally through a new governance structure. The structure should seek to include the WFCC and ensure its long-term use as a community facility. However, the WFCC will need to be supported in terms of the maintenance, conservation and indeed maximising the use of the fort’s space for community and commercial gain.

5.52 This support will need to be provided by the PCC as owners of the fort, and with the assistance of partners such as EH, NE, and Groundwork Trust, for example. It is recommended that this support be galvanised through a new organisation, the ‘Woodland Fort Trust’, which will have an oversight brief to retain the historical integrity of the structure. Within this context, it is envisaged that the WFCC will continue with its management role, although this will need to be supplemented by an individual or organisation (e.g. cafe, children’s play centre) that can assist WFCC in extending the opening hours of the site so that it can be accessed throughout the day.

5.53 The primary role of the Woodland Fort Conservation Trust will be to:

- own and be responsible for Woodland Fort as a heritage asset, preserving and restoring its historic fabric;
- assist in leveraging support for the WFCC through its member’s network in order to maximise the community, heritage and environmental value of the site;
- present the lead body for accessing funding to support ongoing conservation works for Woodland Fort (and indeed other forts as required); and
- be responsible for, and preside over, any contractual arrangements concerning either the use or maintenance of the fort.

5.54 As a site with a predominately community function, it needs to be recognised that the revenue generated from this site will be modest. As highlighted above, it is recommended that some form of commercial function be integrated into the site in order to generate some form of regular income to support regular maintenance. However, it is unlikely that this alone will be sufficient to undertake any major works.

5.55 There is also an option of selling part of the land that is currently cordoned off to a private sector operator, an option that has only come to light at the end of the investigation process. However, this would restrict the prospect of once more opening up the whole of the fort, which from a heritage perspective is the preferred scenario. Nevertheless, this option would need to be considered within the specific business plan associated with the restoration of the Old Cookhouse.

### Vulnerability

### Condition

5.56 The fort is generally in a good condition on account of its continued use. There are however some specific areas of concern where there is a risk of loss of heritage values.

### Barrack Block

5.57 The barrack block is maintained in a good condition. At the lower level original doors and windows are protected from weathering on account of the addition of the covered veranda. In contrast, the upper level windows and doors are exposed and most are showing soft wood decay especially on the cills and in the glazing bars. The doors are generally more robust though there are some instances of decay to frames.

5.58 There is an instance of significant water ingress on the soffit of the balcony on the west side. This seems to be a result of the failure
of the external asphalt covering which has both lifted and cracked in several locations. It is not known to what extent the underlying structure has been affected.

5.59 There is evidence for a partial failure of the roof covering to the barrack. This is evidenced by water ingress and flaking paint work that can be seen at the front edge of each of the barrel vaults. Observation at the parapet shows small shrubs and trees beginning to become established at the junction of the parapet and roof covering. There is also evidence generally for salts leaching beneath the cornice.

**Cookhouse**

5.60 The cookhouse is in a ruinous condition. The walls appear to be generally sound but the timber wall plate and roof trusses are exposed and decay is likely. Much of the roof covering is missing and again decay to rafters, purlins and tie beams can be expected.

5.61 Window and door joinery is totally missing and there are no internal features. The veranda roof is entirely absent though enough evidence remains to determine that it was continuous with the principal roof. Each of the stanchions does, however, remain as does elements of the wall plate.

5.62 The modern extension is of concrete breeze block construction and is in a similar ruinous state.

**Gatehouse**

5.63 The gatehouse is closed and all doorways and window openings are sealed. There is no indication of ventilation and it is assumed therefore that the interior is in a poor condition. There is likely to be decay of any soft wood including floor structure. The roof is earth covered and the condition of the vault is not known.

**Parade**

5.64 The parade is in a good condition and the surface has been maintained. The steps that lead to the lower level at the far end of the parade are, however, in a poor condition showing signs of having been disturbed possibly during recent exploratory works to find a water leak beneath the parade. The steps are in a good condition but several of the edge stones have slipped down the slope and are spalled.

5.65 The granite stone gully at the base of the grass bank has been disturbed by trench digging and some of the stones have been damaged and removed.

**Ramparts**

5.66 The ramparts are generally in an overgrown state with semi-mature vegetation, trees, shrubs, scrub and grass. There is evidence that the east rampart and parts of the north rampart are being managed and the vegetation cover is here less dense. In contrast the west rampart appears not to be managed and the vegetation is here in a more established state.

5.67 Structures on the rampart are generally in a derelict state and those on the west rampart partly obscured by vegetation. There is partial loss of the earth covering to both the magazine and haxo structures. The open gun positions retain their racer rails and concrete revetment and their condition is generally sound.

5.68 The slopes of the rampart are overgrown and there is some erosion of soil and slippage. The berm however is mostly clear and partly accessible. The ditch sides are overgrown and where these have been re-enforced with masonry this is showing some minor fabric loss arising from shrub growth. The base of the ditch is overgrown and mostly waterlogged.
Caponier and counter-scarp gallery

5.69 These features have not been inspected. It can be assumed they are damp with a resultant threat to soft timber.

Access and Security

5.70 Although the magazine and barrack buildings are locked and secure the site is generally otherwise unsecure and easily accessible. There is no barrier at the gatehouse and out of hours access to the site is easy. The site is therefore vulnerable to unauthorised activity which is putting both the structure of the fort and the public at risk.

5.71 There appears to be no vandalism to either the barrack or the magazine and these areas including the gatehouse are clearly secure. However there is considerable evidence for vandalism, graffiti and fire setting within the haxo casemate and rampart magazines.

5.72 Even if the gatehouse could be secured, raising of the ground levels in front and to the rear of the gorge means that this is no longer a barrier to access.

5.73 The woodland walk allows public access to the exterior of the fort and the ditch. The nature of the ditch, its sheer sides and waterlogged base has ensured that access to the caponier and counter-scarp gallery has not been possible. Certainly there appears to be no external signs that the security of these structures has been breached.

Issues

Maintenance

5.74 The maintenance requirements of a site of this complexity can be onerous and requires a knowledge and understanding of basic conservation thought. Unless a conservation approach of repair in situ is adopted, ill-informed and inappropriate repair to timber joinery such as windows and doors can be damaging to heritage values. Likewise water ingress if unchecked can also be damaging to heritage values.

5.75 It is, however, recognised that maintenance of heritage assets requires substantial resources.

Services

5.76 There is currently a suspected water mains leak which needs repair.

5.77 Electrical and other cable services are attached to the outside elevation of the barrack to the detriment of visual amenity. Cables are presently exposed and simply tacked to the wall or left suspended.

5.78 Consideration should be given to the installation of cable troughs located to minimise visual intrusion.

Development control

5.79 Works to SAMs including in some instances works of even general repair, require consent from English Heritage. This requirement is the statutory responsibility of the site owners (PCC) and whilst PCC may be aware of their responsibility the WFCC may not be alert to this requirement.

5.80 Recent evidence determines that some major works of potential harm to heritage values have been undertaken to locate a water leak within the parade. These works have occurred without the benefit of consent and demonstrate the difficulties that can arise with even emergency works.
Vegetation

5.81 The need to balance ecological, amenity and heritage values is a common theme to most heritage projects. These issues are particularly pertinent in determining a suitable management regime for historic fortifications particularly those where an earthen rampart was an integral part of the structure.

5.82 Wholesale vegetation clearance of the site is unlikely to be a realistic proposition and would clearly harm amenity and ecological values.

5.83 An appropriate response to the issue would be to monitor and keep in check excessive vegetative growth and to control growth where this would be damaging to structure.

Underuse of Historic Structures

5.84 Most of the structures that are capable of use are being used and thereby maintained. The fact that the gatehouse is not being used could be affecting heritage values and clearly if this were brought into use decay would be halted.

5.85 Application of good conservation principles would determine that it would be preferable if this building could be bought back into use, particularly if there is a need for further space.

5.86 Use of the caponier and counter-scarp gallery is clearly constrained on account of their form and in these circumstances it is reasonable to expect that these structures have no use. It is necessary to maintain a regular inspection of these structures, and to keep them in good order. A permanent sealing of the passageways is therefore not appropriate.
## Action Plan and Conservation Policies: Woodland Fort

### Action Plan
- **Through consultation with the WFCC and other key stakeholders, establish a new governance and management structure (e.g. Woodland Fort Trust) for Woodland Fort that will secure both the heritage value and community value of the asset. The new organisation will take responsibility for the ownership of the site, with the management being retained by WFCC with the support of one or two other operations on the site (depending upon the development options to be enacted)**

<table>
<thead>
<tr>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCC</td>
<td>WFCC, EH, Groundwork Trust</td>
</tr>
</tbody>
</table>

- **Establish a development plan for Woodland Fort that will further investigate the feasibility of bringing other spaces within the site back into public use. This should include removing the dividing wall in the parade ground, re-developing the Old Cookhouse, and opening up the gatehouse.**

<table>
<thead>
<tr>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Fort Trust</td>
<td>WFCC, EH, Groundwork Trust</td>
</tr>
</tbody>
</table>

### Conservation Policies

#### Policy WF1: Works of repair and Maintenance
- Works of repair and maintenance should always be undertaken with prior approval and the necessary statutory consents.
- Works of repair should be undertaken in accordance with best practice as outlined in section 6 of PPS 5.
- All work of repair should be undertaken on a like for like basis and where possible repaired in situ.
- Work of repair or alteration should be carried out by persons or organisations qualified and experienced in such works.

<table>
<thead>
<tr>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Fort Trust</td>
<td>EH, PCC, WFCC</td>
</tr>
</tbody>
</table>

#### Policy WF2: Designation
- **English Heritage to review the statutory designations that apply to Woodland Fort.**
- **English Heritage should consider whether it would be appropriate to consider either**
  1. the cookhouse and barrack for statutory listing or;
  2. whether a class consent order can be applied to allow repair of windows without the need for Scheduled monument consent.

<table>
<thead>
<tr>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EH</td>
<td>PCC, WFCC</td>
</tr>
</tbody>
</table>

#### Policy WF3: Security
- **A review of security should be undertaken and consideration given to whether it would be appropriate to install permanent timber gates within the gatehouse.**
- **Consideration should be given to whether it would be appropriate to install grilles or iron gates to the haxo and rampart magazines.**

<table>
<thead>
<tr>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Fort Trust</td>
<td>PCC, EH, WFCC</td>
</tr>
</tbody>
</table>
### Action Plan and Conservation Policies: Woodland Fort

<table>
<thead>
<tr>
<th>Conservation Policies Continued....</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
</table>
| **Policy WF4: Retention of heritage values**  
   *Works of repair, alteration or extension to heritage assets should only be undertaken if these would sustain, retain or better reveal the heritage values of the asset.*  
   *The removal of the wall that divides the parade should be encouraged as this would better reveal the heritage values of the parade.* | Woodland Fort Trust | PCC  
EH  
WFCC  
Other local building/heritage trusts |
| **Policy WF5: Reuse of historic buildings**  
   *The reuse and bringing back to use of disused historic buildings such as the gatehouse and cookhouse should be encouraged (subject to the identification of suitable and sustainable uses)* | Woodland Fort Trust | PCC  
EH  
WFCC  
Groundwork Trust |
| **Policy WF6: Vegetation Management and Conservation of ecological values**  
   *Proposals for vegetative clearance should be undertaken in accordance with an approved management plan to safeguard ecological value.*  
   *Vegetation upon the ramparts is to be controlled and managed so to protect the structural integrity of historic structures.*  
   *Vegetation within the ditch and lower slopes is to be managed to sustain ecological value and monitored for its impact on historic structure.* | Woodland Fort Trust | EH  
WFCC  
Groundwork Trust |
## Schedule of Works to be Considered: Woodland Fort

<table>
<thead>
<tr>
<th>Site Works</th>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow the provisional sum of £ 2,500.00 for grubbing up trees including roots, as necessary, over ramparts; dispose off site</td>
<td>Sum</td>
<td></td>
<td>£2,500.00</td>
</tr>
<tr>
<td>Allow the provisional sum of £ 2,500.00 to renovate as possible the gun emplacements</td>
<td>Sum</td>
<td></td>
<td>£2,500.00</td>
</tr>
<tr>
<td>Allow the provisional sum of £ 2,500.00 to renovate as possible the subway corridors</td>
<td>Sum</td>
<td></td>
<td>£2,500.00</td>
</tr>
<tr>
<td>Clear scrub and dispose off site</td>
<td>Sum</td>
<td></td>
<td>£5,000.00</td>
</tr>
</tbody>
</table>

### Cookhouse

<table>
<thead>
<tr>
<th>Site Works</th>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take down existing block wall approx 2.5m high and dispose off site</td>
<td>m</td>
<td>46 x £110</td>
<td>£5,060.00</td>
</tr>
<tr>
<td>Take down existing lean-to (bike shelter?) and dispose off site</td>
<td>Sum</td>
<td></td>
<td>£1,500.00</td>
</tr>
<tr>
<td>Take down existing lean-to on cookhouse side of wall and dispose off site</td>
<td>Sum</td>
<td></td>
<td>£2,000.00</td>
</tr>
<tr>
<td>Clear site and vegetation/debris around cookhouse and dispose off site</td>
<td>Sum</td>
<td></td>
<td>£4,000.00</td>
</tr>
<tr>
<td>Clear rubbish, roof timbers and roof sheeting (corrugated asbestos) from cookhouse structure and dispose off site</td>
<td>Sum</td>
<td></td>
<td>£3,000.00</td>
</tr>
<tr>
<td>Repair walls of original structure as necessary; rake out and repoint</td>
<td>Sum</td>
<td></td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Repair walls of addition as necessary; rake out and repoint/render</td>
<td>Sum</td>
<td></td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Prepare wallhead and gable of original structure to receive new roof</td>
<td>Sum</td>
<td></td>
<td>£1,000.00</td>
</tr>
<tr>
<td>Prepare wallhead and gables of addition to receive new roof</td>
<td>Sum</td>
<td></td>
<td>£1,000.00</td>
</tr>
<tr>
<td>New concrete floor complete, to current building regulations and standards to previous detail in original structure</td>
<td>m2</td>
<td>75 x £90</td>
<td>£6,750.00</td>
</tr>
<tr>
<td>New concrete floor complete, to current building regulations and standards to previous detail in addition</td>
<td>m2</td>
<td>75 x £90</td>
<td>£6,000.00</td>
</tr>
<tr>
<td>Construct new pitched roof with strapped wallhead (100 x 50), rafters (100 x 50), purlins (100 x 75), ridge (200 x 50) and collar ties (100 x 50) in original structure</td>
<td>m2</td>
<td>75 x £80</td>
<td>£6,000.00</td>
</tr>
<tr>
<td>Construct new roof with strapped wallhead (100 x 50), rafters (100 x 50), purlins (100 x 75), ridge (200 x 50) and collar ties (100 x 50) in addition</td>
<td>m2</td>
<td>75 x £80</td>
<td>£6,000.00</td>
</tr>
<tr>
<td>New “tin” roof covering to original structure</td>
<td>m2</td>
<td>90 x £80</td>
<td>£7,200.00</td>
</tr>
<tr>
<td>New “tin” roof covering to addition structure</td>
<td>m2</td>
<td>90 x £80</td>
<td>£7,200.00</td>
</tr>
<tr>
<td>New rainwater gutters, downpipes, and new drainage to original structure</td>
<td>Sum</td>
<td></td>
<td>£1,000.00</td>
</tr>
<tr>
<td>New rainwater gutters, downpipes, and new drainage to addition</td>
<td>Sum</td>
<td></td>
<td>£1,000.00</td>
</tr>
</tbody>
</table>

### New windows and doors to original structure

<table>
<thead>
<tr>
<th>Site Works</th>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take out frames; prepare existing openings; supply and fix windows to match original (if details can be located) make good reveals in original structure</td>
<td>nr</td>
<td>6 x £500</td>
<td>£3,000.00</td>
</tr>
</tbody>
</table>
### Schedule of Works to be Considered: Woodland Fort

<table>
<thead>
<tr>
<th>New windows and doors to original structure (continued)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Take out frames; prepare existing openings; supply and fix windows to match original (if details can be located) make good reveals in addition</td>
<td>nr</td>
<td>6 x £500</td>
</tr>
<tr>
<td>Take out frames; prepare existing openings; supply and fix doors to match original (if details can be located) make good reveals in addition</td>
<td>nr</td>
<td>6 x £600</td>
</tr>
<tr>
<td>Take out frames; prepare existing openings; supply and fix doors to match original (if details can be located) make good reveals in addition</td>
<td>nr</td>
<td>6 x £600</td>
</tr>
<tr>
<td>Construct verandah to match original (if details can be located) to original structure</td>
<td>Sum</td>
<td>£2,500.00</td>
</tr>
<tr>
<td>Construct verandah to match original (if details can be located) to addition</td>
<td>Sum</td>
<td>£2,500.00</td>
</tr>
<tr>
<td>Reopen locked gates, refurbish and paint</td>
<td>Sum</td>
<td>£1,560.00</td>
</tr>
<tr>
<td>New gravel access path from cookhouse to reopened gate</td>
<td>Sum</td>
<td>£3,000.00</td>
</tr>
<tr>
<td>Main building - barracks (external)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repair and refurbish balcony and staircase railings; wire brush/derust; repaint</td>
<td>Sum</td>
<td>£6,000.00</td>
</tr>
<tr>
<td>Clear saplings from barrel roofs; excavate 2m strip of earth down to structure apply waterproofing, dressed up chimneys and parapet; reinstate excavated soil</td>
<td>m2</td>
<td>120 x £100</td>
</tr>
<tr>
<td>Patch repair/relay asphalt to veranda; dressed around railings</td>
<td>Sum</td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Repair/refurbish original windows and doors</td>
<td>Sum</td>
<td>£13,000.00</td>
</tr>
<tr>
<td>Open up boarded windows and replace to match existing</td>
<td>m2</td>
<td>12 x £600</td>
</tr>
<tr>
<td>Main building - barracks (internal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat damp on barrel vaults after waterproofing; redecorate locally</td>
<td>Sum</td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Allow the provisional sum of £ 5,000.00 to repair timber floorboards and structure as required</td>
<td>Sum</td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Treat graffiti as required</td>
<td>Sum</td>
<td>£1,000.00</td>
</tr>
<tr>
<td>Gatehouse (external)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear vegetation around and from walls</td>
<td>Sum</td>
<td>£2,000.00</td>
</tr>
<tr>
<td>Grub up tree near wall; clear off site</td>
<td>Sum</td>
<td>£1,000.00</td>
</tr>
<tr>
<td>Treat graffiti</td>
<td>Sum</td>
<td>£500.00</td>
</tr>
<tr>
<td>Gatehouse (doors/windows)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open up boarded windows and replace to match existing</td>
<td>nr</td>
<td>2 x £500</td>
</tr>
<tr>
<td>Open up boarded doors and replace to match existing</td>
<td>nr</td>
<td>2 x £600</td>
</tr>
</tbody>
</table>
## Schedule of Works to be Considered: Woodland Fort

<table>
<thead>
<tr>
<th>Fort walls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Allow the provisional sum of £ 5,000.00 to rake out and repoint as required</em></td>
<td>Sum £5,000.00</td>
</tr>
<tr>
<td><em>Reset and repoint stone copings</em></td>
<td>Sum £1,000.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Caponiers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Allow the provisional sum of £ 8,000.00 to secure the openings against trespass</em></td>
<td>sum £8,000.00</td>
</tr>
</tbody>
</table>

**Cumulative Works Total**

<table>
<thead>
<tr>
<th></th>
<th>£178,620.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminaries 15%</td>
<td>£26,800.00</td>
</tr>
<tr>
<td>Contingencies 11.5%</td>
<td>£20,500.00</td>
</tr>
<tr>
<td>Professional fees (Architects, heritage, quantity surveyors, structural engineers etc) 20%</td>
<td>£36,150.00</td>
</tr>
</tbody>
</table>

**Estimated Costs for Woodland Fort**

|  | £262,070.00 |
Plymouth Palmerston Forts
Individual Site Statement: Knowles Battery

Prepared for:
Plymouth City Council and English Heritage
6. Individual Site Statement: Knowles Battery

History and Role

6.1 Knowles Battery was built between 1863 and 1869 for 13 guns in open battery with a single haxo-casemate, although it was probably never armed. It was positioned so that the right flank enfilades the front of Woodland Fort. The fort was ‘disarmed’ in 1893, sold in 1930 and converted to a school in 1948 (see figure 6.1).

Description

6.2 The remains of the battery include the substantial gorge wall and guardhouse, rampart and parts of the glacis. The school buildings have removed the western sections of the gorge beyond the guardhouse.

6.3 The gorge, guardhouse, ramparts and glacis are designated within the SAM.

6.4 The massive gorge wall is enfiladed to the east and west sides by the two storey guardhouse. The gorge is built of local granite stone with dressed quoins and facing. A series of musket loops are located on the upper parapet and extend the full length of the gorge. Musket loops are also built at the lower level and these extend partly along its length and terminated against a flat lintel stone dressed sally port.

6.5 The two storey guardhouse stands forward of the gorge. The central section of the guardhouse is articulated by a tall arched panel into which are set two upper embrasures and a single embrasure set at the lower level. To each side there is a single embrasure at the upper level and a sally port at the lower level, each flanked by single musket loops. The guardhouse is surmounted by a continuous parapet with musket loops.

Use and Ownership

6.6 Knowles Battery is owned by Plymouth City Council and managed by the Estates Division. The site is in use as Knowles Primary School and a series of buildings have been built over the parade and western rampart area.

6.7 A swimming pool was constructed on the roof of the guardhouse during the 1970s and the interior of the guardhouse converted for changing rooms. The swimming pool and guardhouse are now disused.

Condition

6.8 The exterior face of the gorge wall is generally in a good condition with only isolated areas of minor graffiti and vestiges of some cement render at lower level. The musket loops are mostly open but the embrasures within the guardhouse have been closed with steel plates as have the sally ports. The guardhouse is secured and there is no evidence of unauthorised access.

6.9 The interior of the guardhouse is in a ruinous condition with localised areas of floor collapse and propping.

6.10 The rampart and scarp are overgrown with naturalised vegetation and semi-mature trees and shrubs. The interior face of the rampart is maintained as cut grass. The remains of a single gun emplacement are evident in the north east salient.

6.11 Whilst the ditch appears to be mostly lost, there are vestigial traces of the stone revetment to the scarp.

Significance

6.12 The gorge wall and guardhouse retain good evidential, historical and aesthetic values demonstrating the original appearance of the
gorge. The guardhouse is well detailed and the entire composition retains a good aesthetic. The ramparts retain a general historic and amenity interest. The school buildings are of no historical interest.

**Issues**

6.13 Maintenance and the day to day upkeep of the school buildings is managed by the school on behalf of Plymouth City Council.

6.14 The council has a statutory obligation to maintain those parts of the site that are included within the scheduled area. The council have made the guardhouse secure and have undertaken some works to support the interior structure.

**Condition**

6.15 The school currently makes no use of the historic buildings.

6.16 The guardhouse is secure and disused and its interior is in a dilapidated condition. The gorge is generally in a good condition and the ramparts overgrown. There is evidence for minor vandalism.

**Public Access Opportunity**

6.17 The investigation process has identified an opportunity for reuse of the guardhouse as an educational resource, with a potential ‘Your Heritage’ project currently being explored. This project is specifically being designed as a means of educating school children on the function of the forts, and thus use of Knowles Battery would present a distinct advantage of the site already being able to accommodate this audience group and well as the project being consistent with the heritage values of the site (see figure 6.2).

6.18 Minor works can be anticipated to accommodate such a use. Works would include installation of services, electrical and IT as well as sanitary and water. Minor sub-division of the space would also be anticipated to provide for toilet accommodation. Existing external doors at the upper level could be re-opened. Existing embrasures could be re-opened to provide windows.

6.19 Additional use as community changing facilities for those making use of the adjacent sports pitch is also identified. The conversion of the lower level of the guardhouse for these facilities would require minor sub-division of the space and would likely require installation of sanitary and water as well as electrical services. Existing lower level doorways should be re-opened and these would provide a means of access independent to that of the school thereby retaining the integrity and security of the school.

6.20 The provision of water and drainage to the guardhouse would be subject to detailed survey but installation is not anticipated to adversely affect heritage values.
Figure 6.2

**KNOWLES BATTERY**

- **Guardhouse**
- **Rampart slope**

**Potential point of interest along Green Corridor Route**

**Guardhouse to be brought back into use:**
- **Upper Floor:** Potential to be an educational centre on forts
- **Lower Floor:** Potential to be used as changing and shower facilities for adjacent sports field
## Action Plan and Conservation Policies: Knowles Battery

<table>
<thead>
<tr>
<th>Action Plan</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage with local stakeholders to identify and facilitate opportunities for reuse of the guardhouse for educational and/or community leisure use.</td>
<td>PCC</td>
<td>Knowles Primary School Plymouth Northern Forts ‘Your Heritage’ Project Local Sports Clubs</td>
</tr>
<tr>
<td>Initiate archaeological building survey and record of the guardhouse. Undertake structural survey within the guardhouse and draw up a schedule of works to repair and consolidate the structure as necessary.</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Undertake survey, clearance and first fit of guardhouse to allow end user final fit.</td>
<td>PCC</td>
<td>Knowles Primary School Plymouth Northern Forts ‘Your Heritage’ Project Local Sports Clubs</td>
</tr>
<tr>
<td>Maintain and manage the guardhouse, gorge and ramparts in accordance with its statutory obligations.</td>
<td>PCC</td>
<td>Knowles Primary School Plymouth Northern Forts ‘Your Heritage’ Project Local Sports Clubs</td>
</tr>
</tbody>
</table>

### Conservation Policies

<table>
<thead>
<tr>
<th>Policy KB1: Retention of amenity and ecological value</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey and record archaeological remains on the rampart and scarp. Maintain and retain the ramparts and glacis in accordance with an approved ecological management plan. Works should be undertaken to consolidate areas of revetment walling</td>
<td>PCC</td>
<td>EH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy KB2: Repair to Gorge wall</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement render should be removed from the exterior face of the gorge wall. Loose coping stones should be retained and refixed using an appropriate lime based mortar.</td>
<td>PCC</td>
<td>EH</td>
</tr>
</tbody>
</table>
### Action Plan and Conservation Policies: Knowles Battery

<table>
<thead>
<tr>
<th>Conservation Policies Continued....</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy KB3: Fixing of external doors and windows</strong></td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>New hardwood timber doors should be fitted within existing external doorways to an approved design and made secure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New glazed windows should be inserted within existing embrasures to an approved design. Glazing to be fitted towards the rear of the opening and made secure by means of timber shutters fixed to the interior face of the wall. Musket loops and murder holes within the guardhouse to be fitted with toughened glazing fixed towards the inner face of the opening.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musket loops at the parapet to be kept open.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musket loops within the gorge wall to be retained in an open condition.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Policy KB 4: New work within Guardhouse</strong></th>
<th>PCC</th>
<th>EH</th>
</tr>
</thead>
<tbody>
<tr>
<td>All new work within the guardhouse is to be reversible. No new openings are to be inserted into historic fabric. All existing historic features are to be retained. New services are to be routed in sympathy to the historic fabric.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Schedule of Works to be Considered: Knowles Battery

<table>
<thead>
<tr>
<th>Guardhouse - External Walls</th>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow for clearing vegetation; clear off site</td>
<td>Sum</td>
<td>£5,000.00</td>
<td></td>
</tr>
<tr>
<td>Rake out and repoint stonework as required</td>
<td>Sum</td>
<td>£7,500.00</td>
<td></td>
</tr>
<tr>
<td>Reset and repoint stone copings</td>
<td>Sum</td>
<td>£2,500.00</td>
<td></td>
</tr>
</tbody>
</table>

### Guardhouse - Roof swimming pool

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain pool and remove structure; dispose off site and make good fabric as required</td>
<td>Sum</td>
<td>£7,500.00</td>
</tr>
<tr>
<td>Repair waterproofing as necessary including roof where pool removed</td>
<td>Sum</td>
<td>£4,000.00</td>
</tr>
<tr>
<td>Repair damage caused by damp ingress internally</td>
<td>Sum</td>
<td>£5,000.00</td>
</tr>
</tbody>
</table>

### Guardhouse - Renew doors and windows

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take out existing boarded windows and dispose of arisings off site</td>
<td>nr 8 x £100</td>
<td>£800.00</td>
</tr>
<tr>
<td>Supply and fit secure windows to match original; painted</td>
<td>nr 8 x £500</td>
<td>£4,000.00</td>
</tr>
<tr>
<td>Take out existing boarded up doors and dispose of arisings off site</td>
<td>nr 4 x £100</td>
<td>£400.00</td>
</tr>
<tr>
<td>Supply and fit ventilated secure single doors and frames; painted</td>
<td>nr 4 x £600</td>
<td>£2,400.00</td>
</tr>
</tbody>
</table>

### Guardhouse - Internally

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear out debris and rubbish generally including first floor structure</td>
<td>sum</td>
<td>£6000.00</td>
</tr>
<tr>
<td>Excavate existing ground floor and dispose of arisings off site</td>
<td>m2 160 x £40.00</td>
<td>£6400.00</td>
</tr>
<tr>
<td>New concrete floor complete to current building regulations and standards finished to receive floor finish in future (including blinded hardcore and insulation)</td>
<td>m2 160 x £90.00</td>
<td>£14,400.00</td>
</tr>
<tr>
<td>Renew timber first floor joists, flooring, insulation and fireproof plasterboard ceiling</td>
<td>m2 160 x £80.00</td>
<td>£12,800.00</td>
</tr>
<tr>
<td>Clean down, rake out and repoint walls as required</td>
<td>sum</td>
<td>£10,000.00</td>
</tr>
</tbody>
</table>

### Fort Walls

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow for raking out and repoint stonework as necessary</td>
<td>sum</td>
<td>£7,500.00</td>
</tr>
<tr>
<td>Allow for raking out and resetting stone copings as required</td>
<td>sum</td>
<td>£3,000.00</td>
</tr>
</tbody>
</table>

### Cumulative Works Total

£99,200.00

### Estimated Costs for Knowles Battery

£145,580.00

Note: Mains services have not been considered as the future user is not known.
Plymouth Palmerston Forts
Individual Site Statement: Bowden Battery

Prepared for:
Plymouth City Council and English Heritage
7. Individual Site Statement: Bowden Battery

History and Role

7.1 Bowden Battery was positioned to defend the valley slopes which it overlooks as well as the rear glacis of Crownhill Fort. It was built between 1863 and 1868 and designed for 12 guns in open battery.

7.2 The fort remained unarmed in 1885 but by 1893 six guns were in place. The fort was disarmed shortly after and in 1968 was acquired by the current operators, Plymouth Garden Centre. The site continues to operate as a successful garden centre.

Description

7.3 Bowden Battery comprises a fortification surrounded on all sides by rock cut ditch which has been backfilled to the gorge. The gorge wall retains musket loops along much of its length and has an entrance arch with the guardhouse to one side (see figure 7.1).

7.4 The entrance arch retains its drawbridge mechanism and reveals, but the arch has been lost. The lower external elevations of the guardhouse are obscured by backfilling of the ditch. The upper level with parapet remains above current ground level as do the stone covered pitched roof of the two musket caponiers.

7.5 The interior of the guardhouse is accessed from within the fort by means of an arch vaulted passage which descends to the upper level of the guardhouse. Stone built spiral stairs located within the rear internal wall give independent access one to the lower level of the guardhouse, the other to the upper parapet level. The main magazine is located to the rear of the guardhouse accessed from the lower level.

7.6 The parade of the fort is occupied by a series of structures and displays pertaining to the retail use of the site. This area of the fort is excluded from the scheduled area within the designated SAM for the site.

7.7 The rampart is accessed by means of a ramp at the south east salient and retains remains of three gun emplacements with type C pivot and racers with expense magazines and covered magazines.

7.8 The rampart is mostly overgrown with part managed vegetation on its upper slopes and un-managed naturalised vegetation on its lower slopes and within the ditch. The counterscarp galleries at the north east and north west salient are approached by means of steeply sloping and stepped vaulted passageways accessed by means of arched openings in the parade revetment wall. The vaulted passages are part blocked and the counter-scarp galleries are not accessible.

Use and ownership

7.9 Bowden Battery is owned and operated by Plymouth Garden Centres Ltd (PGC) as a commercial retail garden centre.

7.10 Although there is an intensified use on the parade ground as retail space, it is clear that the garden centre operation is unable to make use of other historic components of the site. In particular, the guardhouse is unusable for either commercial and storage uses and the rampart is increasingly becoming used for seasonal storage. The rampart is also part occupied by temporary office accommodation.

Condition

7.11 The exposed face of the gorge wall is in a good condition with minor overgrowth of ivy.

7.12 The guardhouse is in a dilapidated condition with a temporary timber board floor supported on a scaffold structure. The embrasure openings at the lower level are sealed and those at the upper level
Figure 7.1

BOWDEN BATTERY
are partly ventilated. The external rear face of the guardhouse is exposed and the cement render is showing signs of cracking.

7.13 The rampart magazines are in a fair condition though there is evidence for a part loss of the earth covering and subsequent cracking of the masonry structure. The gun emplacements are part obscured by retail display and other temporary structures.

7.14 The parade is extensively used for retail display within the operation of the garden centre, with a consequent loss of visual integrity and an adverse impact on the setting of the gorge wall and rampart.

Significance

7.15 The historic structures all retain evidential and historic values, though the aesthetic value of the guardhouse and gorge are reduced on account of the backfilling of the ditch.

7.16 Overall the legibility and aesthetic values of the fort and its structures is reduced on account of intensity of use and obstruction of historic features.

7.17 Bowden Battery is a well used facility with high communal values.

Development/Public Access Opportunity

7.18 Bowden Battery is currently the only fort within the northern line that has significant potential for public access for the purpose of fortification heritage interpretation. This is largely because the site has the greatest current capacity to support ‘visitors’.

7.19 Operating as a garden centre, the site already receives 250,000 visitors (i.e. garden centre customers). Although the site already contains a modest café, there is the prospect of a larger café upon the rampart that could include visitor interpretation. This has been discussed further with the site operator, the PGC, who has indicated that it would be more than willing to consider this option subject to the operation being commercially viable. Indeed, this option has been explored in the past but the planning application was refused, mainly on grounds of design and impact on the sightlines of the rampart (see figure 7.2).

7.20 Subject to a suitable design solution, it is considered that this type of facility has the capacity to present an interpretation centre the Plymouth Northern Forts collectively. It is only by telling the story as a whole that the importance of the area and its forts from a strategic position becomes evident. In this respect, the interpretation should explore the original function of Bowden Battery and its key fortification features and their importance, whilst also placing Bowden Battery within the context of the Plymouth Northern Fortifications, and indeed the overall ‘Ring of Fire’.

7.21 Due to the café setting within a commercial operation, the interpretation boards and imagery should be conducive to casual/incidental browsing. For the interpretation of Bowden Battery, this should include easy-to-read boards within the café, mock-artillery weaponry upon the gun emplacements, and some strategically positioned ‘artist impressions’ of the site during its use as a fortification. For the interpretation of Plymouth’s Northern Forts and the Plymouth ‘Ring of Fire’, a combination of ‘artists impressions’ and written text should be explored to depict how the sites would have worked in combination to defend and repel either land or sea-based attacks.

7.22 This latter aspect is an important component of the story, yet it is little understood because of the fact that the forts were never called upon in this manner. The prospect of utilising Bowden Battery to present this story is therefore regarded as a compelling opportunity.
Figure 7.2

BOWDEN BATTERY

Potential point of interest along Green Corridor Route

Prospect of a new cafe to be utilised as an interpretation centre for the Northern Forts

Heritage values of parade ground to be better showcased with interpretation

Gatehouse to be restored and brought into use
Issues and Considerations

7.23 The cafe opportunity will require development of the site. The guardhouse is currently disused and could provide opportunity for reuse without adverse harm to heritage values. However, the investigation process has determined that the space that the guardhouse presents is unlikely to be conducive to a café. Alternative uses are not ruled out, with the prospect of using the guardhouse for either storage, office or some other ancillary use potentially reducing pressures elsewhere within the site with a consequent benefit to heritage values.

7.24 The nature of use would determine the scope of necessary works but it can be anticipated that heritage values would not be harmed. Indeed use of the guardhouse would represent an opportunity for heritage values to be better revealed and as a consequence reuse of the guardhouse should be encouraged.

7.25 The use of rampart for the cafe should be considered once more. It is understood that a previous design would have damaged the sightlines of the rampart, arguably one of the most important heritage components. However, without this sort of function, the component is largely obsolete from either a heritage or business perspective. An alternative design solution that includes structures sympathetic to the fort, the sightlines of the rampart, and that would facilitate interpretation of the heritage components should therefore be sought.
### Action Plan and Conservation Policies: Bowden Battery

<table>
<thead>
<tr>
<th>Action Plan</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey and record archaeological remains on the rampart. Undertake survey of counter scarp galleries and report on condition, and prepare as part of overall management plan a scope of works to maintain their condition and security.</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Review and update existing conservation management plan to include provision for repair and use of the guardhouse and repair to rampart structures.</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Site owners, English Heritage and the Local Planning Authority to work towards agreeing a masterplan use for the site including provision of a café and heritage interpretation centre.</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Plymouth Garden Centres Ltd to identify a beneficial use for the guardhouse.</td>
<td>PCC</td>
<td>EH</td>
</tr>
</tbody>
</table>

### Conservation Policies

<table>
<thead>
<tr>
<th>Policy BB1: Retention of amenity and ecological value</th>
<th>PGC</th>
<th>EH</th>
<th>PCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plymouth Garden Centres to be assisted in maintaining and retaining the ramparts, ditch and glacis in accordance with an approved ecological management plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy BB2: Conservation Management Plan</th>
<th>PGC</th>
<th>EH</th>
<th>PCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plymouth Garden Centres Ltd to be assisted in updating and reviewing its existing conservation management plan, with a specific requirement to identify the heritage value and condition of historic assets. This should include proposals for their conservation and management in the context of future potential proposals for development and growth of the commercial and retail business through heritage.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy BB3: Reuse of Historic Buildings</th>
<th>PGC</th>
<th>PCC</th>
<th>EH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals for the reuse of historic buildings, including the guardhouse will be encouraged where these retain heritage values and bring about conservation of the asset.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy BB4: New Development</th>
<th>PGC</th>
<th>PCC</th>
<th>EH</th>
</tr>
</thead>
<tbody>
<tr>
<td>New buildings within the scheduled area should only be approved if the development cannot be accommodated within existing historic structures. New buildings are to be designed and located sympathetic to the heritage values of the site. New development should only be approved if it sustains, reveals, and brings forward to the public a broader range of the heritage values of the site.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Schedule of Works to be Considered: Bowden Battery

<table>
<thead>
<tr>
<th>Guardhouse</th>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove ivy and repoint externally where necessary</td>
<td>Sum</td>
<td>£5,000.00</td>
<td></td>
</tr>
<tr>
<td>Remove decayed rendering; rebed stones as necessary; rerender as specified; parapet stone protection to render</td>
<td>Sum</td>
<td>£5,000.00</td>
<td></td>
</tr>
<tr>
<td>Waterproof horizontal surfaces as specified including lookout platform</td>
<td>Sum</td>
<td>£4,000.00</td>
<td></td>
</tr>
<tr>
<td>Remove soil from barrel roof; waterproof with welded butyl pond liner turned up wall with block dwarf protection wall; to detail</td>
<td>m2</td>
<td>110m2 x £55</td>
<td>£6,050.00</td>
</tr>
<tr>
<td>Prepare and patch repair mastic asphalt upstands and steps; coat with solar reflecting paint</td>
<td>Sum</td>
<td>£2,500.00</td>
<td></td>
</tr>
<tr>
<td>Clear out debris internally and dispose off site</td>
<td>Sum</td>
<td>£2,000.00</td>
<td></td>
</tr>
<tr>
<td>New concrete floor complete, to current building regulations and standards to previous detail</td>
<td>m2</td>
<td>110m2 x £90</td>
<td>£9,900.00</td>
</tr>
<tr>
<td>Rebuild intermediate timber floors</td>
<td>m2</td>
<td>110m2 x £80</td>
<td>£8,800.00</td>
</tr>
<tr>
<td>Remove temporary scaffolding off site</td>
<td>sum</td>
<td></td>
<td>£1,000.00</td>
</tr>
<tr>
<td>Patch repair internally and repoint as required</td>
<td>sum</td>
<td>£5,000.00</td>
<td></td>
</tr>
<tr>
<td>Doors and Windows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break out existing windows openings and dispose of arisings off site (say)</td>
<td>nr</td>
<td>6 x £100</td>
<td>£600.00</td>
</tr>
<tr>
<td>Supply and fit secure windows to match original; painted; security grilles</td>
<td>nr</td>
<td>6 x £600</td>
<td>£3,600.00</td>
</tr>
<tr>
<td>Take out existing door and dispose of arisings off site</td>
<td>nr</td>
<td>1 x £100</td>
<td>£100.00</td>
</tr>
<tr>
<td>Supply and fit ventilated secure single doors and frames; painted</td>
<td>nr</td>
<td>1 x £600</td>
<td>£600.00</td>
</tr>
<tr>
<td>Excavate to provide a lightwell to lower windows around walls with retaining walls, ground level security grille, cement rendered; 1.50m deep</td>
<td>m</td>
<td>30 x £300</td>
<td>£9,000.00</td>
</tr>
<tr>
<td>North Rampart Structures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow the provisional sum of £ 5,000.00 for repair, rake out and repoint East gun emplacement</td>
<td>sum</td>
<td></td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Allow the provisional sum of £ 5,000.00 for repair, rake out and repoint South gable of artillery store and reform earth embankment</td>
<td>sum</td>
<td></td>
<td>£5,000.00</td>
</tr>
<tr>
<td>Main Wall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove ivy growth as required and dispose off sites</td>
<td>sum</td>
<td>£6,000.00</td>
<td></td>
</tr>
<tr>
<td>Allow the provisional sum of £ 2,500.00 for repair, rake out and repoint coping stones</td>
<td>sum</td>
<td></td>
<td>£2,500.00</td>
</tr>
</tbody>
</table>

**Cumulative Works Total**

£81,650.00
<table>
<thead>
<tr>
<th>Schedule of Works to be Considered: Bowden Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Preliminaries</td>
</tr>
<tr>
<td>Contingencies</td>
</tr>
<tr>
<td>Professional fees (Architects, heritage, quantity surveyors, structural engineers etc)</td>
</tr>
<tr>
<td><strong>Estimated Costs for Bowden Battery</strong></td>
</tr>
</tbody>
</table>

The above costings are based upon the schedule of works prepared by Chris Wright Associates Consulting Engineers, on behalf of The Plymouth Garden Centre Ltd. These works provide for the waterproofing of the guardhouse and construction of new timber floors and preparation for final fit.
Plymouth Palmerston Forts
Individual Site Statement: Fort Austin

Prepared for:
Plymouth City Council and English Heritage
8. **Individual Site Statement: Fort Austin**

**History and Position**

8.1 Fort Austin was located to command the Forder Valley. It was designed as part of the integrated fortified positions comprising Bowden Battery, Forder Battery and Egguckland Keep. The fort was completed by 1868 and was designed for 15 guns in open battery. The fort was initially unarmed but in 1885 was supplied with four RML guns. The fort was disarmed shortly after.

8.2 During World War I and World War II, Fort Austin was used by the Devon and Cornwall Auxiliary Unit. It was released by the MoD in 1958 and has been with PCC since that time. Currently, the site is occupied by Plymouth Community Homes (PCH) as a supplies depot.

**Description**

8.3 The fort comprises a gorge wall with gatehouse, ramparts and a rock cut ditch with counter-scarp gallery. There is an extensive glacis to the north and east sides. The fort is approached from the military road which runs alongside the gorge wall and continues southwards towards Efford and Laira Fort (see figure 8.1).

8.4 The ditch in front of the gorge has been removed but elsewhere is retained and is particularly well preserved to the front face showing traces both of original rock cut and masonry revetment.

8.5 The gorge wall is provided with musket loops to the parapet with dressed stone quoins and coping. The Chemion de Rondes was accessed from the gatehouse and is currently also accessible from the public footpath.

8.6 The gatehouse is now blocked but comprises a central arched entrance way with brick vaulted passage with guard chambers to each side. The guard chambers project forward of the entrance arch to enfilade the gorge with both cannon and musket. The guard chambers are at two levels linked at lower level beneath the carriageway. Stone circular stairs project from the rear elevation and these also lead up to an internal musket gallery at parapet level. The gatehouse has been used as a command centre in recent years and evidence for this including new work and services is present throughout the structure.

8.7 The parade is built over by a number brick built structures that house offices and workshops. Some of these buildings particularly those against the north rampart and perhaps also the main reception block date to the 1940’s when the site was used by the Devon and Cornwall Auxiliary Unit.

8.8 A ramped access now in tarmac leads from the west side of the parade to the rampart. The surface of the rampart has been scraped away and laid to tarmac. Within the rampart are the remains and vestigial traces of a series of open gun positions some of which are obscured by temporary buildings.

8.9 The lower slopes of the rampart and the ditch are overgrown but are accessible from the public footpath that adjoins the Forder Valley Local Nature Reserve.

8.10 Mortar pits, shallow depressions close to the base of the rampart are evident at the eastern side of the fortification with access from off the Chemin de Rondes. The battery on the north salient is accessed from a vaulted passage that leads down from the rampart. A further arched portal leads to the counter-scarp galley in the north east salient.

8.11 The counter-scarp gallery is a two storey structure that enfilades the east and north sides of the ditch. It is provided with both musket loops and gun embrasures.
Ownership and use

8.12 Following disposal in 1958 the site became the property of the PCC and was initially used as the City Engineers Dept and workshops. The property is still retained by the PCC but is now leased to PCH as their maintenance depot and workshops. However, PCH are due to leave the site within the near future as they look to consolidate their operations.

Condition

8.13 The rampart structures are generally in a poor condition and there is widespread evidence for fabric loss, particularly upon the rampart which has lost all of its earthen covering. As a consequence, the gun positions have also experienced loss of fabric and several of the positions have been built over obscuring their functional and physical connection with the rampart.

8.14 The gatehouse is disused and its condition has deteriorated as a result. The building does, however, retain a structural and architectural integrity despite a loss of soft fabric.

8.15 The gorge wall, ditch, mortar pits and counter-scarp gallery are all in a generally good condition. The counter-scarp gallery is, however, showing signs of vandalism and unauthorised access. Access to these features is not difficult and the portal arches and vaulted passages remain open.

Significance

8.16 The fort retains a general historic value common to all the forts that make up the northern fortifications. However, loss of fabric and development of the parade, especially in the years after the war has resulted in a loss of overall significance pertaining to each of the gun positions. The counterscarp gallery, musket pits and tunnels represent features of greater significance arising from their unique nature within the group.

8.17 The gatehouse is disused but retains good evidential and historical values in its fabric and along with Knowles Battery, Woodland Fort and Bowden Battery, represents a good example of such a structure.

8.18 Other structures within the parade date to World War II. These buildings are of a standard form of construction. Although a detailed interior inspection has not been made of all buildings, it is unlikely that any retain a particular significance to differentiate them from the mass of buildings of these periods.

Development Opportunity

8.19 A change in the current use of Fort Austin is expected in the near future with the current occupiers, PCH, actively seeking new premises.

8.20 The investigation process has identified the option of presenting Fort Austin as workspace for either the arts or digital media (or both) represent the most feasible solutions, with potential partner organisations identified. However, both of these user groups will require some ‘adaptation’ of the site and its facilities to better accommodate their needs. For example digital media will require the latest generation in Information Communication Technologies (ICT), particularly high-speed, fibre optic Internet connection; and the industrial arts will require the retention and potential adaptation of the workshops and storage spaces. It is also important that sustainability measures such as waste reduction, energy reduction, and green technologies are incorporated into any re-development proposals; as is the need to relieve pressure on the historic fabric of the site itself (see figure 8.2).

8.21 It is beyond the scope of this study to examine these site specific issues in more detail. As such, it is recommended that these issues now be pursued through a partnership approach to examine the
Figure 8.2

FORT AUSTIN

- Existing structures in parade ground to be rationalised to bring historic features to the fore
- The buildings that remain will be utilised to support the arts/community/digital media uses
- Gatehouse to be restored and brought back
- Perimeter walk to provide access to the Forder Valley LNR and link to the proposed Derriford Community Park

Key:
- Existing masonry building c1940-1960
- GH Gatehouse
- Rampart slope
- Fortified structure
- MB Mortar Battery
- Line of tunnel/gallery
- CSG: Counter scarp gallery
implications for the site, the uses and the PCC as owners. Key issues that will need to be addressed are:

- types of activity envisaged, the spaces required, and the likely terms of contract (either for the end-user or the operator should this be an option);
- options for combined arts and digital media use, and implications for the ‘market’ in terms of compatibility;
- requirements for conversion or adaptation of existing structures;
- requirements for relieving pressure on historic fabric of the site and restoring certain key heritage features; and
- requirements for integrating community access.

Other Issues and Considerations

Nature conservation

8.22 As previously highlighted, Fort Austin is directly adjacent to the Forder Valley Local Nature Reserve. The reserve is characterised by semi-natural broadleaved woodland and scrub. This extends to the slopes of the glacis.

8.23 As such, the fort affords good connectivity from a network of footpaths and trails. These trails also provide access to the key parts of the fort that have significant heritage value, including the rampart, ditch and counter-scarp gallery. Consideration should, therefore, be given to utilising Fort Austin as a gateway to the Forder Valley Local Nature Reserve.

Accessibility

8.24 Whereas there is currently no public access to areas within the fort, the proximity of the Local Nature Reserve is permitting access to the lower slopes of the rampart, the Chemin de Rondes the mortar pits, the ditch and counter-scarp gallery.

8.25 It should be noted that access to these features is a unique opportunity at Fort Austin. Similar access to these features in the other forts are not easy on account of the difficult terrain and waterlogged conditions that normally occur within the ditch.

8.26 However, if the counter-scarp gallery and ditch were to be made accessible there does need to be some consideration of safety. There is also potential for vandalism and unauthorised access to the interior of structures. It would be most likely that the counter-scarp gallery and portals would need to be closed. Access to the base of the ditch could be effected by forming a series of steps in that part of the ditch nearby the gallery which has clearly been backfilled and is currently used as a means of access by those gaining entry to the gallery.
### Action Plan and Conservation Policies: Fort Austin

<table>
<thead>
<tr>
<th>Action Plan</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue to engage with potential organisations and end users of Fort Austin (arts and digital media) to determine adaptation measures with a view to securing site investment</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Consider linkages between Fort Austin and Forder Valley Local Nature Reserve, with the fort potentially providing a gateway to the LNR. In addition, a perimeter trail around ditch and counter scarp gallery could also be included to provide interpretation of the chemin de rondes and mortar pits.</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Associated with the above, consider safety implications, including the closure of the counter-scarp gallery and portals and creating a series of steps to the base of the ditch.</td>
<td>PCC</td>
<td>EH</td>
</tr>
</tbody>
</table>

#### Conservation Policies

<table>
<thead>
<tr>
<th>Policy FA1: Retention of amenity and ecological value</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain and retain the ramparts, ditch and glacis in accordance with an approved ecological management plan and in conjunction with the management of the Forder Valley LNR. Initiate a bat survey to determine potential presence of bats within counter-scarp gallery and passage ways.</td>
<td>PCC</td>
<td>EH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy FA2: Works to Counter-scarp Gallery</th>
<th>Lead Organisation</th>
<th>Partner Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate a programme of archaeological recording and survey of the counter-scarp gallery and mortar pit areas including all passage ways and galleries. The counter-scarp gallery and all galleries and passageways to be cleared of all debris and rubbish infill. All external embrasure openings within the counter-scarp gallery to be secured by means of secure shuttering or blocking up to approved designs. Musket loops to remain open to provide for natural ventilation and movement of bats. All external portals including those within the mortar pit to be fitted with secure doors to an approved design. All doors are to be fitted to the inside of the arch and ventilated.</td>
<td>PGC</td>
<td>PCC</td>
</tr>
<tr>
<td>Conservation Policies Continued</td>
<td>Lead Organisation</td>
<td>Partner Organisation</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td><strong>Policy FA3: Public Access and Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Counter-scarp gallery, ditch, mortar pits and chemin de rondes should be incorporated within</td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>a heritage trail extension to the existing Forder Valley Local Nature Reserve and public access</td>
<td></td>
<td>Natural England</td>
</tr>
<tr>
<td>encouraged. Consideration should be given to public safety. Stepped access will be required to</td>
<td></td>
<td>Plymouth Wildlife</td>
</tr>
<tr>
<td>gain access to the north east mortar pit. Steps should not be cut into the rampart slope nor</td>
<td></td>
<td>Trust</td>
</tr>
<tr>
<td>disturb the revetment wall. Stepped access to the counter-scarp gallery at the base of the ditch</td>
<td></td>
<td>Local Conservation</td>
</tr>
<tr>
<td>is to be effected by cutting and construction of stairs within the existing area of non-historic</td>
<td></td>
<td>Volunteers</td>
</tr>
<tr>
<td>ditch backfill.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Policy FA4: Works to Gatehouse</strong></td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>All new work within the gatehouse is to be reversible. No new openings are to be inserted into</td>
<td></td>
<td></td>
</tr>
<tr>
<td>historic fabric. All existing historic features are to be retained. New services are to be</td>
<td></td>
<td></td>
</tr>
<tr>
<td>routed in sympathy to the historic fabric. Existing stairs are to be retained. Embrasures are</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to be opened and glazed to an approved design and provided with secured internal timber shutters.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Policy FA5: Works to rampart</strong></td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Temporary buildings and Portakabins erected over or alongside gun positions to be removed. All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>exposed concrete facings to gun positions are to be repaired to match existing. The exposed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘front’ face of all positions is to be consolidated and, in consultation with English Heritage an</td>
<td></td>
<td></td>
</tr>
<tr>
<td>earthen bank to be erected in order to restore historic character.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Policy FA6: Buildings within the Parade</strong></td>
<td>PCC</td>
<td>EH</td>
</tr>
<tr>
<td>Development of new buildings to be erected with benefit of all statutory consents and approvals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and permitted only where intended use can not be accommodated within existing structures. All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>new buildings are to be of a single storey height and sympathetic in design to historic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>character.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Schedule of Works to be Considered: Fort Austin

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount/Fee</th>
<th>Estimated Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guardhouse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strip out existing sanitary fittings etc, supply piping and wastes, machinery and debris; dispose off site; disconnect and seal drains and supply piping</td>
<td>Sum</td>
<td>£10,000.00</td>
</tr>
<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat damp ingress and make good structure as required</td>
<td>Sum</td>
<td>£5,000.00</td>
</tr>
<tr>
<td><strong>Doors and Windows</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break out existing windows openings and dispose of arisings off site (say)</td>
<td>nr 22 x £100</td>
<td>£2,200.00</td>
</tr>
<tr>
<td>Supply and fit secure windows to match original; painted (say)</td>
<td>nr 22 x £500</td>
<td>£11,000.00</td>
</tr>
<tr>
<td>Take out existing doors/fanlight and dispose of arisings off site</td>
<td>nr 1 x £100</td>
<td>£100.00</td>
</tr>
<tr>
<td>Supply and fit ventilated secure single doors and frames; painted</td>
<td>nr 1 x £600</td>
<td>£600.00</td>
</tr>
<tr>
<td><strong>Walls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strip off vegetation and dispose off site</td>
<td>sum</td>
<td>£4,000.00</td>
</tr>
<tr>
<td><strong>Site Works</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make good site boundary fencing as necessary</td>
<td>sum</td>
<td>£2,000.00</td>
</tr>
<tr>
<td>Allow the provisional sum of £ 10,000.00 for vegetation management to the ramparts and rake out and repoint fort walls</td>
<td>sum</td>
<td>£10,000.00</td>
</tr>
<tr>
<td><strong>Caponiers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow the provisional sum of £ 8,000.00 to secure the openings against trespass</td>
<td>sum</td>
<td>£8,000.00</td>
</tr>
<tr>
<td><strong>Cumulative Works Total</strong></td>
<td></td>
<td><strong>£52,900.00</strong></td>
</tr>
</tbody>
</table>

**Preliminaries** 15.0% £7,935.00

**Contingencies** 11.5% £6,100.00

**Professional fees (Architects, heritage, quantity surveyors, structural engineers etc)** 20.3% £10,700.00

**Estimated Costs for Bowden Battery** £77,635.00