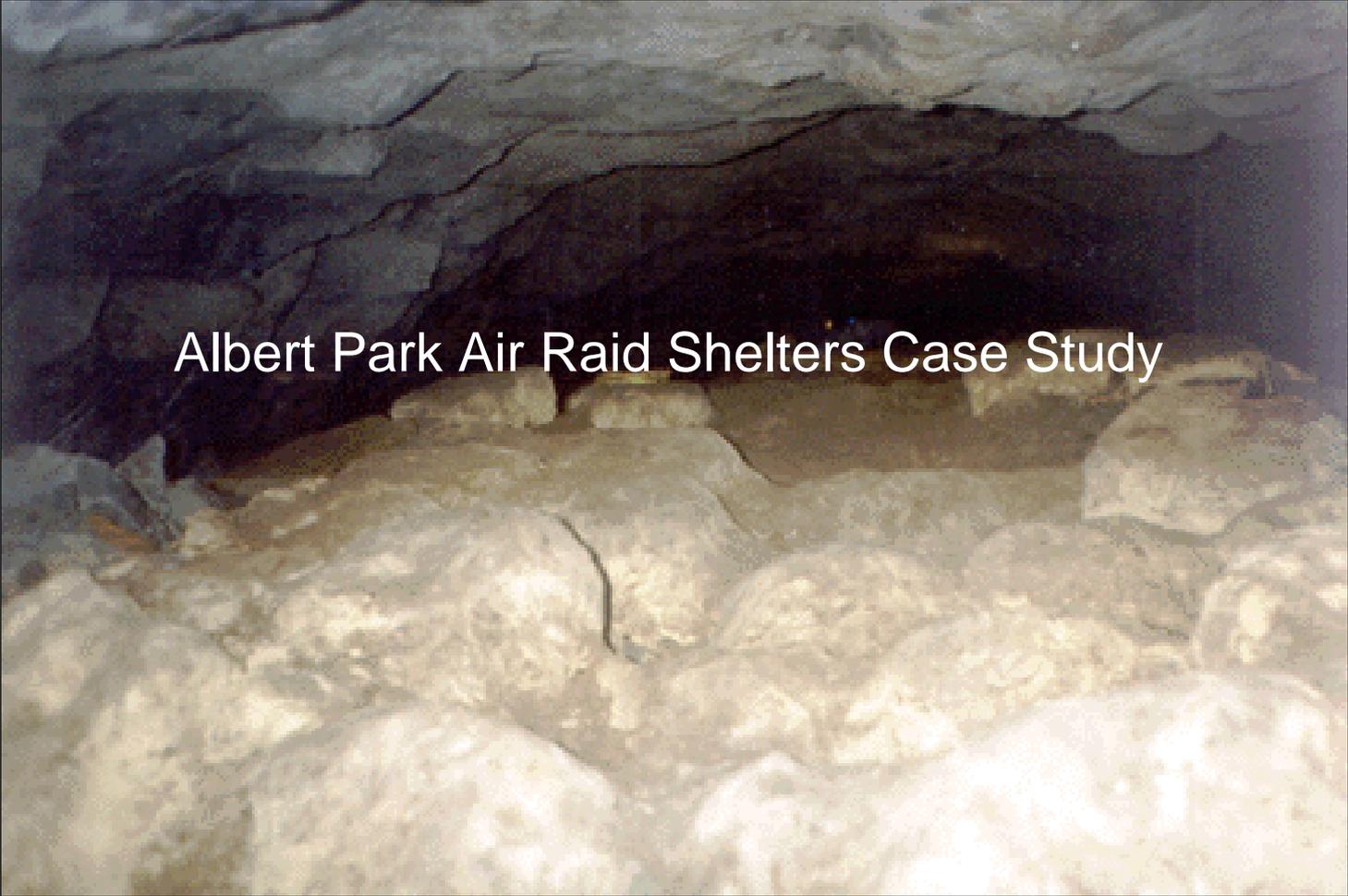


Investigation into Heritage Management



Albert Park Air Raid Shelters Case Study

Scott Pilkington

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Introduction

When considering the heritage values associated with a particular place, or a particular type of place, different values need to be taken into consideration. This varies from case to case, but certain common elements soon make themselves clear (Historic Places Trust, 2004).

Firstly are the archaeological values: ones dealing with the importance of the site, the condition of the site, and its visual, educational or recreational values.

Secondly are the architectural values: those that deal with the importance of the site through building design – many things can be covered here such as the representativeness of a site through design or due to the period in which it was built, and whether the site provides visual interest as a landmark or contribution to the sense of a place.

Thirdly are the historic values, which are whether the site is associated with important or representative aspects of history for a country, region or local people, and also its rarity as a site of its type.

Fourthly are the Maori values: how much value does the local iwi rest in this site?

Fifthly, scientific values: how much technical value the site has, also the rarity and representative aspects of the site as having technical value in terms of the potential to provide information about past human activity or lifestyle.

Lastly, are social and cultural values. These are the broader scope of things: such as what areas are held in high public esteem? Which have value for groups in the community? And most importantly: which sites demonstrate aspects of change or continuity in a way of life or culture of New Zealand societies?

This project will discuss the major six elements mentioned above with the Air Raid Shelter Tunnel Complex (commonly known as the Albert Park Tunnels) in inner city Auckland as a case study. The aim of this project is to discuss and explore heritage values

of sites less than 100 years old within a built-up city environment, and will conclude with a discussion of options and costs/benefits.

A brief history of the site

60,000 years ago, a volcano nearby erupted, building up and broadening a ridge running through what is now Auckland City (Farrant 2007; Parks in Auckland).

When Europeans arrived in Auckland in the 19th Century there was a well-developed *papakāinga* on the site, by the name of Rangipuke which included a defended pā - Te Horotiu – in the north-western end of what is now Albert Park (Parks in Auckland).

In 1845 corresponding of the destruction of Britomart point and the old barracks for fill for the harbour reclamation, the site became a defence post when the Albert Barracks was constructed. When the army left the site at the end of the New Zealand Wars, the site came under the jurisdiction of the city improvement commissioners who set part aside as a public reserve and laid out the remaining land as streets and sections, culminating in the ‘Auckland Improvement Trust Act’ of 1872. In the 1880s the barracks were decommissioned and demolished and gardens, statues and a fountain were established (Clough, 1996; “Parks in Auckland – Albert Park”).

1941 saw Japan’s entry into the Second World War with the dawn raid on Pearl Harbour, Hawaii. Quickly paranoia spread through the US before being transmitted through its allies to Auckland, New Zealand, where the Auckland City Council immediately began plans to excavate tunnels beneath Albert Park with the intention of using them as Air Raid shelters in the event the Japanese came to attack, giving the inner city residents a place to take refuge.

After the war, the tunnels were filled in with unfired clay bricks (which appear to be wet enough that stolen bricks have turned up as pottery (Swabey 2007), also see figure

1-4), the entrances buried and the air shafts and other shafts in-filled. However, interest in the tunnels did not die there. Even into the 1960s there were newspaper articles excitedly proclaiming ideas and opinions about the future use of the tunnels (Auckland City Archives a- d). These were renewed in the 1990s by two separate groups, a business man seeking to open it as a tourism venture, and a group of architecture students with their lecturer who viewed the tunnels as part of the solution to Auckland's traffic problem (Bourke a; Tonks 2007). However, not a lot is known about the tunnels at all (Bourke 2007; Farrant 2007; McBride 2007; McCann 2007; Mitchell 2007).



Fig. 1 photograph of an unfired brick (Bourke a) taken by Bourke when he broke into the tunnels



Fig. 2 photograph of an unfired brick taken in Crossley's lab



Fig. 3 photograph of an unfired brick taken in Crossley's lab



Fig. 4 photograph of an unfired brick taken in Crossley's lab

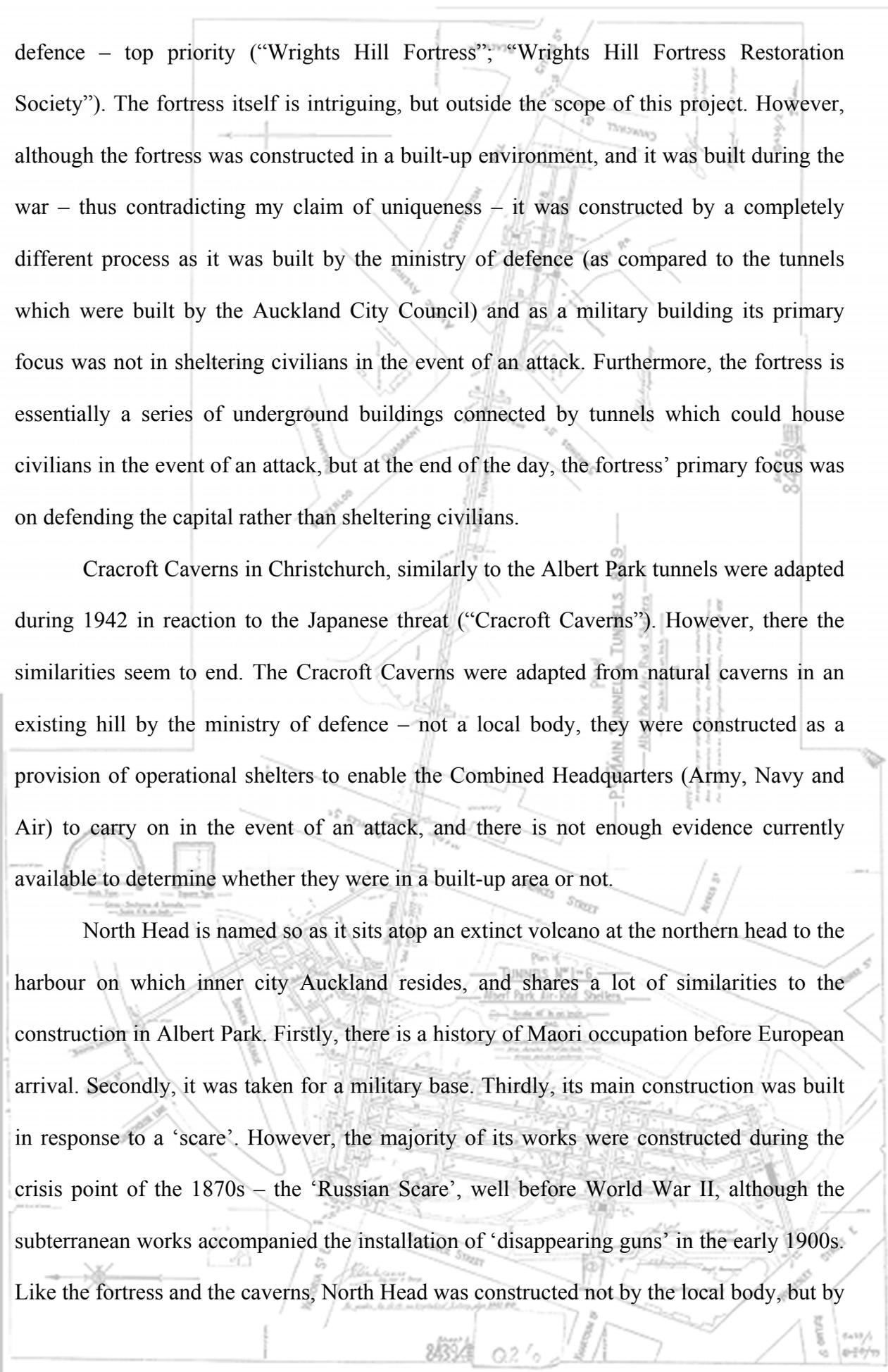
1) Unless otherwise stated, photographs were taken by this author

Historic values

Perhaps most important to the tunnels are their historic values to Auckland, and to New Zealand. The tunnels are a link to the past in regards to the society at the time, and especially the parts that were not recorded. The historic values of the site are mostly linked to its individualism and high level of rarity, both at a local and at an international level.

During the 'terror' that was apparent during the Second World War, huge amounts of capital were invested in the defence of New Zealand while its fighting men were off on duty. The tunnels were not the only establishments constructed at the time, with a large network being constructed around and in the Waitamata harbour on which Auckland City sits. Major fortifications include a battery above the tunnels in Albert Park (completely separate to the tunnels), batteries on the north shore, as well as on various harbour islands, such as Motutapu, Motohui, and Waiheke island which were curiously designed so that a scouting vessel would enter the cluster of islands and have nearly entered the harbour itself before coming into range of the guns (which were placed on the landward side of islands) where it would be attacked by a circle of batteries surrounding them. Most of these batteries were decommissioned and deconstructed after the war. However, the Albert Park tunnels are unique at a local level for four main reasons: the tunnels were constructed by the council, the tunnels were an air raid shelter, the tunnels were in the dense inner city, and the tunnels were constructed during the war. Although other constructions in New Zealand meet some of those criteria, only the tunnels meet all four, with the only comparable examples in New Zealand being the Wrights Hill Fortress, Cracroft Caverns, North Head, and Stony Batter.

Wrights Hill Fortress is in suburban Wellington. It was initially conceived in 1934, but due to the enormous costs involved in the creation of a fortress this was delayed continuously until the outbreak of World War II when in 1939 it was considered – like all



defence – top priority (“Wrights Hill Fortress”; “Wrights Hill Fortress Restoration Society”). The fortress itself is intriguing, but outside the scope of this project. However, although the fortress was constructed in a built-up environment, and it was built during the war – thus contradicting my claim of uniqueness – it was constructed by a completely different process as it was built by the ministry of defence (as compared to the tunnels which were built by the Auckland City Council) and as a military building its primary focus was not in sheltering civilians in the event of an attack. Furthermore, the fortress is essentially a series of underground buildings connected by tunnels which could house civilians in the event of an attack, but at the end of the day, the fortress’ primary focus was on defending the capital rather than sheltering civilians.

Cracroft Caverns in Christchurch, similarly to the Albert Park tunnels were adapted during 1942 in reaction to the Japanese threat (“Cracroft Caverns”). However, there the similarities seem to end. The Cracroft Caverns were adapted from natural caverns in an existing hill by the ministry of defence – not a local body, they were constructed as a provision of operational shelters to enable the Combined Headquarters (Army, Navy and Air) to carry on in the event of an attack, and there is not enough evidence currently available to determine whether they were in a built-up area or not.

North Head is named so as it sits atop an extinct volcano at the northern head to the harbour on which inner city Auckland resides, and shares a lot of similarities to the construction in Albert Park. Firstly, there is a history of Maori occupation before European arrival. Secondly, it was taken for a military base. Thirdly, its main construction was built in response to a ‘scare’. However, the majority of its works were constructed during the crisis point of the 1870s – the ‘Russian Scare’, well before World War II, although the subterranean works accompanied the installation of ‘disappearing guns’ in the early 1900s. Like the fortress and the caverns, North Head was constructed not by the local body, but by

the Ministry of Works and the Ministry of Defence; its primary focus was to prevent attacking ships from entering the harbour rather than to shelter civilians; although it was built fairly close to a built-up area (North Head; North Head – Takapuna).

Lastly, is Stony Batter on Waiheke Island. Effectively, it shares no similarities with the Albert Park Tunnels as it was constructed by the ministry of defence, it is at the rural end of the island, not the urban end, it was developed in the early 1930's, and its purpose was to take advantage of new long-range cannons, rather than the sheltering of civilians. The big similarity is simply that it has a tunnel complex under the battery from where the battery was operated and stocked ("Stony Batter", "Stony Batter Historic Reserve", and "Waiheke Battery").

Europe and Britain, however, suffered no 'terror' – they suffered the real thing, such as the Blitz and the Berlin Raids. As a result, both have similar establishments to the Albert Park Tunnels, but when considered using the criteria of being a tunnel complex for the purpose of sheltering civilians, constructed during World War II by a civilian council rather than a national ministry, and were built in a dense area, as far as research could determine, the Albert Park Tunnels are still unique and as a result, rare. It should be noted that there was only limited research to come out of Germany, it seems that German experts are unwilling to discuss the Second World War, so the bulk of the information on German complexes come from British authorities.

Firstly, there are a range of air raid shelters in Britain dating to the World War II period, recorded by the Council for British Archaeology, so there are subterranean buildings with a similar purpose built during a similar period, but none of these are tunnels. Six school shelters (one room buildings) and two converted cellars are recorded, suggesting that the trend in Britain seems to have been for small shelters at periodic

intervals rather than a single very large tunnel complex with entrances at periodic intervals. Also, the buildings were constructed mostly by civilians but often under order or supervision of a government ministry, so once again differ enough from Albert Park Tunnels to make them unique.

Second are the Wymering Tunnels in Portsmouth (“Pourtsdown Tunnels”). Built outside the town centre in an old chalk pit, against a sheer chalk face, by a civilian commercial company, the tunnels were designed to accommodate 2565 people on a presumably long-term basis – there were three tier bunk beds, first aid and canteen facilities suggesting that this would be needed for extended periods at a time. Although it was constructed by a non-government agency in World War II, and was a tunnel complex designed as a shelter for civilians, it was not constructed in a built-up area, making it significantly different from the Albert Park Tunnels.

Thirdly, in Kent there are a number of sites (“WWII sites”) which were air raid shelter tunnels constructed for sheltering civilians, and a number were in built-up areas, during the war, but these are few and far between. Many of them have now been vandalised and/or demolished and the majority of the remaining structures are military or state compounds. Only the military and state compounds actually had more than one tunnel, with the majority of the other tunnels being simply a single tunnel that either ran in a straight line with two entrances, or ran in a zigzag pattern downwards.

Also, emails from the National Trust (Cawser 2007), and the Council for British Archaeology (Charno 2007; Langley 2007) announced that in Britain there is no interest in tunnel systems from World War II, and not a lot is known about the tunnel complexes. The Imperial War Museum (Eddisford 2007) and the London Transport Museum (Resource Desk 2007) both state that the focus of the blitz was on London and in London no civilian shelter complexes were constructed during the war although the tube had some stations

converted into shelters during this period. However, as more and more complexes deteriorate or are demolished, the Albert Park Tunnels will become even rarer as an artefact from the war.

In Germany, there is not a lot known about tunnel complexes, but all of the tunnel complexes recorded have been military establishments which have also occasionally sheltered civilians (“Nordhausen KZ tunnels – V 2 factory”; “Tunnel and Shelter Researching”), so it would appear from the limited information available that in Germany there are no complexes similar to the Albert Park Tunnels.

Lastly, in Newhaven are a series of tunnels running under the town (“Row erupts over WWII tunnel plans”) which were not for civilian shelter, were built by the navy as a secret naval base, but were built in World War II in a built up area and although not similar to the Albert Park Tunnels, are important to this study as these tunnels are undergoing similar conservation issues.

Archaeological values

Although the vast majority of the values in this site seem to be historical, there is a significant amount of archaeological value present in the site. The park above the tunnels as previously mentioned dates back to at least the mid 19th Century, but the tunnels themselves could provide (through an archaeological investigation) information about the building techniques during the war and what sort of life people lived (as exhibited through the artefacts left in the tunnels) and lend itself to local civilian history for the period, as well as act as a case study for historical archaeology.

Maori values

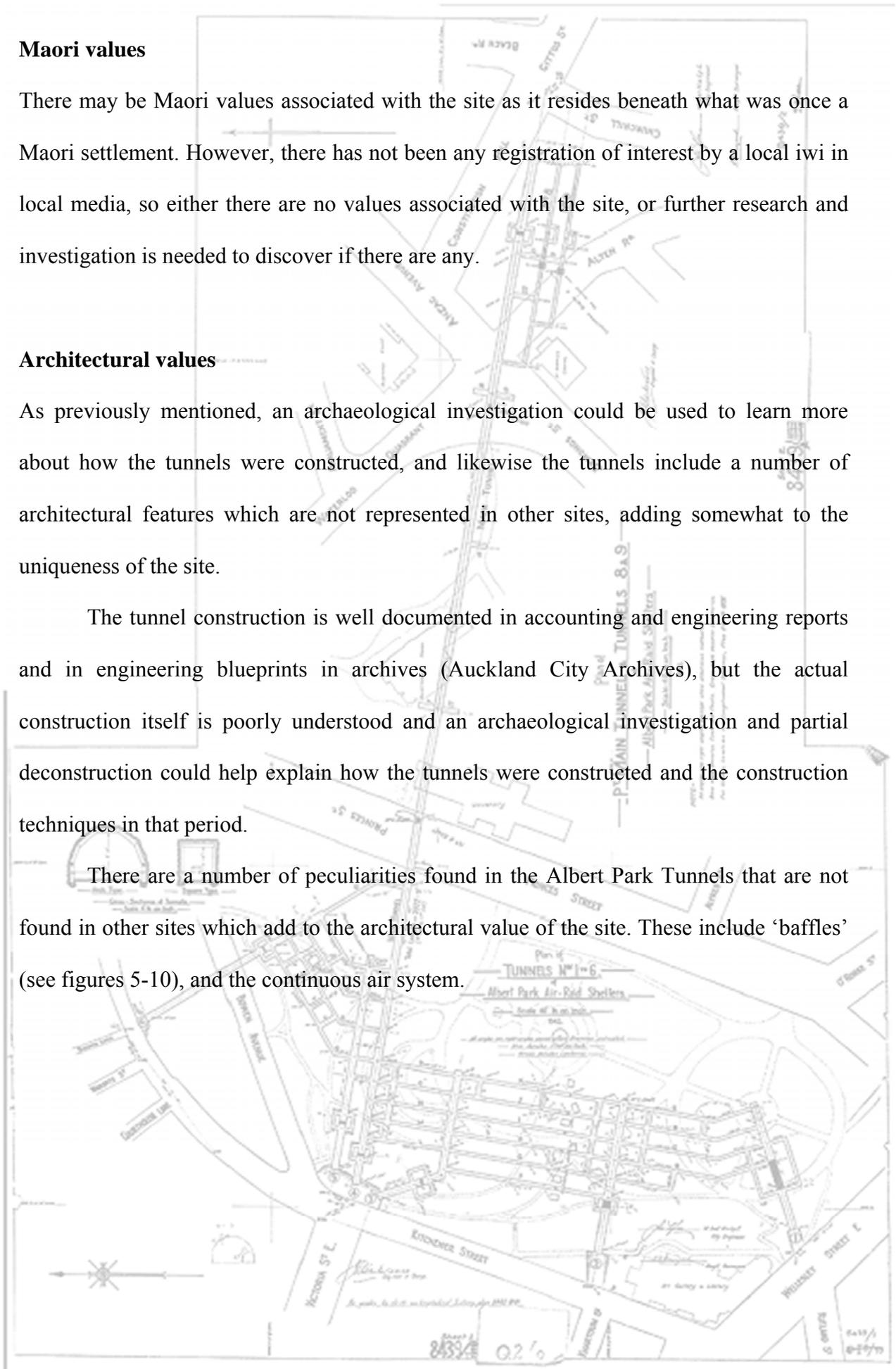
There may be Maori values associated with the site as it resides beneath what was once a Maori settlement. However, there has not been any registration of interest by a local iwi in local media, so either there are no values associated with the site, or further research and investigation is needed to discover if there are any.

Architectural values

As previously mentioned, an archaeological investigation could be used to learn more about how the tunnels were constructed, and likewise the tunnels include a number of architectural features which are not represented in other sites, adding somewhat to the uniqueness of the site.

The tunnel construction is well documented in accounting and engineering reports and in engineering blueprints in archives (Auckland City Archives), but the actual construction itself is poorly understood and an archaeological investigation and partial deconstruction could help explain how the tunnels were constructed and the construction techniques in that period.

There are a number of peculiarities found in the Albert Park Tunnels that are not found in other sites which add to the architectural value of the site. These include ‘baffles’ (see figures 5-10), and the continuous air system.



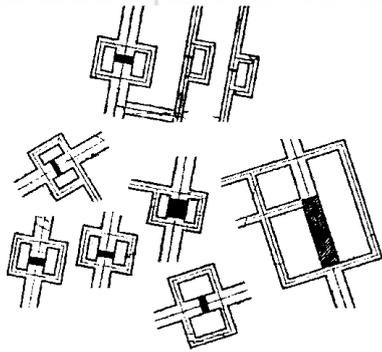


Fig. 5 illustrations of 'baffles'

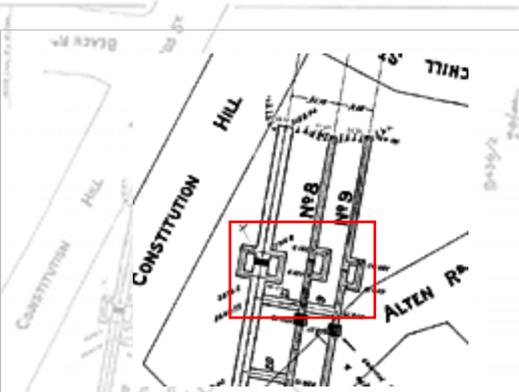


Fig. 6 enlargement of Altern Rd entrance to tunnel complex with three 'baffles' encompassed inside red box

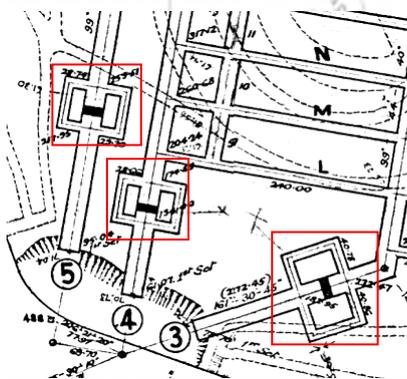


Fig. 7 enlargement of entrances 3, 4 & 5 to tunnel complex with three individual 'baffles' isolated in red boxes

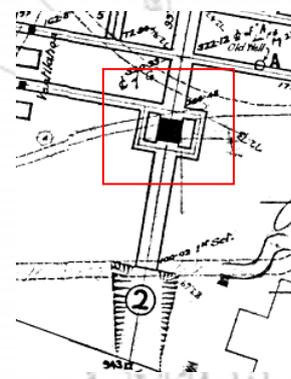


Fig. 8 enlargement of entrance 2 to tunnel complex with 'baffle' isolated in red box

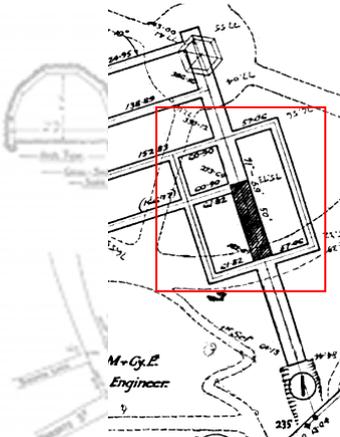


Fig. 9 enlargement of entrance 1 to tunnel complex with 'baffle' isolated in red box

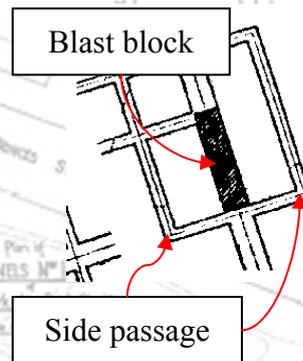


Fig. 10 annotated 'Baffle'

2) Images scanned from original plans by Bourke with the assistance of Tonks, sourced from Bourke (a)

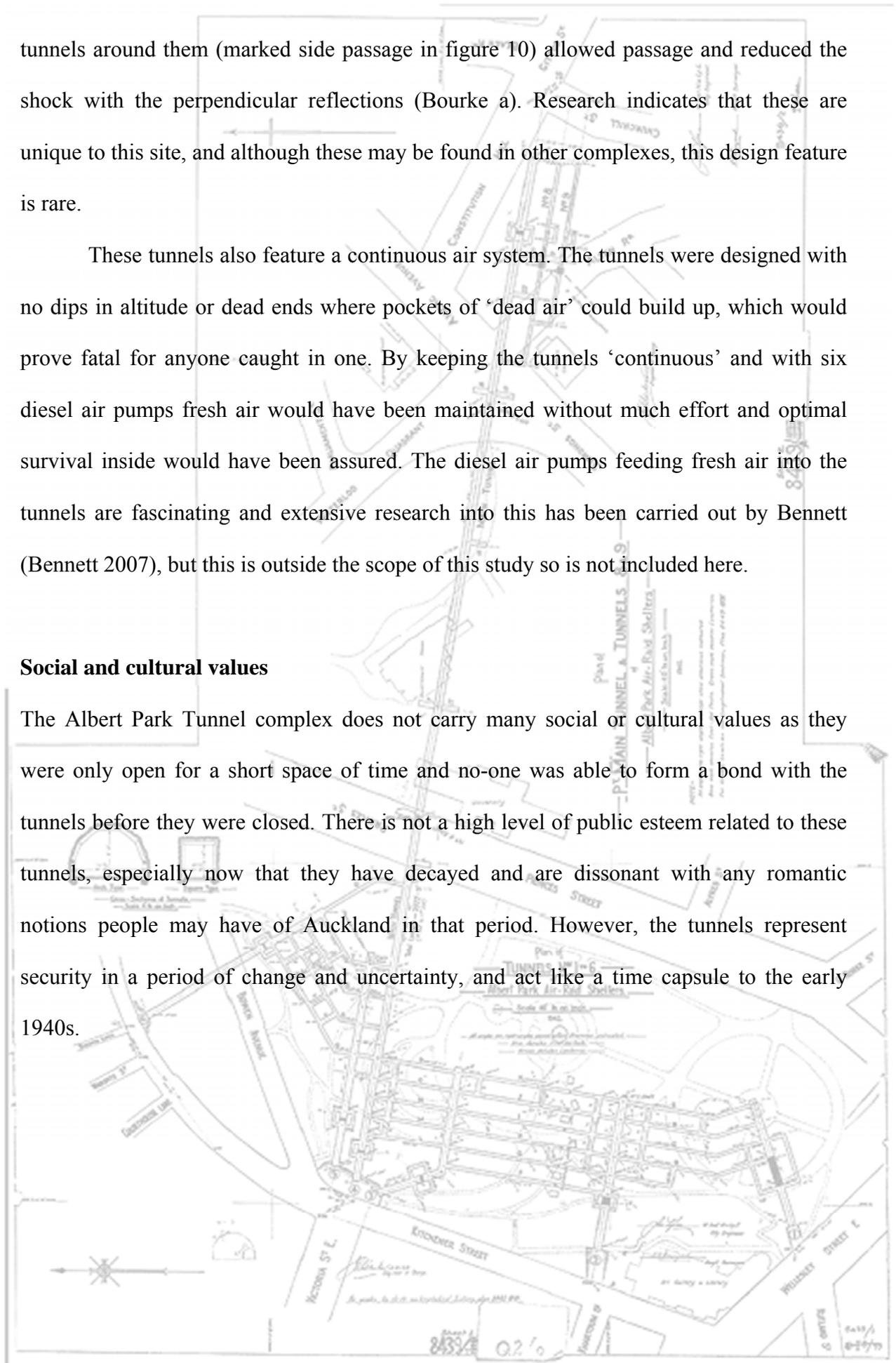
The tunnel complex, unlike many other air raid shelter complexes, does not have blast doors, but instead has 'baffles'. The baffle is a block in a tunnel constructed from wood, lead and stone to absorb the shock wave in the event of a bomb blast. The small

tunnels around them (marked side passage in figure 10) allowed passage and reduced the shock with the perpendicular reflections (Bourke a). Research indicates that these are unique to this site, and although these may be found in other complexes, this design feature is rare.

These tunnels also feature a continuous air system. The tunnels were designed with no dips in altitude or dead ends where pockets of 'dead air' could build up, which would prove fatal for anyone caught in one. By keeping the tunnels 'continuous' and with six diesel air pumps fresh air would have been maintained without much effort and optimal survival inside would have been assured. The diesel air pumps feeding fresh air into the tunnels are fascinating and extensive research into this has been carried out by Bennett (Bennett 2007), but this is outside the scope of this study so is not included here.

Social and cultural values

The Albert Park Tunnel complex does not carry many social or cultural values as they were only open for a short space of time and no-one was able to form a bond with the tunnels before they were closed. There is not a high level of public esteem related to these tunnels, especially now that they have decayed and are dissonant with any romantic notions people may have of Auckland in that period. However, the tunnels represent security in a period of change and uncertainty, and act like a time capsule to the early 1940s.



Scientific values

The tunnels also carry significant scientific value, not just within the tunnels but the area they are in. As previously mentioned, the tunnels would be able to provide information regarding construction techniques from the period, but the tunnels would also be able to provide information to the scientific community. Since the tunnels have been closed for 61 years and reports indicate that it is not air-tight, an eco-system has possibly developed inside, and this could be of use to ecologists and speleologists (Crossley 2007), but it could also be used to study the sandstone ridge that runs beneath the park, created by the volcanic explosion previously mentioned (Bennett 2007; Crossley 2007; Farrant 2007; Tonks 2007). Research has indicated that not a lot is known about the geology of the ridge on which the park was built (Crossley 2007), and related information would prove highly valuable to an engineer preparing a report for development opportunities (Bennett 2007, Tonks 2007). Also, by removing and studying the unfired clay bricks (some of which may still be soft) studies could be done into the environment at the time. Swabey (2007) suggests that the clay probably came from the Grey Lynn area, according to a potter friend of his, and so study of the clay could confirm or challenge this and could provide valuable information to the field of environmental science by giving them a snapshot of the early 1940s.

Discussion

If the tunnels are not to be conserved due to their values mentioned above, then the threat of collapse could provide a catalyst. In 2005 there were a series of soil collapses in the park, which were subsequently splashed across the front page of various media (Auckland City Council 2005) which were the result of subsidence of soil into the old ventilation air shafts by the erosion of water (Bennett, 2007; Farrant 2007; Millward 2005). As a result of these

collapses, ‘it is impossible to say if any of these original historic features remain, but I seriously doubt whether untreated timber and fabric will have survived to any degree. Nevertheless, we are taking a precautionary approach to possible historic value in all discussions with interested parties’ (Farrant 2007). Clearly not enough is known about the tunnels and a full-scale investigation would be appreciated by all parties interviewed. Conservation would be necessary following an investigation as the investigation would not be allowed to progress without structural reinforcing by engineers, and all parties consulted announced a preference for full conservation.

However, should the tunnels be preserved and stabilised, certain costs need to be taken into consideration, both financially and to the site itself. First of all, the question has to be raised: by excavating the tunnels, are they the same tunnels or have they been damaged the same as letting them collapse? This is a question of ethical theory which cannot be dealt with here, but the question needs to be raised nonetheless. However, it could be argued that by conducting a professional archaeological investigation while excavating the tunnel complex, although the tunnels would be damaged – and even more so by stabilising which would probably require concrete shells inside the tunnels (Crossley 2007; Tonks 2007) – they could be recorded just the same as any conventional archaeological site, except that in this case it is not a case of working vertically down into a site, but horizontally along a site.

Secondly, from a financial point of view, there is the matter of money. The general theory is that someone has to pay for anything that happens to the tunnels, and they will want something in return. Likely candidates for sponsorship are the University of Auckland who could use it for research, a government body (who would not be seeking something in return but paying as they currently ‘own’ the complex), and by private companies and individuals, who are relatively unlikely to not want the tunnels opened as

part of the process. Questions relating to the use of the tunnels should they be opened have splashed across the front page of media since 1946 when the tunnels were closed, and even now columnists mention what they would use the tunnels for, and transportation seems a common theme.

Swabey (2007) reports that the tunnels were in a fairly reasonable state when he was last inside, with a ‘small amount of roof collapse’, which seems small in volume, indicating that there is a possibility of the tunnels being reopened. This however, is in contrast with Tonks’ (2007) statement that he seriously doubted whether or not the tunnels would ever be able to be reopened, as the distance into the tunnel he was legally able to go indicated no problems, but depressions in the park approximately where the tunnels lie suggest that there has been heavy collapses in the tunnels making the tunnels structurally unsound. Crossley (2007) stated that the tunnels are not going anywhere and in theory can be opened without too much trouble except where the tunnels run through the old volcano and are surrounded by scoria. If the tunnels are going to collapse anywhere, it will be there. Bennett (2007) suggests that possibly a scoria seam was encountered in the tunnel construction as an area dug into produced a collapse that ‘just kept falling and falling, and they couldn’t stop it’ which was eventually plugged presumably with a concrete shell.

There are also two other areas where collapse is a problem: the old air shafts and the old well. As previously mentioned, soil has been subsiding into cavities in and around the old air shafts (such as under the blast cap (Bennett 2007)) which could prove a problem if not properly dealt with during excavations. During the original excavations, builders came across a brick wall while digging one of the minor tunnels (Bennett 2007; Bourke a). Rather surprised to discover a brick wall in a rock hill, they promptly tore a hold in it only to discover they had discovered a well dating to the barracks, and the hole was beneath the water line. Once the original flood had concluded, drains were constructed to drain any

water to the main drain on Kitchener Street and a brick cap placed on top of the well. This was disturbed some time in the 1970s when construction of a replica well in the park came through the ceiling of the tunnel (much to the surprise of the builders once again) and the replica was moved to one side of the tunnel. However, the possibility for a subsidence or full collapse through/around this hole is still a possibility.

The other big question regarding the tunnels is: what can be done with them? As previously mentioned there are some grandiose plans in existence, but there are four main issues surrounding use (as suggested by Swabey, 2007).

First is obtaining resource consent, which would prove difficult as the tunnels run under buildings within the Auckland University city campus and some of the merchant houses along Princes Street. A similar case provided itself in East Sussex (as mentioned above in “Row erupts over WWII tunnel planes”) where the secret naval base HMS Forward was built under Newhaven which in 1993 was denied to have existed by the Imperial War Museum and Ministry of Defence (Friends of HMS Forward). The problem is that there was no record of the tunnels until the late 1990s and so when Glynde Close was developed in the 1970s there was no knowledge of the tunnels and 24 houses were built above them. Now that the tunnels have been discovered, a community group want to open the tunnels and tell their story, and to install an exhibition of wartime artefacts. However, before the tunnels can be developed, permission is needed from all 24 residents, some of whom oppose the tunnels completely and want them filled in, for a variety of safety-related reasons, including: “I don’t like the idea of people walking about under your house anyway” and “But if I come to sell my house, it must be devalued”. This problem could very well occur in Auckland under the air raid tunnels as well.

Second, is removing the clay blocks. Swabey (2007) suggests that they could actually prove profitable if a buyer could be found and help fund other parts of an

excavation. Crossley (2007) also suggests selling the blocks, but also states that the blocks are just as important to the site as the physical tunnels, so maybe they should not leave, or a indicative sample be retained in the event of an exhibition of artefacts be held.

The third issue to be considered is the strengthening and stabilising of the roof to prevent further falls. This would need to be carried out by an engineering company (Bennett 2007; Tonks 2007) and most likely would result in major damage to the tunnels as a site. This makes it of paramount importance that the tunnels be excavated by a team of experts who would ensure that safety is kept to a correct level, but records of the site are simultaneously made.

Lastly, is the issue of using the tunnels for something, whatever that may be. Many people in the community have their eyes set on the tunnels, which is a prime piece of real-estate, but any development is going to require the consent of many agencies. The first issue is with the legislative history of the tunnels. Under the 1872 Auckland Improvement Trust Act, Albert Park is distinguished as being 'unalienable' – protecting it from ever being sold off to the highest bidder, which was edited in 1971 (Statutes of New Zealand 1971). In the late 1990s tourism promoter Mr Bill Reid approached Judith Tizard (Minister for Auckland Affairs) for a way around the 1872 act. Debates at length in Parliament whilst this was in discussion (New Zealand Parliamentary Debates a-c) where various members argued for the heritage values of the site without ever mentioning what they are. In 2001 an amendment to the act was passed declaring that the subsoil within the two parks (Altern Road Reserve and Albert Park) were different enough from the parks themselves to be considered separate from the parks and so not applicable under the same laws (New Zealand Parliament; Statutes of New Zealand 2001).

In the event that the tunnels are opened for transportation options, the benefits gained will be great but be limited mostly to the Auckland traffic system. However, the

costs will be great: the site will have to be destroyed and the tunnel concrete lined – and as only the main tunnel is of use to transport, the smaller tunnels will be concreted over, any study of the tunnels would have to occur during the initial excavation as it would become off-limits once the tunnels open, and in effect no other development could occur in the other parts of the tunnel due to the large concrete shell.

In the event that the tunnels are opened to the public as a pedestrian walkway/museum gallery of artefacts, once again the benefits would be great: the chance to educate the public about the history of the site, the shortcut under the university (and avoiding climbing the hill), but likewise the costs would be great. In all event, the tunnel would have to be concrete lined to OSH regulations and to prevent injury to people inside the tunnels, so the chance to research would be limited like the transport option, but the foundations would not be as great, so more of the tunnel could be preserved behind the concrete shell.

The third most popular suggestion regarding opening the tunnels to the public is as a tourist venture. Many parties interviewed are against this option, and are hoping that resource consent would never be granted to a developer. This option presents the greatest threat to conservation of the complex. Among the plans in Bennett's (2007) collection are the proposed plans of aforementioned venture. Although the tunnels would be excavated and a gallery established to display artefacts discovered, and a route be constructed for public transport, the rest of the venture includes constructing a mall beneath the park, constructing a black-water-rafting ride, and massive extensions to the current tunnels which would destroy the tunnels as they currently exist. The benefits are numerous but do not outweigh the costs. Information could be gathered from the investigation and the artefacts, and transportation could benefit the city as a whole, but the loss of such a unique site with such rare features would be disastrous.

A final possibility is of preserving and stabilising the tunnels but not opening them to the public. This could be possible with lottery grants and help from the New Zealand Historic Places Trust. This would involve, like the other possibilities, excavation and study of the site, but this would finish with the tunnels being resealed with a full report put in the Historic Places Trust database (available to the public online) and detailed signs being posted around the sites alongside books being written on the matter. This is not a common method, but the site in question is not a common one either, so the rarity of the site and the values present in it need to be considered in all activity and this seems the least likely to negatively impact the complex.

Conclusions

The real-estate agent's motto of "location, location, location" certainly becomes apparent when discussing and exploring the heritage values of sites in a built-up environment, for any number of reasons, such as the commercial value of the land, the number of people likely to have an interest in the site, and the environmental factors that built-up surroundings produce. In ancient or prehistoric sites, the heritage values are more easily seen, discussed and explored. But in sites which are less than 100 years old, the values are not immediately apparent and general public apathy is something to be contended with. The Albert Park Air Raid Shelters at 66 years of age are an example of such an event and has been discussed and explored as a case study along the guidelines of the New Zealand Historic Places Trust (Historic Places Trust p71).

The archaeological values of sites younger than 100 years and built in a built-up environment (as exhibited by the Albert Park Tunnels) are clearly of value to historic archaeology, and in this example, of considerable interest to building archaeology.

Secondly, the architectural values of such sites link back to archaeology, and the joint venture of these two very distinct fields can provide information relating to the techniques and methods used in the past. Also, individual features of a site, such as the case study's 'baffles' and the continuous air system are 'representative examples of a period' (Historic Places Trust), plus the fact that the tunnels are not an isolated event, but part of a 'terror' landscape constructed and maintained in the Auckland Region during the war.

The bulk of the values for any site classified as historic archaeology will be historic, and the case study proves no exception. The initial observation is that the site provides a link to the past and can act to inform about the period, but as a link to the past, and as an example of the past, the site may be rare or unique, as is the case in the Albert Park Tunnel complex as it has local and national importance as there does not appear to be a similar structure in Auckland or New Zealand, and likewise importance as an individual on an international scale, as Britain and Germany (chosen as the countries most likely to have intact civilian air raid shelters constructed in a built up area during the Second World War) do not appear to have similar complexes either, making the case study an individual, unique and thus rare.

Thirdly are the Maori values. This varies from site to site and from iwi to iwi. In the case of the studied site, the local iwi have not appeared in any media declaring their values on the subterranean site, but they are included in the resource management process, so any Maori values that are not explicit would be discussed on consultation with them at that time.

As a carrier of scientific values the case study is a good example. Its ability to convey technical value, to act as a representative example of construction technique, and to provide information about past activity are excellent. In theory a site with many scientific

values should be able to be used as a case study by academics other than archaeologists. The case study has the potential to provide information to ecologists about cave system ecosystems, speleologists as an example of a man-made cave and the processes that are withstood as such, geologists as the tunnels run through the remains of a volcano and a geologically-rich field, and environmental scientists as a study of natural processes on a man-made cave system.

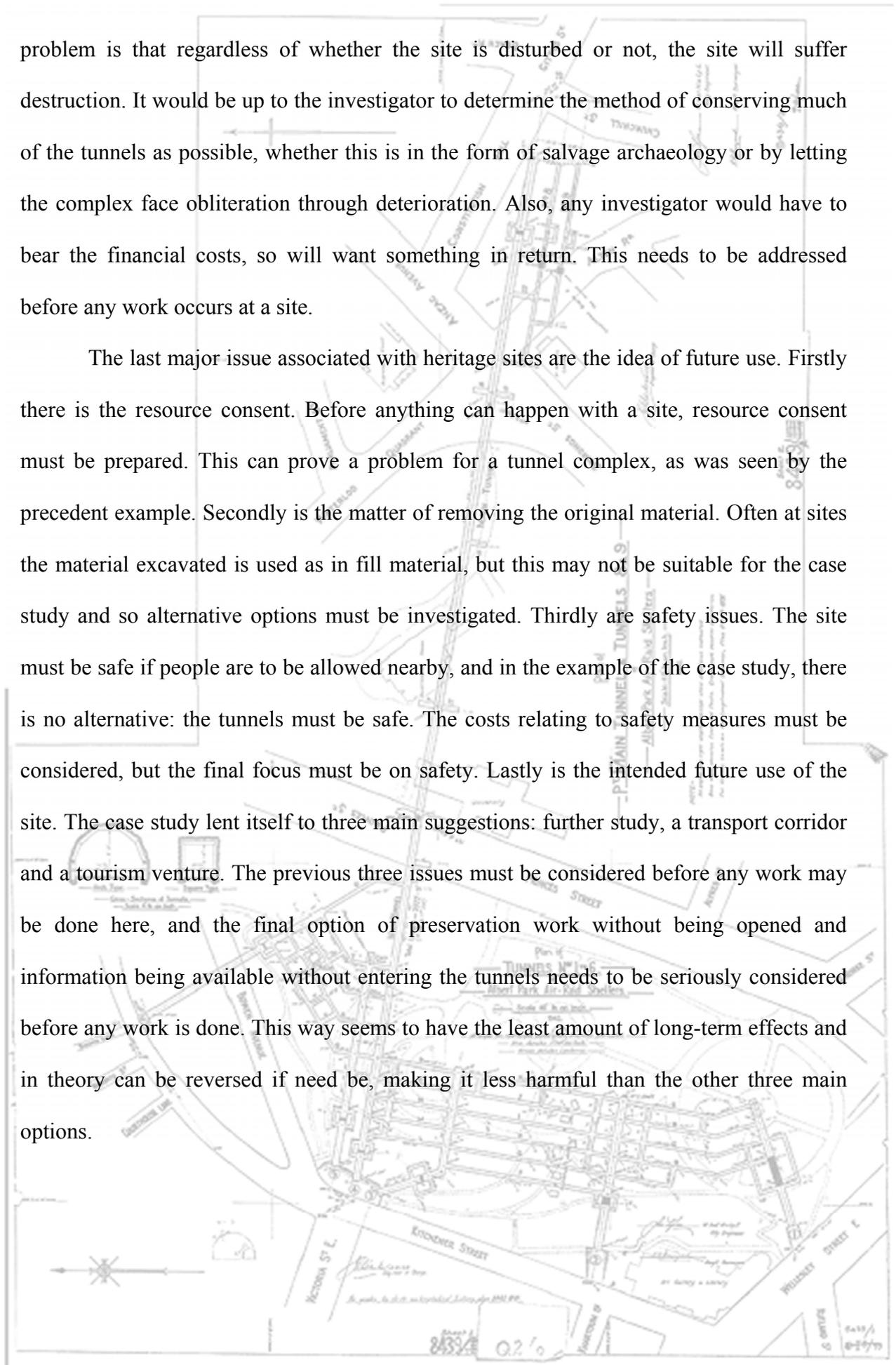
Lastly are the social and cultural values. The public esteem; the symbolic, commemorative, traditional, spiritual and cultural values of a site for people in the community; and the ability to demonstrate aspects of change (or continuity) in a way of life in New Zealand cannot be underestimated. The case study is not a particularly good example of a site with social and cultural values, but this is possibly because it is a site that had no societal interaction. Its construction period was from 1941 until it was sealed in 1946 meaning only the builders saw the inside, and so the rest of opinions regarding the complex can be disregarded as romanticism (excluding the few who have ventured inside in the intervening 61 years). This site could act as a representation of sites with no societal interaction (directly) and could contribute to sociological studies of the Auckland area.

The major issues associated with heritage sites also have to be considered, like that surrounding advanced deterioration. The case study is a good example of this as if they were left to deteriorate and collapse, they could prove dangerous not just immediately around them, but also through subsidence or collapse could destroy the roads above them and in the surrounding area. However, the discussion as to how much damage conservation brings needs to be considered in any investigation into such a site.

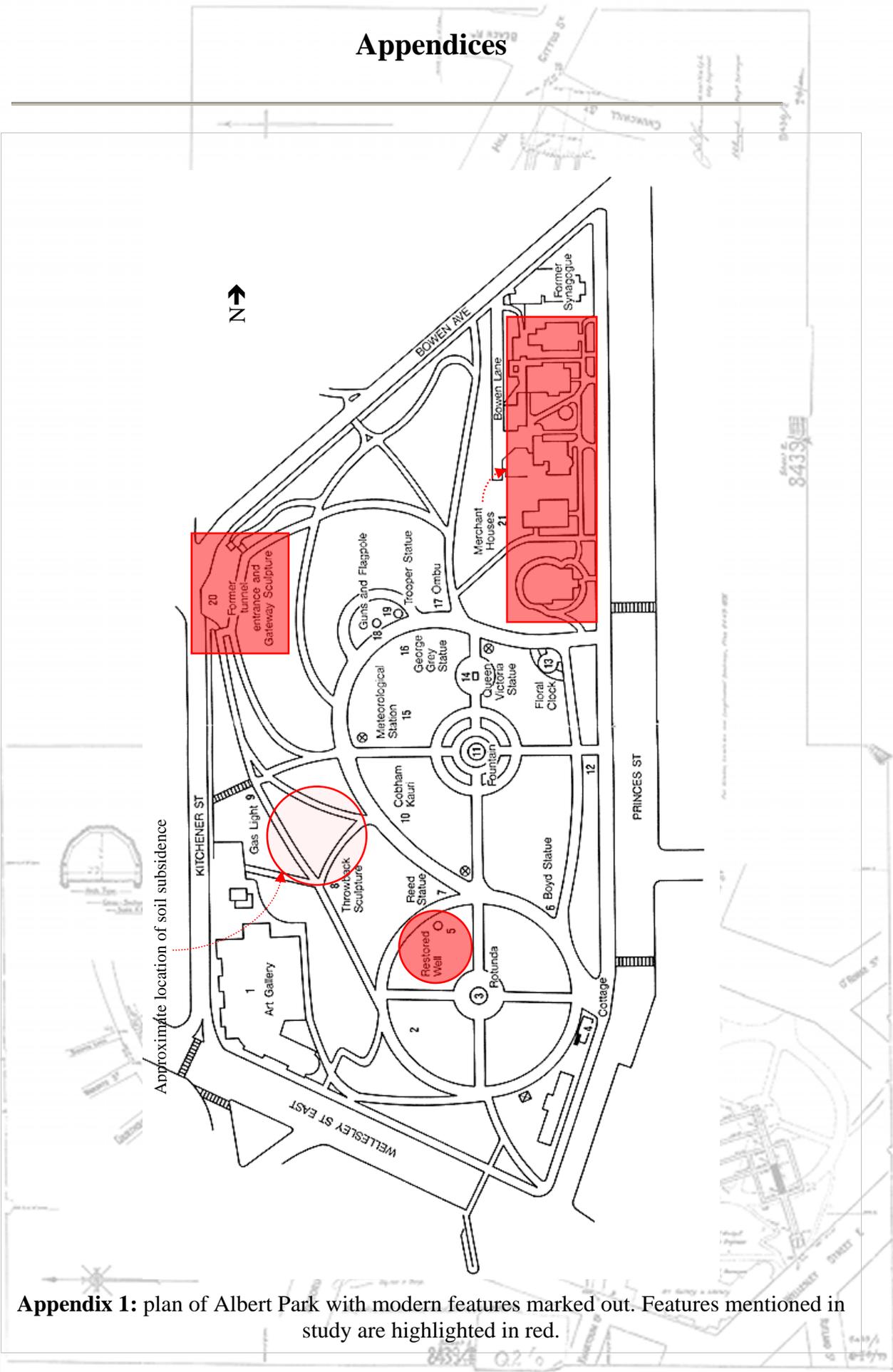
Another major issue associated with heritage sites are the costs. These come two-fold: cost to the site through destruction and the financial cost to the investigator. The

problem is that regardless of whether the site is disturbed or not, the site will suffer destruction. It would be up to the investigator to determine the method of conserving much of the tunnels as possible, whether this is in the form of salvage archaeology or by letting the complex face obliteration through deterioration. Also, any investigator would have to bear the financial costs, so will want something in return. This needs to be addressed before any work occurs at a site.

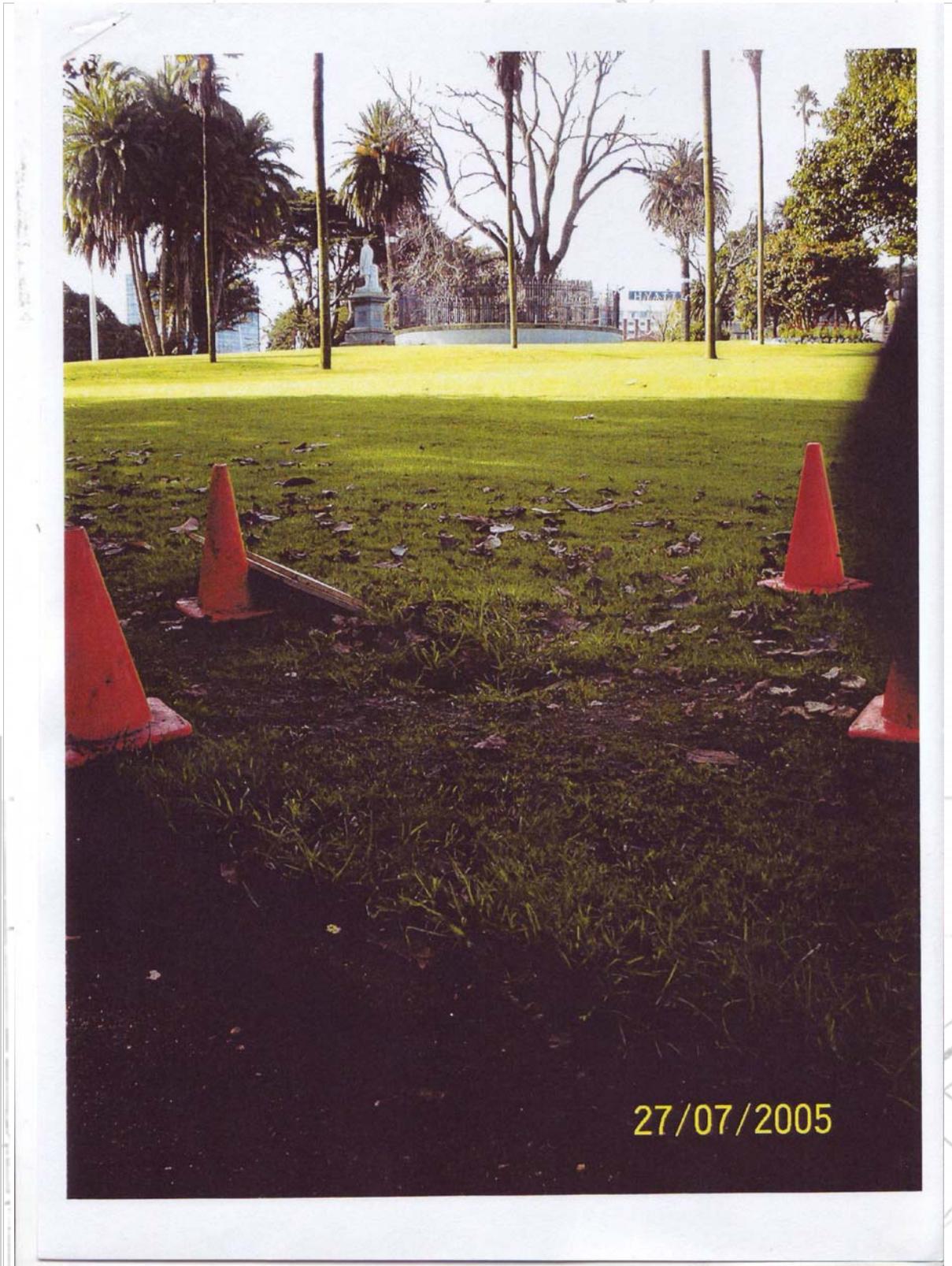
The last major issue associated with heritage sites are the idea of future use. Firstly there is the resource consent. Before anything can happen with a site, resource consent must be prepared. This can prove a problem for a tunnel complex, as was seen by the precedent example. Secondly is the matter of removing the original material. Often at sites the material excavated is used as in fill material, but this may not be suitable for the case study and so alternative options must be investigated. Thirdly are safety issues. The site must be safe if people are to be allowed nearby, and in the example of the case study, there is no alternative: the tunnels must be safe. The costs relating to safety measures must be considered, but the final focus must be on safety. Lastly is the intended future use of the site. The case study lent itself to three main suggestions: further study, a transport corridor and a tourism venture. The previous three issues must be considered before any work may be done here, and the final option of preservation work without being opened and information being available without entering the tunnels needs to be seriously considered before any work is done. This way seems to have the least amount of long-term effects and in theory can be reversed if need be, making it less harmful than the other three main options.



Appendices

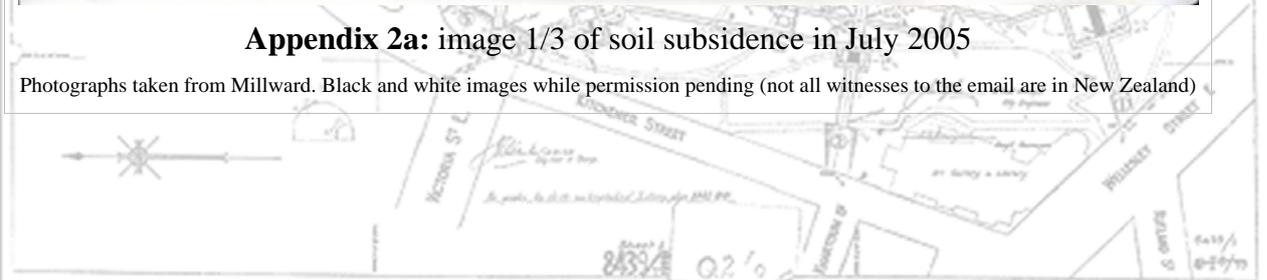


Appendix 1: plan of Albert Park with modern features marked out. Features mentioned in study are highlighted in red.



Appendix 2a: image 1/3 of soil subsidence in July 2005

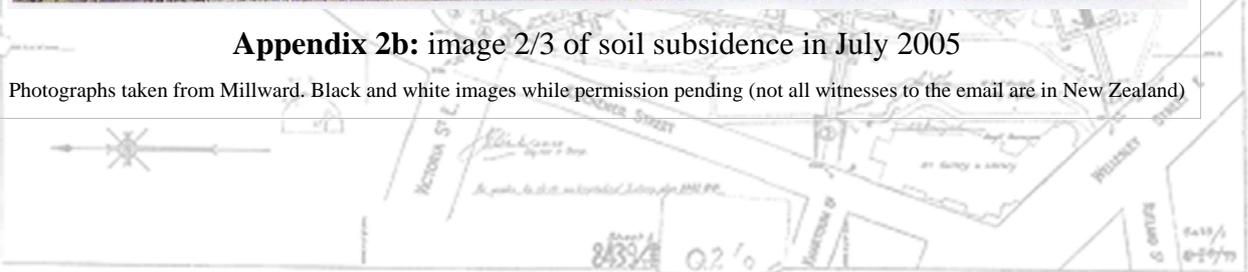
Photographs taken from Millward. Black and white images while permission pending (not all witnesses to the email are in New Zealand)





Appendix 2b: image 2/3 of soil subsidence in July 2005

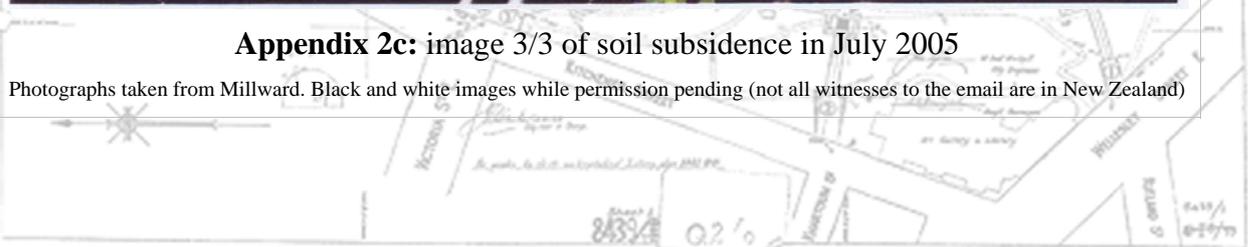
Photographs taken from Millward. Black and white images while permission pending (not all witnesses to the email are in New Zealand)

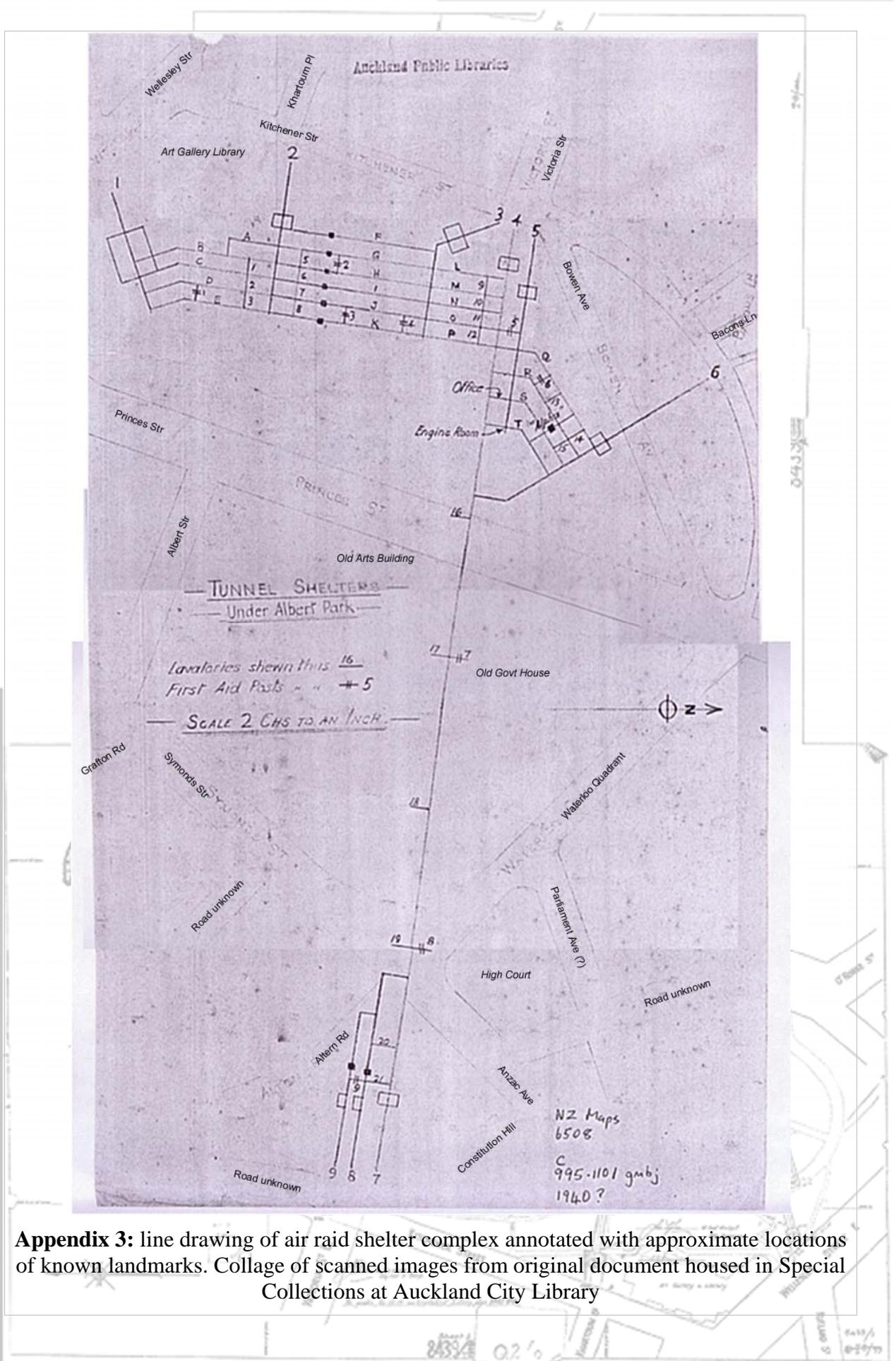




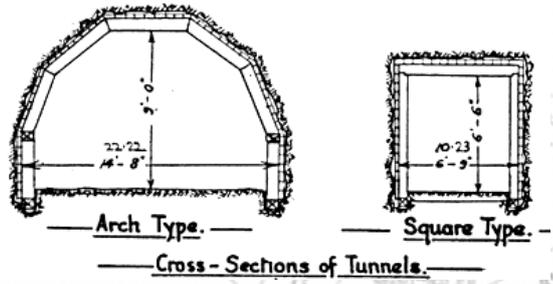
Appendix 2c: image 3/3 of soil subsidence in July 2005

Photographs taken from Millward. Black and white images while permission pending (not all witnesses to the email are in New Zealand)





Appendix 3: line drawing of air raid shelter complex annotated with approximate locations of known landmarks. Collage of scanned images from original document housed in Special Collections at Auckland City Library



Appendix 4: cross-section of tunnels. Taken from Bourke



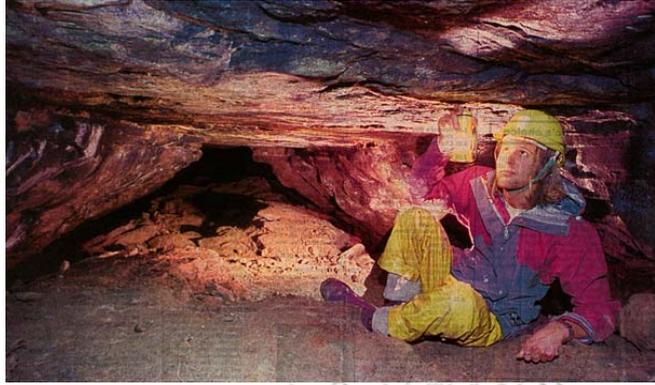
Appendix 5a: image 1/5 from within tunnels. Taken from Bourke



Appendix 5b: image 2/5 from within tunnels. Taken from Bourke



Appendix 5c: image 3/5 from within tunnels. Taken from Bourke



Appendix 5d: image 4/5 from within tunnels. Taken from Bourke



Appendix 5e: image 5/5 from within tunnels. Taken from Bourke



Appendix 6: images of entrance at Constitution Hill. Taken from Bourke



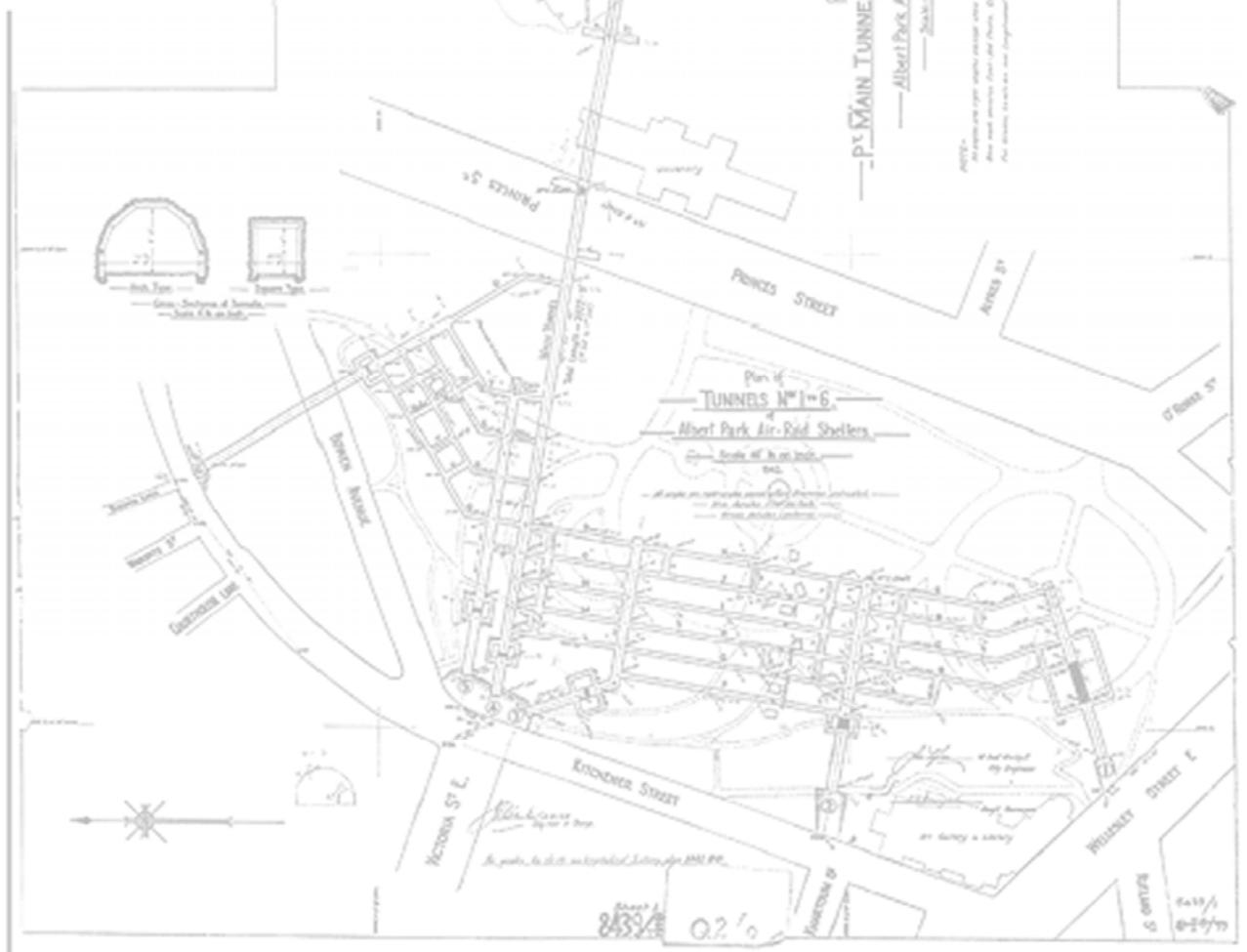
Appendix 7: images of entrance at Constitution Hill. Taken from Bourke



Appendix 8: Kitchener Street entrance to tunnel complex with inspection hatch installed. Taken from Bourke



Appendix 9: Kitchener Street entrance to tunnel complex before inspection hatch was installed. Taken from Bourke





Appendix 10: Satellite imaging of The University of Auckland and Albert Park with park blue-print overlaid. Suspected collapse marked with blue circle. Subsidence marked with red circle.

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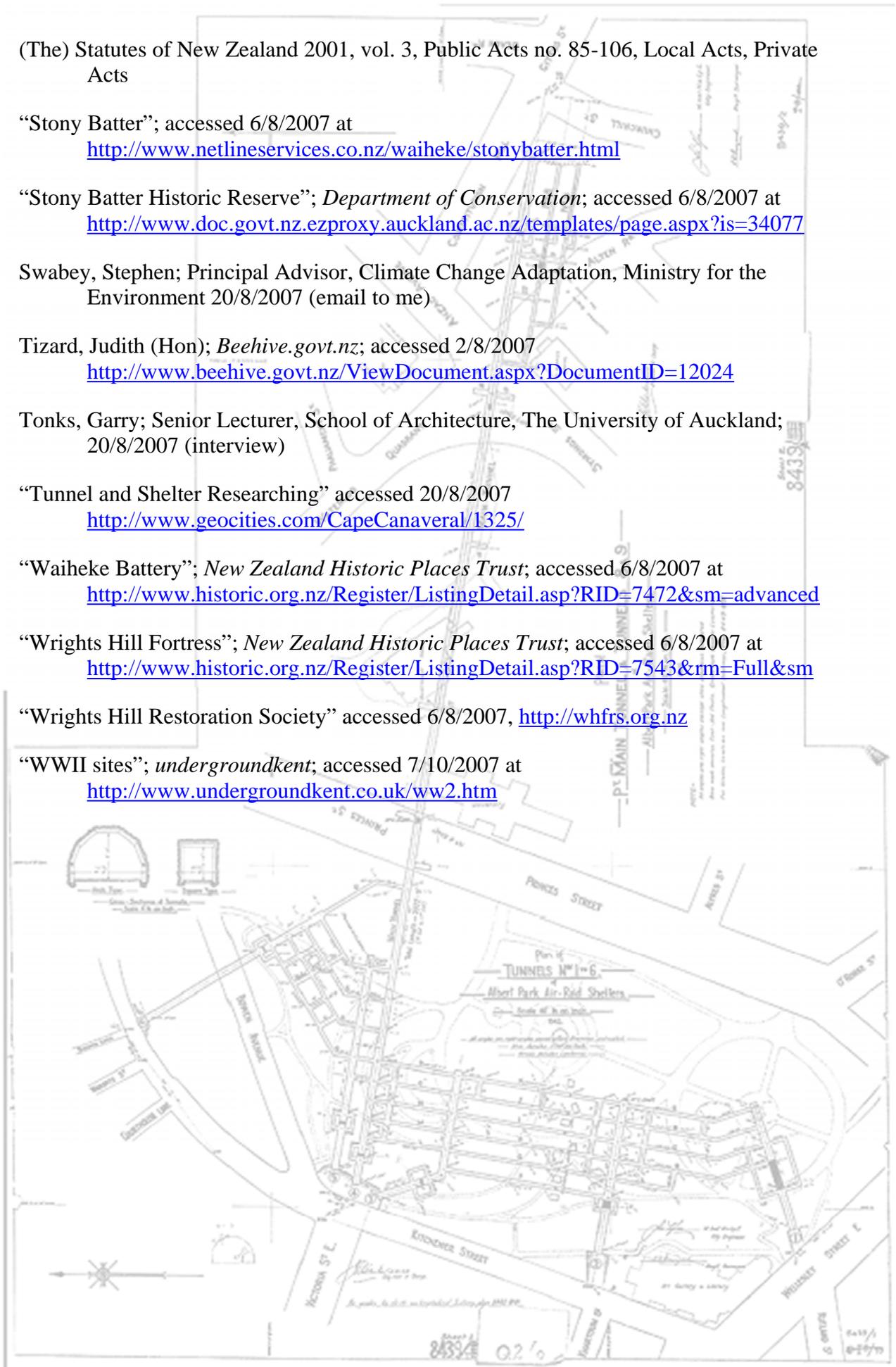
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