SOUTH AFRICA'S BATTLE OF THE ATLANTIC: 1939-1945
A SURVEY OF THE CAPE PENINSULA'S WWII HERITAGE

By

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In 1939, the Union of South Africa was caught unprepared for war. With the full weight of the Commonwealth's resources dedicated to the defense of the British Isles, the Union Defense Force (UDF) was tasked with defending the Empire's vital supply lines through the Southern Ocean. Although the Union joined the war on the side of the Allies, ethnic and political turmoil left the extent of its participation in question. With Allied shipping under attack from German submarines, the Special Signals Service (SSS) was formed to develop and deploy a chain of Range and Direction Finding (RDF – aka. Radar) defenses along the South African coastline. Furthermore, a series of High Frequency Direction Finding (Huff-Duff) stations were constructed to intercept and decode high-band radio transmissions from enemy submarines. In the years following the end of the war, however, these sites were slowly abandoned to the mercy of destructive forces, with only a handful having received any form of modern archaeological documentation. As these sites continue to deteriorate, so too does their historic and community value, as well as the potential of future archaeological research to glean meaningful scientific insight.

As such, fifteen World War II sites throughout South Africa's Cape Peninsula were surveyed and documented for this thesis. Condition reports and digital records were created for each site, establishing a baseline from which to monitor future degradation. In addition to the

standard recording methods, several metrics were logged for each site including: structural integrity, legal protection status, and site accessibility. Through the comparison of sites according to these metrics, this study is able to draw baseline conclusions for long-term survivability. Despite various levels of legal heritage protection across the survey dataset, only structures with active conservation programs survived better than those with any degree of legal protection but no conservation. Further, remote sites were significantly less affected by cultural processes than those located nearby metropolitan areas.

In addition to this archaeological recording, an archival search for primary source materials relating to RDF stations and coastal defenses was conducted from several document repositories throughout the Cape Peninsula. As part of this process, a survey of newsprint sources was conducted in order to ascertain the influence of the U-boat war on the maritime landscapes of the Cape. In this way, the actions of South African civilians were gauged as they reflexively responded to the perceived risks of the surrounding maritime landscape.

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ANC – African National Congress

ALP – African Labor Party

DP – Dominion Party

GSWA – German Southwest Africa

Huff-Duff – High Frequency Direction Finding

HWC – Heritage Western Cape

ISL – International Socialist League

MCL – Maritime Cultural Landscape

NMC – Native Military Corps

PNP – Afrikaner Purified Nationalist Party

RDF – Range and Direction Finding (British)

RADAR – Radio Detection and Ranging (American)

SACP – South African Communist Party

SASS – South African Signal Services

SSS – Special Signal Services

UDF – Union Defense Force

USANP – United South African National Party

1 Introduction

1.1 The Invisible Legacy

Tucked into the cliffs and hills of South Africa's rugged coastline lie the remnants of over 30 Range and Direction Finding (RDF) stations that once scanned the seas and skies for enemy activity throughout the Second World War (Austin 2016:79). Seventeen of these stations were constructed within the Western Cape Province to protect its major ports and monitor shipping traffic transiting the Cape of Good Hope. By the end of the war there were 1621 ranked personnel and officers operating these stations, of which 535 were women (Mangin and Lloyd 1998:10). At the time, the inclusion of women to this degree in specialist operations was unheard of within the South African military. Further, most of these RDF stations were protected by members of the Native Military Corps (NMC). In a similarly unique position, these native African soldiers were the first non-whites in the Union Defense Force (UDF) allowed to carry weapons and serve in combat roles (Mangin and Lloyd 1998:11). That these stations were constructed during an era marked by social and racial oppression makes these dynamics all the more exceptional. Despite this marked degree of inclusion and cooperation however, the stations were nevertheless highly segregated in both their design and operation.

Following the end of the Second World War, these installations gradually fell into disrepair. According to archival research, most of these legacy stations had been demolished or abandoned by the 1960s. Of those that survived the initial demolition, few have received meaningful protection, with most having been left to the mercy of destructive forces. Despite this lack of protection, these sites still possess sizeable remains from which significant information and historic value may yet be gleaned. Though few were kept in operation following the end of

the war, each existed as a brief, yet rare example of cohesion and conflict in an age of prejudice. In this way, these coastal installations previewed political and societal changes decades before they could be seen throughout the rest of South African society. Accordingly, they possess substantial national and cultural value that should not be so readily left to its inevitable demise.

At present however, these RDF stations have been largely forgotten. While their remote, often isolated locations have helped protect them from many of the cultural sources of degradation, it has also largely removed them from the public consciousness. Not only has this reduced their potential for protection and restoration, but has unwittingly allowed a powerful symbol of national identity to be forgotten. On a superficial level, the story of these RDF stations may appear to be another symbol of European hegemony in South Africa, yet a closer inspection of this history reveals a complex reflection of the nation's social and cognitive dynamics. Throughout this narrative, this thesis argues that the story of these stations is not merely another retelling of European colonial history in an African nation, but rather is the story of a uniquely South African manifestation of the diverse and often conflicting ideologies of its people.

To this end, this thesis examines the enduring legacy of these RDF stations from both an archaeological and a historical framework. The archaeological analysis is comprised by the surveys of five RDF stations on the Cape Peninsula, and ten other historic military sites ranging from the early colonial period through the Second World War. These surveys establish an inventory of the remaining historic structures at each site, as well as document the prevailing natural and cultural site formation processes active across the sample dataset (Schiffer 1983:675). The insights from this research are not only used to develop a more comprehensive management strategy for the Cape's military heritage, but also serve to broaden the dataset of at-

risk heritage more generally. In so doing, this information may help to inform the decision making processes of conservators working with other types of endangered coastal heritage.

As a critical part of this analysis, these structures are studied within a larger geographical and cognitive framework. While these stations were constructed on land, their location in a liminal coastal space places them simultaneously within the influence of both terrestrial and marine environments. As such, a Maritime Cultural Landscape (MCL) perspective is utilized to locate these stations within the symbolic and mental landscapes of the peninsula's inhabitants over time (Westerdahl 1992, 2005, and 2008). Given the importance that public support has on the long-term survival of historic monuments, it is all the more necessary to understand the ways in which the Cape's historic resources have featured within the broader public consciousness.

In consequence, the second objective of this thesis is to analyze the war at sea and the role that these RDF stations have played in the maritime landscapes of the Cape's residents in both modern and historical contexts. In the WWII context, this study will analyze a variety of historic and archival materials relating to these RDF stations. While details about day-to-day operations are limited due to the classified nature of the program, references to the stations and their operators can be found in newspapers, magazines, and other public records. These archival resources offer intriguing clues into the mental landscapes of the Cape's residents throughout the war, particularly in the ways that they viewed the RDF stations and their effectiveness against enemy threats at sea. When analyzed from an MCL perspective, these documents can be assessed for their attempts to influence the actions of their readers by manipulating the extent of perceived risks within the maritime landscape (Duncan and Gibbs 2015).

In the contemporary context, post-war records are analyzed in conjunction with modern archaeological evidence. The study of these resources offers a great deal of insight into the ways

in which the cognitive landscapes of local populations have variously aided and harmed the survival of these important historic monuments over time. In this way, understanding the degree to which residents perceive themselves within the broader maritime cultural landscape can help determine the extent to which they feel culturally affiliated with its associated maritime heritage. By viewing community engagement through an MCL perspective, insight can be gained into the best strategies for promoting community outreach and conservation efforts for the Cape Peninsula's maritime heritage.

1.2 Research Questions

The research objectives of this thesis are twofold. The first is to take an archaeological inventory of the Cape Peninsula's military heritage, while the second is to conduct a historical analysis of these sites utilizing primary documentation. The archaeological research objectives are discussed first, before addressing the subsequent historical analysis.

The central question for the archaeological research conducted by this thesis is: *What is the current condition of the RDF stations and other historic military sites located on the Cape Peninsula?* Connected to this are several related questions: Can the individual effects of various site formation processes be identified for each site, or can their relative influence be otherwise determined? If so, of the site formation processes active on these structures, what are the most important for determining their current state of preservation? In other words, of the many natural and cultural influences active upon these historic buildings, are there any particular factors that have had an outsized impact on their survival. Even if it is not possible to isolate the effects of singular processes on the condition of individual sites or structures, by making comparisons between different sites throughout this dataset, it may be possible to isolate the generalized effects of various processes that are more or less active in different areas.

Viewing this information in terms of site management, what are the best strategies for the ongoing preservation of these structures? With an understanding of the predominant factors involved in individual site degradation, a tailored series of management strategies can be selected that best address the areas most critical to their survival. In this way, by taking an archaeological inventory of the remaining structures and their present condition, the formation processes most critical to site survival can be ascertained and used to inform future management strategies.

The second objective of this thesis is to conduct a historical analysis of the Cape Peninsula's WWII military sites, and assess how these defenses featured in the maritime cultural landscapes of the region's inhabitants. The duration of the Second World War was an extremely tenuous time in South Africa, a period which was widely viewed by the nation's disenfranchised and disgruntled populations as an opportunity to accomplish goals that they had been unable to achieve during the stability of peacetime. Perceptions of successes and failures throughout the war, particularly at sea, thus undoubtedly influenced the dynamic social equilibrium of the Union and the construction of cognitive landscapes in ways that have not yet been explored.

As such, the primary question this historical research seeks to answer is: *How did South Africa's U-boat war influence the maritime cultural landscapes of its inhabitants?* In order to address this problem, several subsidiary questions must also be considered. Foremost, how aware were South African citizens of the ongoing U-boat war off of their own coasts? To what extent did coastal defenses such as RDF stations and anti-ship gun batteries mitigate the perceived risks of maritime activities? Finally, in what ways did varying ethnic and political groups perceive these contexts, and how did it differentially influence the construction of their maritime cultural landscapes?

It should be noted that this last point is quite subjective. Understanding the complex and heterogeneous beliefs of South Africa's many sub-populations is an extremely difficult undertaking that to analyze properly requires an extensive search of Afrikaans and other non-English sources. Although these resources were outside the scope of this study, a number of inferences regarding the commonplace beliefs of these groups can still be drawn from English-language primary literature. Any insight into these cultural and political contexts, even generally, will greatly aid in understanding the process by which South African's constructed their maritime cultural landscapes throughout the Second World War. Any notable differences between groups can then inform the degree to which perceived factors such as U-boat victories and the proliferation of coastal defenses altered the perceived risks of maritime activities and the cognitive landscapes surrounding them.

In sum, the research questions of this thesis are as follows:

- <u>Archaeological</u>
    - What is the current condition of the RDF stations and other historic military sites located on the Cape Peninsula?
        - Can the individual effects of various site formation processes be isolated for each site, or can their relative influence be otherwise determined?
            - What are the most important site formation processes for determining the survivability of these sites?
        - What management strategies would be most effective at preserving these sites given the relative importance of the processes described above?

- <u>Historical</u>
    - How did South Africa's U-boat war influence the maritime cultural landscapes of its population?
        - How aware were South African citizens of the U-boat war?

- To what extent did coastal defenses such as RDF stations and gun batteries serve to mitigate the perceived risks of maritime activities?
- In what different ways did the various sub-populations of South Africans view this information and construct their maritime cultural landscapes?

1.3 Justification

The significance of this research spans multiple areas. First, this analysis is conducted from a maritime cultural landscape perspective, the development of which possesses a myriad of real-world uses outside of direct archaeological practice. In this particular case study of South Africa during the Second World War, a great deal of resources were expended in the attempt to artificially modify the construction of maritime landscapes. Propaganda portrayed the Battle of the South Atlantic in a light designed to manipulate its reader's perception of the war in a particular way. If the author wanted to support the war effort, they could portray the Union's coastal waters as secure from enemy action, thus encouraging mariners to continue shipping supplies. Conversely, those working against the war effort could project a view of the ocean as dangerously patrolled by German submarines. In each case, the author of these articles is attempting to distort an individual's perception of maritime risk, altering the construction of their maritime landscape in such a way as suited a particular agenda.

In this way, not only will this research assist in the development of maritime landscape theory and our general understanding of the cognitive processes through which humans construct and understand their surrounding landscapes, but it can be similarly applied to the influence of modern propaganda. Though individuals may be perceptive to the agenda underwriting various forms of media, they may be less keen to the more discreet effects of these mediums on the construction of their perceived landscapes. Both at a local and global scale, in making the

process of landscape construction explicit, individuals can become more aware of the subtle ways in which their world view and cognitive processes are being influenced.

In addition to these theoretical developments, the archaeological condition assessment of the remaining WWII RDF stations, fortifications, and military infrastructure on the Cape Peninsula will assist in the ongoing preservation efforts of these historic structures. With many of these buildings experiencing heavy deterioration due to both natural and cultural factors, their documentation will better inform the conservation strategies of local heritage management organizations. Further, this baseline survey has created a digital record for each site that can be used as a control point from which to track future degradation. Given that virtually none of the sites surveyed as part of this study have received any previous archaeological documentation, this research is all the more important. Particularly considering that there are no imminent plans to begin conservation on the vast majority of these sites, the analysis performed for this research may constitute the only archaeological survey of them for the foreseeable future.

Finally, the information on site formation processes and management strategies obtained herein will be broadly applicable beyond merely the sites surveyed for this study. Historic structures located in a variety of coastal areas are presently subject to a similar set of environmental and cultural stressors as those on the Cape Peninsula. Hence, an understanding of the transformative processes active on these sites can be readily translated to the preservation of coastal monuments more generally.

1.4 Study Area Introduction

The research for this thesis surveyed 15 historic sites throughout the Cape Peninsula. As such, this section will describe the geographic extent of the survey area, as well as how the various sites studied are located generally throughout it. In addition, RDF stations are broadly

defined, including a description of how their various components are generally situated within the landscape.

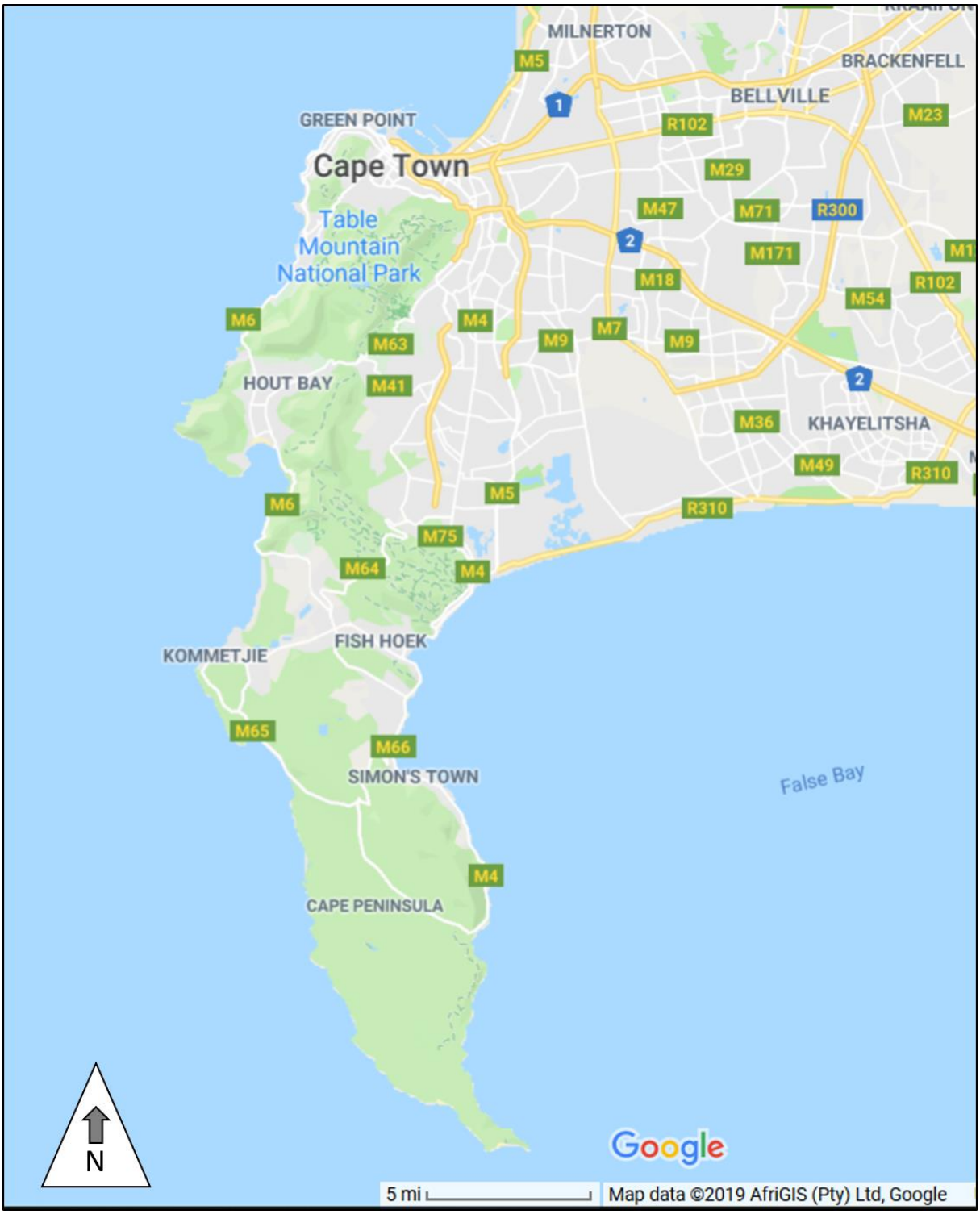

Figure 1: Geographic location of the Cape Peninsula, Republic of South Africa. Source image: Google Maps 2019.

The Cape Peninsula is located in the Western Cape Province of the modern day Republic of South Africa. The peninsula is bordered by the Atlantic Ocean on the west, and the False Bay (Indian Ocean) to the east. It spans 52km from its northernmost point (Mouille Point) in the city of Cape Town, to its southern tip at Cape Point. Formerly (and still popularly) believed to the southernmost tip of Africa, Cape Point is actually superseded by Cape Agulhas, several hundred miles to the east. The northern half of the peninsula is heavily urbanized, with the city of Cape Town and its surrounding suburbs containing roughly 3.7 million people (South African National Census 2011). Conversely, the southern half of the peninsula is predominantly occupied by the Table Mountain National Park system and the Cape Point Nature Reserve. In addition to the major commercial port at Cape Town, the nation's major naval base is also located on the eastern (False Bay) side of the peninsula at Simon's Town.

As a whole, the region is quite rugged and mountainous, with the Table Mountain chain running along the vertical extent of the peninsula. Ecologically, the area is considered to have a Mediterranean climate, with rainy winters and hot-dry summers. As part of the unique Cape Floral Kingdom, known for its *Fynbos* (fine-leaved plants) ecosystems, the region is comprised of extensive open plains known as *veld,* or *bushveld.* With numerous types of grasses and shrubs, as well as very few endemic tree species, the landscape is predominantly comprised of vast swaths of mixed grass/scrubland that naturally burns on a 10-40 year cycle (Moll 1980:223). Although the region is host to several underlying aquifers, they have gone largely untapped. Instead, local municipalities rely on winter rains to replenish their freshwater reservoirs. Given the Cape's rugged topography, with its high- yet isolated mountain peaks, the area was ideally suited to the construction of the various RDF stations and coastal gun batteries that once protected the Union's strategic harbors.

Of the 15 sites surveyed for this study, 10 of these were subject to detailed analysis and form the core of the dataset, while the remaining 5 sites were documented and recorded to a

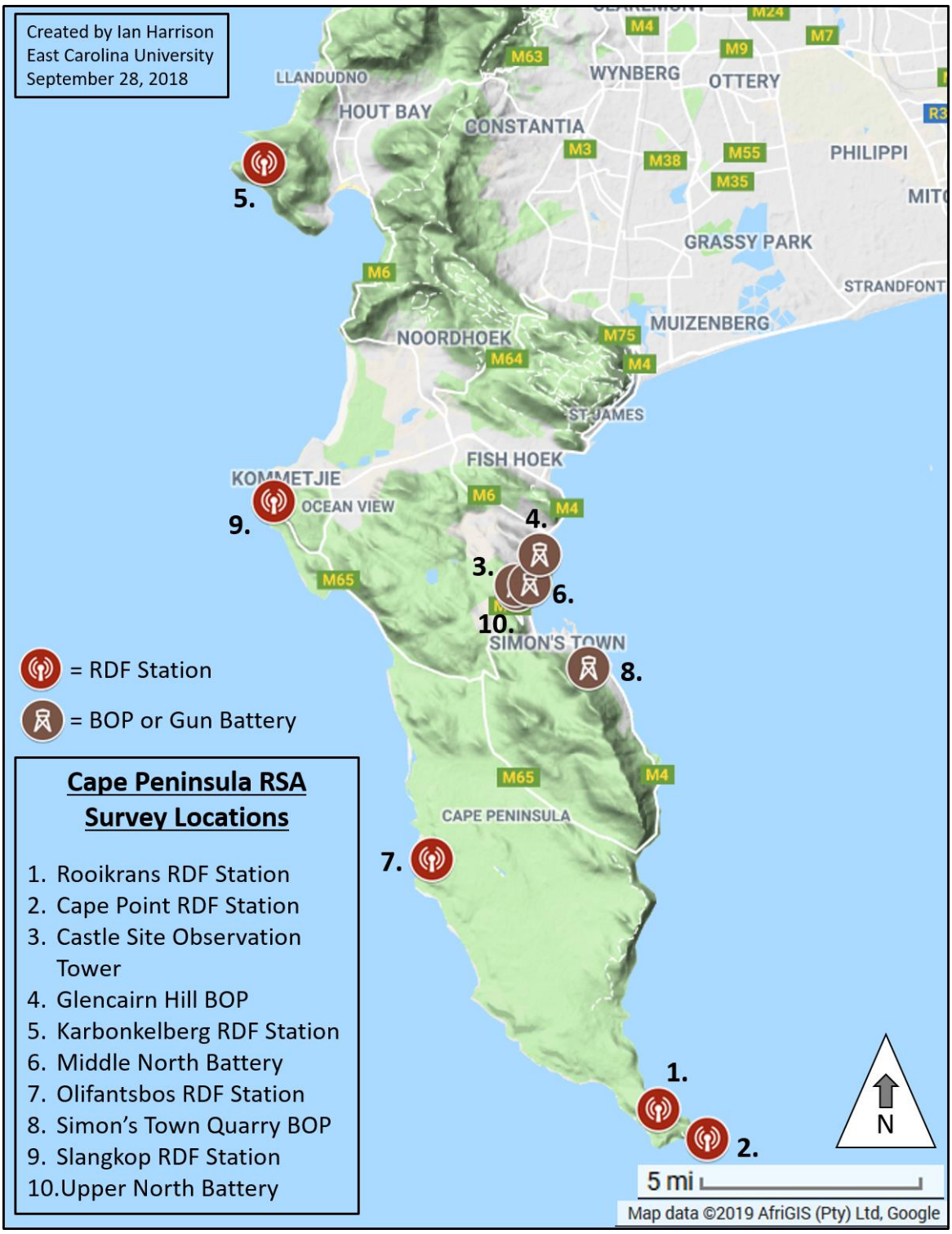

Figure 2 Map of the ten primary site survey locations on the Cape Peninsula, RSA. The red icons represent RDF stations, while the brown icons represent either Battery Observation Posts (BOPs) or gun batteries. Image by author, 2019. Source image from Google Maps.

lesser extent. Of the ten primary sites surveyed, there were five RDF stations, two RDF Battery Observation Posts (BOPs), two gun batteries, and one pre-WWI observation tower.

Given the strategic imperatives of the region, the locations of these installations are somewhat unsurprising. Three of the five RDF stations are located along the western coast of the peninsula facing into the Atlantic Ocean. The other two are positioned on the southern tip of the peninsula, with one facing south, and the other facing east into the False Bay. Between all five stations (as well as those not surveyed for this study), the RDF network had complete coverage of the surrounding ocean.

In the hills above the naval base at Simon's Town are the two gun batteries, as well as the two RDF-equipped BOPs that would have assisted these batteries by transmitting the range and bearing information of potential targets. In addition, located at the top of a mountain peak behind Simon's Town is the pre-WWI observation tower, which likely served as a former lookout station for the harbor. In addition to these sites, there were several RDF stations and gun emplacements on Robben Island, Seal Island, and other locations on the Cape Peninsula that were not surveyed for this study. Nevertheless, the peninsula was heavily fortified throughout the Second World War, providing a significant pool of military heritage to document and preserve.

While it is tempting to identify an "average" RDF station for the purposes of this study, the experimental nature of these installations meant that each was constructed differently from the others. Much like their British counterparts, the necessity of building in variable conditions often required a great deal of adaptability when constructing around local terrain features (Liddiard 2012:402). Nevertheless, they were each comprised of the same basic components, with variations predominantly being seen in the quantity and layout of structures, rather than in terms of type and functionality.

Sites can be generally divided into distinct clusters or arrangements of structures, with the RDF array always located at the point of highest elevation, followed by the other operations buildings. Generally, the dormitory structures, lavatories, and recreation buildings will be located further downhill, often behind rock outcrops or on the hillside facing away from the ocean. This layout serves to both shelter these living quarters from the brunt of the ocean winds, as well as help to camouflage the station's visual outline when viewed by enemy spotters at sea. In addition, army policy of the time dictated that men and women must be billeted separately, often creating separate clusters of facilities for men, women, and non-whites (Lloyd 1990).

While the RDF stations tended to follow these general forms, their diversity speaks to the adaptability and ingenuity of their designs. Most have one or more entirely unique features that indicate the many logistical and environmental hurdles of their construction. These more specific differences will be addressed in the coming chapters however, as will the insights that they provide into the long-term survivability and management of these structures.

1.5 Chapter Outline

This chapter serves as an introduction to the RDF stations in South Africa that are the topic of this thesis. The relevance and justification of this study are discussed, as are the research questions that guide the analysis in the chapters to come. The study area of the Cape Peninsula is broadly surveyed, while the general outlines of RDF stations and their construction on the landscape are briefly summarized.

Chapter two reviews the historical background of wartime South Africa, focusing on the various aspects of the nation's colonial past and population dynamics that influenced both the development of the RDF program as well as the war effort generally. The Union's wartime strategy is discussed, including detailed histories of the RDF and Huff-Duff programs.

Chapter three surveys the development of cultural landscape and maritime cultural landscape theories. The idea of risk in the maritime landscape is then discussed and applied to the historical context of WWII South Africa. In addition, issues of modern site conservation and heritage management in the Cape Peninsula are assessed utilizing an MCL approach.

Chapter four outlines the body of secondary literature that has been written about the history of the RDF and Huff-Duff programs in South Africa. The literature regarding contemporary management practices and the modern archaeological survey of these sites are also addressed. The topic and research of this thesis is then discussed as it complements and expands upon this body of existing literature.

Chapter five outlines the historical and archaeological methodologies that were employed for this research. The archaeological survey strategies are described, including the condition assessment metrics, forms, and recording media. Further, the framework for the historical and archival research is also addressed, including the process for finding and recording archival documents, as well as the methodology used to conduct the historical newsprint survey.

Chapter six presents the data obtained from these various analyses. The archaeological surveys and condition assessments are presented for each site, before utilizing this dataset to draw broader conclusions regarding the conservation of the Cape's military heritage. Following this, the results of the newsprint survey are discussed and analyzed for meaningful trends.

Chapter seven serves as the conclusion to this thesis. The archaeological and historical research questions are reiterated and answered to the extent that the data from this study is able to do so. In addition, information gleaned from this research is used to make conservation recommendations, as well as suggestions for future avenues of potential research.

2. Historical Background

With the bulk of this thesis documenting and analyzing the fortifications constructed along the South African coastline throughout the Second World War, this chapter will seek to contextualize these structures within the history of their construction and the broader geopolitical framework of the time. Foremost, a discussion of South African population demographics and prevailing political ideologies will serve as a backdrop to the strategy and tactics utilized throughout the war. A myriad of political, economic, and cultural tensions heavily influenced the ability of the Union of South Africa to wage war, and ultimately necessitated that the Union Defense Force (UDF) adopt a number of creative solutions to problems not experienced by the other Allied powers.

Despite these internal divisions, at the onset of hostilities the Union was tasked with the protection of the vital Allied shipping routes around the Cape of Good Hope. Without a navy, and isolated from its Allies, the UDF engineered and constructed the critical Range and Direction Finding (RDF) and High-Frequency Direction-Finding (Huff-Duff) technologies that enabled the Union to defend its coasts and maritime interests from enemy submarines. In this way, the remainder of the chapter will survey the various methods utilized by the UDF to protect its strategic waters, and the ways in which these actions were influenced by its unrest at home.

2.1 Introduction

On the cusp of WWII, the Union of South Africa was a radically divided nation. Both ethnic and ideological barriers had been constructed throughout South African society, establishing an order of opposing forces that the Union would struggle to reconcile. That they were ultimately unsuccessful in doing so testifies to the disparate loyalties and goals of the

British Unionists, Afrikaner Nationalists, Communists, Natives, Coloureds, and other populations. The opposition of these political and ethnic identities significantly impacted the Union war effort by influencing enlistment and industrial production, as well as through the organized provision of aid to the enemy cause. In particular, RDF and Huff-Duff operations had to be conducted under the guise of total secrecy for fear that Axis spies and dissidents at home might betray these technologies to the enemy. Given these circumstances, South Africa's contribution to the Allied war effort was a delicate one. The pro-British government was determined to fight the Axis powers abroad, but understood that any contribution to the Allied war effort required an equal measure to combat dissident elements at home.

2.2 Colonial Conflict and Cultural Divisions

Like most British colonies of the era, the Union of South Africa had been created through the forcible annexation of its core territories. Offering varying degrees of resistance, the former inhabitants of these lands (both African and European) were eventually dispossessed and relegated to the servitude of second and third-class citizenship. The forcible annexation of the Boer-Dutch colony in what is now the Western Cape Province forced many of its former inhabitants to flee to the continental interior. Known as the Great Trek of 1835-1848, huge swathes of the Boer population fled to the inland frontier, establishing the two new colonies of The Transvaal and The Orange Free State (Saunders 2002:302).

Ignoring the fact that they were following in the footsteps of the many indigenous peoples they had displaced in the preceding decades, the Great Trek became a powerful symbol of Boer nationalism (Saunders 2009:304). Despite the arduous journey inland, it was less than fifty years before the British followed suit and again came into conflict with the Afrikaner colonies. Following the Boer Wars of 1880 and 1899, the British claimed a bitter victory and

absorbed the Transvaal and the Orange River into the Empire. With the final annexation of these remaining colonies in 1910, the Union of South Africa was born, and with it, the deep-seated resentments of its conquered Boer population. Despite the signing of several peace treaties in the aftermath of the Boer wars, the passage of time did little to dull hostilities between the Union's competing European populations (Saunders 2009:305). The Boers continued to view the British Empire as a force of capitalist imperialism, an ideology that not only aligned them against the British under most circumstances, but made them particularly sympathetic to the German cause as tensions mounted in Europe.

Four years later in 1914, this tenuous peace was shattered with the outbreak of the First World War. As the UDF prepared to undertake orders from London to invade the neighboring colony of German Southwest Africa (GSWA), an anti-British faction emerged within the UDF. Led by several senior military staff, thousands of Afrikaners resigned their posts and declared independence for the Transvaal and Orange River (Samson 2016:9). Later named the Maritz Rebellion, the uprising immediately halted plans for the Union invasion of GSWA. Despite facing an invasion to the northwest and a rebellion in the east, the remaining UDF forces loyal to the Union government, including many Afrikaners, were able to effectively crush the rebellion by December 1914, less than four months following its onset (Samson 2016:9). With the unrest at home stifled for the time being, the invasion of GSWA proceeded as planned. By July 1915 the German colony had been captured by Union forces, and would remain under their control as a fifth province of South Africa until 1990.

When control of GSWA was awarded to the Union of South Africa during the Treaty of Versailles in 1919, the Union gained a large swath of new territory, and with it an even larger population of German nationals incensed with their new British overlords. Throughout both

wars, the Union's German and Austrian populations were regarded with considerable suspicion (Samson 2016:15). Government police forces tracked down Germans living throughout South Africa and Rhodesia, and arrested and confined them within internment camps. Those who were not interred were subject to other restrictions, including their forced removal from coastal areas (so they could not report the location of merchant traffic to enemy raiders) as well as mandatory disarmament. In many cases these citizens were further spied upon and tracked by government agents (Samson 2016:15).

While there were numerous reports of sabotage linked to these German and Afrikaner populations, these oppressive restrictions no doubt aided the anti-British movements in their call for action against the war effort (Samson 2016:15). Further, while the Afrikaner Maritz rebellion had been promptly suppressed during the opening months of the war, the underlying sentiments of Boer nationalism and the resentment of British imperialism that brought it about were ultimately left unaddressed. Although tensions had mitigated slightly during the peace of the interwar years, little had been done by 1939 to mend the rift between the Afrikaner, Boer, and British populations.

Nazi Germany's invasion of Poland on 1 September 1939, prompting Great Britain's subsequent declaration of war against the Reich, reopened many of these old wounds. The English-speaking British population of the Union largely viewed themselves as citizens of the Empire and members of the British Commonwealth. Britain's declaration of war was thus interpreted as an automatic call to arms for British South Africans. Much of the Afrikaner population, however, still felt more culturally and ideologically aligned with Germany than Britain, and interpreted Germany's actions as the rightful reclamation of territory stolen from it by the unjust treaty of Versailles in 1919 (Zukowski 2016:21). Though these feelings may well

have been influenced by Nazi agents and targeted propaganda in the years leading up to the war, there was nevertheless significant sympathy towards the ideals of fascism and the Axis cause amongst the German and Afrikaner populations (Monama 2014:3).

2.3 Political Landscapes and Population Dynamics

To confound these rifts even further, a number of communist parties had taken root in the British and Afrikaner working classes. Organizations such as the African Labor Party (ALP), the International Socialist League (ISL), African National Congress (ANC), and the South African Communist Party (SACP) drew significant support from both the white and black populations, particularly those unemployed as a result of the Great Depression (Forman 1992:54). Though these organizations were largely independent, the various labor movements within the country reiterated the same basic principle: that the British Empire was a force of capitalist imperialism. In order to liberate the working classes, these groups felt that the Union of South Africa needed to free itself from the imperial yoke and form an independent South African Republic.

Much of this discontent was brought to a head in 1922 when a series of labor strikes in the Transvaal gold mines, known as the Rand Rebellion, was crushed by Prime Minister J.C. Smuts and the Union government (Forman 1992:76). With the communist party outlawed shortly thereafter, the movement was politically disenfranchised, although it continued to operate as an apolitical institution. Major functions included the organization of labor unions and strikes, which in turn allowed the SACP to wield a great deal of influence among the country's predominant working classes (Forman 1992:76).

United in their opposition to the pro-British Union government, South African communists and Afrikaner nationalists formed a powerful anti-war lobby. However, the SACP also viewed the exploitation of native African workers by whites as immoral, and pushed for the

inclusion of Africans within their liberation agenda. Though this line was often softened for the sake of political expediency, it was a source of ongoing tension with the Afrikaner Purified Nationalist Party (PNP), which believed in the continuation and expansion of racial segregation (Forman 1992:70).

Africans too, were dissatisfied with British rule, though were not at the time able to exert the same degree of political or military influence that gave the Afrikaner and German populations their political power. Segregationist policies installed throughout the Union ensured that native Africans were barred from owning weapons, serving in the military (except in an auxiliary capacity), and were generally unable to contest the power of their European overlords (Forman 1992:71). Even in the politically progressive Cape Province, where non-Europeans possessed the right to vote, without the economic and social means to organize, native Africans remained largely unable to exert meaningful political influence (Forman 1992:71). Nevertheless, the sheer size of the Union's African population remained a continual concern for its European leadership.

Although a native uprising never materialized, the threat of one severely limited the ability of the Union government to recruit and deploy military forces. Fears spread that a reduction of troops domestically would pave the way for a native uprising, particularly in sectors where the African population knew that armed forces had been withdrawn (Saunders 2016:16). With domestic police already stretched thin, guards were posted to ordinance stores, supply depots, and other critical infrastructure that could serve as likely targets for would-be native saboteurs (Saunders 2016:16). In this respect the British and Afrikaner populations were in agreement, substantial enough military power was required to remain at home to ensure the continued subservience of the native Africans (Lambert 2008:65). Had the Union's European

population been more substantial, the threat of insurrection would not have been as significant; yet so long as Africans comprised the vast majority of the Union's citizens, reducing armed forces domestically to deploy abroad remained a lasting concern. In this way, Africans may not have been able to exert direct political influence on the actions of the Union government, but their mere presence remained a major factor in determining the means and degree to which Union forces could contribute to the war effort.

In 1939, the population of South Africa was just over 10 million; 21% was white (divided 60%/40% between Afrikaans and English speakers), 66% were Africans (referred to at the time as Natives), 8% were mixed race individuals (referred to as Coloureds) and 0.03% were Asians (predominantly Hindu Indians) (Zukowski 2016:18). Generally, the Afrikaner population was clustered around the dense industrial centers of the Transvaal and Orange River provinces, including the major cities of Johannesburg and Pretoria, while the British-English speaking whites lived predominantly in the Cape provinces.

Prior to the outbreak of war, the parliamentary elections of 1938 resulted in a sweeping win for the United South African National Party (USANP) – a moderate British/Afrikaner compromise party – which took 111 seats of the 150 total. In contrast, the Afrikaner PNP took 27 seats, while the British Dominion Party (DP) took 8, and the Socialists took 1. Despite this sizeable disparity in political power, the vote to join the war on the side of the Allies the following year was won by a mere 13 votes (Zukowski 2016:24).

From this point forward, the PNP (lead by J. B. M. Hertzog) became increasingly radicalized and argued for the Axis cause until the end of the war, even going so far as to call for a dissolving of the national parliament (Lambert 2008:63). Opposing him was Prime Minister J.C. Smuts of the USANP. As a general of the UDF throughout the Boer wars, the First World

War, and as a close friend of Winston Churchill, Smuts was an adamant believer in the Union of South Africa as a commonwealth nation, and a firm defender of the British cause. Upon the outbreak of the Second World War, Smuts was promoted to Field Marshall of the British army, and regularly took part in war council meetings in London with the other senior officers (Lambert 2008:64). Effectively sidelining J.B.M Hertzog and the anti-war coalition after their failed attempt to dissolve parliament, Smuts held a narrow majority on political power. With control of the USANP, and the personal loyalty of the Dominion and Labor parties, Smuts set about preparing his country for the conflict ahead.

2.4 National Defense

Now that the Union was officially at war, the defense of the nation had to be considered. At its onset, the strength of the entire South African military was just over 5000 soldiers and six aircraft (Zukowski 2016:30). The Great Depression had led to severe funding cuts for the UDF, including the mandatory scuttling of every last naval vessel. Despite possessing a population of over 10 million, the ban on African military service limited the Union's recruitable population to white men ages 18-44, of which there were a mere 460,000 in total (Lambert 2008:65). Further, without the ability to import munitions from Britain once the war began, significant numbers of military aged men were needed to establish a domestic munitions industry, further reducing potential recruitment numbers (Lambert 2008:65).

Given the nation's strategic position on the Cape of Good Hope, the UDF was required to patrol the critical Allied shipping lanes through Southern and East African waters, as well as protect a coastline of nearly 5000 kilometers (Wessels 2000). While the country was able to rapidly mobilize ground forces to participate in the North and East African campaigns, the dearth of resources and state of the Union Navy at the outbreak of war necessitated a defensive

approach to the protection of its home waters. Unable to field submarine hunter-killer groups as the other Allied powers did in the North Atlantic, the Union of South Africa relied on a variety of shore-based technologies to monitor its coastal shipping lanes. Though not a substitute for an active navy, the development of the primary two technologies in this endeavor facilitated control of the seas. These technologies, Range and Direction Finding (RDF) and High-Frequency Direction-Finding (Huff-Duff) are discussed below.

2.5 Range and Direction Finding (RDF)

In the 1930s, operational researchers in Britain recognized the destructive potential of bomber aircraft, and surmised that unless they could develop a countermeasure to enemy bombers, they were certain to lose any major European war fought within the next decade (McCloskey 1987:144). As a result, teams of researchers were tasked with developing potential countermeasures, and by 1939 had constructed a functional system of RDF arrays along England's southern coastline. Scientists from throughout the commonwealth were summoned in secret to study this RDF technology and prepare for its installation in strategic areas of the Empire (Hewitt 1975). South Africa, realizing its mistake of sending soldiers instead of scientists to the meeting, was assisted by Sir Ernest Marsden, a professor from New Zealand who kindly relayed the meeting's critical information to Sir Basil Schonland of the University of Witwatersrand while his ship was on layover in Durban (Hewitt 1975). With this information in hand, Dr. Schonland (at the behest of the Union government) formed a clandestine team of physicists and engineers from universities throughout the Union and began constructing the nation's first RDF locator (Hewitt 1975).

Without access to industrial electrical equipment, Dr. Schonland utilized his university connections to purchase large volumes of civilian ham-radio components to form the basis of his

radio receiver. The first Johannesburg (JB) RDF array was completed and tested in December 1939 (Hewitt 1975). Though this unit was initially intended to serve only as a training system while awaiting British-made RDF arrays, the outbreak of war necessitated their continued use. Given its strategic importance, Schonland's team was incorporated into the Union military as a branch of the South African Signals Service (SASS), eventually becoming the Special Signals Service (SSS). Though the project continued to be veiled in secrecy even amongst members of the government, the influx of recruits and supplies quickly enabled Schonland's team to refine and industrialize production of the JB RDF units (Austin 2016:77-78). Their cover was so well maintained that RAF pilots taking their aircraft on unauthorized joyrides from Union air force bases were reportedly bewildered as to how they were so routinely found out and disciplined (Star 1965).

Despite the Union's need to protect its coastal shipping lanes, the first JB units were actually sent north with the army. The invasion of Italy's North-African colonies was expected to be a major operation, and British high command anticipated major bombing raids against the Allied forces staging in Kenya. As such, the UDF ordered Major Schonland and his team of SSS operators to Mombasa in order to establish an early detection array for inbound enemy aircraft (Austin 2016:77). These fears proved to be unfounded, however, as over the course of the next six months, the city was only attacked by a single enemy aircraft. It was nevertheless an excellent opportunity for the SSS field crew to work out many of the technical problems with the early JB prototype (Austin 2016:77).

With this field testing complete, three more JB units were completed and shipped to Egypt. Unlike the placid skies of East Africa, the Suez Canal and Allied forces engaged in the ongoing desert war in North Africa were major targets for Axis aircraft. Forced into active

combat zones, these SSS crews and their JB units served a critical role in the early warning system for anti-aircraft defenses in the area (Austin 2016:78). In many cases these South African units operated alongside RDF teams from the UK, and were often said to outperform the longer wavelength 40 MHz equipment used by their British counterparts, particularly when scanning over the open ocean (Hewitt 1975).

2.5.1 RDF and Coastal Defense

With the JB units now in regular production, the UDF back home set about constructing and staffing its coastal detection network. Over 30 stations were constructed in all (Austin 2016:79), and while many of these observation posts were located nearby major ports, many more were placed on strategic promontories along remote stretches of coastline (Austin 2016:78). The major ports of Cape Town and Durban were the first to receive RDF arrays, expanding to the smaller ports and outposts as equipment became available. Land for these stations was typically leased by the UDF from individual residents or local municipalities for the duration of the war, with an agreement to either dismantle the structures upon returning the property, or leave them cleaned for civilian use (Western Cape National Archives 1953).

Though the Union RDF arrays served admirably given their rapid development, research in Britain eventually outpaced that of Sir Schonland and his team. New RDF arrays arriving from Britain utilized higher-band microwaves, giving greater range and accuracy (Hewitt 1975). By 1941, this improved access to British RDF technology enabled Schonland's team to refine the initial JB design and develop it into multiple new variants. Dubbed the JB-3, JB-4, and JB-5 (the JB-2 design had failed in production), these various arrays were integrated into installations throughout the coast (Austin 2016:79). RDF teams operating on the shoreline could now see surfaced submarines up to 160 km away, a significant increase from the 16-32 km range of the

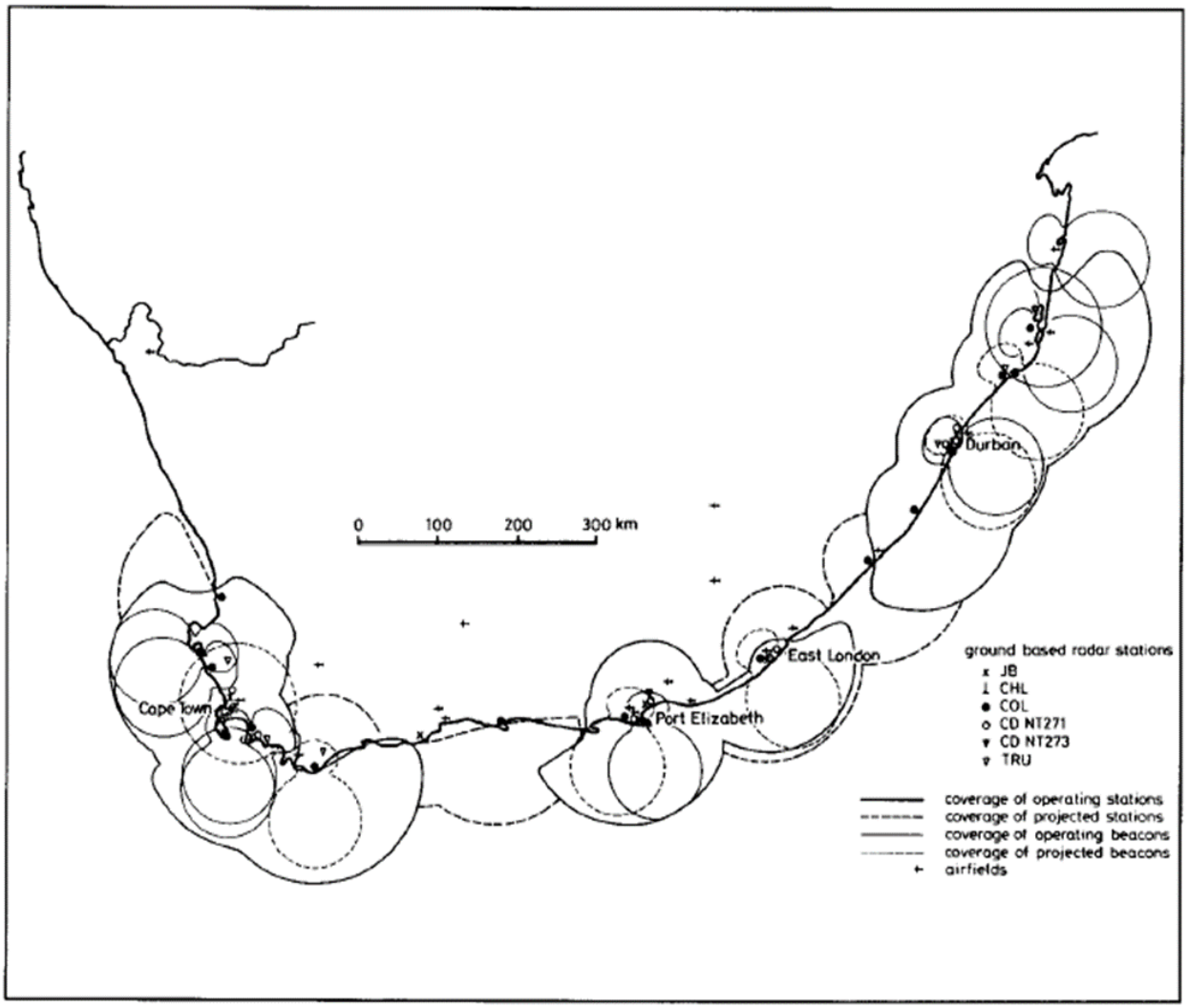

Figure 3: Location and coverage of coastal RDF stations along the South African coastline. The maximum detection range of each station is displayed as a circle or cone, and indicates the effective RDF "net" in which submarines and merchant traffic could be monitored. Image: Austin (1992).

earlier JB units (Hewitt 1975). Once operational, these costal RDF stations would forward the range and bearing information of suspected enemy targets to the UDF. Upon receipt of the signal by UDF command, RAF reconnaissance planes were dispatched to confirm the sighting and interdict enemy vessels.

While the primary RDF arrays were designed for long-ranged aircraft and submarine detection, the technology was adapted to fulfill a number of other roles as well. Coastal Artillery (CA) sets were short-range (8-10km) RDF units attached to the firing control systems of coastal

gun batteries, such as those in Simon's Town and on Robben Island (Crook 2013:235). Similar RDF arrays called Searchlight Radar units were attached to ground-based searchlights for use in illuminating enemy aircraft overhead. In addition, miniaturized RDF units were created that could be mounted on reconnaissance and intercept aircraft. Similarly, the JB-5 was a miniaturized variant that was mounted on a flat-bed truck, and could be driven out to various sites as needed (Austin 2016:79). Periodically, these units were permitted to break radio silence in order to direct merchant ships away from hazardous shoals when the RDF crew detected that the ship was in imminent danger of running aground (Vlok 1974:4). By the end of the war, the SSS had constructed 31 JB RDF sets in total, and incorporated a number of British and American arrays as well (Austin 2016:79).

2.5.2 Building the RDF Network

While the UDF was ultimately successful in constructing its coastal RDF network, this extraordinary project was not accomplished simply or easily. Though many of the basic layouts were derived from standard British designs (Pillbox Study Group 2018), these could not often be easily translated onto South African terrain. Resource concerns, secrecy, logistics, and legal battles threatened the program from many directions. Thankfully, primary source documents from archives throughout the Cape Peninsula give some insight into how these challenges were variously overcome.

Notably, as the SSS crew discovered on their first deployment with a JB array in Mombasa, the RDF equipment required a stable supply of electricity. The diesel generators that were on hand for such operations provided a supply of current that was far too irregular for the RDF equipment to function properly. In addition, the logistical hurdles of suppling these generators, especially in remote locations, was a constant concern. Though this issue was

eventually addressed with an engineering fix to the units themselves, many of the coastal RDF stations bypassed the issue all together by connecting directly to the municipal power supply. Architectural schematics for the Glencairn RDF station and Noah's Ark Battery show paths for cable trenches connecting directly to the established grid (Western Cape National Archives 1949). While this leaves these stations potentially vulnerable to being shut down by a lapse in the municipal electrical grid, it bypasses the logistical concerns presented by generating an independent power supply. In addition, whereas many of the more remote stations relied on

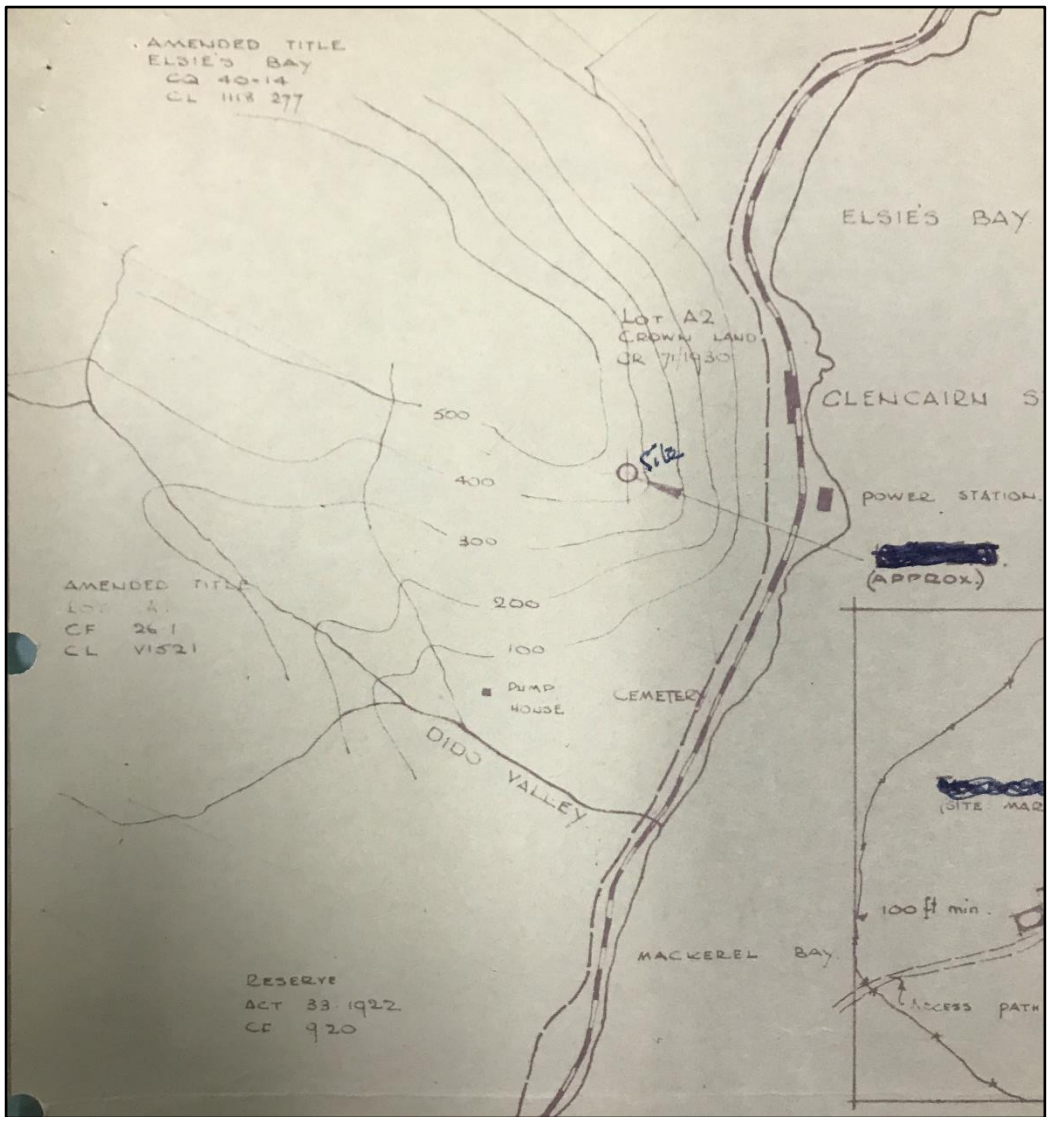

Figure 4: Architectural plans for the Glencairn RDF station. Note cable trenches and pump station that connect the site to the municipal water and electrical grid. Document from the Western Cape National Archive collection: Defense – Land Glencairn (Radar Station) D.2/7. Box 17. 1940-1949.

rainwater cisterns to provide drinking water, the Glencairn site was constructed with a pumping station connected to the municipal water system, thereby eliminating the need for elaborate rainwater catchment and storage infrastructure (Western Cape National Archives 1949).

Particularly for the more remote sites, such logistical concerns became increasingly troublesome. Notably, the logistical issues of constructing an RDF station on Seal Island in the False Bay were even more daunting. The rocky and uneven shores of the island, combined with the extreme tides and heavy surf of the bay created enormous hurdles for the construction of such major facilities. To compound these issues further, the UDF did not possess the capacity to conduct such an enormous construction project on its own, and thereby had to hire contractors to build the framework for structures that were currently classified as top-secret. Only one company bid on the contract: the Cape Steel Construction Company of Paarden Eiland, Cape Town (Ed. Simon's Town Historical Society 1996 XIX:70). Paid upfront, the company sank a number of artificial moorings around the island, which enabled them to construct the makeshift foundation for a large crane. Slowly, the two-ton prefabricated pieces of the steel tower were floated over to the island and lifted into place. It was only once the framework had been constructed and the contractors had left that the SSS engineers installed the RDF equipment. In this way, it was not until years later that anyone on the contract construction crew learned the true nature of the project in which they had been a part (Ed. Simon's Town Historical Society 1996 XIX:70).

While such remote locations brought with them a number of logistical hurdles, building in settled areas had challenges of their own. The Western Cape National Archives contain detailed records of a land dispute over the construction site for the Melkbosch RDF station located on the Blaauwberg Farm north of Cape Town. A series of communications between the Union Government and the owner of the farm, Jacobus Petrus Van Niekerk, detail the conditions

under which the Union government agreed to use Niekerk's land (Western Cape National Archives 1953). In addition to survey records and legal formalities, there are several important stipulations contained within these documents that would eventually lead to the conflict.

The first of these gives the military full and complete discretion over the use of the land, including the ability to construct any buildings and roads that they may deem necessary, as well as the right to declare this land as prohibited to non-military personnel. The contract describes two plots of land, one approximately 3 morgen in extent (6.2 acres), and the other approximately one morgen (2.1 acres) in extent. Signed in August 1943, the government was authorized to lease this land at no charge for the duration of the war plus 12 months, though reserved the right to permanently purchase the larger plot at a cost of £10 per morgen.

In exchange for the use of his land, Jacobus Petrus Van Niekerk was granted several accommodations. Notably, the contract agreed that the government would not permit "any Native or Colored persons, whether military personnel or not, to reside on the site after the termination of the present war" (Western Cape National Archives 1953). Additionally, the contract gave Van Niekerk the option to request that the military either leave their constructed buildings intact, or have them demolished within 12 months following the termination of the lease. Finally, the contract agreement released Van Niekerk and his successors from all responsibility to maintain the roads and structures built by the military throughout the duration of the lease and after its termination.

Records indicate that following the end of the war in 1947, the Union government began the process of surveying and assaying this land for permanent purchase. When these surveys had concluded, the government decided that it wanted to keep both plots of land, stating that "the radar station is now required permanently for defense purposes" (Western Cape National

Archives 1953). Though he was contractually obliged to sell the larger area, Jacobus Van Niekerk refused to sell the smaller plot of land. Despite his objections, however, the government expropriated the smaller plot in 1950 for the price of £5.

The site was eventually decommissioned in 1961, at which time Jacobus Van Niekerk was finally given the option to keep or demolish the remaining structures. He opted to demolish. In 1961, records indicate that the military had torn down three wooden bungalows and salvaged all other valuable materials, but left in place three brick lavatories, several concrete cisterns, and a boiler housing. A final document indicates that Jacobus was quoted a cost of R200 by a local contractor to demolish the remaining structures, though it is unclear whether or not he eventually did so. (Western Cape National Archives 1953).

2.5.3 RDF Station Life

Adding to these practical hurdles, the massive project of constructing the nation's coastal detection array placed an enormous strain on the Union's already limited recruits, which forced the UDF to operate in a number of ways that were relatively unheard of in South Africa at the time. Unlike most military departments of the era, SSS station crews were composed primarily of women. In particular, university educated women were targeted for recruitment into the program (Lloyd 1990). The unusual composition of these crews gave rise to the name "Super Snob Squad" among their women operators (Star 1965). Though most of the ranking officers were men, the wife of Sir Basil Schonland, Isabel Craib, became the organization's primary recruiter, while another woman by the name of Miss Blue, ran day-to-day operations (Star 1965). The work was relatively straightforward, with two to four women working per shift over a three-shift day, listening for radio echoes and plotting their position on various maps (Mangin and Lloyd 1998:11). Upon detecting the signal of a suspected U-boat, direct telephone lines were used to

confer with the other stations and contact headquarters (Austin 1992:127). By the end of the war the SSS had grown enormously, and came to include a staff of 145 officers (including 28 women) and 1,476 staff of other ranks, of which 507 were women (Austin 2016:80).

Further distinguishing these RDF stations from standard military outposts was their means of protection. Unlike the rest of the UDF where native Africans were only allowed to serve in auxiliary roles (most commonly as stretcher bearers and porters), the SSS commonly employed native African troops to defend their RDF stations. “The radar site was guarded day and night by members of the Native Military Corps (NMC) armed with assegais. No one without the proper pass and password could get near the tech hut, but it is difficult to imagine how the assegais would have repelled a U-boat raiding party after the station's secrets” (Mangin and Lloyd 1998:11). Though they were only equipped with spears, these men of the NMC were the first native Africans to serve as armed troops in the Union military throughout the Second World War (Mangin and Lloyd 1998:11).

This diversity of staff led to a number of interesting dynamics on site, however, as it was fully expected that social norms and traditions would be upheld. Notably, each site came with a physical divider to separate the men and women. Though this did not apply to the operations buildings, the quarters for men and women were strictly separated by a “chastity fence” (Lloyd 1990). Whereas the women were typically housed in large dormitory structures on site, the (numerically fewer) male officers were commonly quartered in single room structures closer to the operations buildings. Further, each of these quarters had access to its own separate lavatories and washing facilities. Recreational and dining facilities were however typically shared between these groups. Similarly, the facilities for whites and non-whites were strictly segregated. Unlike

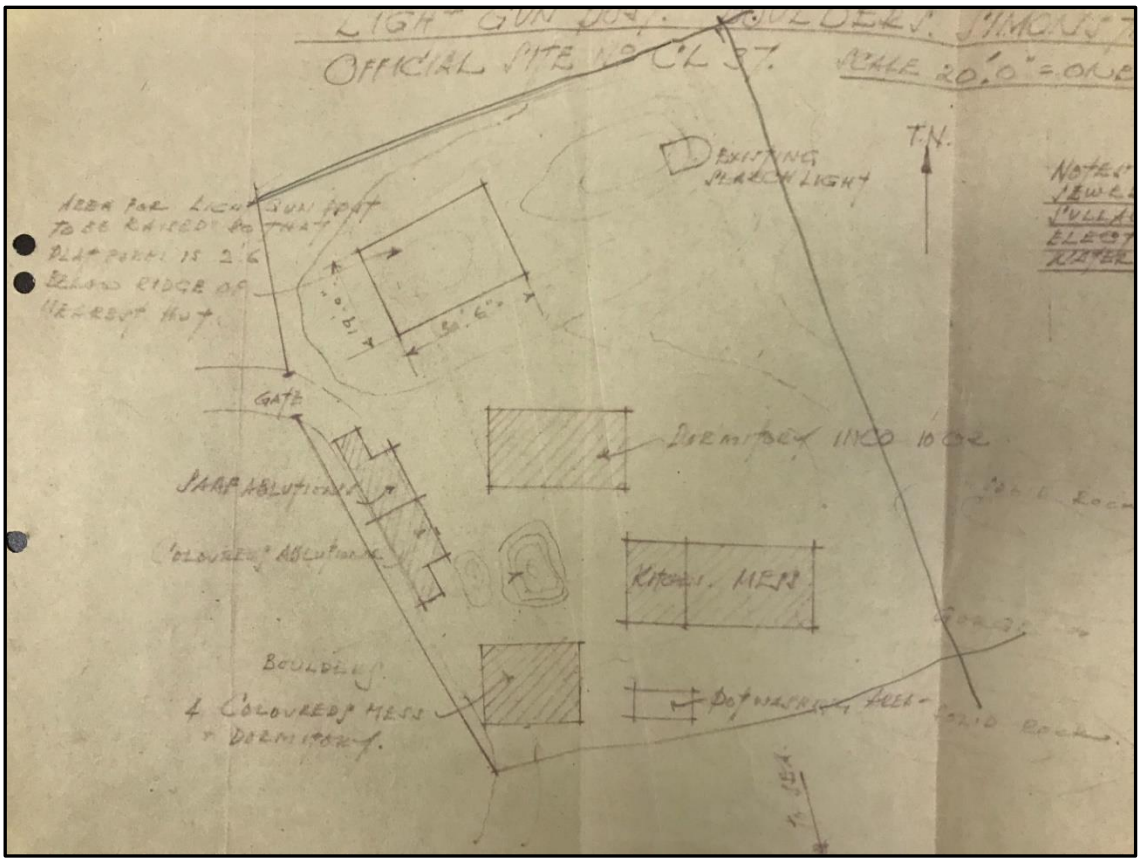

Figure 5: Photo of the architectural plans for a WWII Light Gun Battery near Simon's Town, RSA. Note the separation of facilities for white and non-white personnel. (Western Cape National Archives 1949). Photo by Author, 2017.

both the white men and women (which were housed in permanent brick and mortar structures), the men of the NMC were typically housed in temporary wooden bungalows further away from the site (Western Cape National Archives 1949).

Life on station was generally pleasant, if not often remote and isolating. Sheilah Lloyd, who worked as one of the station operators, fondly remembers playing Bridge, listening to music on the wireless, fishing at the beach, and taking day trips to some of the nearby farms to stock up on food and supplies (Lloyd 1990). The weekly ration trips and garbage disposal runs into town were also frequent sources of entertainment for the station women who were not on duty. The women at the Hangklip (Silversands) station were periodically permitted to attend dances hosted by a hotel in the nearby town, though they "had to be back in camp and safe behind their chastity

fence by midnight. Those who were unfortunately on the 03h00 shift, would then try to snatch a short nap" (Mangin and Lloyd 1998:11).

2.5.4 RDF in the Post-War Years

Despite the enormous undertaking to construct them, it did not take long for the majority of the coastal RDF stations to be decommissioned. In December of 1943, the Windy Ridge RDF station on Robben Island was deemed unnecessary, and closed down so that its operators could be transferred elsewhere (Crook 2013:235). The Hangklip (Silversands) station was decommissioned in 1960, though its buildings were left intact. The large barracks was eventually purchased and converted into a hotel and holiday resort called Mooihawens. In 2009 the site changed hands again, and continues to function today as a hotel and conference center for youth groups by the name Betty's Bay Oord (Lee 2015:15). A survey of the other structures on site in 2009 confirmed that they remain in fairly good condition, and recommended them for NHRA protection (Bently 2009:1). Similarly, the main dormitory facilities for the Rooikrans RDF station (lower site) were converted into rentable holiday cottages by the Table Mountain National Park, and are still in operation today.

From the story of Jacobus Van Niekerk, we know that the Melkbosch RDF station was decommissioned in 1961. Everything of value was deconstructed and removed, while everything else seems to have been left in place. It remains to be seen however if Van Niekerk followed through on his plans to demolish the remaining structures. Archival records indicate that one of the anti-aircraft batteries in Simon's Town was decommissioned shortly after the war in 1949 (Western Cape National Archive 1949). Conversely, a naval gun emplacement in the Lower North Battery (on the still active naval base) was not decommissioned (and deconstructed) until 2009, in an act that the Simon's Town Historical Society called "absolute destruction" (Jones

2009:3). When the naval base at Simon's Town was transferred over to South African control from the UK in 1954, many of these installations seem to have been deemed unnecessary and closed (Dodd 1975:51).

Of the sites surveyed for this study, the dates of decommissioning are not yet known, though given the extensive remains of them it is reasonable to assume that their closure followed a similar pattern to that of the Melkbosch site. Given the substantial cost of tearing down these structures, it seems that the UDF opted to strip everything of value and leave the rest in place. While this may have led to a number of disgruntled landowners, it allowed significant portions of these historic monuments to survive into modern times.

2.6 High-Frequency Direction Finding (Huff-Duff)

In addition to RDF, High-Frequency Direction Finding (Huff-Duff) technology was utilized to detect and track U-boat movements throughout the South Atlantic and Indian Oceans. At the outbreak of war in 1939, Lt. J.S. Bennett, an officer of the Royal Navy, was sent to South Africa to establish a series of radio intercept stations. Given the full support of the Union government and military by Prime Minister J. C. Smuts (an avid supporter of the Royal Navy), Bennett constructed the headquarters of his operation in the Simonstown naval base (Stott 1998). In addition to the primary station, two more receiving stations were established throughout the country: one in Natal near Overpert and one near Bloemfontein. Connected by direct telephone cables, these three radio stations could immediately relay information to one another when intercepting an enemy signal. By taking the bearing information of a signal from all three stations simultaneously, operators at the Simonstown headquarters could triangulate the general vicinity of its origin, effectively locating the position of a U-boat and tracking its movement as it sent additional communications (Stott 1998).

Though the project was administered by the Royal Navy (and ultimately reported to the London Admiralty), the South African Postal Service became the organization in charge of recruiting and training station operators. As the Postal Service already employed large numbers of operators trained in Morse code, they were able to selectively recruit university educated men and women into the program without drawing suspicion (Stott 1998). To maintain secrecy, the project was separated from the RDF programs and SSS. This compartmentalization included most of the government, with few outside of the Prime Minister's inner circle having been made aware of the project's existence. Though these certainly seemed to be necessary precautions at the time, they are undoubtedly the primary reason that there are such sparse mentions of the project throughout the historic record (Stott 1998).

When the British broke the German enigma code in April 1940, these Huff-Duff stations gained a powerful new weapon in the U-boat war. The Huff-Duff program could now locate the origin point of U-boat communications as well as transcribe the contents of their messages (Dean 1998). To compartmentalize this classified information, station operators continued taking bearing information, while forwarding on the transcribed message to the Simonstown headquarters for decoding. With the U-boat's location and contents of its message in hand, headquarters would then transmit the data to the London Admiralty. In 1942, when Admiral Doenitz of the German High Command grew suspicious that the enigma code had been broken, he ordered a switch from a 3-rotor, to a 4-rotor coding machine (Dean 1998). Though this prevented the decoding of transmissions for a short time, the new enigma code was broken by the British Intelligence Service later that year, enabling operations to resume (Bizley 1998).

Despite the efficiency and utility of the Huff-Duff network, its intelligence only directly lead to the sinking of one enemy U-boat – the U-197 (Bizley 1998). Nevertheless, by keeping

tabs on submarine activity off the coasts of South Africa, the Royal Navy was able to limit the vulnerability of merchant ships passing through the area. While too much intervention may have exposed the fact that the Enigma code had been broken, the Simonstown headquarters was authorized to break radio silence and warn civilian vessels believed to be in extreme danger. This was one of the only occasions when breaking radio silence was permitted (Bizley 1998).

In addition to the RDF and Huff-Duff programs, a broad array of coastal batteries and fortifications were erected along the Union's principal harbors, (most notably on Robben Island) including minefields, submarine nets, and submerged "trip-wires" (Crook 2013:129). These obstacles deterred U-boats from assaulting moored vessels, though did little to protect shipping lanes outside of port. Accordingly, U-boats needed only to wait for their targets to enter the open ocean before striking with impunity.

2.7 Conclusion

Given the tumultuous civil and political landscape of the Union, internal threats against the war effort were numerous. The nation's conquered Afrikaner, German, and native African populations had little love for the British, and for many different reasons saw the war in Europe as their path to liberation from the Empire. Even when these diverging loyalties remained dormant, the threat of insurrection was enough to prevent the Union from fully deploying its forces abroad. In this way, the Union of South Africa was constantly fighting a war on two fronts, one against the Axis powers, and one at home.

The UDF began the war without a navy, and though it was able to hastily convert a number of civilian ships into mine-sweepers and submarine trawlers, it was largely unable to prevent U-boat attacks at sea. Limited to shore-based fortifications, ships sent by the Royal Navy, and anti-submarine patrol aircraft, Union shore defenses could do little more than hinder

the 36 German submarines that operated in South African waters throughout the war (Wessels 2000). As many as 26 U-boats were attacked in South African waters over the course of the war, yet only three were destroyed. Given this freedom of action, German U-boats devastated Allied shipping around the Cape of Good Hope, sinking an estimated 132 vessels (Wessels 2000). Nevertheless, the presence of these coastal RDF and Huff-Duff arrays gave the UDF a sizable net within which they could track and deter U-boat activity. By forcing German submarines to operate outside of this zone, coastal vessels and civilian infrastructure were largely spared from the devastation experienced by the war's other theatres.

The fact that these stations were able to operate so effectively is a testament to the ingenuity of their South African inventors and engineers, as well as the absolute secrecy of the RDF and Huff-Duff programs. As for Dr. Schonland, knowledge of the man whose expertise and ingenuity was behind much of this success was kept from the public eye throughout the course of the war. Nevertheless, in March of 1943, the *Cape Argus* ran a story titled "South African Scientist Honored" wherein Dr. Schonland was awarded a metal for his service as a wireless operator in France during WWI, as well as his university research into the tracking of thunderstorms. Those who knew Schonland, however, would have read into the silent understanding that the true purpose of the award was for his pioneering work on the RDF program. Given its top secret classification however, it was not until many years later that Dr. Schonland's work could be publicly acknowledged.

3. Theory

As this research is conducted from a maritime cultural landscape perspective, particularly the maritime landscape of risk, this section will offer a brief survey of MCL theory and its applications to Cape Town's maritime landscapes. Broadly speaking, there are two distinct applications of MCL theory to this research. The first relates to the series of RDF stations, Huff-Duff stations, coastal batteries, and other shore defenses that represent a unique type of risk-mitigating infrastructure. The second involves the maritime landscapes of the Cape's modern residents, and their relationship to the ongoing preservation of the area's military heritage. As such, this chapter will survey the foundational ideas of cultural landscape and MCL theory, and then apply them to both the modern and historical aspects of this research.

3.1 Development of Cultural Landscape Theory

The notion of the cultural landscape was first introduced by Carl Sauer in 1925. Saur states that landscape does not just represent the passive backdrop of human action, but serves as an active medium to its conduct. Breaking from the status quo of environmental determinism, Sauer saw landscape as the intersection between the forces of the natural environment, as well as culture as the agent acting within it (Sauer 1925:46). Stressing the ability of human agents and cultural processes in shaping the physical environment, Sauer's view broke from conventional thinking that presumed culture represented the direct result of environmental determinants (Borrelli 2015:15).

This idea was expanded upon by Christopher Tilley, who in 1997, recognized that viewing space as the container for action rather than the medium for it was a continuing fallacy in archaeological practice. "Something that is involved in action cannot be divorced from it… as

such, space does not and cannot exist apart from the events and activities within which it is implicated" (Tilley 1997:10). In essence, this idea lends itself to the notion that space, as humans conceive of it, is a temporal and socially mediated entity (Potter 2007:322).

> There is no space, only spaces. These spaces, as social productions, are always centered in relation to human agency and are amenable to reproduction or change because their constitution takes place as part of the day-to-day *praxis* or practical activity of individuals and groups in the world (Tilley 1997:10).

In this way, space does not possess any specific essence, but rather is given meaning through the symbolically constructed lives and interactions of the social actors within it. It is this idea of dwelling within a space that serves as a central principal to cultural landscape theory. Similar to Ingold's (1993:153) concept of the *taskscape*, which posits that the cultural landscape is comprised of the aggregation of people and activities taking place throughout it, the cultural landscape is given meaning by the day-to-day activities of human existence. "Landscapes offer a variety of images, which are interpreted and given meaning through localized social practices and experience (Richards 1996:314). Multiple cultural landscapes and layers of meaning are always dependent on the observer; the cultural landscape of an area as perceived by a non-resident would be sparser compared to that of a resident, who imbues the environment with memories, experiences, and cultural history.

Considering the degree of overlap that the concept of *landscape* shares with that of *environment,* some clarification may be needed. Though there is an appreciable debate on the subject, Y.F. Tuan contends that *environment* is an objectively present given piece of reality, whereas *landscape* represents the product of human cognition (Tuan 1979b:389). While this may be a temptingly simple distinction, when further analyzed it quickly becomes clear that it is not entirely correct.

In Ingold's opinion, neither environment nor landscape are objectively neutral aspects of either reality or perception. Both are in fact defined by ongoing processes that are actively involved in shaping the form and construction of reality (Ingold 1993:156). Over time, even an environment without humans is continually molded by the life-cycles of organisms and natural phenomena that alter both the form of the environment as well as the nature and future impact of these natural and organic forces. In this way, the form of the environment is entrenched within dynamically evolving processes, implying that meanings within a culturally mediated landscape cannot, as Tuan proposes, be objectively derived from a static environment.

As such, Ingold argues that landscape is not so simply defined as the result of human perception, but is more accurately depicted as a process of *embodiment*:

> Thus organisms may be said to incorporate, in their bodily forms, the life-cycle processes that give rise to them. Could not the same, then, be said of the environment? Is it possible to identify a corresponding cycle, or rather a series of interlocking cycles, which build themselves into the forms of the landscape, and of which the landscape may accordingly be regarded as an embodiment? (Ingold 1993:157).

As the cognitive landscape derives much of its symbolism and meaning from the form of the environment, changes in the environment over time will thereby naturally influence how humans conceive of it. As a fundamentally temporal process, it becomes clear the ways in which ongoing environmental processes shape, and are in turn shaped by the cognitive landscape (Ford 2009:11).

One final tier of complexity is the influence of human action and culture as direct and indirect modifiers of the landscape. According to Knapp and Ashmore (1999) this process can be accomplished in two ways: through the physical modification of the constructed landscape and the cognitive modification of the conceptualized landscape. Though most commonly associated with monuments, the construction of gardens, houses, villages, and other structures (particularly

in modern times) drastically change the physical environment (Knapp & Ashmore 1999:10). In addition to these physical changes, human-made structures often contain a variety of cultural symbols and meanings embedded within architectural and stylistic characteristics. While much of the deeper meaning therein depends on shared cultural knowledge, even the physical characteristics of constructed environments will radically alter how individuals conceive of and interact with the cognitive landscape.

Alternatively, the conceptualized landscape constitutes natural environmental features and images that are interpreted and given meaning through socially mediated processes which both construct and reproduce such concepts (Knapp & Ashmore 1999:11). Hence, even without physical alterations to the environment, changing social and cultural values and interpretations of environmental features will influence cognitive perceptions of the landscape. Furthermore, cultural shifts will invariably alter the ways in which humans physically alter the constructed landscape.

In this way, social and cultural processes constantly change both the form and interpretation of the physical environment and landscape. All three entities: culture, landscape, and environment, thereby influence each other, and are constantly shaped and molded in turn by the processes influencing other aspects of the system. By recognizing the relational processes between these concepts, it becomes possible to understand the cultural landscape as a dynamic entity that is both socially mediated and reproduced, yet linked inextricably with the physical environment. As such, the cultural landscape approach seeks to holistically understand the cultural identities and collective histories that are anchored within cognitive perceptions of a given area (Borrelli 2015:14). By studying human social interactions and relations with their environment, this method can be used archaeologically to investigate the physical signatures of

cultural presence on the landscape and the generation of cognitive meaning associated with them (Duncan 2006:7).

3.2 Maritime Cultural Landscape Theory

Maritime cultural landscape theory has significantly influenced the way in which maritime archaeological research is conceived of and conducted. In the simplest terms, MCL theory encompasses the vast network of physical, cogitative, and cultural constructs that create and reproduce human landscapes (Westerdahl 1992:6). While this definition has since been broadened and refined, maritime cultural landscape theory seeks to contextualize the entirety of human maritime activity within the many landscapes in which it is conducted.

The cultural landscape approach was first applied to the maritime context in 1978 by Christer Westerdahl in a survey of the Swedish coastline, however, it did not reach English publications until 1992. Premised on the idea that the land/sea boundary poses a false dichotomy in the cultural landscape, Westerdahl proposed the idea of the maritime cultural landscape in order to link the two separate worlds. As since demonstrated in studies conducted by Irwin (1992), Lewis (1994), Hviding (1996), Rönnby (2007), and McKinnon et al. (2014), humans dependent on maritime or maricultural activities for subsistence tend not to view the land and sea as separate entities, but rather as seamlessly integrated parts of the same cultural landscape demarcated by a liminal area of coastline. Despite the seemingly opposed nature of these environments, cultural remains both on land and underwater must be understood as complementary to one another (Westerdahl 2005:3).

At its core, the maritime cultural landscape "comprises the whole network of sailing routes, old as well as new, with ports and harbors along the coast, and its related constructions and remains of human activity, underwater as well as terrestrial" (Westerdahl 1992:6). Much like

the terrestrial cultural landscape, the maritime cultural landscape covers much more than just archaeological remains. As Ford (2009) defines it, the maritime cultural landscape includes both "reconstructed" as well as "living" knowledge. Reconstructed knowledge encompasses archaeological remains, historical documentation, and environmental studies, whereas living knowledge comprises the cognitive and immaterial aspects of the cultural landscape: "including place names, myths/folklore, beliefs, and practices" (Ford 2009:13). Furthermore, Borrelli (2015) asserts that there are a number of other factors that can influence the construction and maintenance of maritime cultural landscapes, including:

> The study of empty space, authoritarian structures, technological changes, actions and events themselves in addition to their archaeological signatures, sailing or shipping routes and the landscape of movement, ancestral knowledge, environmental change, social hierarchy, gender studies, and rituals or symbolism within the landscape (Borrelli 2015:18).

Through its incorporation of both physical and cognitive data, as well as terrestrial and marine environments alike, the maritime cultural landscape approach is uniquely able to holistically understand the complex set of factors that comprise the cultural landscape of maritime environments. By understanding the ways in which humans conceive of and interact with the maritime cultural landscape, it is then possible to comprehend how they understood and mitigated risk throughout the course of their interactions with it.

3.3 The Concept of Risk

In recent years, one aspect of the maritime cultural landscape theory that has seen significant development is the idea of MCL as it relates to the perception and mitigation of risk. A key element of one's understanding of their surroundings is the degree to which they perceive the surrounding landscape to be hazardous, i.e. the landscape of risk. Particularly in the maritime context, perceived risk to property and life enormously impacts human decisions when

conducting maritime activities. Therefore, the roles of risk-perception, risk-taking, risk-avoidance, and risk-mitigation comprise a major part of the maritime cultural landscape, and can be variously observed throughout the archaeological record.

In the strictest sense risk is defined as "a negative or undesirable outcome… synonymous with the term danger or hazard" (Fox 1999:12). In the maritime context, however, it is more precisely considered to be "the probability of some adverse effect or hazard… a hazard representing a potential threat to people and what they value, while risk is the measure of hazards" (Short 1984:711). In this sense, risk is the likelihood or probability of some adverse effect or hazard damaging or harming things that people value. "This may include people's health (both mental and physical), their lives and lifestyles, the quality of their lives or economic well-being and environment, along with the social values placed on a physical location" (Short 1984:711).

Given the inherent dangers of water-borne subsistence and seafaring, the conduct of all maritime activities necessitates some degree of risk-taking. Furthermore, those who conduct these maritime activities are (whether consciously or not) constantly involved in a decision-making process to determine the degree of acceptable risk as compared to the perceived social and economic gain. For example, Allied merchant mariners during WWII were likely highly aware of this process as they shipped critical supplies through waters infested with enemy submarines.

According to Duncan & Gibbs (2015), there are three types of risk that factor into this decision-making processes: actual, perceived, and manufactured. Actual risk is the "real, tangible risk presented by actual hazards, based on past cultural knowledge, experience or exposure to danger" (Duncan & Gibbs 2015:20). Perceived risk relates to perceptions of an area and the

degree to which a landscape is considered hazardous, and thus the extent to which it is used (Duncan & Gibbs 2015:20). Perceived risk thus does not necessarily reflect actual risk, but may be based on past cataclysmic events or superstitions of an area. Finally, manufactured risk relates to situations where actual risk factors were "exaggerated or fabricated in order to influence perceptions of that area, and hence its subsequent use" (Duncan & Gibbs 2015:21). In this sense, individuals may utilize propaganda to manipulate the perceived risk of the local maritime landscape in order to influence the decisions of mariners.

Whether real, perceived, or fabricated, perceptions of risk invariably affect how individuals conceive of and utilize the maritime cultural landscape. In viewing spaces within the landscape as dangerous yet still valuable to social or economic activity, individuals and societies will attempt to mitigate these risks via two strategies: Neo-liberal and Ordered risk management (Crook 1999); (Duncan and Gibbs 2015). Neo-Liberal risk management "provides community members with an adequate level of information about the inherent risk levels, but leaves the individual to judge the acceptable level of risk-taking" (Duncan & Gibbs 2015:20). Alternatively, ordered risk management occurs when a society chooses to control or limit exposure to risk, such as through the total prevention of access to areas of perceived danger. In addition to the experience and knowledge of ship masters, the preparedness of coastal communities in provisioning sailing directions, bathymetric surveys and charts, rescue services and equipment, and aids to navigation (lighthouses, channel markers), individuals and communities are able to alleviate the potential risks of nearby maritime activities (Duncan & Gibbs 2015:20).

As agents respond to risks within society, risk mitigation through risk assessment and risk management can be conceived as a type of reflexive monitoring scheme that actively reshapes

societal structure, specifically the conception of risk. This, in turn, affects the decision-making processes of the individuals and groups interacting with a given area, resulting in a unique cultural landscape for that locale (Borrelli 2015:43). As such, even if real hazards are prevalent in an area, the presence of safety information and infrastructure will factor into both the decision making process of ship masters utilizing the area, as well as the generally perceived cultural landscape.

In this way, cognitive perceptions of the maritime cultural landscape can be studied archaeologically and historically through the remnants of these types of risk-mitigating materials and infrastructure. Since risk management is expressed in cognitive behavior through the use of the landscape and its physical elements, it creates a distinct cultural assemblage of tangible material culture (i.e. harbor facilities, lighthouses, shipwrecks, environmental modifications, etc.) and intangible material culture such as place names, cultural traditions, myths, folklore, and spiritual associations (Borrelli 2015:29).

These concepts are perhaps best illustrated by Duncan and Gibbs' 2015 study of the maritime cultural landscapes surrounding the port of Queenscliff, Australia. Located in the Bay of Port Phillip near the city of Melbourne, the port of Queenscliff developed throughout the first half of the 19th century into a thriving commercial hub. Prior to the 1850s, the port of Queenscliff primarily utilized neo-liberal risk mitigation strategies. Relying on mariners to identify and respond to risks, there was little expectation of assistance from authorities should ships encounter difficulties (Duncan & Gibbs 2015:176). As the number of wrecks grew, however, so did popular perceptions of the Bay of Port Phillip as an area of treacherous and dangerous seas. As a maritime landscape becomes perceived as one of serious risk, the decision-making processes of civilian mariners begin to consider the area as too high-risk to be worth the

economic gain of traversing it. This perception of overt hazard can potentially relegate an otherwise geographically and economically important harbor to that of a relative backwater (Borrelli 2015:26).

Accordingly, to preserve the reputation of the Bay of Port Phillip as a safe (or at least managed) environment, the local and state governments began funding and mandating a series of formal risk-mitigation strategies. "The most physically (and archaeologically) visible responses to repeated shipping disasters were the formal mechanisms for prevention, warning, and mitigation" (Duncan & Gibbs 2015:176). The creation of a piloting service and lifeboat service, as well as the installation of lighthouses, channel markers, and navigational buoys served as highly visible attempts to mitigate the real and perceived risks of the local maritime landscape. (Duncan & Gibbs 2015:177).

> The changing political, administrative, authoritative and other social or community ideologies (and the reactions and resistance to them), economic market forces and attempts to reduce risks to profit, and environmental determinants have all contributed to the reactive shipwreck landscape evolution (Duncan & Gibbs 2015:210).

By analyzing these factors within the maritime cultural landscape context, it becomes possible to understand the broader effects of shipping mishaps and perceptions of risk on the decision making processes of individuals conducting maritime activities.

3.4 Maritime Cultural Landscapes of the Cape Peninsula

Applying MCL theory to this study enables a broader understanding of the role that cognitive landscapes have had on the population of the Cape Peninsula. One major aspect of this, and a predominant reason why MCL theory was selected for use in this research, is its applicability to not only historical and archaeological contexts, but contemporary ones as well. As a result, this section will begin with an analysis of South Africa's battle of the Atlantic as

viewed through a MCL perspective, followed by a look at the ways in which MCL theory can assist with the ongoing conservation of the Cape's military heritage.

3.4.1 Maritime Cultural Landscapes in the Historical Context

Since its founding in the early seventeenth century, Cape Town has been a port of vital economic and strategic importance (Bently 2007:138). Coming to be known as the "Tavern of the Seas," the port of Cape Town rose to become a major stopover point for ships transiting between the Atlantic and Indian oceans (Bently 2007:138). As a result, it is no surprise that the Cape's population would feel their link to the maritime landscape not only in practical and economic terms, but in cultural and social ones as well. When war broke out in 1939, the importance of South African ports for shipping and defense increased even further. As the war progressed, the arrival of German U-boats in South African waters placed the whole of Union's coast in danger, and made the port of Cape Town a lucrative target for enemy raiders. When analyzed from a MCL perspective, these enemy U-boats and surface raiders can be viewed as a type of maritime hazard or risk.

As Duncan and Gibbs describe, hazards within the maritime landscape will be perceived by those conducting maritime activities, and factor into the decision making processes for the economic viability of these activities (Duncan & Gibbs 2015:20). In this way, merchant mariners operating off the coasts of South Africa were involved in an ongoing process of weighing the risk of interdiction by enemy forces, with the potential economic gain of successfully completing each voyage. While this process may be most apparent for Allied merchant ships making trans-oceanic voyages, it would have been equally as important to the activities of local vessels as well. News articles from WWII within the *Cape Argus* commonly reference the activities of South African fishing vessels, mail ships, as well as coastal passenger and cargo ships, giving an

impression of a nation that is heavily reliant on maritime activities, and therefore deeply embedded within its maritime landscape. As such, perceptions of danger within the maritime landscape would have comprised a major factor in the extent to which ship captains and crews would have been willing to engage in economic enterprises at sea (Duncan & Gibbs 2015:20).

Using the risk framework provided by Duncan and Gibbs, the threat of enemy U-boats can be variously defined. The *actual* risk of enemy U-boats is the true statistical likelihood of any particular ship getting attacked throughout the course of a single voyage (Duncan & Gibbs 2015:20). Although the substantial loss of Allied shipping throughout the war indicates that this statistic is likely non-negligible, thousands of voyages by as many ships were still successfully conducted. It is worth mentioning that mariners may have felt a patriotic desire to continue sailing despite these risks, yet the fact that shipping continued at all indicates not only that sailors believed they had a reasonable chance of arriving safely, but that the economic rewards for doing so appropriately warranted the risk.

Given that the true number of active submarines in an area was known only to the German navy, civilian mariners possessed only limited information on the true extent of the dangers posed by Axis U-boats. Whereas the natural hazards surrounding the port of Queenscliff were well known and documented, the U-boat threat constituted a much less static and tangible hazard (Duncan & Gibbs 2015:176). Unable to discern the true risk, popular perceptions of the maritime landscape were all the more important to South African mariners as they could only weigh the threat of U-boats based on information that was made publically available.

In this way, mariners were not utilizing the *actual* risk of submarine attack in their risk-reward calculations, but were instead utilizing their individually *perceived* risk (Duncan & Gibbs 2015:20). First-hand encounters with enemy raiders, as well as the stories of the escapes, losses,

and deaths of fellow mariners would have uniquely impacted sailors' perceptions of the dangers at sea. Further, news sources such as the *Cape Argus* routinely printed accounts of attacks on Allied vessels, as well as statistics on lost shipping tonnage and risk rates. In particular, risk rates were a government mandated insurance fee paid on shipping cargoes, based on the government's perceived risk of sailing through certain areas. Since military intelligence on U-boat activity was kept strictly classified, these risk rates likely served as the best publically available indicator for the risk of particular maritime activities.

Nevertheless, South Africa's economic reliance on these maritime economies gave the Union government a powerful incentive to both protect these merchant vessels, as well as modify perceptions of the maritime landscape to ensure that these activities continued. In much the same way as the port of Queenscliff established a network of lighthouses and life-saving stations to reduce the risks of its surrounding natural hazards (Duncan & Gibbs 2015:20), the Union government instituted a series of ordered risk-management strategies to mitigate the risk of enemy attacks. In this way, the RDF stations, Huff-Duff stations, coastal defense guns, Battery Observation Posts, naval patrols, aerial reconnaissance, and merchant convoy systems can be viewed as types of ordered risk management strategies. These coastal defenses, in conjunction with the active aerial and naval reconnaissance programs, served the dual purposes of reducing both the *actual* risk of maritime activities, as well as the *perceived* risks of maritime activities.

When viewed through a MCL framework, the increased safety of ships operating in South African waters would have been reflected in the decision making processes of mariners to operate more freely and often. Given the classified nature of the RDF and Huff-Duff programs, however, this decrease in *actual* risk may not have fully translated into a decrease in the *perceived* risk of merchant sailors. Although a reduction in ship losses would certainly impact

the amount of hazard that mariners perceive within their maritime landscapes indirectly, a lack of knowledge regarding risk-mitigating infrastructure necessarily prevents it from being used within sailors' risk-benefit calculations.

In this way, the disparity between actual and perceived risk could have been utilized by various actors within wartime South Africa to manipulate the maritime landscapes and decision making processes of mariners. This idea serves as one of the core elements of this study, and is best described by Duncan and Gibbs' concept of *manufactured* risk. Within this framework, it is possible to utilize a variety of propaganda and misinformation to increase or decrease the perceived risk within an individual's maritime cultural landscape (Duncan & Gibbs 2015:20). If the Union government wanted to encourage sailors to continue operating under hazardous conditions, they might spread propaganda promoting the safety of coastal waterways. This reduction in perceived hazards would then alter the risk-benefit calculations of mariners, by misleading them to believe that the risks are less than they actually are. Conversely, those wishing to interfere with the Allied/British war effort could spread propaganda highlighting the dangers of enemy U-boat activity. By misleading mariners to believe that the maritime landscape is much more dangerous than it actually is, they will be less likely to undertake maritime economic activities.

In this way, the concepts of actual, perceived, and manufactured risk can be utilized within an MCL framework to understand the influence of South Africa's U-boat war on the decision making processes of mariners. In addition, while this section has focused largely on the people directly undertaking maritime activities, these concepts are not uniquely applicable to this population. In fact, perceived risks within the maritime landscape can profoundly impact a much broader range of individual action. The decision making processes of economic actors deciding

whether or not to sell commodities abroad, potential passengers deciding whether or not to travel, civilians deciding whether or not to join the military or support/protest the war effort, as well as many other seemingly unrelated decisions can all be influenced by perceptions of danger and risk within the maritime landscape. Given the Union's dependence on maritime economies, even those who were not directly involved in aquatic activities were nevertheless indirectly tied to these maritime cultural landscapes. For this reason, the MCL perspective serves as an excellent framework from which to analyze the historical processes of wartime South Africa.

3.4.2 Maritime Cultural Landscapes in the Modern Context

The maritime cultural landscapes of South Africa have changed dramatically since the end of the Second World War. Though maritime activities remain important, the nation has trended away (both culturally and economically) from its traditional reliance on the sea. Even the city of Cape Town, known historically as the Tavern of the Seas, has in modern times become better known as a destination for wildlife tourism. Despite this transition, some of the Cape Peninsula's smaller towns such as Hout Bay have remained thriving centers of maritime activity. In particular, small-scale coastal fishing is still a common livelihood among residents of these modern communities. Further, the area's many ocean-side restaurants serving this fresh catch serve as a major component of the area's maritime identity, in addition to being a major draw for tourists. Nevertheless, the broader perceptual shift away from maricultural economies has undoubtedly influenced how modern residents of the Cape construct their maritime landscapes. When applied to this this study, these trends can have major implications for the long-term preservation of the Cape's maritime heritage.

Westerdahl's definition of the maritime cultural landscape goes beyond cognitive symbolism of the water itself, including underwater and terrestrial maritime associations as well

(Westerdahl 1992:6). In the same way that terrestrial infrastructure such as ports, harbors, and lighthouses comprise indelible parts of the maritime landscape, so too do the RDF stations and coastal fortifications that once protected South Africa's coasts. By understanding these structures as elements of the surrounding maritime landscape, it becomes clear how broader perceptions of the maritime environment can influence community interactions with them. Utilizing this MCL framework, it stands to reason that as popular affinity with the maritime landscape declines, so too will public support for its associated infrastructure. In this way, as individuals lose their connection to the maritime landscape, they will simultaneously lose their cultural connection to the ports, harbors, lighthouses, RDF Stations, gun batteries, and other coastal infrastructure that comprise the terrestrial component of the surrounding maritime cultural landscape.

In his book, *Place, Race, and Story: Essays on the Past and Future of Historic Preservation,* Ned Kaufman makes the argument that preservation decisions and initiatives have been heavily biased by such cultural affiliations. The domination of historic preservation by white populations, he contends, has led to an overrepresentation of sites and structures with which these groups feel most closely connected (Kaufman 2009:17). Accordingly, individuals will be more inclined to protect and preserve heritage to which they view a personal sense of belonging. Though his study focuses specifically on the field of historic preservation, it stands to reason that these same dynamics persist within the broader population as well. In this way, as residents of the Cape Peninsula lose their connection with the maritime cultural landscape, they will feel a lesser sense of cultural affiliation with the physical remnants of this maritime heritage, and thereby be less inclined to preserve it (Kaufman 2009:297).

When the task of heritage management is placed within this framework, issues of cultural affiliation and perceived ownership become critical to the long-term conservation of historic

monuments. Preserving the Cape's WWII heritage for future generations thereby requires the support of surrounding communities. It will be difficult to enlist this type of popular support, however, unless these communities feel a sense of affiliation and ownership over the heritage that they will be working to preserve. In this way, teaching the history of these structures and emphasizing the unique diversity of the staff and soldiers that operated them will be a critical part of broadening their cultural appeal. At the same time, teaching the maritime history of the Cape Peninsula and highlighting its enduring legacy will similarly work to bolster cultural ties to the region's maritime heritage.

By gauging how these historic monuments fit within the maritime landscapes of the Cape's modern residents, we can better understand the cognitive and cultural factors that influence preservation decisions. When viewed through this MCL lens, it becomes clear that conserving this coastal and maritime heritage necessitates engaging with the maritime culture, symbolism, and legacy of local communities. If these structures have suffered by their absence from the cognitive landscapes of local residents over time, then conversely, their ongoing preservation should be aided by enhancing the symbolic importance of these structures within the mental framework of the surrounding maritime cultural landscape.

3.5 Conclusion

This chapter has discussed the foundation and history of cultural landscape and maritime cultural landscape theories, demonstrating their strength in transcending multiple lines of evidence to form a holistic understanding of both the cultural and environmental materials and processes influencing the production of landscapes. Furthermore, the concept of risk was discussed as it pertains to the maritime cultural landscape, influencing both the production of landscapes as well as the impact of these perceptions on the decision-making processes of

mariners. These ideas of risk were then applied to the historic context of WWII South Africa, forming the basis of the historical and archival research that will be discussed throughout the following chapters. Finally, MCL theory was applied within the contemporary context to assist in understanding how cultural symbolism and affiliations can impact community support and protection for historical monuments.

4. Literature Review

This chapter will serve as an account of the various secondary literature that has been published on the history of RDF stations and Huff-Duff arrays in the Union of South Africa since the Second World War. In so doing, this narrative will discuss the strengths and weaknesses of this body of literature, as well as highlight the areas in which the research conducted for this thesis endeavors to expand upon it. Broadly speaking, the secondary histories on this topic can be categorized by their historical or modern context. Each of these areas, and the articles that comprise them, will be discussed throughout the coming sections.

4.1 Histories of RDF, Huff-Duff, and the SSS

The most well documented topic is that of South Africa's role in the development and operation of RDF at the outbreak of WWII, including the organization and history of the SSS teams that operated the RDF stations. As one of the nation's more prominent accomplishments of the war, it has been well researched by Vlok (1974), Hewitt (1975), Lloyd (1990), Austin (1992, 2016), Brain (1993), Cloete, Ungerer and Steyn (1995), Mangin and Lloyd (1998), Brown (1999), Mangin, Geoffrey, and Weidman (2004), Crook (2013), Lee (2015), De Beer (2016), and Harris (2017). For discussions of the British development of RDF and operational research, McCloskey (1987a), McCloskey (1987b), and Rau (2005) are pertinent sources as well.

The first major histories of South African RDF begin in the mid-1970s. T.C.B. Vlok's (1974) article, "The Application of RADAR in the UDF during WWII," comprises the first of these. It discusses the formation of the South African Special Signals Services (SSS), their recruitment, and their role in the development and operation of anti-submarine radar stations in

South Africa throughout the Second World War. In addition, specialized microwave-frequency submarine detectors and costal radar station chains in southern Africa are more broadly analyzed.

The following year, F.J. Hewitt (1975) wrote an article titled “South Africa’s Role in the Development and use of RADAR in World War II.” Similar to Vlok, Hewitt discusses the basis, development, and achievements of the South African SSS in anti-submarine radar detection and interception. In so doing, he creates a number of meaningful comparisons to British designed RDF systems, noting that the South African focus on submarine detection made the initial JB units arguably better constructed for open ocean survey.

B.A. Austin’s 1992 paper, “Radar in World War II: The South African Contribution,” follows these ideas with a more technical history of RDF and the process of its scientific development by Dr. Schonland and his team. It details the development and first uses of RDF technology in South Africa at the outbreak of World War II, with a focus on contextualizing this project within the scope of the broader strategic need of the United Kingdom. Though the technology had been created in the UK, its strategic distribution to the remainder of the Commonwealth was done through the training of skilled technicians from throughout the dominion. As such, this paper is much more centered on the story of Dr. Schonland and the technicians selected from South Africa to operationalize RDF technology for use in the protection of the Empire’s maritime trade lanes.

In 1993, one of the seminal texts on the subject of South African RDF history was published by Peter Brain, entitled “South African Radar in World War II.” The text spans a wide variety of topics, beginning with the basics of radar technology and a history of its development in South Africa that follows closely to the story described by Austin and his predecessors. The text excels in its descriptions of life at the radar stations (in a chapter written by Sheilah Lloyd),

with a particular emphasis on the women operators and their day-to-day experiences on the remote and secretive outposts. In addition to a useful collection of maps, photographs, and illustrations of the radar stations and their locations, the book also contains an extensive section discussing the use of radar technology on RAF aircraft for use in anti-submarine reconnaissance.

Cloete, Ungerer, and Steyn's (1995) article, "The Radar Industry in South Africa," gives a similar overview of the development of South African radar throughout WWII, though with a greater focus on the scientific and engineering aspects of the technology. In addition, their article follows South African radar technology into the post-war years, tracing further technological advancements and associated search and tracking systems.

In 1998, Goffrey Mangin and Sheilah Lloyd, both former service members of the SSS published a major article on the topic called "The Special Signal Services (SSS): We Scanned the Seas and Skies in the Second World War." Broadly speaking, the article gives a general overview of the development and operationalization of radar technology by Dr. Schonland and his team, as well as the eventual construction and operation of the various radar stations along the coast. The history described therein is remnant of the preceding texts, though the incorporation of first-hand knowledge from the authors' own experiences does help to enrich these stories. The article describes some of the very first deployments of the early JB radar units, as well as some of the quirks of field-testing that influenced later radar designs. Sheilah Lloyd describes life as a station girl, covering much of the same ground as the chapter on station life that she wrote for Peter Brain's (1993) book. Nevertheless, her accounts throughout both of these texts serve as some of the few resources documenting the shift-work, leisure time, accommodations, and daily life on the radar stations. In addition, the article briefly surveys the later acquisition and deployment of British and American radar arrays throughout both the

coastal stations, as well as on RAF reconnaissance aircraft. Finally, the authors make good use of their personal knowledge with an addendum at the end of the article describing where many of the key figures of the South African radar program found themselves in the post-war years.

An American author, Louis Brown (1999), released a more general text on the history of radar in WWII entitled "A Radar History of World War II: Technical and Military Imperatives." The book discusses the history and development of radar technology by each of the major powers throughout WWII. In particular, Britain and its colonies are discussed in depth, with excellent detail on the precise technological engineering and dynamics of the emerging technology. Though its generality facilitates the comparison of radar systems between each of the major powers, this breadth nevertheless limits many of the more specific insights into the South Africa's utilization of them.

Taking a more practical look at the history of radar and other coastal defenses throughout the war is Marinda Weidman's (2004) article, "Robben Island's Role in Coastal Defense 1931-1960." Her article discusses the mixed and tumultuous history of Robben Island, a small barrier island off the coast of Cape Town. In an attempt to look beyond the island's better known history as an infamous prison for political dissidents such as Nelson Mandela, Weidman details its earlier uses as a fortified naval battery. It describes the island's various fortifications, garrisons, radar detectors, and other coastal defenses that were active throughout the Second World War. In this way, the article analyzes the island's role in the Union's overall coastal defense strategy, particularly as a harbor defense against enemy submarine activity.

Following similar lines, Lionel Crook published a major book on the subject of Robben Island's naval defenses in 2013, titled "Island at War: Robben Island 1939-45." Although the text focuses primarily on coastal gun batteries and artillery crews, the chapter on RDF and the

SSS goes into great detail about South African radar stations. It begins with a history of Dr. Schonland and South African RDF development that is largely identical to that of the other histories discussed above, though it goes on to describe the operation of several RDF stations throughout the Cape in much greater detail. Notably, the text provides many of the operational details of the Robben Island radar arrays and the unique ways in which its short range coast artillery (CA) radar units functioned. Further, the text possesses many key details regarding the operational lifespans of the Cape's radar stations.

More recently, Johan De Beer (2016) published his book, "The History of Geophysicists in Southern Africa," which contains a chapter on the development of South African radar systems during WWII. Much like some of the more technical pieces described above, this text focuses more on the scientific and engineering accomplishments of Dr. Schonland and his team of researchers, yet nevertheless does an excellent job of addressing many of the logistical and institutional hurdles faced by these South African scientists and military leaders as they worked to develop a functional radar network.

The same year, Brian Austin (2016) released another article, "On the Development of Radar in South Africa and its Use in the Second World War." By and large, this article reiterates much of the same history on the development of RDF and the efforts of Dr. Schonland and his team, though it does provide some good background on how the previous academic research of these individuals translated into their work on the RDF program. It follows some of the early deployments of RDF units in the other African theatres, before briefly touching on the installation of South Africa's coastal RDF network. A notable strength however is its inclusion of statistics regarding the number of officers and operators that served within the SSS throughout the course of the war.

In addition to these academic sources, the *Simon's Town Historical Society Bulletin*, a local publication, has published a number of articles on the history of South African radar and coastal defenses throughout WWII. While these articles are written for a more general audience, their proximity to the sites, and oftentimes the familiarity of the authors with members of the SSS makes them a meaningful part of the secondary literature. Notably, an article appearing in the July 1996 issue of the bulletin, titled "Mystery Tower on Seal Island, False Bay in WWII" which was itself an article derived from the *South African Shipping News and Fishing Industry Review* of April 1946, describes the classified construction of a radar tower on Seal Island (Ed. Simon's Town Historical Society 1996:70). Though the article is short, it gives insight into the construction of these sites that is not addressed in the other secondary histories.

Much like the RDF program, Huff-Duff operations in South Africa were highly secretive. These lesser known operations, including the interception and translation of Enigma-coded transmissions has been documented by Bizley (1998), Dean (1998), and Stott (1998). Due to the classified nature of the project and its limited documentation, however, even these studies were conducted primarily on ethnographic and personal knowledge. Both the RDF and Huff-Duff sites were operated by specially trained individuals (mostly women) at remote outposts, however, so it is highly likely that life and operations on the Huff-Duff stations had a great deal in common with their RDF counterparts.

The first article by Bizley (1998) is titled "A Flashpoint in German and South African Surveillance Politics, 1942-3." It discusses the listening stations and radio technology utilized in South Africa to intercept and decode high-frequency radio transmissions sent from German U-boats during World War II. Therein, the compartmentalized administrative structure of the South African Huff-Duff program is outlined, alongside the protocols for detecting and forwarding

intercepted radio transmissions. Bizley then goes on to describe how this radio triangulation was used to ascertain the location of the U-197 and ultimately guide the RAF intercept plane that destroyed it. The prevalence of German espionage activities in South Africa, as well as the Union's counter-espionage programs, are also discussed.

Following very similar lines, Stott's (1998) article, "South Africa's Secret War: The War against Enemy Submarines, 1939-1945," follows the creation and administration of the Union's Huff-Duff program. The article describes the establishment of the program's headquarters in Simon's Town, as well as the various receiving stations situated throughout the country that reported their radio intercepts back to central command. It broadly summarizes the basics of U-boat communications and the protocols for intercepting, plotting, and decoding these messages. The complex equipment and infrastructure necessary to conduct these operations is discussed at length before turning briefly to the daily operations and complexities of Morse code.

Finally, in the same year (1998) C.H. Dean published an article titled "The Enigma Machine and the 'Ultra' Secret." Unlike the other articles which discuss the daily operations of South African Huff-Duff technicians, Dean takes a much more technical look at the Enigma protocols that these stations worked with. The article outlines the basics of cryptography and the fundamental frameworks that British intelligence officers used to decrypt the German code and read enemy transmissions.

4.2 Modern Site Survey and Management

With the secondary histories of the RDF stations, Huff-Duff stations, and Special Signal Services having been overviewed, literature regarding the modern survey and management of these sites may be discussed. Within this category are a number of academic sources and technical reports that comprise the established body of literature on the topic. Sources include

texts by Fuller (1999), Nilssen (2004), Jerardino (2006), Baumann (2009), Winter (2013), Lee (2015), and Sheppard (2016).

The first of these is a Master's thesis written by Sam Fuller (1999) at the University of Cape Town entitled "Continuity and Change in the Cultural Landscape of Table Mountain." Though the text is written from a geographic perspective, Fuller discusses the conflicting interests of various stakeholders in the ongoing management of the Table Mountain National Park system. Given that the park is host to nearly all of the RDF stations surveyed for this study, these management practices are of critical importance. In particular, the thesis describes how various types of human development have influenced the cultural and cognitive landscapes of the park. While Fuller's argument focuses on limiting modern development, it does detail how these various forms of cultural artefacts can fit within the broader landscape of the Table Mountain National Park system moving forward.

In 2004, Dr. Peter Nilssen and the Mossel Bay Archaeology Project conducted an archaeological survey of a small area within the town of Mossel Bay. The report they published is titled "Heritage Impact Assessment, Remainder Erf 9343, Mossel Bay, Western Cape." The survey was conducted on a historic schoolhouse and an early 20th-century dwelling. Although neither of these sites are related to RDF stations, this study does represent some of the limited archaeological survey work that has been conducted following NHRA guidelines. In particular, the survey was conducted in order to obtain permits for the demolition of these structures, illustrating the process by which historic structures are assessed and graded by SHARA and the NHRA (Nilssen 2004).

Another report by Dr. Antonieta Jerardino (2006) describes a similar archaeological survey of Elands Bay. In this case, the report is actually a Provincial Heritage Site Nomination

Form, recommending that Baboon Point in Elands Bay be appointed to the provincial heritage register. The report details each of the major types of archaeological materials found throughout the area, including a myriad of prehistoric, colonial, and early modern resources, among which is a former WWII RDF station. The report does not give much detail about the archaeological remains of the station, but does mention the significant damage that it has sustained from graffiti, vandalism, and a lack of maintenance, all of which will continue to degrade the site until remedial action is taken. For the most part, however, details of these various cultural resources are utilized primarily to establish historical, cultural, and social significance to the site, thereby validating the author's argument to have it placed on the historic register.

A similar report by Nicholas Baumann and the Overstrand Heritage Landscape Group was published in 2009 titled "Public Participation Document: Cape Hangklip, Rooiels & Pringle Bay." The report broadly outlines a number of archaeological sites throughout the Overstrand area, including the Hangklip RDF station and its former barracks (now a renovated hotel). The space dedicated to each site is brief, but concisely summarizes the location of each site and its physical description. In addition, it gives some historical context for the site, its current NHRA protected status, recommends an NHRA grade, and then offers some management considerations. Despite its brevity, this report serves as the only detailed archaeological survey of a South African RDF station to date. Further, the report contains reasoned criteria for their suggested NHRA grades, offering a good example of how to add additional RDF stations to the historic register.

In 2013, the Western Cape Government released a major report titled: "Heritage and Scenic Resources: Inventory and Policy Framework for the Western Cape." Prepared by Sarah Winter, the report gives a broad outline of the cultural heritage sites contained within the

Western Cape Province and the geological substrates in/on which they are found. Unlike more traditional cultural heritage inventories, this report focuses on the scenic resources throughout the province, offering developmental planning advice and guidelines for local municipalities to help preserve these resources. While the report serves only as a general outline of these resources, it does briefly mention the category of military history. Notably, in the section on the Cape metro area it references the many remains of derelict radar stations overlooking the coast, but does not offer any further details about them (Winter 2013:23). The report goes on to mention many of the limitations of preserving these historic monuments, particularly the lack of a unified/consolidated heritage register. It does at the very least, however, indicate that these RDF stations are on the radar of the provincial heritage authority.

In 2015, Robin Lee released an article titled "Radar Stations in the Overstrand during World War II." The article gives a brief history of the Hangklip RDF station, while also reiterating much of the conservation information from the 2009 Overstrand resource report. It does, however, follow the site forward into modern times, tracing the development and renovation of the lower barracks into a hotel.

Finally, a report by Bob Sheppard (2016) and Heritage Detection Australia published a detailed report on the archaeological survey of an Australian radar station titled "Report on a Heritage Survey of Radar Station 48, North Head, Jurien Bay for the Shire of Dandaragan." Despite its location in Australia, the survey of Station 48 revealed many commonalities with the site structures of its South African counterparts. Overall, the survey methodically outlines each of the structures on site, as well as their associated materials and artefact deposits. The report does not attempt to discern the functions of individual structures, but does an excellent job of recording the types of building materials used on each structure, as well the various elements of

natural and cultural damage most prevalent throughout the site (Sheppard 2016). Compared to the research that was is conducted for this thesis, the archaeological survey of Station 48 is the most methodologically similar.

4.3 Literary Synthesis

Given this appreciable body of secondary literature, it is important to discuss not only the major themes that run commonplace throughout it, but also the aspects of it that are conspicuously absent. The most notable of these differences is the major disparity between the volume of literature discussing the history of RDF compared to that discussing its modern archaeological remnants. When viewing this body of secondary literature as a whole, it becomes clear that there has been a marked focus on the development of South African RDF systems and their use throughout the war. The story of Dr. Schonland and his team of researchers has been written about extensively, magnifying the grandeur of their ingenuity and perseverance to nearly heroic proportions.

It is perhaps no surprise that this story has come to dominate the literature, particularly given the personal connections that many of these authors have to the RDF program, and the unique insights that they are thereby able to add to the telling of its story. Nevertheless, this focus has had the undue effect of neglecting many other aspects of the narrative. For instance, the women operators of the stations are discussed periodically, and largely only by Sheilah Lloyd, who was herself one of them. In addition, the topic of the NMC and the other African auxiliaries that helped to construct and garrison these sites has been almost entirely overlooked (Roth 2009:85).

Whereas the technical and engineering history of South African RDF is well written, the parallel story of Huff-Duff operations is significantly sparse. The literature that does exist on the

topic relates more to the scientific aspects of how such radio intercept operations were technologically possible, rather than what the lived experience was for those who conducted them. In addition, the women operators of the Huff-Duff stations (and their equivalent to the SSS) are hardly mentioned. While this may have resulted just as much from the secrecy of the Huff-Duff program as from the interests of historians, it has left a considerable gap in the story.

Finally, even the sparsest of these topics is still better researched than the modern archaeological remnants of the RDF stations. Including government reports, there is still a near complete dearth of published archaeological surveys on any of these sites. Further, the archaeological surveys that have been conducted on RDF stations were done so in municipalities outside of the Cape Peninsula, leaving those in the Cape Metro-Area virtually unrecorded. While Heritage Western Cape (HWC) documents indicate that these stations are known to the provincial heritage authority, they have not yet been subject to any formal archaeological analysis. Therefore, this study is excellently poised to fill in a major gap in the existing archaeological record. The survey and documentation of these sites will thereby contribute towards this major deficit by providing baseline feature information and condition assessments for the Cape Peninsula's RDF sites that have not yet been obtained.

5. Methodology

5.1 Introduction

The fieldwork for this thesis took place over six weeks during the summer of 2017. Funding was provided by East Carolina University and the History Department's Maritime Studies Program. This project was conducted under the advisement of Dr. Lynn Harris, Associate Professor of Maritime History at ECU. Local assistance in South Africa was provided by the Simon's Town Historical Society and South African RDF historian Dr. Mike Inggs. The first two weeks were spent with a study-abroad group operated jointly between the ECU History and Biology departments. Dr. Lynn Harris led the history study abroad program while Dr. Patrick Harris led the biology program. The bulk of this period was spent in the Cape Town and Simon's Town areas with Dr. Lynn Harris and Elizabeth McAlister (the other study abroad history student) touring museums and scouting potential site locations. In addition, the Cape Point and Olifantsbos RDF stations were surveyed with this team, as well as the remnants of an historic structure on Robben Island. The remaining 4 weeks of the field season were split between archaeological and archival research largely depending on weather and site access.

The city of Cape Town served as the base of operations for most of the archival research conducted, as well as historic sites located on the northern half of the peninsula. The Cape Town Library and Western Cape Archives and Records Service are both located near the city center, making them easily accessible by local public transit routes. As the majority of the targeted historic sites were located on the southern half of the peninsula, however, Simon's Town served as the primary base of operations for most of the archaeological survey. In addition, the archives at the South African Naval Museum and Simon's Town Museum were both located in and

accessed from Simon's Town as well. This ease of access and proximity of archival repositories to the launching points of archaeological survey allowed for the easy maximization of field days during the Cape's variable winter weather.

In the following sections, both the detailed plans and actualized operational methodologies of this historic and archaeological fieldwork are discussed. The archaeological survey methods utilized in the field are outlined, as well as the primary metrics used to assess site integrity. Further, indicators for site formation processes are identified and described as pertains to their broader influence on site survivability. Following this discussion, the methodologies utilized in the various phases of historical and archival research for this study are reviewed. The background historical research process is overviewed, in addition to the field methodologies utilized while surveying the Cape's document repositories. The process for conducting the historical newsprint survey at the Cape Town library is covered here as well. Finally, the limitations of these methodologies are discussed, as are their impacts on the outcomes and conclusions of this research.

5.2 Archaeology

The archaeological methodology for this project reflects the research objective of locating and documenting the Cape Peninsula's historic WWII sites. The primary purpose was to record condition assessments for each of the sites and establish a digital inventory of the component structures and their present state. In addition, this fieldwork sought to examine the various site formation processes active across the survey dataset. To accomplish these objectives, fifteen historic sites (most from the World War II period) throughout South Africa's Cape Peninsula were surveyed and documented. Of these, ten RDF stations and Battery Observation Posts (BOP) were documented according to the assessment methodologies described below, and

form the core sample of the sites studied. In addition to condition assessments, several metrics were identified for each site, including structural integrity, legal protection status, and accessibility. Five other sites were visited and recorded as well, though to a more limited extent.

5.2.1 Site Location and Initial Survey

Known sites were located utilizing a combination of archival records, secondary histories, directions from area residents, and Google Earth satellite imagery. Particularly helpful to this was Dr. Mike Inggs, a former RADAR engineer and resident of Simon's Town, who was able to recall the locations of several RDF sites and point out their general positions on a map. The locations of unknown (or "forgotten") sites were inferred from archival documentation in conjunction with satellite imagery (this process is described in greater detail in the section on archival research). Once a site was found, the survey team went to ground-truth the site and document its remaining structures. During the first two weeks of the field season, this team consisted of the author, Dr. Harris, and Elizabeth McAlister. Following the departure of the study abroad group, however, sites were surveyed by the author alone.

Upon arriving on site, documentation proceeded according to a list of priorities. Given the variable amount of time available at each site, it was important to accomplish the broader objectives before proceeding down to finer details as time allowed. Foremost, the site as a whole was scouted, and a mud map drawn identifying all of the cultural features. A GPS point was taken at the center of each structure (or near enough as was possible), for the later construction of detailed site maps. The size of structures and other features were generally estimated by measuring the number of paces from end to end with the average length of the author's pace having been pre-established as a known quantity. Distance between structures and the relative layout of the site was estimated in a similar fashion. These details were recorded in a field

journal on the site map. In addition, during this process individual structures were assigned temporary identifiers (Ex: Dormitory ##, Lavatory ##, or Unidentified ##) for use during the more detailed recording of the next phase.

Once the general site layout had been documented, the recording of individual structures commenced. The Historic American Building Survey (HABS) Guide to Field Documentation was used as a general guide for this process (NPS 2011). Using the temporary identifiers described above, individual structures were measured and sketched in the field journal. In this way, a plan drawing of each building was created with more specific measurements of major features as could be obtained with a measuring tape or by measuring paces. Structure faces with particularly notable features were also sketched during this phase, though generally these features were recorded using scaled photographs.

5.2.2 Site Photographs

After the sketches were complete, the structure was then photographed. Photographs were taken with an Olympus Tough TG-3 waterproof point-and-shoot camera. When site visits outlasted the battery of this camera, an IPhone 7 built-in camera was used as a backup. The system utilized to take photographs is a version of the HABS/HAER/HALS Photography Guidelines modified slightly to fit this specific purpose. According to these guidelines (NPS 2015:3), photos of historic structures must include:

- General or environmental view(s) to illustrate setting, including landscaping, adjacent building(s), and roadways.
- Front façade, with and without a scale stick.
- Perspective view, front and one side.
- Perspective view, rear and opposing side.
- Detail, front entrance and/or typical doorway.
- Typical window.

- Exterior details, such as chimney, clerestory, oriel, date stone, gingerbread ornamentation, or boot scrape, indicative of era of construction or of historic and architectural interest.
- Interior views to capture spatial relationships, structural evidence, a typical room, and any decorative elements; these include hallways, stairways, attic and basement framing, fireplaces and mantels, moldings, interior shutters, kitchen (especially if original), and mechanicals.
- If they exist, at least one view of any dependency structures, such as privies, milk or ice houses, carriage houses, sheds, detached garages, or barns. These structures need to be identified in the index to photographs.

In addition to the photographs dictated in the HABS guidelines, scaled photos were also taken for each of the other faces as well. Since the objective of this study was not only to take a condition assessment of each structure but also to create a digital inventory of them as well, steps were taken to ensure that as much of each structure was photographed and recorded as possible. Further, most of the structures recorded were small enough that photographing each face individually was relatively simple and not overly time consuming.

Scaled photographs of each interior face were taken as well with perspective photos to link the faces together. Close-up scaled photos were taken of windows and doors, as well as of any interior features such as equipment mounts, showers, and hearths. Particular attention was paid to objects with writing on them (such as fuse boxes and drainage pipes) that could potentially help to date the site or trace its source materials. At least one photo was taken of the floor and ceiling to establish material type with additional photos taken as necessary to document areas of notable damage. Artifacts and surface scatter both within the remaining structures as well as throughout the site generally were also photographed and documented. Similarly, when present, examples of modern cultural refuse (indicative of ongoing site activity) were photographed as well.

Throughout this process, any type of natural or cultural damage to the appearance or integrity of structures was noted and photographed. These indications of damage were later used

to assess the integrity of the structures themselves, as well as determine overall site condition. Following the photographic documentation of each site, a video walkthrough was then conducted.

5.2.3 Site Videography

While photographs were useful for documenting the faces and condition of each structure, they are inherently limited in their ability to display the spatial relationships of structures to one another throughout a site. As such, the photographic record was supplemented by a video walkthrough of each site. To accomplish this, a hand-held GoPro Hero 4 was utilized in video mode for this purpose. Video was shot at a resolution of 1920x1080 with a frame rate of 60 frames per second. Audio was sampled at 48 kHz with a bit rate of 127 kbps. Video files were stored in the MP4 format. It should be further noted that the GoPro was enclosed within a waterproof case, protecting it from the regular rain and humidity in the field, but also somewhat dampening the audio narration.

Videos were shot in a regular pattern, beginning near the entrance to the site and proceeding either “upslope” from building to building or along the site’s main trails and pathways if it had them. In this way, the camera would be held at chest height and pointed towards the building being documented. The videographer then walked towards the structure keeping the camera focused on the building. Upon arriving close enough to the structure that it filled the shot, the user then kept the camera focused on the structure while walking in a circle around it. In this way, a 360 degree view of each building was created. The camera was then walked inside of the building and used to create an interior panorama of each room. Upon exiting the building, the camera was pointed at the next structure to be shot and this process repeated.

Circular panoramic shots of the site and surrounding terrain were added occasionally to give an impression of the overall site layout.

5.2.4 Architectural Drawings and Final Survey

Once the video walkthrough of each site had been completed, the final phase of recording was begun. If time allowed, detailed architectural drawings were created for important structures. Similar to the generalized recording, the HABS Guidelines for Recording Historic Structures and Sites with Measured Drawings (NPS 2008) were used as a guide for these drawings. In this process, plan drawings were made with highly detailed measurements and the careful plotting of features. Graph paper lined at 0.5cm was used as the medium for these drawings, which were then scanned into digital form.

After recording structures, sites were then surveyed for active site formation processes (Schiffer 1983:675). Particularly for sites in remote locations, the area surrounding each structure was searched for signs of wildlife activity. Tracks and spall belonging to various animals could often be identified, giving insight into the types of wildlife in and around sites that may be impacting their preservation. Finally, the site was searched for evidence of charred foliage - a good indicator of veldfire activity within the past several years that could indicate the potential impacts of these natural burn events on structure survival.

5.2.5 Condition Assessments

Following the collection of field data, the post-processing of structure recordings was conducted through the creation of condition assessment worksheets. For this process, a standard condition assessment form was completed for each individual structure on site. Forms were designed to detail and describe a number of pertinent condition metrics, as well as assign each of

these metrics a weighted point score that could be used to more readily assess a structure's overall health. In this way, structures were assessed for the status of major structural elements such as walls, roofs, floors, and features such as windows and doors. In addition, other characteristics such as the surviving percentage of original paint, the extent of modern cultural impacts such as graffiti and litter, veldfire damage, natural plant overgrowth, and wildlife activity, as well as the structure's accessibility and safety were measured, described, and assigned scores.

Given the breadth of sites and structures surveyed, these metrics needed to encompass a wide array of possible conditions, from relatively healthy buildings with minor cracks in the façade to those in ruins with nothing remaining but foundations and rubble. To accomplish this, each condition metric was given a detailed written description, ensuring that each area of structural damage or instability was noted. Given the extent of the structure recordings, as well as the need to compare the influence of these factors on overall preservation, each of these metrics was also assigned a point score according to a set of pre-established criteria. The point scores from each category would then be deducted from the total score of the structure, forming a composite score of the building's overall health.

In this way, each structure starts with a maximum of 35 possible points (the sum of all categories), and then loses a certain number of points from each condition category depending on how much damage it has sustained in that category. The number of possible points for each category is weighted based on its importance to overall structural stability, historic value, as well as the safety and accessibility of these structures to visitors. The specific categories, as well as the system used to assign points to them is detailed below (Table 1):

TABLE 1
BLANK CONDITION ASSESSMENT WORKSHEET

Structure Condition Assessment Worksheet		
Structure Name:		
Site Location:		
Construction Date:		
Central GPS:		
Elevation: (meters)		
Description:		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%) Internal and external.		
Structural Condition of Roof (-4 = Missing completely; -3 = Beams only; -2 = Beams and some remaining sections of roofing; -1 = Largely intact, minor cracks or damage; 0 = Good condition/asthetic damage only)		
Structural Condition of Walls (-10 = Missing completely; -8 = Catastrophic structural damage, large sections of missing or collapsed walls; -6 = Major structural cracks, missing pieces, exposed rebar; -4 some structural cracks, light damage; -2 asthetic or light damage, minor cracks; 0 = Good condition or asthetic damage only.		
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections, major structural cracks; -1 = Light damage, minor cracks; 0 = Good condition or asthetic damage only)		
Condition of Features (-4 = completely missing doors, windows, and other features; major rot or corrosion damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features; -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows present or disarticulated, minor damage to frames and other features; 0 = Doors and windows present, asthetic damage only to frames and features.		
Fire Damage (-1 = signs of veldfire damage on or in the vicinity of the structure.		
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffitti and minimal litter).		
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).		
Wildlife Activity (-1 = signs of wildlife activity or habitation within or around the structure; 0 = no obvious signs of wildlife activity).		
Structure Accessability (-1 no clear trail or path to structure; 0 = any passable path to structure)		
Structural Safety (-4 = Exposed rebar, broken glass, (likely) aspestos tiles, unstable structural elements that could cause serious injury, or are otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure; -2 = Moderate hazards; -1 = Minor hazards such as broken glass on floor; 0 = little risk posed by structural condition.		
Structure Point Total (of 35 possible points)	**35**	

There were a number of objectives for scoring condition reports in this manner. The most notable of which was to quantify various elements of structural preservation into a form that could then be used for baseline statistical analyses. While verbal descriptions comprise the better part of the detailed condition reporting for individual structures, they represent a form of qualitative data that cannot itself be used to draw comparisons within or between sites. Further, a table of verbal descriptions alone is limited in its ability to concisely detail the overall state of a structure. In this sense, scored metrics give readers the ability to quickly gauge the structure's general state, as well as see the primary factors contributing to that score.

Considering the highly diverse range of structures surveyed for this study, it was necessary to utilize an assessment system that was capable of displaying the nuance of various states of structural preservation. There were several cases of structures surveyed that had suffered some major element of damage, but that were otherwise in reasonably healthy condition. In other instances, buildings were structurally sound but heavily impacted by cultural defacement. By using this system however, these situations can be easily recognized and understood by readers at a glance, leading to a clearer understanding of the structure's state and to better conservation decisions and outcomes.

A further benefit of this system is that it still ascribes potential historic or heritage and scientific value to structures that are otherwise heavily degraded or in ruins. For example, if buildings were scored based entirely on their structural condition, then a building in ruins would have a score of 0. Utilizing this framework however, ruined buildings that remain safe and accessible to visit can still possess historical, scientific, or cultural value that is reflected by a low (though non-zero) score.

Once all of the individual structures had been properly analyzed and coded according to these metrics, the assessment forms were then compiled into larger spreadsheets for each site. This enabled the final phase of site-level assessment. The first index to be generated in this process was the average score for all structures on the site. This was done simply by summing all of the total scores for individual structures and dividing by the number of structures. This average score thus enables sites as a whole to be compared to one another in terms of the average condition of their component buildings.

One issue that was found during this process, however, was the outlying statistical effect of cistern structures on the site averages. Most of the sites surveyed had between 2 and 4 small concrete cisterns used for storing rainwater. Given the nature of these structures (thick, enclosed concrete boxes), they have survived remarkably well when compared to the other structures on site. As a result, it became obvious when generating the site averages that these numbers were being significantly swayed by the presence of cistern (outliers) at each site. In order to generate a more accurate comparative average for each site, an additional mean was generated excluding these cistern structures. See (Table 2) for an example summary.

TABLE 2
EXAMPLE SITE SUMMARY

Overall Site Summary: Karbonkelberg RDF Station		
Average score of all structures on site:	24.42	Structures: 12
Average score of structures excluding cisterns:	23.6	Structures: 10
Site Accessability Number (Travel time to site from nearest town in minutes):	45	>45 minute hike
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	600	
Highest Elevation on Site (Meters)	615	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Passive Legal Protection	

In addition to the two condition averages, sites were also gauged for their accessibility from nearby towns. This metric serves as a rough indicator for the frequency of human visits and the general impact of cultural processes on site survivability. In theory, the closer that a site is to an inhabited area, the more foot traffic it should receive. If there is more foot traffic on a site, then it will likely suffer a greater amount of damage from cultural defacement and accumulate larger amounts of modern refuse than will sites located further from population centers. To determine accessibility, travel times to sites (in minutes) were estimated utilizing knowledge from the author's own travels to these locations in conjunction with time estimates taken from Google Maps. It should be noted that these estimates were calculated by summing the individual components for a drive to the trailhead, as well as the minimum hiking time necessary to reach the site itself. Given that vehicle ownership for residents of the Cape Peninsula is often limited, however, those reaching the trailhead via public transportation will have significantly longer travel times than those listed here.

Once the time estimate was generated, it was then sorted into one of three accessibility categories: 1: *Within* an inhabited area, 2: *Nearby* an inhabited area, or 3: *Distant* from inhabited areas. More specifically, travel times of less than 5 minutes from the closest town were considered to be within an inhabited area. Travel times between 5 and 20 minutes were considered to be nearby an inhabited area. Finally, travel times greater than 20 minutes from the closest town were considered to be distant from inhabited areas. These numbers were generated arbitrarily, but nevertheless serve as a general guide to the amount of effort required to reach a given location.

In addition, sites were then ranked into three categories depending on their legal protection status. According to the National Heritage Resource Act (NHRA) of 1999, all

structures that are older than 60 years of age are legally protected and require a permit from the relevant heritage management agency to alter or demolish (Heritage Western Cape 2015:1). Every one of the structures surveyed for this study is 60 years or older, and is thereby protected under the NHRA. As such, sites with only this baseline protection are categorized as "NHRA >60 only." However, some sites possess varying degrees of additional legal protection based on their location in National Parks or wildlife reserves. Sites with this additional legal protection are categorized as "Passive Legal Protection, or Passive Protection." Finally, sites that possess either degree of legal protection, but that are under undergoing some form of active conservation or restoration are categorized as "Active Protection."

Finally, sites were assessed for their distance from the ocean (in meters). Given that these sites were all coastal defense installations, their proximity to the ocean should be considered a major factor in long term site survivability. Accordingly, the deleterious effects of high winds and salt spray on structural integrity should generally decrease with distance from the ocean. In order to test this hypothesis, Google Earth measuring tools were used to determine the minimum distance (in meters) of each site from the coastal shoreline (not including vertical distance).

Utilizing this framework as the basis for both structure- and site-level analysis, a broad array of diagnostic information can be generated. In the following chapter, the results of this analysis will be presented for each site, detailing the current state of structure preservation, specific areas of critical degradation, as well as some of the unique factors influencing each locale. Following this discussion, the aggregate dataset generated from these technical reports will be used to draw some baseline statistical comparisons between the various sites and structures.

5.3 History

5.3.1 Background Historical Research

The background historical research for this project was conducted in a variety of ways and with an array of different primary and secondary sources. Specifically, without knowing the true extent or contents of the archival resources available in Cape Town prior to conducting fieldwork, this prior research covered a broad variety of topics that would leave open multiple avenues depending on the specific results of the archive search. Foremost, this process began with a general search for historic documents or literature relating to the construction and operation of the RDF stations. Despite a general dearth of information regarding the day-to-day lives of station operators and staff, there was a surplus of secondary histories discussing the invention and implementation of early South African RDF arrays. Upon delving into this topic further, it became clear that the narratives being written by South African war historians seem largely dominated by tales of the cunning and ingenuity of Dr. Schonland and the team of scientists who developed the nation's first RDF technology. Though this may represent an over-emphasis on narratives of individual actors, the quantity of information on the topic greatly assisted in developing a thorough understanding of South Africa's development and use of RDF throughout the war.

With a sound grasp on the history of RDF, the next major area of research was the Union's political environment during WWII. The RDF program was kept heavily classified in large part because of the threat posed by dissident groups living within the country. In this way, each of South Africa's major social and political groups of the period were researched in turn. In particular, these various groups were studied with the intent of discerning how their social and cultural beliefs impacted political loyalty. Population demographics thus featured heavily in this

search, with various types of activism offering insight into the political beliefs of each demographic. Literature from this period was easily sourced, particularly regarding the pro-British Unionists, as well as the Afrikaner Nationalists and communist parties. Unlike the white/European political parties, however, the disenfranchised African majority was barred from political activism. Unable to publish their political views, the sentiments and loyalties of the Union's African citizens were much more difficult to pinpoint. Nevertheless, references to African labor strikes and various newsworthy incidents chronicled by other media do allude to the social consciousness of these marginalized demographics. A great deal of time was spent studying the various population dynamics and the internal conflicts that they fueled throughout the war.

With this background in hand, it became necessary to understand the overall military strategy employed by the Union of South Africa throughout WWII. Most importantly, the function of the RDF arrays needed to be contextualized within the broader history of the war. To this end, a large amount of information was gathered on the Battle of the Atlantic, as well as South Africa's contribution to the Allied war effort. Secondary sources discussing the Battle of the Atlantic were prolific, though far less so for theatres outside the North Atlantic. A variety of primary source accounts of convoy practices around South African waters were available, in addition to RAF reports of aerial scouting and intercept missions. Photographic records of ships passing through Cape Town's harbor were also quite abundant (Marsh 2007). Together, these resources give an impression of the anti-submarine countermeasures utilized, as well as the extent of shipping losses suffered by Allied merchant marine fleets.

In addition to these sources, the *British Forces War* digital archives were searched for materials relating to South Africa's U-boat war. Contained within were the war diaries of several

British soldiers stationed in South Africa prior to the East African campaign. In particular, the diaries of Stanley John Doughty (Daughty 1994) and Horace Willie (Willie 1995) offered useful insight into the daily life of citizens during the war. In addition, the diary of Leonard Harris (Harris 1973), a Royal Navy seaman serving aboard a British convoy escort stationed in Durban, provided a similarly unique perspective of the Battle of the South Atlantic and its effects on the people of South Africa. All three, having witnessed the Battle of Britain, considered South Africa to be blissfully removed from the war, as evidenced by the plentiful food, luxuries, and lack of coastal black-outs. One notes that merely having passed into the South Atlantic indicated being in safe waters. In addition, photos from the John H. Marsh collection depict hundreds of ships passing through the Cape's ports in the years surrounding the war (Marsh 2007). Utilizing these various sources, a general understanding of the South Africa's U-boat war was compiled.

Further research delved into more specific topics related to the ongoing management and preservation of WWII resources. Articles relating to the identification of pillboxes, observation posts and other military hardware were analyzed in preparation for field work (Pillbox Study Group 2018). Additionally, resources on local South African management practices and classifications were studied so as to properly conform conservation recommendations to local standards. As part of this, the legal practices of heritage management in South Africa were researched, including background information on the NHRA. In addition, the grading system used by the NHRA and heritage management agencies was studied for potential use in submitting the sites surveyed here for submission to the provincial heritage register.

An understanding of the local ecology was also necessary to identify the influences of natural processes on the sites themselves. To accomplish this, a number of articles were sourced and analyzed, giving insight into the various plants and animals that are known to inhabit the

study area. This information was then used to inform site survey practices, particularly when searching for remnants of veld fires and associated fire damage to the structures.

5.3.2 Archival Research

5.3.2.a General Archive Search

As part of the fieldwork for this thesis, a large amount of archival research was conducted at several libraries, museums, and document repositories throughout the Cape Peninsula. The locations include the Simon's Town Museum, South African Naval Museum, Cape Town Library, and the Western Cape Archives and Records Service. Many of the smaller collections were searched exhaustively for materials relating to the Second World War, whereas larger collections were searched for more specific sub-topics of the time period. Given that the primary goal of this historical research was to answer several questions relating to the influence of the U-boat war in the construction of maritime cultural landscapes, the archival search methodology utilized here reflects that objective.

There were two broad areas of focus for this archival research, the first of which was to uncover any documentary evidence of the RDF stations and their crew, as well as the war generally, while the second was to conduct an organized newsprint survey of the time period. The first strategy was based on the reality of conducting foreign archival research. Without knowing the extent of the resources available or what they might contain, a broad survey methodology was utilized to survey a multitude of document repositories for any materials of potential relevance. Such documents were then scanned or photographed and uploaded to a digital log for later analysis. In locations that did not allow scans or photographs (such as the

Cape Town Library) detailed notes were taken with quotes or synopses of the material in addition to any other identifying information.

For smaller institutions such as the Simon's Town Museum, the extent of materials relating to WWII were limited to several boxes of documents, allowing an exhaustive search of these materials to be conducted within a reasonable timeframe. While this collection was searched with a focus on coastal defenses and the U-boat war, the documentation of other potentially relevant materials has since added a great deal of context to areas of the research that was not readily apparent at the time. This collection serves as a general repository for anything related to the Second World War in South Africa. As such, it contains an assortment of primary and secondary sources, including newspaper clippings, magazine articles, scrapbooks, naval records, academic articles, and theses. In addition, the collection contains the archives of the Simon's Town Historical Society Bulletin, a history periodical with various stories written for a lay audience, but containing frequent articles about WWII, RDF, and the war at sea (Simon's Town Museum 1939). In addition, a number of magazine and newspaper clippings were found among these documents that contained stories of various WWII coastal defenses being decommissioned in the 1950s and 60s. Finally, these archives contain a variety of photos, with a number of aerial shots of the Simon's Town defenses, including several of the Middle North Gun Battery in particular.

The collections at the Western Cape Archives serve as a general repository for legal documents, land titles, and bureaucratic records for the Western Cape Province. It is an enormous facility with collections that are far too extensive to search exhaustively for materials from the WWII timeframe. Nevertheless, their online database allowed catalogue searches to be conducted prior to arrival. As a result, the vast amount of resources available for the WWII

period could be narrowed to several boxes of relevant documents on RDF stations and coastal defenses. Of these, only two boxes of materials contained useful information. One box contained documents on the land titles and architectural records for the Glencairn RDF station, Noah's Ark Battery, and an anti-aircraft battery in Simon's Town. The other contained documents pertaining to the legal dispute between the Cape government and Jacobus Van Niekerk over the leasing rights to land for the Melkbosch RDF station.

In the case of the South African Naval Museum, the exhibits themselves had a fair amount of information relating to the RDF arrays utilized throughout the war. As an active military site, however, access to archives and documents was unfortunately limited. Nevertheless, reconstructions and photographs of RDF equipment were extremely useful in identifying structures on the surviving sites. In addition, a number of maps were present at the museum that displayed the general locations and types of several historic RDF sites. Photographs of these exhibits and documents were similarly uploaded to the digital log for later analysis. In this way, the resources at each of the Cape Peninsula's archival repositories were broadly searched for relevant WWII materials.

5.3.2.b Historical Newsprint Survey

The second objective of the archival research was to conduct a more rigorous and focused search of newsprint sources. Whereas the broad archival survey sought general information about the war, the newsprint survey was directly formulated to address specific questions of maritime landscapes. To accomplish this, several potential newspapers were selected from archives purportedly available at the Cape Town Library. The *Cape Argus*, *Cape Times*, *The Citizen, and Die Vaderland*, were selected as viable candidates, with the former two representing predominantly British-English publications and readership, and the latter two representing

predominantly Afrikaner-Afrikaans publications and readership. In this way, the survey was designed to access publications from both of the predominant politically-engaged populations of the time.

Upon arriving on site, however, it was discovered that archives of *The Citizen*, and *Die Vaderland,* were stored in an off-site archive (the Metro File archive). Specifically, the English translations of these Afrikaans newspapers needed to be requested prior to viewing, a process that requires two to three weeks to fulfill. Further, only two issues can be requested at any time, thus rendering the viewing of these periodicals in any quantity effectively non-viable. As such, the study was limited to micro-film copies of *The Cape Argus* and *The Cape Times*. Since both of these publications strongly represented the pro-British/English sentiments of the time, it became more sensible to study one of them in detail, as opposed to both with less precision. In this way, the final version of the newspaper study became an in-depth survey of the *Cape Argus,* with some limited assessment of the *Cape Times* as well.

Archives of the *Cape Argus* have been digitized to microfilm, and organized generally into reels containing six months of print editions. Reels could be checked out two at a time for use on the library's microfilm readers. The *Cape Argus* survey consisted of 133 newspaper issues beginning Friday, 24 November 1939 through Monday, 17 September 1945. Spanning a period of somewhat less than 6 years, approximately two issues per month were selected for analysis. Selection of issues was semi-random, with one article being randomly selected between the 1st and 15th of the month, and one article being randomly selected between the 16th and the end of the month. The random selection process often consisted of holding the microfilm reader's fast forward button down for a pre-determined and arbitrary amount of time. The issue on screen when the countdown ceased was then selected for analysis (provided that it fell within

the timeframe conventions above). Periodically, specific issues were rejected if they were adjacent to an issue that had already been surveyed.

Once an issue was selected, it was scanned from front to back for articles, advertisements, and any other content relating to specific aspects of the war. Given the major status of the war in the public consciousness, however, nearly every article contained some mention or reference to it. In consequence, articles were scanned and assessed for content according to a list of criteria. Most importantly, any article referencing the war at sea, U-boats, merchant shipping, or U-boat countermeasures (coastal defenses, RDF/RADAR stations, convoys, air patrols, etc.) were flagged and recorded. Secondary criteria included more subtly defined categories, including things tangentially related to maritime activities such as the economic effects of shipping losses and transportation restrictions. In addition, general wartime propaganda was commonly, though not exhaustively noted in order to gain a general sense of the publication's objectives and biases. Articles related to espionage and subversion (by both friend and foe) were noted as well. Finally, articles alluding to particular ethnic or political populations and their support for or against the war were also recorded, although such references were typically included only as pro-war propaganda.

Once a relevant article was found, it then needed to be recorded for later study. The Cape Town Library strictly disallows photographs to be taken of any materials, and while scans of articles could be ordered, such prints were both expensive and required several weeks to fulfill. As such, all relevant information found throughout the newspaper survey was recorded as notes in a field journal. For each article: the article title, author, page number, and publication information for that issue were recorded. In addition, important quotes from the article and/or a synopsis of content was transcribed into the journal. Notes of these articles were then transferred

into a digital log, where they were subsequently sorted into the following content categories: *War-General, War at Sea, Coastal Defense/RDF, Maritime Activity, Maritime-Tangential, Propaganda, Population Dynamics, and Espionage/Subversion*. In this way, the collection of articles was analyzed on the whole and used to draw inferences regarding the information available to South African citizens as they constructed their maritime cultural landscapes.

5.4 Limitations

Although some limitations have been addressed throughout the previous sections, it is necessary to address them in a unified way before proceeding on to the data analysis in the following chapter. This research was designed to address several specific questions regarding data from the Second World War, and the ability to fully answer these questions has been meaningfully impacted by the practical execution of this research design. In terms of the historical newsprint survey, it has already been mentioned that several of the proposed publications were unavailable for review. Though technically available, the time and quantity requirements to request these publications from the Cape Town Library's off-site storage facility has effectively sequestered them from review in any meaningful number. Although this situation may be rectified for future research endeavors, it was not possible during this field session.

Therefore, the newsprint survey that was designed to compare and contrast the competing depictions of the British-English and Afrikaner-Afrikaans maritime landscapes can now only analyze the British-English perspective. Though this restriction fundamentally inhibits the ability of this study to contrast the process of maritime landscape construction between these different groups, it did enable the British perspective to be analyzed in much greater detail than was previously anticipated. While there is still appreciable value in the understanding of this singular perspective, it remains inherently limited. Further, restrictions on taking photographs of historic

documents at the Cape Town Library significantly slowed the pace at which this research could be conducted. Though notes were made as comprehensive as possible, it was a time consuming process that could have been avoided if photographs of scans of articles were made instead.

The general archival research was relatively fluid, although the research design for this component was made intentionally flexible. Resources were often freely available, from museum staff who were often quite helpful and supportive of the research. Only at the South African Naval Museum was access limited, though this was due more to the nature of the facility as an active military base than from restrictions on the documents themselves. Archives were available, but a uniformed staff member was required to be with you at all times while conducting research. During the time period set aside for this research, large portions of the base were on leave with only a skeleton crew remaining. This temporary lack of manpower meant that there was no one at the base reasonably available to chaperone a graduate student. As such, the naval library at the museum was unavailable for survey during this trip; however, its exhibits, maps, and other publically available materials were still documented and recorded. Otherwise, archival research at each of the other repositories was only limited by the materials available.

In terms of the archaeological research, most of the limitations were the result of logistics and the environment. Despite the fact that fieldwork took place during the South African winter (rainy season), the weather was unseasonably cooperative. Only a few days of fieldwork were lost to storms, and depending on the location could oftentimes be utilized for archival research instead. The primary limitation was that of transportation. Without a source of private transportation, local travel relied entirely on the various public transportation systems present throughout the Cape Peninsula. The Metrorail train, busses, and local van-bus system (which foreigners were highly advised against using) all proved to be fairly functional modes of

transport around the peninsula. Nevertheless, reliance on these public systems added an extra layer of logistical problems and often increased travel times significantly. For this reason, many of the more remote sites could only be visited one or two times. Two more known sites could not be visited at all due to a lack of transportation networks accessing their locations. Other sites closer to major transportation lines were, however, much more easily accessible, and could be returned to multiple times to acquire more data or fill in existing gaps. Thus, baseline documentation was conducted for every site, but those with better accessibility could often be recorded and measured in greater detail.

Further, many of these sites were popular attractions for both locals and tourists. Though this activity rarely interfered with fieldwork, and in fact was often a good way of learning more about the modern activities taking place around the sites, run-ins with locals did present issues on several occasions. In one instance the recording of a Battery Observation Post in Simon's Town had to be cut short when the interior search of the structure turned up a local homeless man living inside. Though perfectly courteous, he made it clear that he did not want anyone poking through "his house." On another occasion, fieldwork at the Kommetjie RDF site had to be delayed while a pair of intoxicated locals climbed atop the structures and shouted wildly.

The final limitation worth noting is that of personnel. Several of the sites were surveyed with assistance from Dr. Lynn Harris and Elizabeth McAlister. After the first two weeks however, the remaining sites were surveyed alone. While physical recording and site documentation are still possible with a single person, it was a noticeably more time consuming process, particularly when time on-site was already limited. Even simple tasks such as spanning measuring tapes or placing photo scales were much more cumbersome without assistance. In these ways, this research has been meaningfully shaped by a number of various factors and

constraints. In the following chapter, the data that was obtained through the use of these various archaeological and historical methodologies is presented and analyzed.

6. Data Results and Analysis

This chapter will present and analyze the various forms of archaeological and historical/archival data collected for this study. To begin, the first section will serve as a consolidated field report of the Cape's military heritage. Each of the ten primary sites surveyed will be documented and described with a focus on their assessed condition and current state of preservation. Following these technical reports, this archaeological data will then be analyzed on the whole to draw baseline associations between overall structural survivability and various aspects of site formation processes (Schiffer 1983:675). The second half of this chapter will then turn to the results of the study's historical and archival component. Both the quantitative and qualitative data from the *Cape Argus* newspaper survey will be analyzed for their contribution to the history of the Cape's coastal defenses, as well as regional perceptions of maritime cultural landscapes.

6.1 Archaeological Data and Analysis

6.1.1 Field Condition Reports

As the foremost research objective of this thesis is to ascertain the status of the Cape's RDF stations and other military heritage, this chapter must naturally begin with a condition report of these sites. Each of the ten primary survey sites are addressed, including the structural condition of their component structures. In addition, the primary types of natural and cultural damage therein, the relevant site formation factors, as well as any unique aspects of the site, its conditions, and its architecture are described. As there is not enough space here to address the fine grained details of each structure individually, sites will instead be discussed as composites,

with structure data utilized to inform the status of the whole. More specific information on each of these structures can be found within the Site Condition Worksheets in Appendix A.

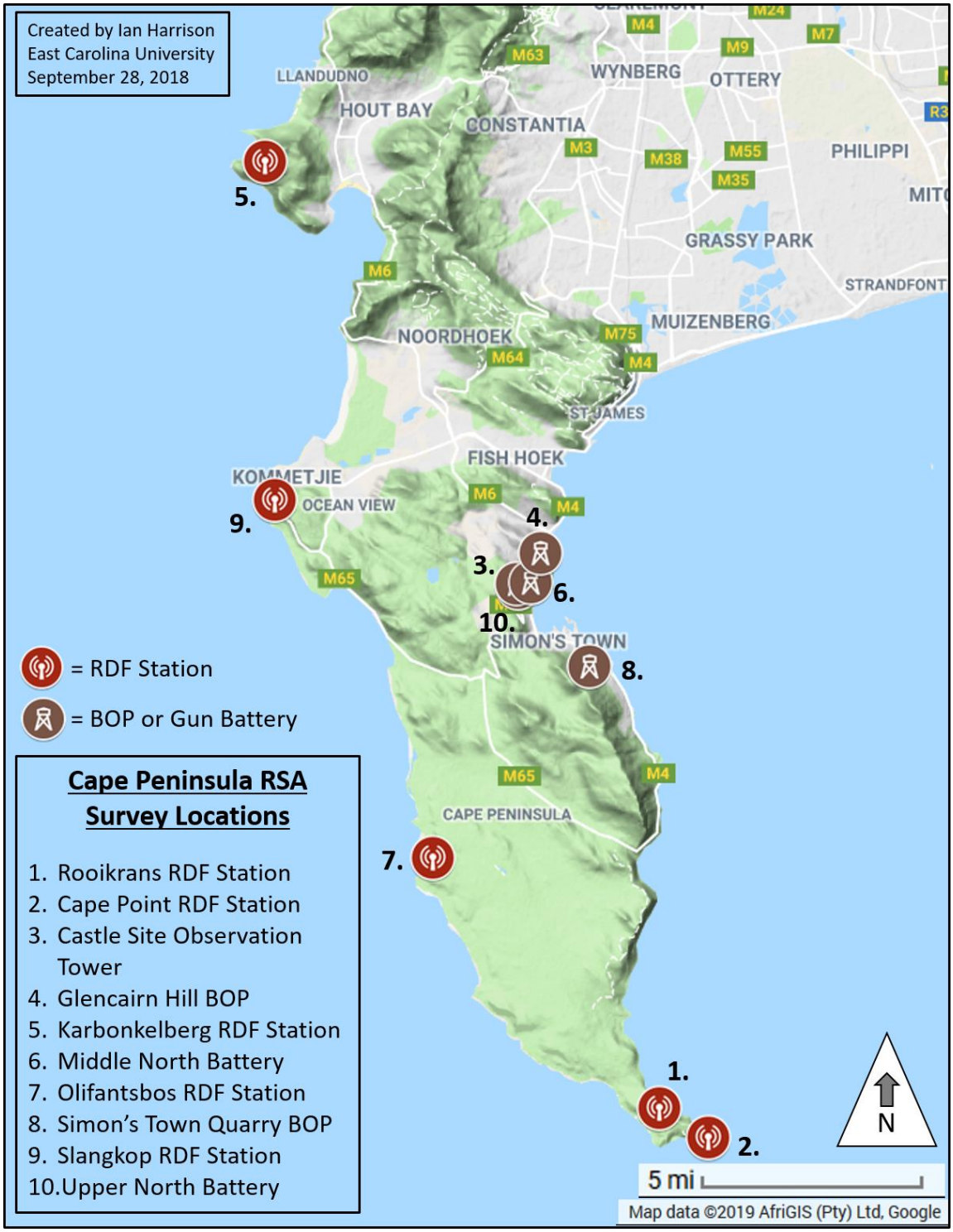

Figure 6: Map of the ten primary site survey locations on the Cape Peninsula, RSA. The red icons represent RDF stations, while the brown icons represent either Battery Observation Posts (BOPs) or gun batteries. Image by author, 2019. Source image from Google Maps.

6.1.1.a Cape Point RDF Station

One of the three RDF stations located with Cape Point National Park, the Cape Point station is the most heavily trafficked due to its location near the modern Cape Point Lighthouse, an extremely popular tourist destination. Though most visitors stop at the lighthouse, a small dirt trail leads down from the modern lighthouse down to the Old Lighthouse at the far edge of the peninsula. Walking along this trail, guests will invariably pass by the ruins of the former WWII Cape Point RDF Station as well.

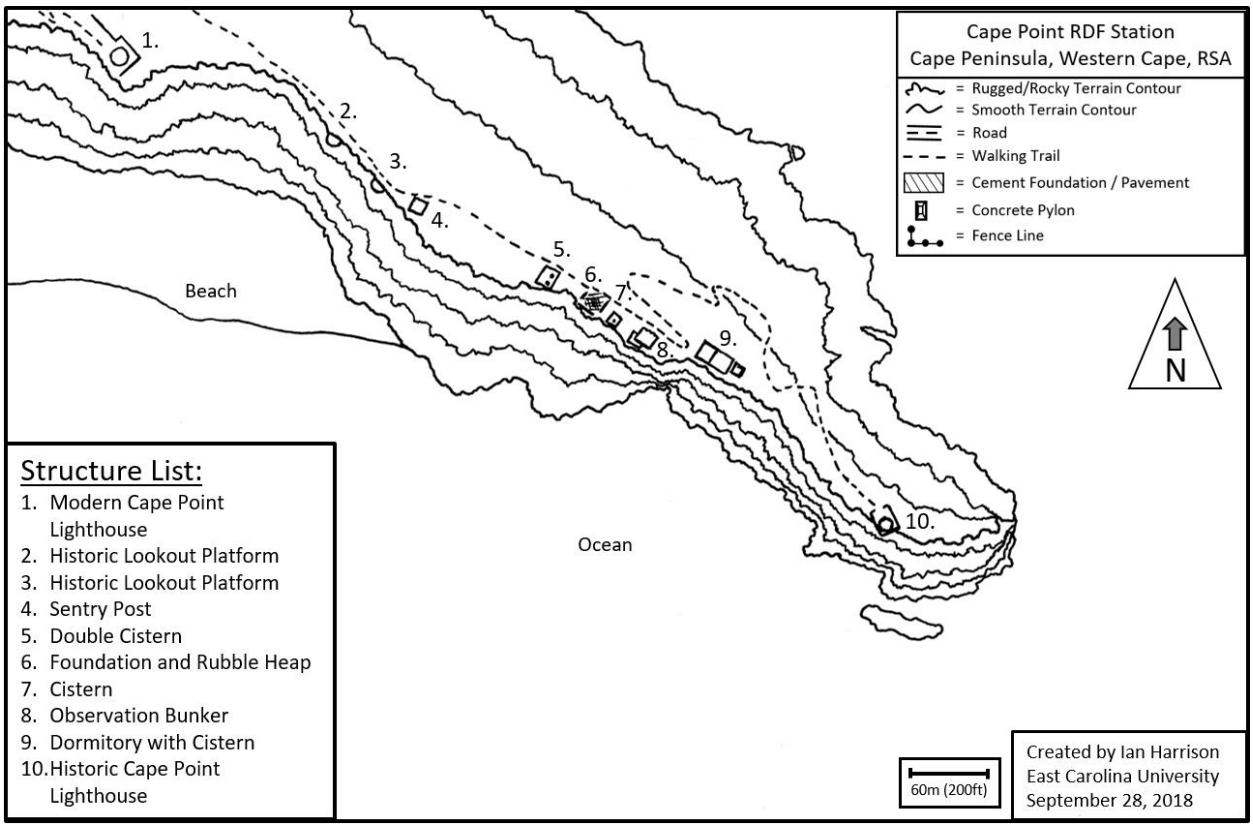

Figure 7: Map of the Cape Point RDF Station. Image by author 2018, background landform data from Google Earth satellite imagery.

Along the path of the trail there are two blockhouse-style lookout platforms that were likely constructed prior to WWI, followed by a WWII sentry post built on top of a bluff overlooking the trail. A short distance beyond are the ruins and rubble of a large brick structure, flanked on either side by two box-shaped cement cisterns. Past this is a battery observation post,

constructed in a unique style with a raised platform in the rear supporting a large concrete and metal pedestal that was likely the mount for an RDF array. Finally, down the trail a short distance is the ruin of another brick structure with a small cement box (possible cistern) attached to its far end. Of the two ruined brick structures, one was likely a dormitory while the other would likely have been the operations center for the RDF array, though in their present condition it is difficult to know which purpose each might have served.

TABLE 3
CAPE POINT RDF STATION SUMMARY

Site Summary: Cape Point RDF Station		
Average score of all structures on site:	21.14	Structures: 7
Average score of structures excluding cisterns:	20.6	Structures: 5
Site Accessability Number (Travel time to site from nearest town in	45	30 minute drive plus a 15+ minute hike
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	It should be noted that despite its distance, the Cape Point Lighthouse is an extremely popular tourist destination, and so still recieves considerable foot traffic.
Approximate distance of site from ocean (meters):	50	Less than 50 m (not including vertical
Highest Elevation on Site (Meters)	181	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60	Passive legal protection	

In terms of preservation, the Cape Point RDF Station is one of the more poorly preserved (Table 3). Aside from the two structures in complete ruins, the remaining structures show signs of severe degradation. The average score for structures on site is 21.1 (out of 35), or 20.6 if cisterns are excluded. It should be noted as well that this score is significantly buoyed by the nearly perfect condition of the two stone lookout platforms, if these are excluded as well, the average condition for the site drops to 11 of 35, an extremely low number indicating that structures have suffered several types of significant damage. Both of the cement cisterns have developed sizable cracks while the roof of the larger cistern seems to be on the verge of collapse. Though the BOP is in the best shape of the primary structures, it has weathered an extensive

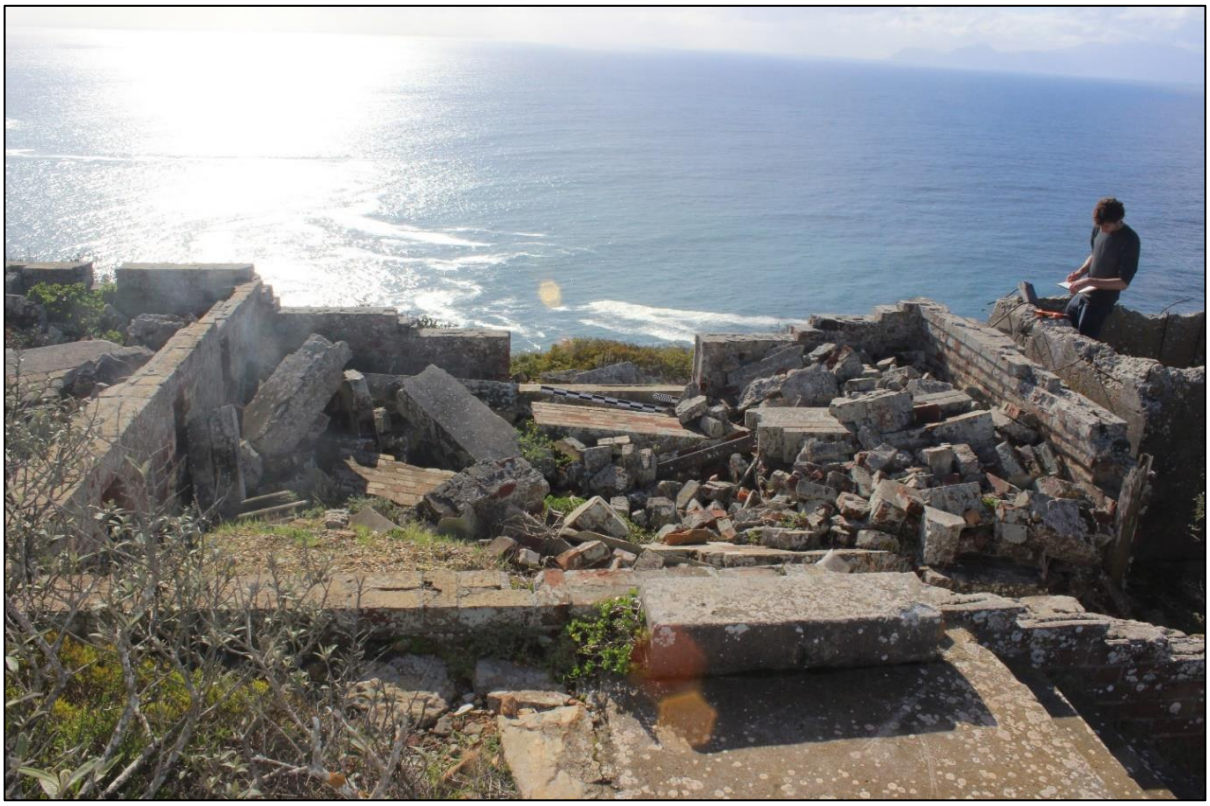

Figure 8: Photo of Ian Harrison recording the main dormitory ruins at the Cape Point RDF Station. Photo by Elizabeth McAlister, 2017.

amount of damage to its exterior concrete walls in addition to the heavy corrosion and destruction of its metal storm shutters and interior electrical features.

Though some of the site has been cordoned off by the park's no trespassing signs, much remains effectively open to visitors. While there is certainly historic and scientific value yet to be gleaned from the remnants of these structures, the extensive rubble, exposed (and projecting) rebar, as well as the collapse danger of various structures could pose significant hazards to visitors. Despite some minor amounts of graffiti, there seems to be little evidence of cultural defacement on site. Instead, the extensive damage appears to be more the product of natural weathering. Out on the tip of the Cape Peninsula, the site is exposed to extreme winds from every direction. In addition, the site's extreme proximity to the ocean makes it more vulnerable to the saltwater spray that enhances metallic corrosion (Blute 2008:119). Though it is passively protected by its location in the park, the site itself receives no active conservation.

6.1.1.b Castle Site (Upper North Observation Tower)

Named for the lack of a better word, the Castle Site is located just north of the SCALA Battery #1 Gun- a part of the Simon's Town Upper North Battery. Unlike the adjacent battery however, the structures located here all predate the WWII period. The twin observation towers at the center of the site are constructed with the same stone architecture as the blockhouses at the middle north battery (1860s). The other structures on site are also of older construction and likely date to the SCALA Battery's WWI phase. The site is overall relatively small, being comprised of just five structures. This site could potentially have been merged with the adjacent Upper North Battery, though the distinct construction types indicate that this was operated as an independent observation site for some time prior to the construction of the #1 Gun Battery.

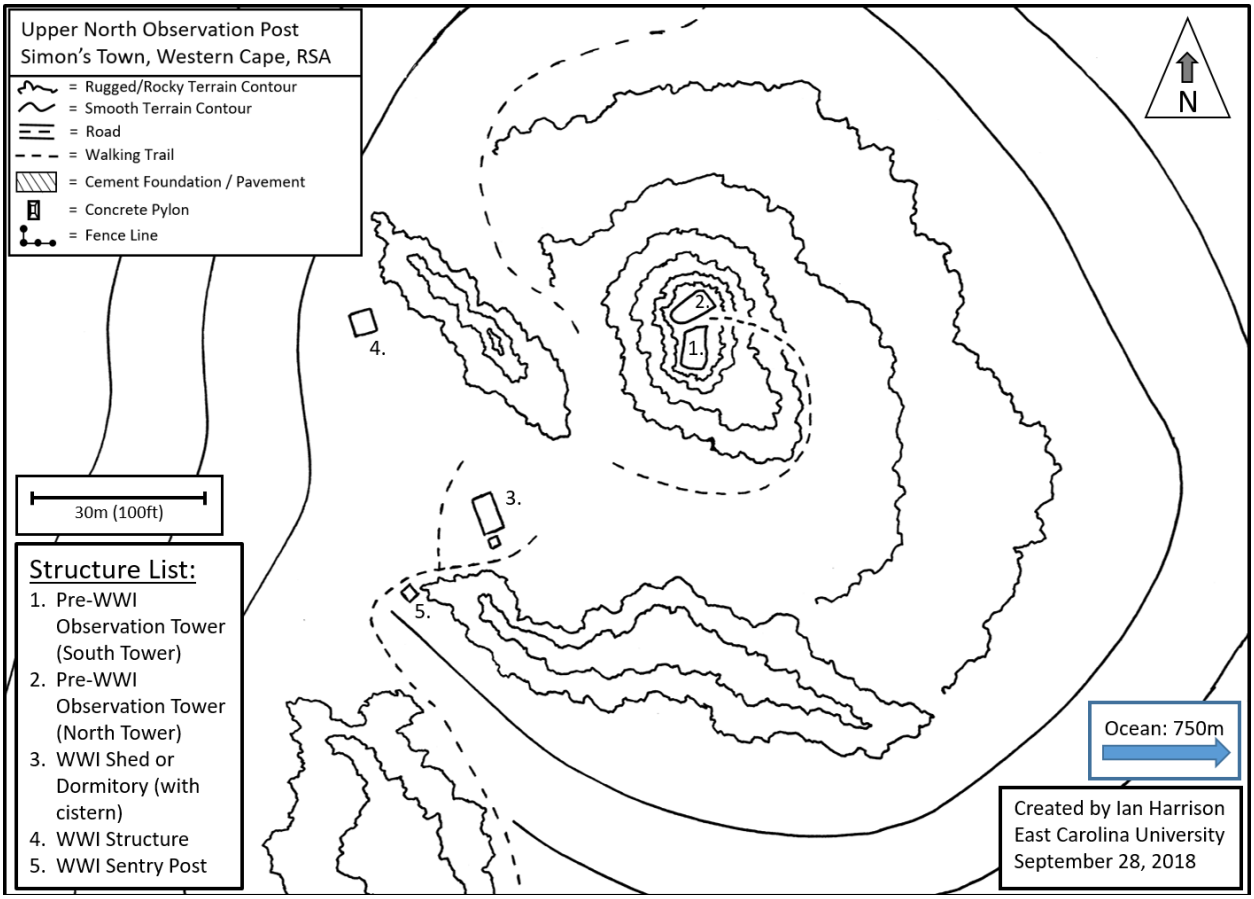

Figure 9: Map of the Simon's Town Stone Observation Tower (Castle Site). Map drawn by author 2018. Background landforms drawn from Google Earth satellite imagery.

Following a dirt trail from the nearby Scala Road, one first passes by a small stone ridge. A short set of concrete steps leads up through a gap in the ridge, adjacent to which is a small concrete box. The structure is shaped like an outhouse, though its open face and lack of plumbing features indicate that it may have been a sentry post. Just past the top of the steps is a larger building, a wide cinderblock and plaster structure with a single room and an attached cistern. It may have served as a barracks or office. To the northeast a short distance is another cinderblock structure, taller (one and a half stories) but with no windows or other features. There is only a single entry for a doorway and a small concrete platform inside. It may have been an armory or munitions storage. Finally, at the center of the site is a towering stone plateau, with a natural break down the center creating two (roughly) equal halves. On top of each side of the natural rock formation is a stone observation tower.

TABLE 4
CASTLE SITE OBSERVATION TOWER SUMMARY

Overall Site Summary: Castle Site Observation Tower		
Average score of all structures on site:	25.6	Structures: 5
Average score of structures excluding cisterns:	25.6	Structures: 5
Site Accessability Number (Travel time to site from nearest town in minutes):	9	7 minute drive, 1-2 minute walk
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	750	
Highest Elevation on Site (Meters)	225	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	NHRA >60 Only	

Overall the site is in fairly good condition (Table 4). The average score for the site's five structures is 25.6 of 35, which is a moderate score indicating some light overall damage with moderate damage in one or two areas. The primary detriment to structures on site was missing door and window features, along with damage to some of the original floors. The mortar and stone of the observation towers has held together fairly well and shows few signs of

destabilization. It is unclear what mechanism was originally used to reach the observation towers, as at the time of visit the only way to scale the walls was with a rusted metal mattress frame that someone had left as an impromptu ladder. The cinderblock structures were covered with a coat of plaster that seems to have largely preserved the structural stability of the walls, though there is significant corrosion on the metal window frames and air vents. In addition, the floor of the larger structure is missing, revealing the wooden foundation beams below.

Figure 10: Image of the stone observation towers at the Castle Site. Image by author, 2017.

Despite the reasonable condition of the structures, there does not seem to be any form of active conservation or legal protection on site. The adjacent Upper North Battery is being actively restored by the Simon's Town Naval trust, though it is unclear if these protections extend here as well. In addition (and likely due to its proximity to Simon's Town), the site has also suffered a fair amount of cultural defacement, including some graffiti as well as significant amounts of modern trash accumulation in the cinderblock structures.

6.1.1.c Glencairn Hill Battery Observation Post

In the forested hills above a residential neighborhood in the town of Glencairn are the remnants of a WWII RDF-BOP. It is one of the smaller sites surveyed, being comprised of just three main structures in addition to several other interesting features. Walking to the site, one first encounters a lone iron door laying across the trail. It likely belongs to the battery observation post up ahead, but was moved here at some point in the past. The first building along the trail is an equipment garage, a large structure built atop a brick and asphalt foundation. It has two rooms, one in the shape of a narrow hallway, and one main room with an opening for a large

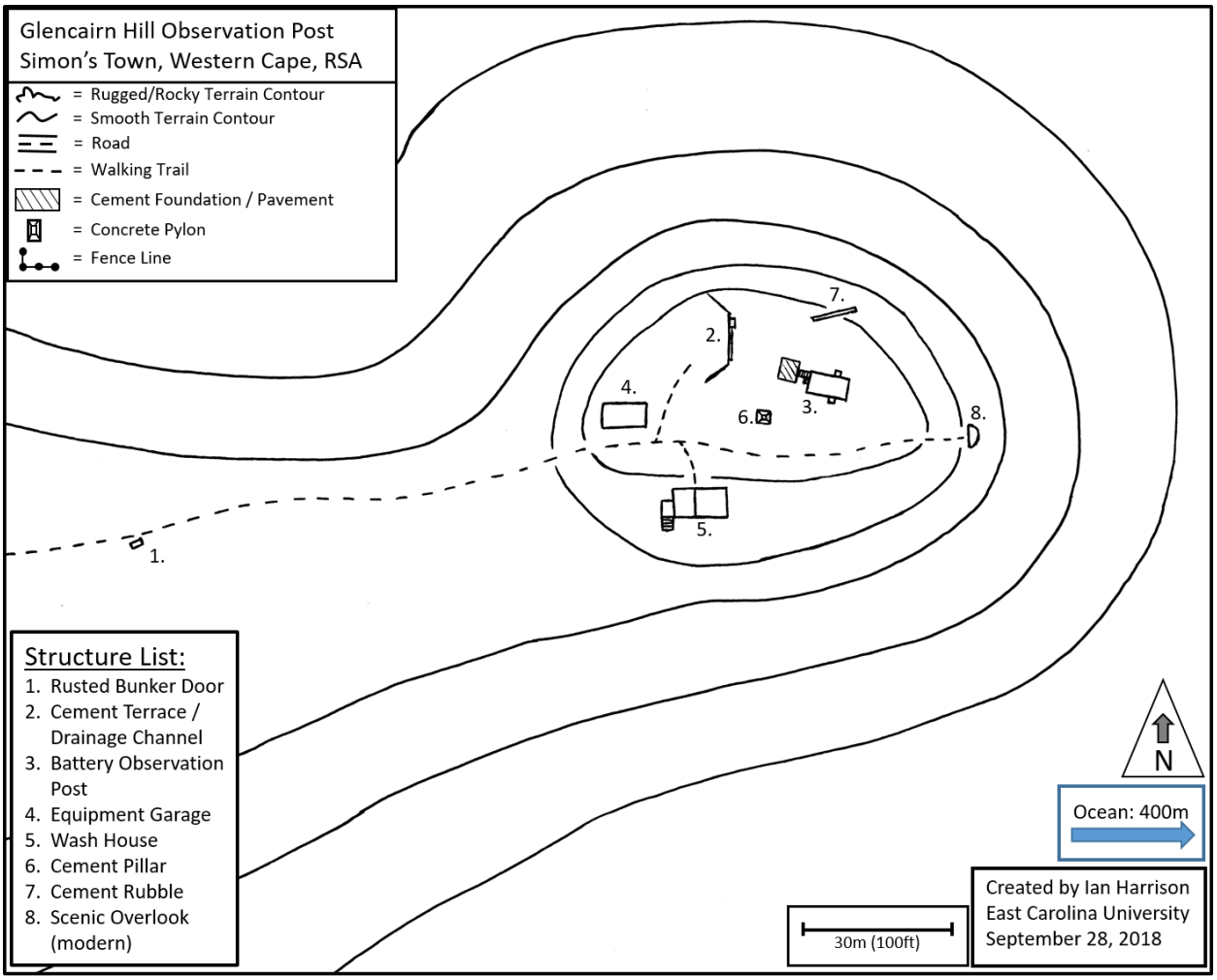

Figure 11: Map of the Glencairn Hill Battery Observation Post Site. Image by author 2018. Background landform data from Google Earth Satellite imagery.

garage door. Though its purpose is unclear, the cable tracks along the floor and the cement platform in the center of the room suggest that it served some function for the site's range finding equipment.

Up a set of concrete steps is a long cement terrace with a drainage channel. This water drainage system leads downhill past the garage to the ruins of a washhouse structure. Beyond the terrace is a square cement obelisk. According to archival documents this was the initial marker for the construction site. Finally, on the far side of the hill facing the ocean is the battery observation structure. Its construction is highly unique, and is the only two-story BOP structure surveyed. It is divided into multiple rooms, with the equipment and observation rooms seemingly located on the second floor, and the operations center and offices on the first floor.

TABLE 5
GLENCAIRN HILL BOP SUMMARY

Overall Site Summary: Glencairn Hill BOP		
Average score of all structures on site:	19	Structures: 3
Average score of structures excluding cisterns:	19	Structures: 3
Site Accessability Number (Travel time to site from nearest town in minutes):	15	15 minute hike
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	400	
Highest Elevation on Site (Meters)	137	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	NHRA >60 Only	

In terms of preservation the site is in moderate condition (Table 5). The average score for the structures on site is 19 of 35, a somewhat lower score indicating significant damage in two or more areas. While the BOP and the equipment garage structures are still fully intact, surveys revealed significant structural damage in loadbearing walls and support beams. Significant amounts of exposed rebar also indicate that the interior frameworks of the structures are likely

corroding as well. In addition, the wash house is largely in ruins. Some of the sink and basin features remain, though the roof is missing as well as some portions of the walls. Despite the structural damage, cultural defacement of the site is equally as significant. Nearly every surface of the BOP and equipment garage have been covered with graffiti. In addition, the volume of modern refuse, including items such as mattresses and clothing indicate that these structures have likely been used for human habitation at some point in the recent past.

Given that the site is classified as NHRA >60 only, and is not receiving any type of conservation, this state of disrepair is somewhat unsurprising. In addition, the site's proximity to the town of Glencairn, and particularly to the residential neighborhoods nearby make it easily accessible to local visitation, and thereby highly vulnerable to cultural defacement. Finally, the area's natural overgrowth may help to protect the structures against wind damage, but will also likely contribute to further destabilization of the structures and their foundations over time.

Figure 12: Image of the rear face of the Glencairn Hill Battery Observation Post. Unique for its two-story design. Image by author, 2017.

6.1.1.d Karbonkelberg RDF Station

Located near the town of Hout Bay on the Cape's western shore, the Karbonkelberg RDF Station is by far the largest station surveyed. In addition, it is also one of the most remote. Requiring a lengthy hike from the trailhead in Hout Bay, the WWII Karbonkelberg station would have needed to operate largely self-sufficiently, a trait that can be seen in the site's extensive infrastructure. Throughout the station there are three distinct clusters of buildings, forming an upper, middle, and lower site respectively.

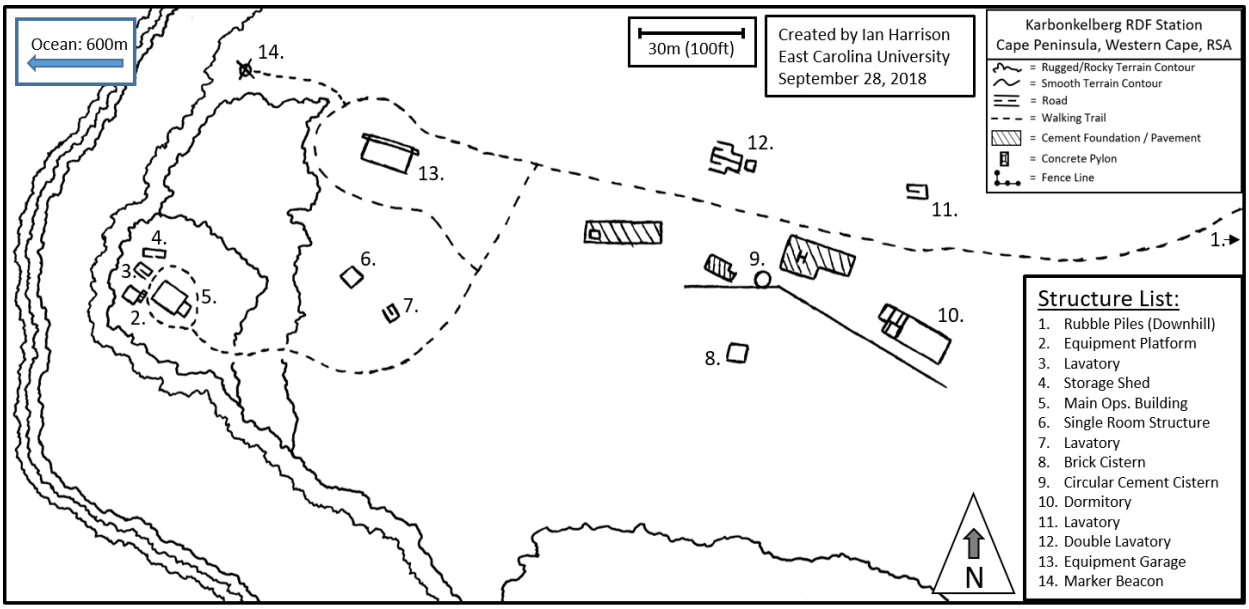

Figure 13: Map of the Karbonkelberg RDF Station. Image by author 2018. Background landform data from Google Earth satellite imagery.

Following the trail uphill one first crosses the remnants of a boundary fence into the lower site. This is the main residential space and includes the ruins of the site's main dormitory building, two lavatories (including one double-sized lavatory), as well as two large cisterns. Unlike the smaller square cisterns found at other sites, both of the ones here are uniquely designed. One is a square brick building located somewhat up a shallow hillside, while the other is a circular cement structure. These together could have supported a much larger residential population than those at comparable sites. In addition, there are several sizable concrete

foundations in this area. These likely originally served as foundations for wooden bungalows that have since been removed. The largest foundation is painted with a yellow "H", indicating that this site saw some continued use as a helicopter pad in more recent years.

Following the path uphill leads to the middle site. This collection of structures is much smaller, and likely served as the quarters for the staff's officer(s). There is a single room structure (for personal quarters or an office), a single lavatory, as well as a large equipment garage somewhat downhill. A small trail leads from here to the top of the rocky outcrop that hosts the site's operational buildings. In the center of this area is the main operations building, with several rooms for RDF operators and technicians. Additionally there is a lavatory, a small equipment shed, as well as an equipment case/platform overlooking the ocean for the RDF array.

TABLE 6
KARBONKELBERG RDF STATION SUMMARY

Overall Site Summary: Karbonkelberg RDF Station		
Average score of all structures on site:	24.42	Structures: 12
Average score of structures excluding cisterns:	23.6	Structures: 10
Site Accessability Number (Travel time to site from nearest town in minutes):	45	>45 minute hike
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	600	
Highest Elevation on Site (Meters)	615	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Passive Legal Protection	

The site's preservation is largely mixed (Table 6). The average structure score for the site is 24.4 of 35, or 23.6 of 35 if the cisterns are excluded from the calculation. While this is a moderate score for the site as a whole, it conceals the extensive damage that has been selectively suffered by certain structures. As can be seen in the figure below, the main dormitory is very

Figure 14: Photo of the Main Dormitory building at the Karbonkelberg RDF station. Photo by author, 2017.

nearly in ruins. On the whole, the lavatory structures have fared well, most have lost some or all of their roofs, but the cement-covered brick walls have stood up against the elements. The equipment garage is intact, though its foundations are severely cracked, while large portions of its floor and porch have collapsed. The middle site officer's quarters has lost its roof, but is otherwise intact. Meanwhile, the upper site has survived much better. The main operations building, equipment platform, and lavatory are all intact, with only minor cracks in some structural elements. The brick shed however has lost its roof and large portions of its walls.

The site is located within the boundaries of the Table Mountain National Park system, and so is thereby offered some passive protection, though the site receives no active conservation. There is little to no cultural defacement on site however, which is likely thanks to its considerable distance from nearby population centers.

6.1.1.e Middle North Battery

Located a short distance downhill from the Upper North Battery is another part of the SCALA battery complex called the Middle North Battery. This is one of the few sites with prior archaeological survey (Croome et. al. 2008). Though the gun battery complex was expanded during WWI, elements of it had been in operation throughout the preceding decades. One of the original guns (first mounted here in 1896) has even been restored and replaced in its original location by volunteers of the Simon's Town Historical Society. Given this extensive history of use, many of the site's structures date to very diverse time periods, and display an array of architectural styles. Located along a service road leading to one of the area's many active military bases, the site is

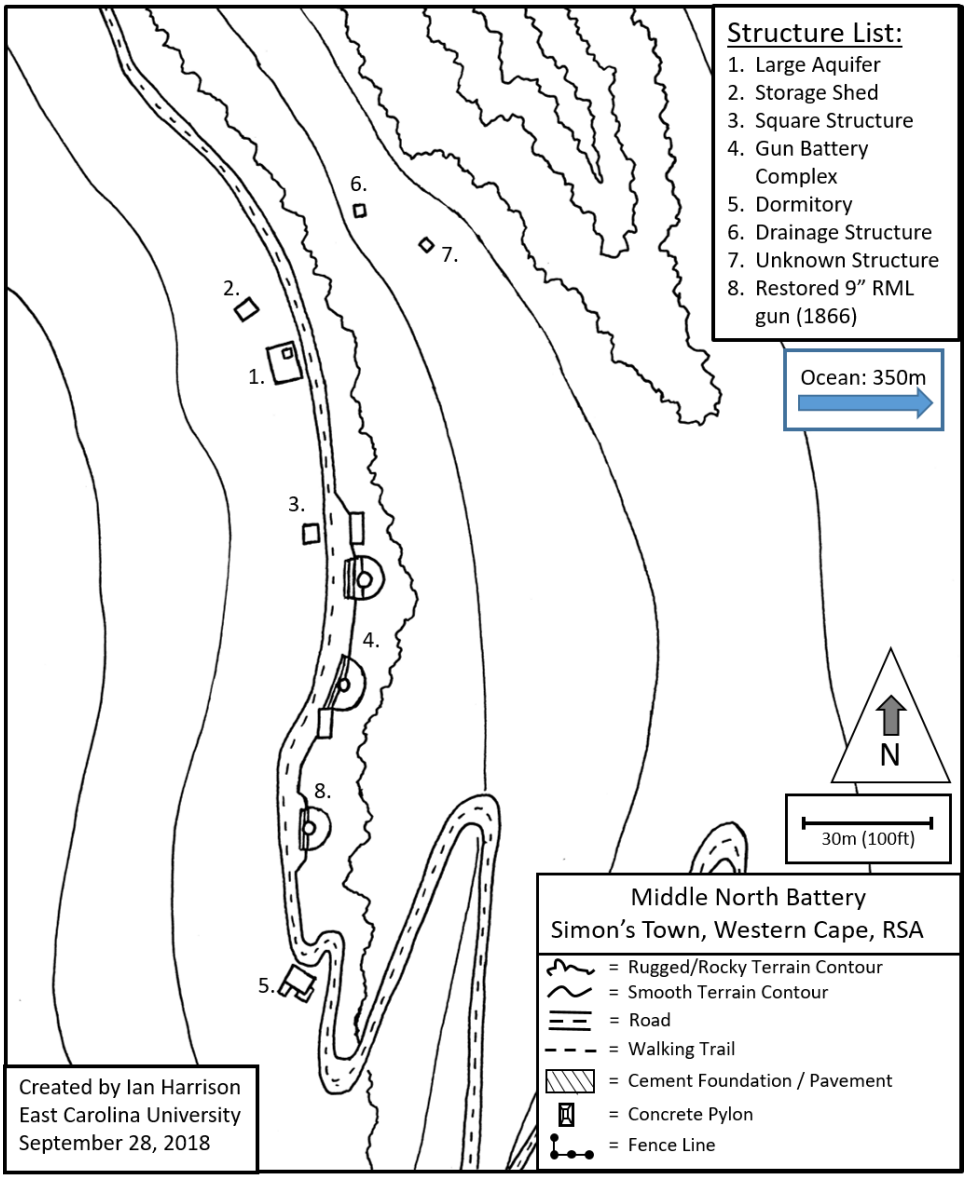

Figure 15: Map of the Simon's Town Middle North Battery. Image by author 2018.

easily accessible, though much of it has been restricted while restoration is underway. Nevertheless, many of the surface structures were accessible for documentation.

Following the switchbacks down the road from the north, one first encounters a pair of structures. The first is an enormous brick and cement reservoir, with a construction style dating it to well before WWI. A small brick and mortar structure serves as the cover for a shaft leading down into the reservoir below, though the iron ladder has corroded away. Adjacent to this is a shed, with a construction style indicating a time period closer to WWI. Off the road in the ravine downhill are two small cistern-like structures, although their purpose is unclear. Further down the hill, near the beginning of the gun battery is a stone blockhouse. Its construction likely coincides with the other 1860s era buildings. This structure also serves as the northern boundary of the extensive gun battery complex. Constructed from brick and cement, a series of three semicircular gun mounts overlook the ocean. A series of trenches, stairs, and ladders, lead down into the underworks that formerly housed the battery's various munitions and machinery. Finally, flanking the gun battery's southernmost extent is a large multi-room structure that likely served as an office or dormitory.

Figure 16: Photo of the Simon's Town Middle North Battery. Simon's Town RSA. Image by author, 2017.

TABLE 7
MIDDLE NORTH BATTERY SUMMARY

Overall Site Summary: Middle North Battery		
Average score of all structures on site:	29.14	Structures: 7
Average score of structures excluding cisterns:	29.4	Structures: 5
Site Accessability Number (Travel time to site from nearest town in minutes):	10	5-10 minute drive, 1-2 minute walk
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	350	
Highest Elevation on Site (Meters)	88	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Active Conservation	

The site's preservation is overall very good (Table 7), surely owing to the restoration efforts of the Simon's Town Naval Museum, and Simon's Town Historical Society. The average structure score for the site is 29.1 of 35, or 29.4 of 35 if the cistern structures are excluded. Paradoxically, the older stonework structures seemed to have fared better than the more recent buildings, possibly as a result of the heavier construction materials surviving better against the elements. The most common issue throughout the site was the corrosion and destruction of metal features, particularly widow frames. The large reservoir is in overall fair condition, though the cement roofing slabs are developing cracks that could eventually compromise the structure if not addressed. In addition, a substantial amount of water is visible in the interior. The battery complex is in good condition as well, with the notable exception of the extensive underworks. Though these areas have been closed off to visitors, there is notable damage to the lower retaining walls as well as rusted and exposed metal that create potential hazards. Nevertheless, there is relatively little cultural defacement throughout the site. The 2008 report details the extensive work by volunteers that has gone into cleaning and repairing the site for potential use as a tourist attraction (Croome 2008:1), though much yet remains to be done.

6.1.1.f Olifantsbos RDF Station

One of the three WWII RDF stations located within Cape Point National Park, the Olifantsbos (*elephant's eye*) station is relatively small compared to its counterparts. With a total of 6 structures on site (of which three are cisterns), there is little infrastructure aside from the absolute necessities. Nevertheless, the site is well situated along the western shore of the peninsula, constructed on top of a high bluff overlooking the water. There is a nearby hiking trail leading through the rough limestone escarpments of the veld that brings visitors within eyesight

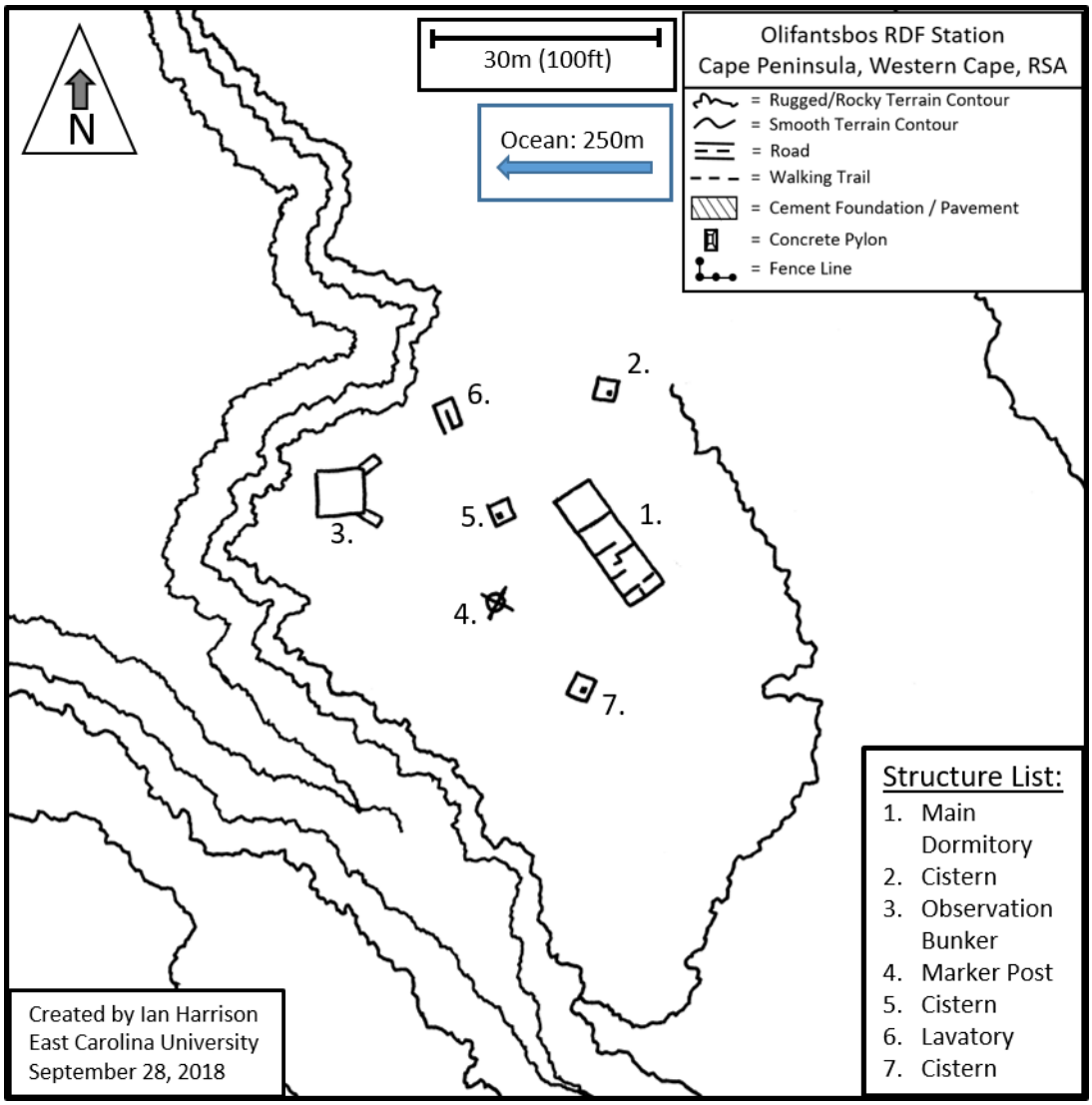

Figure 17: Map of the Olifantsbos RDF Station in Cape Point National Park, Western Cape, RSA. Image by Author 2018.

of the station, though any trails that may once have connected directly to the site have since degraded.

Upon reaching the site, the first structure encountered is the main dormitory building. It is a long rectangular brick structure with a wide cement patio, flanked on either side by small cement boxes that served as water supply cisterns for the base. Past the dormitory is a rocky hill, at the top of which is another cement box. Though appearing to be of the same construction as the other cisterns, the structure's prominent location may indicate that this particular structure was used as an equipment housing for the RDF array. At the edge of the rocky cliff ahead sits the site's battery observation post. The BOP is built in the traditional fashion, with cement-rebar walls and ceilings, and a wide horizontal window facing the ocean. Unlike the other observation posts however, this one has two parallel lines of rubble running across either side of its roof, as well as two diagonal rubble retaining walls jutting out from its rear corners. These likely served as a type of camouflage. A short distance behind the BOP is the site's brick lavatory.

TABLE 8
OLIFANTSBOS RDF STATION SUMMARY

Overall Site Summary: Olifantsbos RDF Station		
Average score of all structures on site:	27	Structures: 6
Average score of structures excluding cisterns:	22	Structures: 3
Site Accessability Number (Travel time to site from nearest town in minutes):	50	30 Minute Drive, 20 minute hike
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	250	
Highest Elevation on Site (Meters)	76	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Passive legal protection	

In terms of preservation the site is fairly mixed (Table 8). The average structure condition for the site is 27 of 35, a fairly high score, but one that is buoyed significantly by the condition of the site's many cisterns. When these are discarded from the calculation, the average condition

drops to 22 of 35, a significantly lower score. Generally, the three primary (non-cistern) structures on site have been significantly weathered by natural processes. The main dormitory structure is completely missing its roof, as well as nearly all of its windows and frames, though the brick walls remain intact. The battery observation post is in the best shape of the three, though has also sustained some minor cracking in its concrete structure, alongside the severe corrosion of its metal storm shutters. The lavatory has lost its roof and interior features, as well as several sections of its outer brick walls. The three cement cisterns (one of which could be an

Figure 18: Photo of the main dormitory structure at the Olifantsbos RDF Station, Cape Point National Park, Western Cape RSA. Poking out from above the dormitory on the left side is the square cement RDF equipment case or cistern Photo by author, 2017.

RDF housing) are all in fairly good condition. Overall, the site remains relatively intact and nearly free of cultural defacement. Given the site's remote location, it seems to receive relatively little foot traffic. Combined with its passive legal protection, the majority of degradation seems to be from natural processes. The site's low elevation however, and close proximity to the ocean could be enhancing ocean-influenced weathering.

6.1.1.g Rooikrans RDF Station

Of the three WWII RDF stations constructed within the bounds of the Cape Point National Park, the Rooikrans station is by far the largest, as well as one of the better preserved. As is the case with several of these stations, there are two distinct clusters of structures comprising an upper site and lower site. At the base of a large hill located somewhat inland from the Rooikrans (*red garland*) waterfront is the lower site. Though comprising an extensive number of buildings, the structures of the lower site have been converted into rentable holiday cottages by the park. While this continuing use has certainly helped maintain them, the unknown extent of renovations to the structures, combined with their active use during the time of the visit necessitated their exclusion from this study.

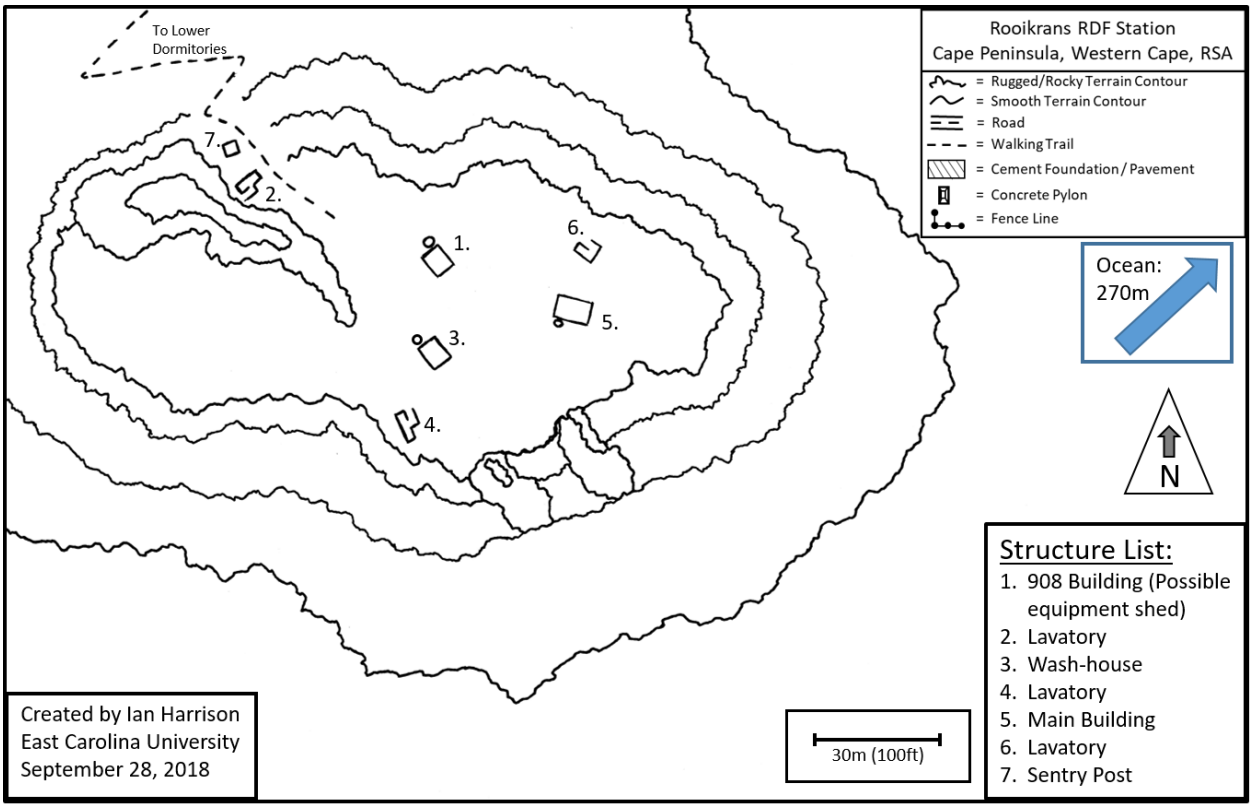

Figure 19: Map of the Rooikrans RDF Station. Image by author 2018. Background landform data from Google Earth Satellite Imagery.

The upper site however has remained relatively untouched, and possesses several unique features of its own. Following a switchback trail 200m uphill from the lower site leads one past a sentry post guarding a large fence gate to the upper structures. There are seven buildings comprising the upper site, including three lavatories, a wash-house, one sentry post, a main operations building, and one unidentified structure (possibly an officer's quarters or single-room office). Such structures were also periodically used as resting bunks for night-shift workers.

TABLE 9
ROOIKRANS RDF STATION SUMMARY

Overall Site Summary: Rooikrans RDF Station		
Average score of all structures on site:	28.29	Structures: 7
Average score of structures excluding cisterns:	28.29	No dedicated cistern structures on site
Site Accessability Number (Travel time to site from nearest town in minutes):	45	30 minute drive (Simonstown), 15 minute climb
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	270	
Highest Elevation on Site (Meters)	259	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Passive legal protection	

In terms of preservation, nearly all of the structures on site were in good or fair condition (Table 9). The average condition score of structures was 28.2 (out of 35), a fairly high score representing buildings with light damage overall or moderate damage in one or two areas. The most common deduction was from a loss of metal roofing sheets. Most of the primary occupation structures scored above the average, while the lavatories (all missing their roofs) scored below it. Overall, there was very little cultural impact on site, and only minor physical damage to the facades of most structures. This minimal cultural damage is likely due to a lack of accessibility however, as the severe state of trail overgrowth leading to the site would likely prevent even guests at the lower site cottages from attempting to make the hike.

In terms of features, the main operations building still possesses much of the electrical wiring and equipment mounting locations that would have housed the RDF machinery. In

addition, this site is particularly unique in that each of the upper site structures has a dedicated rainwater barrel. Further, each of these collectors is connected to the others by a network of pipes, creating a complex plumbing system running throughout the site. Surprisingly, these pipes remain in excellent condition, with most of the pipe runs still considerably intact. It should be noted as well that this elaborate water system is unique among the sites surveyed, most of which possess a small number of dedicated cisterns that pipe water to one or two central structures.

Figure 20: Photo of the Rooikrans RDF station upper site. Structures: 908 Building (left), main operations building (center), and wash-house (right). Image by author, 2017.

The site's location in the Cape Point National Park provides it with passive legal protection, though it does not receive any form of conservation. Further, the distance of this location from nearby population centers certainly limits the number of casual visitors to the site, reducing the impact of cultural processes. Despite its location nearby the Cape Point Lighthouse, an extremely popular tourist destination, it seems to be far enough off the beaten path so as to not attract much foot traffic.

6.1.1.h Simon's Town Quarry Battery Observation Post

To the west of Simon's Town near the neighborhood of Froggy Lake (the site of a former WWII anti-aircraft battery) is a large range of hills rising at an even slope. About half way up the hillside is a sharp cliff which for years was used as a limestone quarry. To the south of the quarry, seemingly hidden underneath the thick veld underbrush is a WWII RDF-BOP. Also known as the Froggy Lake BOP, the quarry observation site is expertly camouflaged to blend in with the soft terrain of the surrounding hillside.

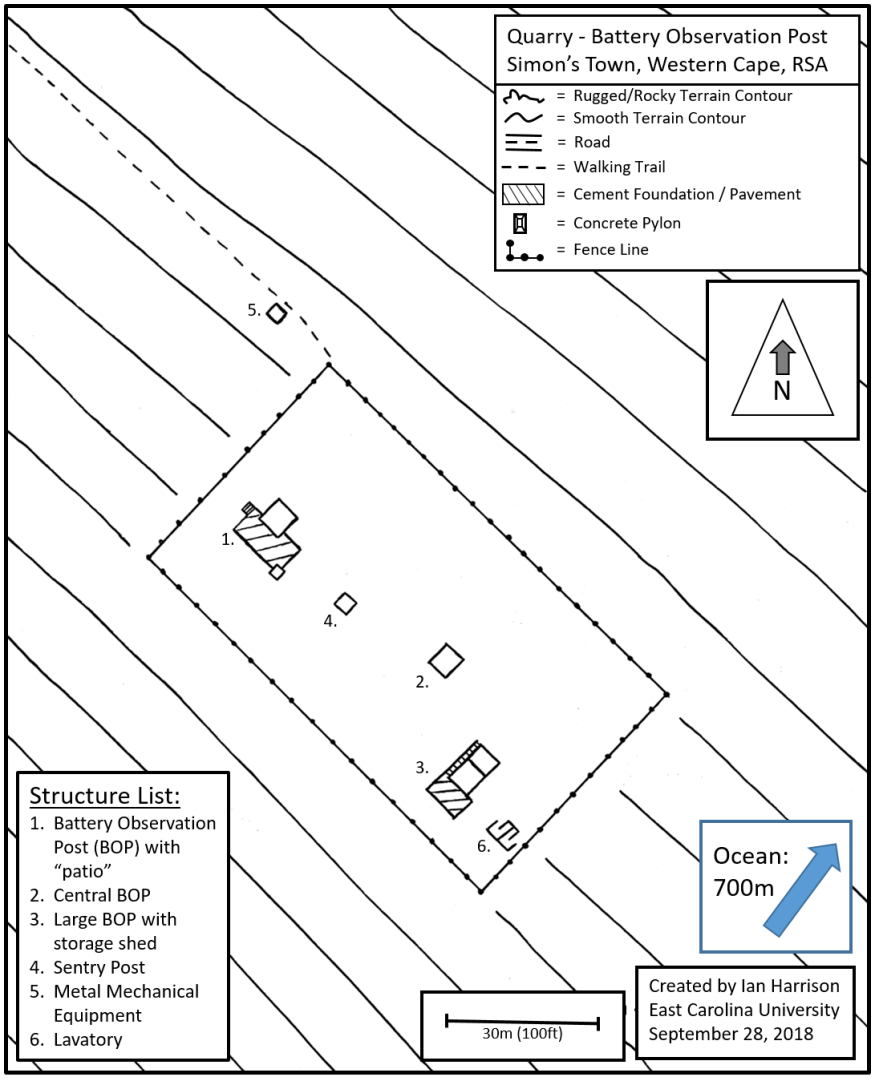

Figure 21: Map of the Simons Town Quarry Battery Observation Post (BOP), also known as the Froggy Lake BOP. Image by author 2018, background landform data from Google Earth satellite imagery.

Following the trail uphill from a neighborhood street in Simon's Town eventually leads to a small pile of metal debris. The largest piece is in the shape of a box, roughly 1m square. Its purpose is unclear but may once have been part of the site's range finding equipment. Past this debris, and through a narrow gap in the barbed-wire fence leads into the site proper.

There are three Battery Observation Posts here, each constructed slightly different. The first one, located just past the entrance to the site is built in a very similar fashion to the standard BOP design. It is constructed from reinforced cement with a wide horizontal window looking out over the ocean. Unlike traditional BOPs however, each of the structures here is partially buried so that only the structure's upper half remains above ground. As such, the only access to the buried structure is through a dugout trench behind it. In this case, the first BOP has a large concrete patio behind it, which also has a small brick stove or hearth built into its far corner. The central BOP is very similar, except with a small brick alleyway cutting into the hillside. The final BOP is the largest, and is built in a terraced construction style with a lower operations room, the BOP room in the middle, and an upper storage shed. Adjacent to this is a brick lavatory, in addition to a small sentry post in between BOPs one and two.

TABLE 10
SIMON'S TOWN QUARRY BOP SUMMARY

Overall Site Summary Simon's Town Quarry BOP		
Average score of all structures on site:	22.6	Structures: 5
Average score of structures excluding cisterns:	22.6	Structures: 5
Site Accessability Number (Travel time to site from nearest town in minutes):	5	5 minute walk
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Within	
Approximate distance of site from ocean (meters):	700	
Highest Elevation on Site (Meters)	138	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	NHRA >60 Only	

The condition of the structures on site is moderate, and is influenced by a combination of natural and cultural factors (Table 10). The average condition of structures on site is 22.6 out of 35, a somewhat low score indicating moderate damage in two or more areas. The most common problem is light to moderate structural damage to walls and roofs. BOP #1 has sustained the

most severe damage, with structural cracks in its sub-surface walls. The storage shed attached to BOP #3 has collapsed in on itself, leaving a pile of rubble and metal sheeting. BOP #2 is in fairly good structural condition, though as with the others, the metal storm shutters have been heavily corroded.

Figure 22: Photo of BOPs number 2 (foreground) and number 3 (background right), at the Simon's Town Quarry Battery Observation Post. Simon's Town, Western Cape RSA. Image by author, 2017.

In addition to the moderate amount of physical damage throughout the site, there have been some notable cultural impacts as well. There is a minor amount of graffiti and modern litter throughout the site, but more importantly, the survey of BOP #2 revealed a person living inside. In the photo above, BOP #2 can be seen with its storm shutters drawn up, and an impromptu piece of metal sheeting placed over an empty section of window. The site's close proximity to town, as well as its classification as NHRA >60 only have certainly contributed to these cultural impacts.

6.1.1.i Slangkop RDF Station

Located in the bluffs above the town of Kommetjie, on the western coast of the Cape Peninsula is the Slangkop RDF Station (also known as the Cobra Camp). The Slangkop station is one of the more extensive arrays, and includes several variants of structures that have been uniquely adapted to the local terrain.

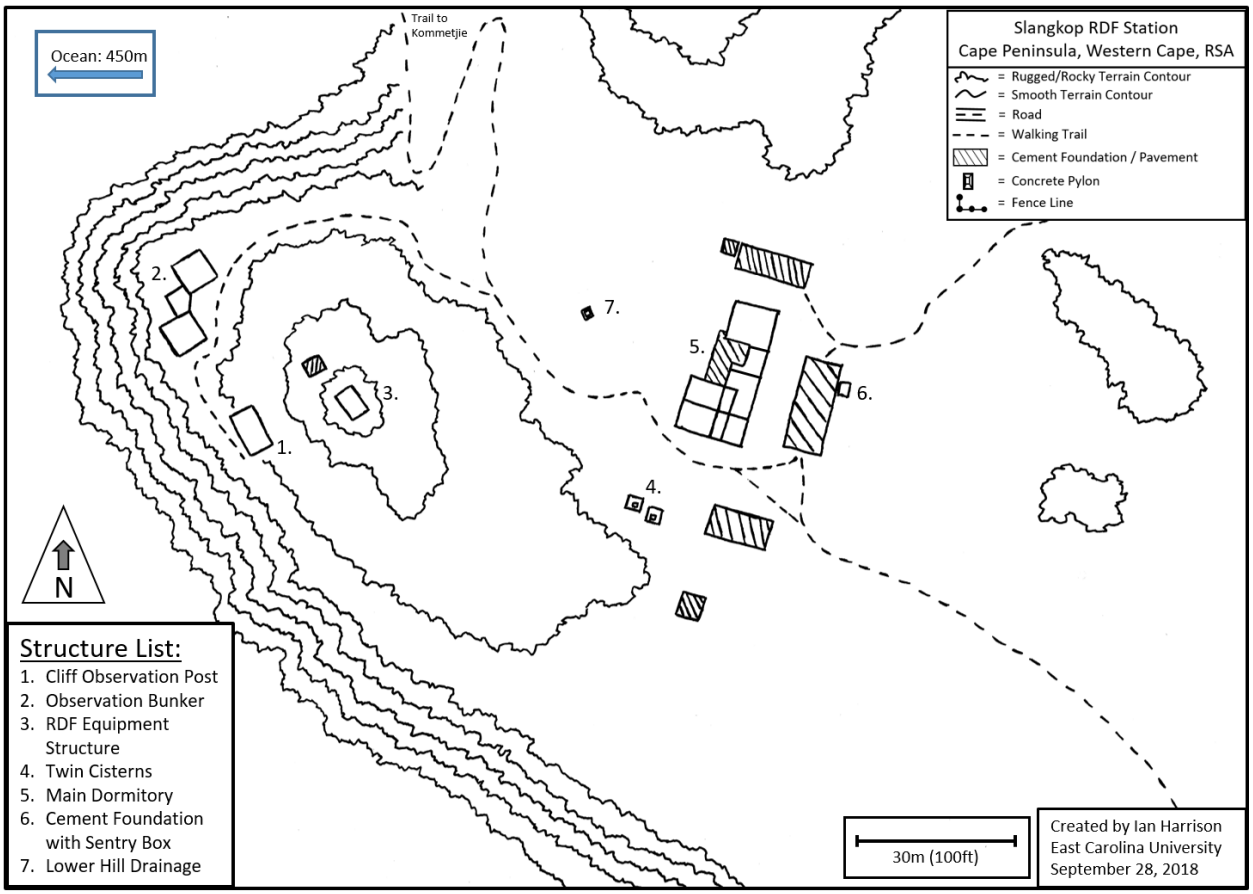

Figure 23: Map of the Slangkop RDF Station near the town of Kommetjie, Western Cape RSA. Image by author 2018, background landform data from Google Earth satellite imagery.

Located within the Slangkop jurisdiction of the Table Mountain National Park system, the station is situated at the intersection of several hiking trails. Taking the northern trail up a steep set of switchbacks from the town of Kommetjie leads through a narrow ravine into the main dormitory center of the site. The dormitory structure is quite large, and is divided into a large main room, a kitchen, several bathrooms, as well as a number of other functional spaces.

Flanking the dormitory on its northern, eastern, and southern faces are a series of large concrete foundations that likely once served as the foundations for wooden bungalows. The eastern foundation hosts a small sentry post facing away from the site into the veld. Adjacent to the southern foundation are a pair of cisterns, constructed with the standard concrete-box design with a small metal hatch in the roof.

Near the northern entrance to the site is a fork in the path leading out onto a terrace in the cliffs. It is on this cliffside terrace overlooking the ocean that the site's operations buildings were constructed. The first structure encountered is an entirely unique variant of a battery observation post. This BOP is actually designed as two BOPs in one, each facing 90 degrees apart to scan different sectors of the surrounding ocean. Where the structures are joined is a central tower. Following the trail around the cliff leads to the second unique structure, an operations building that has been carved into the side of the cliff. Finally, at the peak of the hill above is the RDF equipment building, a small rectangular structure that would have housed the RDF array, along with a nearby concrete platform.

TABLE 11
SLANGKOP RDF STATION SUMMARY

Overall Site Summary: Slangkop RDF Station		
Average score of all structures on site:	22.17	Structures: 6
Average score of structures excluding cisterns:	20.2	Structures: 5
Site Accessability Number (Travel time to site from nearest town in minutes):	15	15 minute hike from town
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	450	
Highest Elevation on Site (Meters)	146	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Passive legal protection	

In terms of preservation the site has sustained some significant damage (Table 11). The average structure score for the site is 22.2 of 35, or 20.2 of 35 if the cisterns are excluded from

the calculation. This is rather low and indicates two or more areas of significant degradation. Structurally, most all of the buildings on site have sustained significant damage to crucial features such as roofs, walls, and floors. The main dormitory structure has lost its roof as well as most all of its windows and doors. The specially designed BOP is in extreme danger of collapse. The reinforced cement roofing slabs have already collapsed in over the windows, while the other load-bearing beams and supports are extensively cracked. The cliffside operations building is in better condition, though has still developed a network of cracks in its concrete façade. Meanwhile, the RDF structure is one of the better preserved, and shows little structural damage.

Figure 24: Photo of the main dormitory structure, Slangkop RDF Station, Western Cape RSA. Image by author, 2017.

Overall there has been a severe amount of cultural defacement throughout the site, due in no small part to the site's close proximity to the town of Kommetjie. Most interior surfaces of structures throughout the site have been covered with graffiti and modern litter, and while present on site, a group of local children were climbing around on top of the dormitory structure. Despite the passive legal protection of the park, there is no form of active conservation on site. At the moment, the entirely unique BOP remains in critical danger of collapse.

6.1.1.j Upper North Battery (SCALA #1 Gun)

Located in the hills above Simon's Town is the Upper North Battery, or SCALA #1 Gun emplacement. It is located adjacent to the pre-WWI stone observation tower (Castle Site) and is just up the hill from the Middle North Battery.

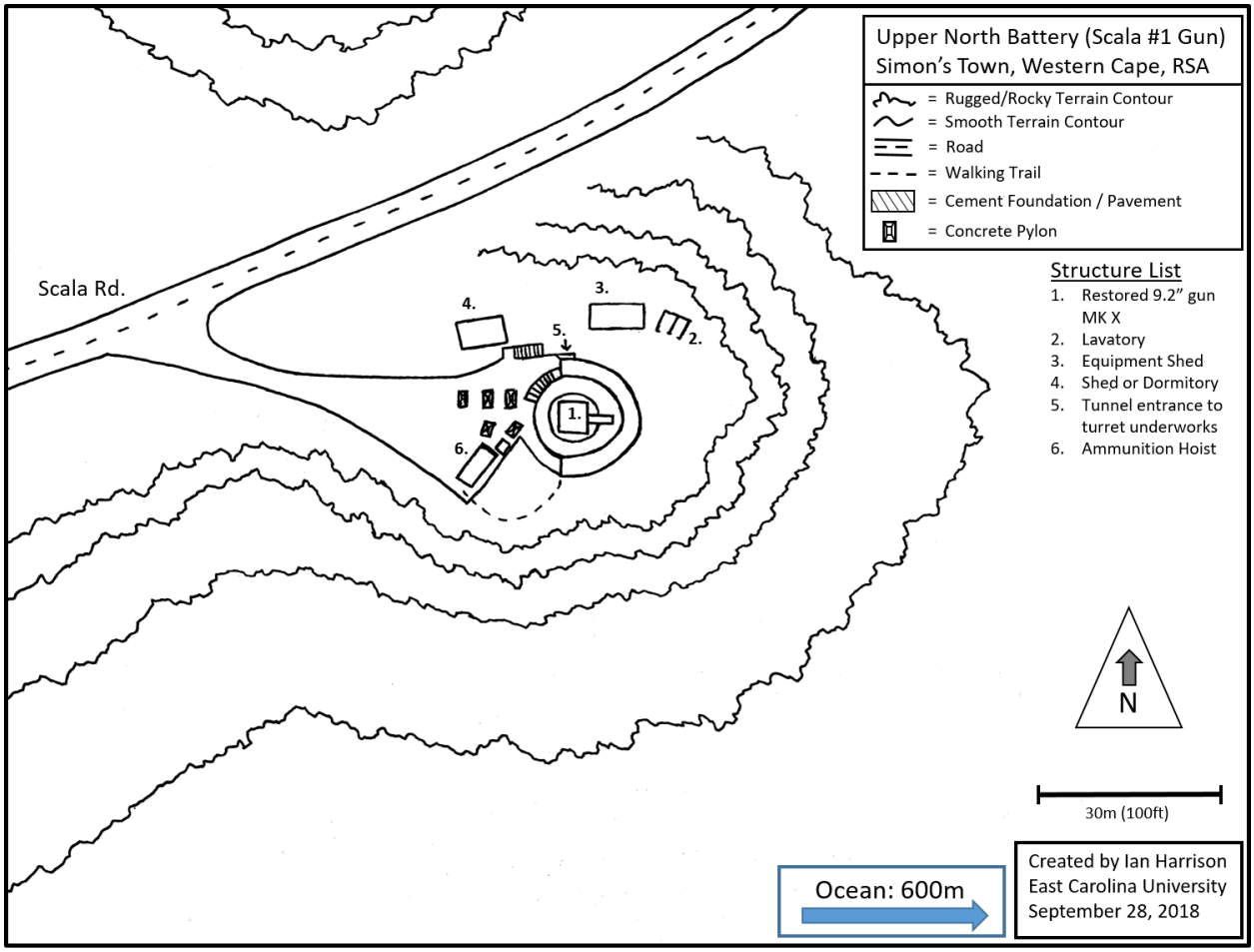

Figure 25: Map of the Upper North Battery (SCALA #1 Gun). Image by author 2018. Background landform data from Google Earth satellite imagery.

The site is fairly small, containing the gun itself in addition to a small number of support structures. Coming up the driveway and through the fence gate from Scala road leads to a large open pavement. On the driveway near the turret are two rows of large concrete pillars that may have served as vehicle barriers or defensive cover. Adjacent to these pillars is a raised concrete

platform with metal sheets covering a hatchway into the turret underworks below. This likely served as the curbside loading bay for supplies into the turret's below-ground storage.

A set of concrete steps leads up from here onto the circular turret platform above, which hosts the restored 9.2" gun. In front of the turret is a large semicircular concrete berm, which would have served as protection for the turret from incoming artillery. Down another set of steps from the driveway leads to the level of the other subsidiary structures. At the bottom of the stairs is a tunnel entrance into one section of the turret underworks (the other section can only be accessed through the turret itself). Built into the side of the hill are two rectangular cement structures, both painted in camouflage colors. The accessible parts of the interiors indicate that these were likely operations buildings of some kind, though may also have served as crew quarters. Finally, sheltered by the hill is a brick lavatory with openings for three stalls.

TABLE 12
UPPER NORTH BATTERY SUMMARY

Overall Site Summary Upper North Battery (SCALA #1 Gun)		
Average score of all structures on site:	23.75	Structures: 4
Average score of structures excluding cisterns:	23.75	Structures: 4
Site Accessability Number (Travel time to site from nearest town in minutes):	10	9 minute drive, 1-2 minute walk
Site Accessability Category (Within an inhabited area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	600	
Highest Elevation on Site (Meters)	198	
Site Conservation Status (Active protection and restoration; Passive legal protectection but no active conservation, or NHRA >60 protection only)	Active conservation	

In terms of preservation the site is in overall moderate condition (Table 12). The average structure score for the site is 23.7 of 35, indicating some light weathering with one or two areas of moderate damage. Generally speaking, the site's masonry and stonework are in fair condition, with the primary source of damage resulting from the corrosion of metallic features such as windows and doors. The gun itself is in fairly good condition, certainly in large part to the site's

active maintenance and restoration by the Simon's Town Naval Museum and Naval Heritage Trust. The gun appears to be corroding substantially underneath its camouflage paint, but it is nevertheless well intact. The metal pivot on which the gun rests however has corroded significantly however, opening up a small gap in the metal plates. During the survey, this gap was used by a group of local children to (dangerously) crawl into the turret underworks. The two operations structures are in fair condition, with some cracking in the concrete in addition to several missing doors and windows. The lavatory has lost its roof, but the brickwork and electrical features remain largely intact. Thanks to the site's active management, (and perhaps proximity to the nearby military base) there are only limited amounts of cultural defacement throughout the site, primarily in the lower operations buildings.

Figure 26: Photo of the Upper North Battery (SCALA #1 Gun). The gun can be seen at the top of the hill, with the concrete driveway and pillars just below. Built into the hillside downslope are the two operations buildings and brick lavatory. The town of Simon's Town can be seen in the background. Simons Town, Western Cape RSA. Image by author, 2017.

6.1.2 Archaeological Meta-Analysis

As the previous sections have demonstrated, an extensive amount of archaeological survey was conducted across a variety of sites and locations. While the preceding summaries could not address every aspect of each site, the full reports can be found with the site condition worksheets in Appendix A. Nevertheless, now that the survey areas have been individually addressed, this section can analyze some of the broader trends that emerged within this dataset. Though the number of sites surveyed is insufficient to allow for statistical comparisons, these sites can be looked at generally for how they each fared across a number of categories. Broadly speaking, these trends can be defined based on their impact to natural or cultural site transformation processes.

6.1.2.a Site Breakdown

TABLE 13
OVERALL SITE SURVEY SUMMARY

Site Name	Location	Site Type	Protection Status	Accessibility (Proximity to Habitation)	Average Structure Score	Structure Score (W/O Cisterns)	Highest Elevation (m)	Distance from Ocean (m)
Primary Sites								
Rooikrans RDF Station	Cape Point National Park	RDF	Passive Protection	Distant	28.3	28.3	259	270
Cape Point RDF Station	Cape Point National Park	RDF	Passive Protection	Distant	21.1	20.6	181	50
Castle Site (Upper North Observation Tower)	Simon's Town	Observation Tower	NHRA >60 Only	Nearby	25.6	25.6	225	750
Glenciarn Hill BOP	Glencairn	BOP	NHRA >60 Only	Nearby	19	19	137	400
Karbonkelberg RDF Station	Hout Bay	RDF	Passive Protection	Distant	24.4	23.6	615	600
Middle North Battery	Simon's Town	Gun Battery	Active Conservation	Nearby	29.1	29.4	88	350
Oliphontsbosch RDF Station	Cape Point National Park	RDF	Passive Protection	Distant	27	22	76	250
Simon's Town Quarry BOP	Simon's Town	BOP	NHRA >60 Only	Within	22.6	22.6	138	700
Slangkop RDF Station	Kommetjie	RDF	Passive Protection	Nearby	22.2	20.2	146	450
Upper North Battery (SCALA #1 Gun)	Simon's Town	Gun Battery	Active Conservation	Nearby	23.8	23.8	198	600
Secondary Sites								
Special Signals Services Training School	Simon's Town	Other	Active Conservation	Nearby				
Robben Island Foundation	Robben Island	Other	Passive Protection	Distant				
Limestone Kiln	Cape Point National Park	Other	Passive Protection	Distant				
Lower North Battery	Simon's Town	Gun Battery	Active Conservation	Within				
WWII Relief Station (now town hall)	Simon's Town	Other	Active Conservation	Within				

A total of 15 sites were surveyed throughout this study, including ten primary and five secondary sites. Of the primary sites there were: five RDF stations, two gun batteries, two battery observation posts, and one pre-WWI observation site. In addition, the five secondary sites

included: a WWII defensive foundation on Robben Island, a former Special Signals Services training school, a former WWII army relief station, a limestone kiln from the colonial period, and the accessible areas of the Simon's Town Lower North Battery.

Table 13 above lists each of these sites, as well as the data collected on them across a number of metrics. All sites were assessed for their legal protection status and accessibility, while the more rigorous surveys of the ten primary sites allowed for the calculation of several additional metrics, including average structure score (with and without cisterns), highest elevation, and distance from the ocean. While this dataset is not large enough to enable statistical comparisons of site formation processes, general analysis of these various metrics across the dataset can be used to draw baseline associations between various factors influencing site survivability.

6.1.2.b Legal Protection Status

Five (33%) of the sites surveyed were considered actively conserved. This includes the Upper North and Middle North gun batteries, as well as three of the secondary survey sites that remain in active use. In most cases these sites serve as local tourist attractions, or are historic sites located within functioning naval bases. Sites within this category are commonly known about by local residents, easily found through online resources, and often had posted signs describing the history and purpose of the site itself.

Seven (47%) of the sites surveyed were considered to be passively protected. This category comprises all of the RDF stations surveyed, as well as the historic limestone kiln and WWII defensive foundation on Robben Island. Sites within this category were virtually unknown to local residents, including tour guides and rangers for the parks in which they were located. Further, records of these sites were either vague or non-existent in online resources. The location

of these sites was only possible through the utilization of archival documentation from the war, satellite imagery, and the assistance of local RDF historian Dr. Mike Inggs. Only one site had any posted signs to indicate the function or history of the structures, and even this merely referred to them as "WWII foundations" (Cape Point National Park Placard 2017).

The remaining three (20%) sites were located on municipal or private land and had only the NHRA >60 protection. This category comprises both of the BOPs as well as the Castle Site observation tower. Similar to the passively protected sites, those within this category were virtually unknown to local residents, were non-existent in online resources, and were only located with the assistance of historical documentation and satellite imagery. Not only did none of these sites have any posted signage to indicate their existence or purpose, but in the instance of the Simon's Town BOP, a large sign for the historic quarry nearby neglected to mention the WWII BOP located less than 500ft away.

Generally speaking, the average condition scores of actively conserved sites tended to be higher than those of sites with NHRA >60 only. The scores of passively protected sites varied significantly throughout the dataset, with several instances of such sites scoring better than actively conserved sites, while others scored worse than those with only the NHRA >60 protection. This appreciable variability, combined with the marginal score differences between groups, implies that legal protection status is not a good predictor of site survivability. In this way, the long-term survival of these structures seems to be largely independent of any legal protection they may have. Although this seems somewhat counterintuitive, it is clear that the natural and cultural processes that are most responsible for site degradation are not meaningfully impacted by a site's legal protection status. Therefore, the data suggests that if these structures are to be stabilized and conserved, they will require forms of active intervention beyond merely

expanded legal protection status or naming to the provincial historic register. This idea will be addressed further with the conservation recommendations section in the following chapter,

6.1.2.c Accessibility

Three (20%) of the sites surveyed are located within zones of modern occupation. These sites include the Simon's Town Quarry BOP, the Lower North Battery, and the former army relief station. Six (40%) of the sites surveyed are located nearby zones of modern occupation, and include the Castle Site Observation Tower, Upper North Battery, Middle North Battery, Slangkop RDF Station, Glencairn Hill BOP, and SSS Training School. Finally, six (40%) of sites surveyed are considered distant from zones of modern occupation. This includes the three RDF stations and limestone kiln located within the Cape Point National Park, as well as the Karbonkelberg RDF station and Robben Island foundation.

Dividing sites into these categories represents an extremely rough gauge of how much foot traffic each of these locations should theoretically receive. As such, despite their absolute distances there are a few notable exceptions to these categories. For instance, the Cape Point RDF station (though very distant from any towns), is just down a short trail from the Cape Point Lighthouse. This proximity to an extremely popular tourist destination implies that the RDF station likely receives much more foot traffic than its location would otherwise imply. Similarly, despite its isolation, the Robben Island foundation is located along a stopping point for tourists on the island tour.

Despite these considerations however, there is a clear trend between the geographic location of sites and the extent to which they have been impacted by cultural processes. This includes types of intentional damage and defacement such as graffiti and litter, as well as the destruction resulting from climbing on structures or displacing and removing artifacts. The sites

that have endured the greatest amount of such defacement (the Glencairn Hill BOP, Simon's Town Quarry BOP, and Slangkop RDF Station) are also those located closest to nearby towns. While it is difficult to prove such an association without knowing the true levels of site visitation, it makes logical sense that the sites located nearest to towns and cities would receive more visitors than those located further away. As foot traffic on site increases, so does the likelihood of sustaining cultural damage to the site.

Further, this association seems to be largely independent of a site's legal protection status. For instance, the Slangkop RDF station and Karbonkelberg RDF station are both passively legally protected by their locations within different areas of the Table Mountain National Park system, but have suffered to significantly different extents from cultural damage. Both are only reachable via hiking trails from nearby towns, except that the Karbonkelberg station requires a 45+ minute hike up a large mountain, compared to the easier 10 minute hike up a bluff to the Slangkop station. By comparison, the Karbonkelberg station has suffered little to no damage from cultural processes, versus the extensive damage from graffiti and litter to structures at the Slangkop station. The only notable difference between the sites that could explain this difference is their ease of accessibility to nearby communities.

This trend generally follows for the rest of the dataset as well, with sites that are more closely located to towns being disproportionately affected by cultural impacts. Further, these more accessible sites tended to have lower average condition scores than their more distant counterparts, likely due to the combination of natural and cultural degradation. Though much of this cultural defacement may seem superficial, aerosol paints by graffiti artists can lead to severe long-term effects on the integrity of structures (Ribeiro 2009:51). These impacts, as well as well

as potential preventative and restorative measures for them will be further addressed with the conservation recommendations in the following chapter.

6.1.2.d Structural Integrity

While it is difficult to quantify structural integrity, particularly considering that sites were commonly comprised of between five and 15 individual buildings, the average condition for each of the ten primary sites was calculated based on the assessed conditions of its component structures. These scores embody a number of metrics regarding the structural stability of each site. Though the assessment process is too broad to take these scores as specific grades, they can be used as a general guide to the overall state of each site. Table 14 below lists the ten primary sites and their average structural condition (excluding cisterns) in descending order.

TABLE 14
AVERAGE CONDITION OF SITES

Sites by Average Condition w/o Cisterns (Decending Order)	[0 - 35]
Middle North Battery	29.4
Rooikrans RDF Station	28.3
Castle Site (Upper North Observation Tower)	25.6
Upper North Battery (SCALA #1 Gun)	23.8
Karbonkelberg RDF Station	23.6
Simon's Town Quarry BOP	22.6
Oliphontsbosch RDF Station	22
Cape Point RDF Station	20.6
Slangkop RDF Station	20.2
Glenciarn Hill BOP	19

There are a few notable takeaways from this data. The first is that the range of scores is relatively low. The Middle North battery is in the best condition with a score of 29.4 (of 35), while the Glencairn Hill BOP is in the worst condition with a score of 19 (of 35), giving a range of 10.4. This is significant in that the conditions of all the sites surveyed are clustered together within the upper half to third of the spectrum. Even the Cape Point station (which has two

buildings in ruins) still scored above a 20. It is worth noting that factors such as site accessibility and a lack of hazards can boost these numbers slightly, but even this does not account for the clustering of scores in the upper half. This indicates that there are still significant amounts of these sites remaining. Even for locations with one or more structures in ruins, other buildings have survived well enough that there is still a great deal of historic value to be gleaned from the site as a whole. While this study has largely focused on identifying *damage* to structures, this data makes the point that there is still a great deal of these stations *left to save.*

Across all sites, the most common form of damage was the loss of roofs, windows, and doors, whereas structural elements such as walls and floors seemed to have survived much more readily. Given the exposed locations and high winds across the Cape Peninsula, these particular types of damage are unsurprising. Nevertheless, the unique environmental conditions of the region seem to have spared many of the more critical structural components. As a result, much of the core structural elements remain that could still be stabilized and conserved.

In addition to the influences of legal protection status and accessibility on structural integrity (that have been addressed in the preceding sections), data for site elevation and distance to the ocean were also collected to determine if they had any notable influence on site survivability. The reasoning therein was that sites located at higher elevations will be more exposed to damage from high winds, while sites located closer to the ocean will be more prone to seawater spray and its associated chloride damage to cement and stonework (Blute 2008:118). Comparing these metrics to the average condition scores across the dataset however does not reveal any noticeable trends. Though future testing of a larger dataset may reveal some such association, the sites surveyed for this study did not demonstrate one.

6.2 Historical Data and Analysis

To complement the archaeological analysis of these historic structures, a variety of archival research was conducted at museums and libraries throughout the Cape. In particular, this research sought to address the ways in which the war at sea influenced the maritime cultural landscapes of those living on the peninsula. As most of the relevant finds from the general archive search have been utilized to inform the earlier history chapter, this section will focus on the results of the newsprint survey.

6.2.1 Archival Newsprint Survey

Gaining insight into the maritime cultural landscapes of the Cape Peninsula's population throughout WWII necessitates understanding the information that was publically available at the time. As newspapers were (and still are) one of the predominant sources of information for the public, it stands to reason that the information they contained would significantly impact the creation and maintenance of a population's cognitive landscapes. As such, the following analysis of the *Cape Argus* (one of Cape Town's leading English-language newspapers) will identify and address a number of themes related to WWII and the war at sea. Understanding how this major newspaper addressed maritime issues can offer indirect insight into the ways in which its readers conceived of the maritime landscapes around them. In addition, by analyzing subtler themes related to population dynamics and espionage, further insight can be gleaned into how various sub-populations of South Africans have differentially perceived these landscapes and events.

Overall, the *Cape Argus* newsprint survey analyzed 133 newspaper issues spanning from November 1939 through September 1945. A total of 304 articles and advertisements were noted from throughout these issues. These articles and advertisements were then sorted into eight

content categories including: *War-General, War at Sea, Propaganda, Population Dynamics, Maritime-Tangential, Maritime Activity, Espionage/Subversion, and Coastal Defense / RDF*. Of the 133 issues sampled, only 12 contained no relevant articles or advertisements. The figure below displays each of these categories and the number of articles contained within that group.

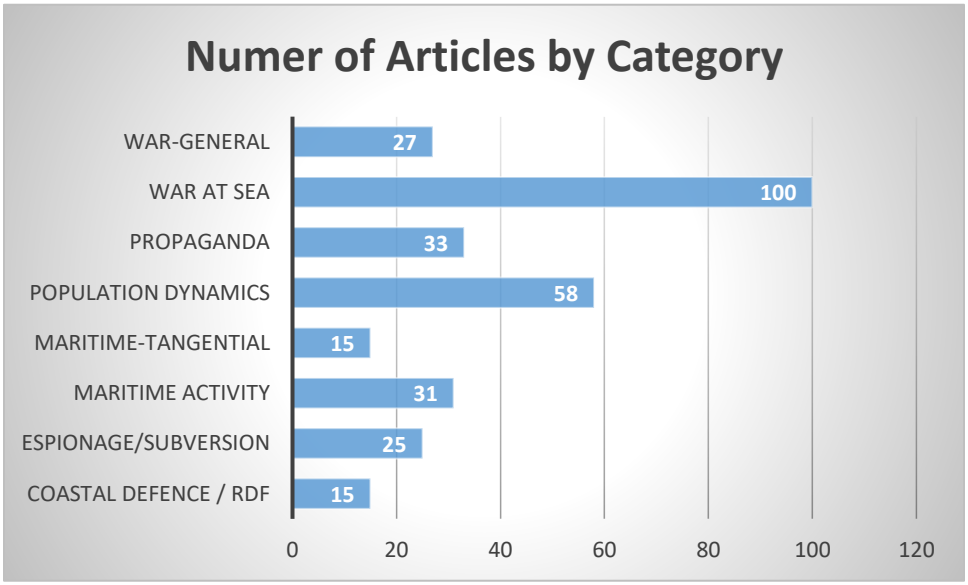

Figure 27: Number of articles contained within each category of the Cape Argus newsprint survey. A total of 304 articles and advertisements were collected. Image by author, 2019.

Given the war's ubiquitous nature in the public consciousness, nearly every article, advertisement, and headline referenced it in some capacity. The vast majority of articles about the war derive from the South African Press Association (SAPA-Reuters), which received much of its information about the war from the British Press Association (PA) in London. When articles from the *Cape Argus* were compared to those from the *Cape Times* (Cape Town's other major English-language newspaper) it became clear that the information they presented about the war was nearly identical. This similarity suggests that both the British and Union governments played a major role in controlling the information in English that was disseminated to the public.

Given that the objective of both governments was to maintain popular support for the war, information about it presented within these papers must be regarded as propaganda designed

to serve this purpose. In this way, the Union government, in conjunction with these newspapers sought to color their readers' perceptions of the war's events in order to maintain support for the war. This objective manifested in a variety of ways throughout the *Cape Argus'* wartime issues, and this analysis will thereby seek to analyze the various ways in which perceptions of maritime landscapes and the war at sea were utilized for these purposes. The full list of annotated articles is available for review in Appendix B. As mentioned earlier, newspaper sources in Afrikaans were not researched due to time constraints, but could offer a different perspective of the war and South Africa's population than the one illustrated here.

6.2.1.a Promoting Success and Mitigating Failure

The geographic isolation of South Africa from the war's major theatres meant that the lived experience for the average person was largely removed from the immediacy of the conflict. Though Union troops participated in the battles for East Africa, North Africa, and Italy, the aspect of the war that hit closest to home was the U-boat war. Hence, maritime activity played a major role in how South African's viewed the progress of the war, and this is clearly evident in how the *Cape Argus* represented Allied successes and failures at sea.

Within the newsprint survey, mentions of the war at sea represent the largest category by far. A total of 100 articles and advertisements fall within this group, representing nearly a third of total dataset. Although these encompass a wide variety of content, they all follow a general set of themes. The most notable of these is the way in which victories and losses at sea are presented to the readership. Articles discussing Allied successes are both frequent and optimistic. With headlines such as "More German Ships Sunk," "Enemy Vessels Sunk," and "Enemy's Heavy Losses at Sea," the people could rest assured that the UDF was hard at work protecting their coastal shipping. The paper for Saturday, 6 April 1940 even proclaimed that the "U-Boat Menace

is Now Overcome," detailing how the failures of U-boats at sea likely meant that Germany would soon cease production of them. Of course history tells us that the true U-boat war had yet to even begin in 1940, though that did not prevent the papers from attempting to inspire optimism.

Coverage of new coastal defenses was similarly promoted for their safeguarding of the maritime landscape. An article titled "Big Naval Air Station" from July 1943 praised the construction of a £1.5 million aerodrome near Cape Town and its capacity to launch anti U-boat reconnaissance flights. Another article, "Radio Location of U-Boats," from February 1943 described a secret new weapon being employed by the navy (RDF) to hunt U-boats and aircraft. Despite the extremely classified nature of the coastal RDF defenses, the government still allowed the project to be discussed (though not by name) in order to instill popular confidence in the safety of the maritime landscape.

Conversely, losses at sea were marginalized or buffered in a variety of ways. An article titled "British Losses at Sea" goes on to describe how the U.S. is helping to replace the destroyed vessels. A similar article, "Merchant Ship Losses," gives the total shipping losses for 1941, but makes a point to note the overall downward trend due to better defenses and convoys. When the merchant ship *Rawapindi* was sunk by German forces in November of 1939, it was written about as a heroic battle to the end. When the ship went down with its flag still flying, the *Cape Argus* hailed it as affirmation that the "grand tradition was safe" (Cape Argus 11/28/1939: Rawapindi's Epic Fight).

When bad news was presented that could not be buffered in such a way, it was commonly marginalized or buried within the paper. For instance, risk rate increases signaled that danger of enemy attack at sea was more likely. Since these numbers cannot be spun in a positive light,

notices of risk rate increases were commonly buried in the paper's news briefs. Conversely, notices of risk rate reductions were given better coverage in the main sections of the paper.

By promoting successes and buffering failures in this way, the *Cape Argus* was attempting to color its readers' perceptions of the surrounding maritime landscape to make it appear safer than it actually was. There is a fine line to this process however, as it seems the paper did not want to go too far and encourage a sense of complacency. In April of 1944, an article titled "For Merchant Seamen" made a point to report the continuing dangers of U-boats at sea in order to redress a decline in charitable contributions to the merchant seamen's fund. Similarly, articles such as "Manpower for Defense," in February of 1942 were quick to cite threats at sea when calling for recruits to construct and garrison coastal defenses.

During the height of the U-boat war in 1942, the city of Cape Town initiated coastal blackout regulations that were heavily protested by the local population. In this instance, the wartime propaganda may have gone too far in promoting a sense of safety within the maritime landscape, as the local residents did not seem to feel endangered enough to view the regulations as warranted. As such, articles released throughout this controversy consistently decried the danger of U-boats lurking off the coast and extolled the need for the blackouts to protect the merchant marine.

6.2.1.b Population Dynamics in the Maritime Landscape

One of the secondary objectives of this newsprint survey was to determine if the *Cape Argus* could give insight into South Africa's non-English-speaking populations and the ways in which they differentially perceived these maritime cultural landscapes throughout the war. Keeping in mind that the *Cape Argus* served the purpose of promoting pro-war propaganda, most of its discussion of Afrikaans and other populations existed to inspire national unity and extoll

the heroic deeds and combat heroism of these peoples. Nevertheless, the paper's reporting on political struggles, labor strikes, domestic espionage activities, and other population dynamics do give some insight into these processes.

In an effort to support national unity, the *Cape Argus* ran a number of stories detailing Afrikaner support for the war effort in spite of the otherwise obstinate Purified National Party led by J. B. M. Hertzog. Similar articles of African Natives in the army completing heroic deeds (even in their non-combat roles), paint a picture of a populace that loves and supports its nation despite the drama of political theatre. Contrary to this image however, a number of articles were recorded throughout this survey that hint at conflicting sentiments.

One of the most notable of these is the case of Robey Leibbrandt in Namaqualand, a multi-part news story from March 1942 detailing the actions of an Afrikaans farmer indicted for treason. Supposedly, the farmer was caught shuttling packages and sending coded messages to German U-boat parties when they landed secretly on the South African coast. Another article "SABC and the War News" from May 1941 details the discovery of a secret radio transmitter in Roberts Heights that was transmitting coded messages to the enemy. In September 1940, a group of anti-war protesters made headlines when they disrupted the traditional Noon Pause (a moment of silence) at Port Elizabeth. The paper then hails the police for promptly quashing the protest. While these articles do not directly pertain to perceptions of maritime landscapes, these acts of disruption at home and assistance to enemy forces implies that certain sections of the population viewed the U-boat war as a good thing. At the very least, these actions suggest that such individuals saw the war at sea as an opportunity to make good on political ambitions, and the U-boat raiding parties as a potential ally to that end.

Further, the *Argus* made a point to refute and chastise statements made by Hertzog and his Afrikaner Nationalists. Headlines such as "Large and Unhelpful Opposition," "Another Protest by Opposition," and "What General Hertzog Really Stood For," regularly followed and attempted to discredit political factions opposed to the war. Protests by labor groups and African natives were similarly targeted by the paper with negative coverage. Strikes in the mines were declared illegal, while the predominantly Afrikaner and native labor unions were baselessly linked to Nazi and Communist infiltrators. Articles such as "Illegal Strike," "Mine Natives Refuse," and "Quislings [Traitors] in the Trade Union," railed against these groups, declaring them traitors to the war effort and the state. One article titled "The Mine Defamation Act" from December 1944 goes so far as to hail the government's legal case against a man for publishing a story in *The Guardian* detailing the horrendous work conditions in the mines and their mistreatment of native workers.

Though it is difficult to associate these stories with the ways in which the non-British populations of South Africa would have viewed their nation's maritime cultural landscapes, they offer indirect insight into how these various groups might have been inclined to interpret the information available to them. Given that these laborers were ruthlessly maligned by the press, it stands to reason that large sections of these populations would have felt little love or loyalty for the British-supported Union government. Particularly for the Afrikaner nationalists, many of whom continued to feel an ethnic affinity with their Dutch and Germanic counterparts in Europe, may well have viewed the war at sea as an opportunity for liberation from the British Empire. However, understanding these perspectives in greater detail necessitates further research.

7. Discussion and Conclusions

Now that the various aspects of archaeological and historical data have been addressed, this study will conclude by returning to the original research questions and assessing the extent to which each can be answered. The archaeological questions will be addressed first, and will be joined by a discussion of management considerations and conservation recommendations. After this discussion is an assessment of the history research questions, followed by some suggestions for future research. Finally, this study will close with some concluding remarks and final thoughts.

7.1 Archaeological Research Questions

This study began by asking a number of questions regarding the archaeological remnants of the Cape Peninsula's WWII history. This section will first reiterate those questions, and then demonstrate the extent to which this study has been able to answer them. To begin, the overarching question of this archaeological investigation is:

- What is the current condition of the RDF stations and other historic military sites located on the Cape Peninsula?

While this study was not able to exhaustively assess the Cape's military heritage, it was able to sample a significant portion of it. Each of the ten primary sites were thoroughly surveyed and documented for various forms of physical and cultural damage. Every individual building on site was assessed for its structural stability, as well as checked for indications of potentially damaging site formation processes. The results of these surveys produced in-depth condition assessments for each structure that were later used to calculate general condition scores for both

individual structures as well as overall sites. These scores ranged from 0 (complete ruins) to 35 (perfect condition), and give a general guide to the overall amount of damage that each site has sustained.

Analysis of the overall site averages displayed scores ranging from 19 at the lowest to 29.4 at the highest. This clustering of scores within the upper half of the spectrum indicates that the bulk of these sites are still largely intact. Even sites with one or more buildings in ruins still possess other structures that have endured well enough to warrant further study and protection. In this way, this study was successfully able to assess the condition of the RDF stations and other historic military sites throughout the Cape Peninsula.

With the overall condition of these sites having been established, the secondary objectives of this archaeological investigation sought to answer several subsidiary questions:

- Can the individual effects of various site formation processes be isolated for each site, or can their relative influence be otherwise determined?
    - What are the most important site formation processes in determining site survivability?

This study attempted to discern the individual influences of several site formation processes. Throughout the course of the archaeological analysis, the factors assessed included: legal protection status, site accessibility, elevation, and distance from the ocean. Both legal protection status and site accessibility were proxies for cultural impacts, while elevation and distance from the ocean were utilized to assess damage from high winds and ocean-related corrosion. Of these factors, the only metric to demonstrate any clear association with structural integrity was site accessibility.

Sites with NHRA >60 protection only did score overall worse than those with legal protection *and* active conservation, but did comparatively just as well as sites with only passive legal protection. As a result, there was no discernable difference in survivability between sites with and without legal protection, implying that only the addition of active conservation measures was enough to improve conservation outcomes. Alternatively, site accessibility did significantly impact the degree to which structures had been impacted by destructive cultural processes. Sites located closer to populated areas, particularly those within 5-10 minutes of town suffered extensively more damage from cultural defacement than those located further away. Though it is difficult to determine the degree to which specific structural damage is the result of cultural versus natural processes, it was possible to determine the relative influence of cultural deterioration across the survey dataset.

In an attempt to discern the influence of natural site formation processes such as wind and saltwater damage, the elevation and distance-to-ocean metrics were also collected. When these factors were compared to overall site condition however there were no apparent trends. Though it is clear, particularly on the most isolated sites that natural formation processes have caused an extensive amount of structural damage, it remains difficult to attribute specific types of damage to particular processes. High winds on these exposed structures remains a likely contributor to the destroyed roofs and windows, though such associations were not able to be statistically linked in the course of this investigation.

7.1.1 Conservation and Management

The final research question posed for the archaeological aspect of this study is the question of conservation and management:

- What management strategies would be most effective at preserving these sites given the relative importance of the processes described above?

Utilizing the knowledge gained from the various tests of site formation processes, several management recommendations can be made. The first is that all of the sites surveyed for this study should be granted formal protection under the National Heritage Resource Act of 1999. Similar sites such as the Hangklip RDF Station and barracks have already been assessed by the Overstand Heritage Landscape Group, which used the information from their surveys to apply for NHRA grading (Baumann 2009:18). If granted, the Overstand sites would receive NHRA grades of 3B and 3C respectively, which designates sites of low to medium local significance. Though these are the lowest possible grades, they would at least require that "Resources be retained where possible, where not possible they must be fully investigated and/or mitigated (Heritage Western Cape 2015:7). Further, this grading begins the process of adding sites to the historic register, which would then place them under the jurisdiction of the proper management agency (Heritage Western Cape 2015:1).

Throughout the course of this study however, it has become clear that legal protection alone is not enough to prevent the deterioration of these historic landmarks. As such, the second recommendation is for active conservation and stabilization. Given the diverse state of conditions observed throughout these sites however, the degree of remediation necessary to stabilize each structure will vary considerably. Throughout this process, priority should be given to preserve unique structures such as the Glencairn BOP, Slangkop BOP, and the Karbonkelberg operations building. In most cases, stabilizing structures against continuing natural destructive processes will, at a minimum, require the repair or replacement of missing roofs, doors, and windows. More significant repairs may be necessary depending on the integrity of the remaining

structural elements, particularly for reinforced concrete structures (Forsyth 2007:97). Unfortunately, concrete that has spalled off of structures must oftentimes be completely removed and replaced, a process that commonly results in highly visible patches of new material, damaging the historic aesthetic of the structure (Forsyth 2008:208).

Addressing cultural damage however is a much more complicated issue. Preserving the historic fabric of structures necessitates returning them to their original aesthetic, and while modern litter can easily be cleaned, the process of removing graffiti can potentially damage historic surfaces (Ingval 1996:1409). Nevertheless, aerosol paints create an impermeable layer on structural surfaces that can lead to long-term damage. Though this layer has the potential to reduce the influx of damaging chlorides from seawater spray (Blute 2008:118), it enables the condensation of water beneath the paint layer, potentially leading to the formation of micro-cracks in the structural surface (Ribeiro 2009:63). Further, metallic ions in the aerosol paints will eventually oxidize, causing further corrosion (Ribeiro 2009:63). Finally, cleaning graffiti from historic surfaces without establishing preventative measures against further defacement can paradoxically "attract the attention of graffiti artists" (Ingval 1996:1409), thereby increasing overall damage to the structure. In this way, protecting sites from cultural practices is an ongoing process of damage reduction that requires the input and support of the local community.

To bridge off of this point, the final management recommendation is to increase community awareness of these historic monuments. At present, one of the greatest detriments to survival of these structures is the fact that very few community members know of their existence. Though some are known well enough to attract graffiti artists, most are too obscure to attract heritage tourists or interested residents of the local community. By bringing these historic structures out into the open, they can become integrated into the (already very successful)

network of hiking trails and tourist attractions throughout the Cape (Khakzad 2015:111). Making these structures a part of the modern maritime cultural landscape should help to engender a sense of affiliation and ownership by the members of the local community, which will in turn help to promote local support for conservation and protection.

7.2 History Research Questions

In addition to the archaeological analysis, this thesis sought to address a variety of historical questions related to the war at sea and its impact on maritime cultural landscapes. Accordingly, this section will reiterate those questions, and then assess the degree to which each has been answered by this investigation. To begin, the overarching research question of this historical analysis was:

- How did South Africa's U-boat war influence the maritime cultural landscapes of its population?

Secondary to this were the questions:

- How aware were South African citizens of the U-boat war?
- To what extent did coastal defenses such as RDF stations and gun batteries serve to mitigate the perceived risks of maritime activities?
- In what different ways did the various sub-populations of South Africans view this information and construct their maritime cultural landscapes?

From the historical newsprint analysis, it seems clear that the war at sea influenced the construction and maintenance of maritime landscapes in a multitude of ways. To begin with the subsidiary questions however, South Africans were clearly extremely well aware of the U-boat war taking place off of their coasts. Nearly every newspaper article, headline, and advertisement mentioned or alluded to the war in some capacity. Even for those who had never set foot on a

boat, the prices of commodities such as fruit, cereals, and other commodities fluctuated wildly whenever shipments were lost. Instructions not to talk about ships or shipping were commonplace, instilling fears that Axis spies were lurking behind every corner waiting to sabotage the merchant marine. In this way, it would have been virtually impossible for the average citizen to be unaware of the war at sea.

Ascertaining the extent to which coastal defenses mitigated the perceived risks of maritime activities is a much more difficult question. These installations certainly mitigated the actual risks of maritime activities, but there will always be a dissonance between the real and perceived risks of any landscape. By giving such prolific news coverage to these defenses, the Union government seems to have thought they could mitigate the perceived risks as well and certainly endeavored to do so. Advertisements for coastal passenger routes, photos of crowded harbors from the Marsh collection, and published data on the prices of various fish indicate that a great deal of coastal maritime activity continued throughout the war. The fact that these "luxury" economies continued in the face of the U-boat menace indicates that mariners had decided the maritime risks were worth the potential economic gain. In this sense, the coastal defenses and the propaganda campaign surrounding them seems to have been at least somewhat successful at mitigating the perceived risks of the maritime landscape, or these activities would not have been conducted.

The various sub-populations of South Africa do appear to have perceived the maritime landscape and the U-boat war in substantially different ways. While the primary sources needed to truly answer this question lay outside the scope of this study, the prolific labor strikes, acts of sabotage, and discontent against the war effort demonstrate that wide swathes of the population refused to accept the views of the Union government. Instances of individuals secretly aiding and

supplying U-boats from the South African coast further suggest that some in the country even viewed the Germans as potential allies in their political struggle. Unfortunately, without viewing the primary source literature for these groups, it is impossible to gain a clearer understanding of how they disparately viewed the contested maritime landscape.

As such, to return the main question, the war at sea had an enormous and wide-ranging impact on the maritime landscapes of South Africans. As can be seen through the various actions of mariners, citizens, and saboteurs, virtually everyone in the country altered their course of action based on how they perceived the ongoing conflict within their maritime landscape. While this study was able to demonstrate some of the ways in which the Union government sought to manipulate these landscapes to serve the war effort, it is clear that the range of human cognition extends far beyond these cursory aims. Those who supported the British cause would have seen the U-boat war as a call to arms against the Axis threat, while its opponents would have viewed the submarines as a sign of hope in their struggle against an unjust overlord. Further, each side had the incentive and ability to manipulate perceptions of these maritime landscapes to suite their own objectives.

7.3 Suggestions for Future Research

Sources differ on the exact number of RDF stations constructed throughout the war, Austin (2016) says there were at least 30, whereas other authors have suggested numbers over twice that. Regardless, this study has surveyed only 5, which represents but a small fraction of the total number known to exist. In particular, the Melkbosch RDF station north of Cape Town may or may not have been torn down by Jacobus Van Niekerk, and is worth investigating if only to find closure for his story. Additionally, records indicate that there is another RDF site known as the Blue Gums station located between Miller's Point and Smitswinkel Bay (Cape Point

National Park 2017). The RDF stations on Seal Island and Robben Island also have yet to be investigated or confirmed.

Beyond these, there is an enormous amount of military heritage both on the Cape Peninsula as well as throughout the rest of the country that has been left largely undocumented, creating excellent opportunities for further investigation. In addition, given the inherently precarious nature of coastal heritage, it may be worth investigating the ways in which climate effects have begun to alter the delicate ecosystems within which these sites are located (Flatman 2009:3)

From the historical perspective, this study has only barely scratched the surface of the population dynamics and ideological conflicts that simmered within wartime South Africa. An analysis of primary source documentation from Afrikaans and native African sources would enormously contribute to this broader understanding. Further, tracing the roots of the other marginalized political parties (such as the ANC), and their actions throughout the war would certainly tell a fascinating story.

7.4 Concluding Remarks

Given the small sample size of sites surveyed for this study, these results must be regarded as preliminary. Nevertheless, enough sites have been documented to demonstrate the significant damage sustained by these historic structures since their abandonment. Though many are legally protected within the boundaries of national parks and wildlife reserves, it is obvious that this status alone is not enough to ensure their long-term survival. Many such sites, including the Middle North and Upper North Batteries are already being successfully conserved thanks to the actions of volunteers and local historical societies. These successes should serve as a guide

for the RDF stations and observation posts located in the more distant (and lesser known) corners of the peninsula's national parks.

On the whole, RDF stations represent an important part of South Africa's national heritage, embodying the social and political struggles that continue in many aspects of daily life even today. While the segregated layout of the sites embodied the prejudiced institutions of the era, the fact that they allowed for women and African service members at all is a testament to the type of progressive thinking (even if only considered due to the demands of war), that did not filter into broader South African society until decades later. Thus, if these important monuments are to be saved, it will require both a greater awareness by the general population, and a more active commitment from relevant authorities to stabilize and save these historic monuments.

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APPENDIX A: Site Condition Worksheets

A.1 Cape Point Station

Structure Condition Assessment Worksheet		
Structure Name: **Lookout Platform (2)**		
Site Location: **Cape Point Station**		
Construction Date: WWI or before		
Central GPS: -34.35439, 18.49212		
Elevation: (meters)	180	Inferred elevation
Description:		
A small stone platform constructed to overlook the ocean. Built from large stones plastered together to a height of 1-2 feet off the ground, with a floor of finer cobbled stones connected to the stone pathway. Measures approximately 2 meters across.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	N/A	
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Good condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Excellent
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	N/A	
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Trails well maintained
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	
Structure Point Total (of 35 possible points)	**35**	Very good condition, well maintained
Structure Name: **Lookout Platform (3)**		
Site Location: **Cape Point Station**		
Construction Date: WWI		
Central GPS: -34.3547, 18.49249		
Elevation: (meters)	180	
Description:		
A small stone platform constructed to overlook the ocean. Built from large stones plastered together to a height of 1-2 feet off the ground, with a floor of finer cobbled stones connected to the stone pathway. Measures approximately 2 meters across.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	N/A	
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	0	
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	
Structure Point Total (of 35 possible points)	**35**	Excellent Condition, very well maintained
Structure Name: **Sentry Post (4) NO DATA**		
Site Location: **Cape Point Station**		
Construction Date: ND		
Central GPS: -34.35482, 18.49268		
Elevation: (meters)		
Description:		
A small square structure overlooking the trail leading to the cape point RDF station.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	No Data	

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).		
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)		
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)		
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, significant damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, moderate rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.		
Fire Damage (-1 = signs of charring from veldfires)		
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).		
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).		
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).		
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)		
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.		
Structure Point Total (of 35 possible points)	**N/A**	
Structure Name: **Double Cistern (5)**		
Site Location: **Cape Point Station**		
Construction Date: WWII		
Central GPS: -34.35541, 18.49389		
Elevation: (meters)	181	
Description:		

An enclosed concrete rectangle, measuring approximately 3m by 1.5m, by 2m vertical. The cistern is divided in half along the width, with each square section posessing its own square hatch. There are several inflow/overflow pipes leading into and out of each half.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Little to none
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-3	Serious structural cracking of the cement roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-6	Major structural cracks, exposed rebar, large chunks missing from the exterior
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Enclosed structure so unable to tell
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	N/A	
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Minor overgrowth around structure
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	highly degraded trail
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-3	This structure is in imminent danger of its roof collapsing, should avoid being on or around
Structure Point Total (of 35 possible points)	**18**	Poor condition, in danger of collapse

Structure Name: **Foundation and Rubble Heap (6)**		
Site Location: **Cape Point Station**		
Construction Date: WWII		
Central GPS: -34.35557, 18.49429		
Elevation: (meters)	167	
Description:		
The foundations and rubble of a former brick structure. Historic glass bottles were found amongst other artifacts, as well as some sections of metal pipes that run through the debris field.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Missing walls and roof
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-4	Missing walls and roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-10	Missing walls and roof
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-3	
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-2	extensive overgrowth
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	

Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Loose rubble and broken glass, artifacts strewn about
Structure Point Total (of 35 possible points)	**7**	Completely destroyed
Structure Name: **Cistern (7)**		
Site Location: **Cape Point Station**		
Construction Date: WWII		
Central GPS: -34.35563, 18.49443		
Elevation: (meters)	169	
Description:		
An enclosed concrete square box, measuring 2.33m x 2.33m, by approximately 1.5m vertical. The southwest corner of the cement roof contains the opening for the cistern hatch, which measures approximately 95cm x 95cm square. Two large metal pipes (10cm diameter) run into and out of the top of the cistern box. The interior as visible through the hatch is filled with debris.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	None, though there may not have been any originally
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	0	No obvious cracks or structural damage
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	slight pitting in concrete, no major cracks or damage
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot determine from cistern's exterior

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Cistern Hatch appears to be in fine condition, overflow pipe is mostly corroded away
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No visible graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Some overgrowth surrounding
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No obvious hazards
<u>Structure Point Total (of 35 possible points)</u>	**27**	Fair condition
Structure Name: **Observation Bunker (8)**		
Site Location: **Cape Point Station**		
Construction Date: WWII		
Central GPS: -34.35573, 18.49463		
Elevation: (meters)	167	
Description:		

Square concrete observation bunker. The front of the structure faces North to the ocean. The metal shutters are open, but would cover the large horizontal window into the structure's main section. The main section is roughly 4m square, with the concrete walls accounting for about 45cm of the width. An iron bunker door serves as the only entrance. Connected by an iron bar ladder, up a half-level from the main structure is an upper level, approximately 2.5m square that contains a concrete and metal pedestal that was likely the mounting point for ranging equipment. There are three concrete walls projecting from various points of the structure, and may have been utilized for foundational support, or as projectile cover in the event of an attack. There are still the remnants of camouflage paint on the front face of the building, as well as the remnants of electrical wiring inside the main level of the structure.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Much of the paint remains intact, notably the camouflage coloring on the exterior
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-1	Largely intact, some signs of cracking and deterioration
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-5	Large sections of destroyed concrete, exposed rebar, other interior walls remain in reasonable condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-3	Mostly destroyed, now dirt, gravel, and debris
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows in place, aesthetic damage only to frames and features.	-3	Metal shutters mostly missing or heavily corroded, bunker door in place though also heavily corroded, equipment mounts heavily deteriorated or broken concrete.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Very minor cultural defacement
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Minor overgrowth

Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	trail unmaintained
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Some exposed rebar and sharp pieces of corroded metal lying about
Structure Point Total (of 35 possible points)	**17**	Reasonable condition relative to the rest of the site, but still heavily deteriorated
Structure Name: **Main Structure Foundation (Possible Dormitory) (9)**		
Site Location: **Cape Point Station**		
Construction Date: WWII		
Central GPS: -34.35582, 18.4951		
Elevation: (meters)	160	
Description:		
The rubble and remaining foundation of a former brick structure. It is rectangular, approximately 14m in length by 5m in width. There are the remnants of three distinct rooms, two smaller rooms accounting for half of the area, with a larger room occupying the other half. There are some remnants of pipe fittings and air vents, but little else to indicate possible function. Off to the south side of the structure is a small 2.2m x 2.2m square cement structure that may have served as a cistern for the structure. Structure layout and material type fits with the model for dormitory structures from other sites however.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Missing walls and ceiling
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-4	Missing walls and ceiling
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-10	Missing walls and ceiling

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-3	rubble is all that remains of the floor
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows in place, aesthetic damage only to frames and features.	-4	the only surviving features are some of the airvents in lower sections of the remaining walls
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Trail is actually reasonably maintained
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-3	Rubble floor and significant amounts of exposed rebar
Structure Point Total (of 35 possible points)	**9**	Completely destroyed
Site Summary: Cape Point RDF Station		
Average score of site structures	21.14285714	Structures: 7
Average score of structures excluding cisterns:	20.6	Structures: 5
Site Accessibility Number (Travel time to site from nearest town in minutes):	45	30 minute drive plus a 15+ minute hike
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	It should be noted that despite its distance, the Cape Point Lighthouse is an extremely popular tourist destination, and so still receives considerable foot traffic.
Approximate distance of site from ocean (meters):	50	Less than 50 m (not including vertical distance)

Highest Elevation on Site (Meters)	181	
Site Conservation Status (Active Protection and Restoration; Legally Protected but no active conservation, or No Protection)	Passive Legal Protection	

A.2 Castle Site Observation Post

Structure Condition Assessment Worksheet		
Structure Name: **Stone Observation Tower (South Tower) (1a)**		
Site Location: **Castle Site - Upper North**		
Construction Date: Pre WWI		
Central GPS: -34.17517, 18.41869		
Elevation: (meters)	225	
Description:		
A large stone observation tower constructed from mortared stone on top of a natural rock formation. Each individual tower formes an irregular oval shape, approximately 7 or 8 meters across on the long end, while the walls themselves have been built up to a height of approximately 1m above the natural stone foundation. Constructed immediately adjacent to a second tower, that was once likely connected by some form of bridge. Aside from a few slats in the base of the stone walls to allow for water drainage, there are no other features in the walls themselves that might indicate if any weapons or observation equipment was installed here. The age of the stonework indicates that this structure likely predates WWI, and was likely constructed during the colonial period.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	No original paint
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	N/A	No original roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	Minor damage to some of the stonework, some missing pieces of stone.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Natural bedrock floor

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Missing the ladders or steps that would have connected each of the towers to each other as well as the ground below.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No noticeable graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	No significant overgrowth
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No trail, and removal of ladders makes it difficult to reach.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Minor rubble hazards, most of the stonework seems secure however.
<u>Structure Point Total (of 35 possible points)</u>	**26**	Overall, the stonework remains in fair condition.
Structure Name: **Stone Observation Tower (North Tower) (1b)**		
Site Location: **Castle Site - Upper North**		
Construction Date: Pre WWI		
Central GPS: -34.17517, 18.41869		
Elevation: (meters)	225	
Description:		

A large stone observation tower constructed from mortared stone on top of a natural rock formation. Each individual tower forms an irregular oval shape, approximately 7 or 8 meters across on the long end, while the walls themselves have been built up to a height of approximately 1m above the natural stone foundation. Contains a small stone structure, measuring roughly 2m x 2m square that was likely used as a simple shelter for the tower's occupants. Constructed immediately adjacent to a second tower, that was once likely connected by some form of bridge. Aside from a few slats in the base of the stone walls to allow for water drainage, there are no other features in the walls themselves that might indicate if any weapons or observation equipment was installed here. The age of the stonework indicates that this structure likely predates WWI, and was likely constructed during the colonial period.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	No original paint
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	N/A	No original roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	Minor damage to some of the stonework, some missing pieces of stone.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Natural bedrock floor
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Missing the ladders or steps that would have connected each of the towers to each other as well as the ground below.
Fire Damage (-1 = signs of charring from veldfires)	-1	Surrounding foliage remains blackened and charred, the area likely burned at some point in the previous few years.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No noticeable graffiti

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	No significant overgrowth
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No trail, and removal of ladders makes it difficult to reach.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Minor rubble hazards, most of the stonework seems secure however.
Structure Point Total (of 35 possible points)	**25**	
Structure Name: **Wide Structure - Possible Dormitory (2)**		
Site Location: **Castle Site - Upper North**		
Construction Date: Probable WWI		
Central GPS: -34.1755, 18.41831		
Elevation: (meters)	195	
Description:		
A rectangular structure with a square cistern attached to one side. Built from cinderblock bricks covered over with a layer of plaster. Flat roof. Construction style and materials seem to predate the other WWII structures, and thus likely dates this to the WWII era Scala Battery construction. Windows are small and square, with the door offset to one side on the lengthwise face of the structure. Positioned behind the slope of the hill, obscuring any view of the ocean, meaning that this structure likely served as an office or dormitory space. An inscription in the stone outside of the structure reads "W.H. 1912"		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Most of the original plaster coating seems to have degraded away.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	Flat roof is in good condition. No structural flaws noted from exterior.

Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Some minor aesthetic damage, small cracks in exterior plaster and brick seams.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	It is unclear what the original flooring was constructed of, a series of spaced wooden beams remain that may have supported another layer, but what remains now is likely not the original layer.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Door completely missing, window frames in fair shape, missing panes. Some of the metal storm shutters are still in place, though significantly corroded. Series of air vents near the ceiling of the structure remain intact.
Fire Damage (-1 = signs of charring from veldfires)	-1	Surrounding foliage remains blackened and charred, the area likely burned at some point in the previous few years.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-2	Some significant graffiti on the structure's interior.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	No clear trail, but little natural vegetation to inhibit passage.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Minor hazard from flooring deterioration. Otherwise the structure seems largely structurally stable.
Structure Point Total (of 35 possible points)	**23**	
Structure Name: **Tall Structure (3)**		

Site Location: **Castle Site - Upper North**		
Construction Date: Probable WWI		
Central GPS: -34.17517, 18.41804		
Elevation: (meters)	213	
Description:		
A small square structure constructed of cinderblock bricks covered in a layer of plaster. There are no windows, and only a single doorway. The roof is flat cement. The structure measures approximately 3m square by 4m tall. In the interior of the structure is a single brick platform or pedestal, measuring roughly 40cm x 30cm by 20cm tall, its purpose is unclear. Otherwise the purpose of the structure is unclear. Its additional height does not seem to have served a clear purpose, though there are a series of small air vents in the walls near the ceiling. There are signs of human occupation at some point in the recent past.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Most of the exterior plaster coating has been destroyed, though the interior remains largely intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	Roof appears to be in good condition, some minor areas of chipped cement from the eaves.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Aside from some aesthetic damage to the exterior plaster coating, the core structure seems unaffected.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The cement floor seems to be in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	The door is completely missing, though its frame seems relatively undamaged. The only other feature is a small raised platform inside, though its purpose is unclear, it seems to be somewhat weathered.
Fire Damage (-1 = signs of charring from veldfires)	-1	Surrounding foliage remains blackened and charred, the area likely burned at some

		point in the previous few years.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	No noticeable graffiti, but some modern litter that may indicate human occupation. The small brick platform seems to have been used as a hearth in the recent past.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	No clear trail, but little impeding foliage.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	Structure seems to be in good condition, no notable hazards.
Structure Point Total (of 35 possible points)	**26**	
Structure Name: **Sentry Post (4)**		
Site Location: **Castle Site - Upper North**		
Construction Date: Probable WWI		
Central GPS: -34.17562, 18.41814		
Elevation: (meters)	198	
Description:		
A small cinderblock structure covered with a layer of plaster. It is square, and just large enough to house a single occupant standing. Aside from a large doorway, there is a small slat in the upper part of the wall facing the trail, and a larger square opening at the floor level. Both of these would have been difficult to use as viewing ports over the trail. It could alternatively served as a small outhouse, though there is no indication of such features remaining.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Plaster layer has largely degraded.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	Roof appears to be in good condition
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	Aesthetic damage only to plaster layer, brick layer underneath appears sound.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Cement floor is in good shape. No notable damage.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Door is completely missing, as are any other features that could indicate potential function.
Fire Damage (-1 = signs of charring from veldfires)	-1	Surrounding foliage remains blackened and charred, the area likely burned at some point in the previous few years.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No notable cultural impacts.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Trail is in good condition, stone steps to rest of site are also clear.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**28**	

Overall Site Summary: Castle Site Observation Tower		
Average score of all structures on site:	25.6	Structures: 5
Average score of structures excluding cisterns:	25.6	Structures: 5
Site Accessibility Number (Travel time to site from nearest town in minutes):	9	7 minute drive, 1-2 minute walk
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	750	
Highest Elevation on Site (Meters)	225	
Site Conservation Status (Active Protection and Restoration; Legally Protected but no active conservation, or No Protection)	NHRA >60 Only	

A.3 Glencairn Hill BOP

Structure Condition Assessment Worksheet		
Structure Name: **Battery Observation Post (3)**		
Site Location: **Glencairn Hill BOP**		
Construction Date: WWII		
Central GPS: -34.16526, 18.42828		
Elevation: (meters)	137	
Description:		
A very large concrete observation post, measuring approximately 12m by 8m. Unlike the other BOPs this one is two-story, with the observation room on the second floor. The structure is rectangular, with its thin face oriented towards the ocean. There are a series of windows throughout the structure, most of which still have their metal storm shutters attached. The observation room has the typical horizontal slat window with metal shutters that can be pulled up to cover the opening. A set of concrete steps leads up and down to the second floor from the face opposite the ocean. Aside from the observation deck, the remaining area of the structure is divided into a series of various rooms, many of which possess a trench running through the floor (covered with metal grates) that likely served as routes for the electrical cables that would have served the range finding equipment.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Much of the original paint still remains, though it is heavily covered now by extensive graffiti.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	Roof is largely in good condition, many of the eaves are chipped, some sections are missing major chunks, particularly over the corners.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	The walls are in generally good shape, only in a select few areas is there notable damage, including some chipped sections of concrete and exposed rebar.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The floor is in remarkably good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	The metal storm shutters on most of the windows are present, but heavily corroded and pitted. The floor tracks for cables and other piping are in fairly good condition, though most areas are missing the covering panels. It is unclear if there were doors to the structure, but if so they are also missing.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Heavy graffiti over almost every interior surface of the structure. Also, there is an enormous amount of modern litter, and clear signs that this building is being used continuously, possibly even as a habitation site.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-2	Heavily overgrown.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Relatively accessible trail, given the state of overgrowth generally.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Some open holes in the second story floor (by design) that are now open and could easily lead to a fall if not careful. Otherwise, the preponderance of litter and open trenches in the floor are the only notable safety hazards.

Structure Point Total (of 35 possible points)	**19**	
Structure Name: **Equipment Garage (4)**		
Site Location: **Glencairn Hill BOP**		
Construction Date: WWII		
Central GPS: -34.16527, 18.42777		
Elevation: (meters)	118	
Description:		
A moderately sized red brick structure, built on top of a large brick foundation slab. Measures approximately 6m by 5m, with the foundation extending out past the front of the building by another 1.5m. There are two large garage style doors opening into the two separate rooms of the structure. One room is quite thin, somewhat over a meter wide, barely the width of the door leading to it and has no features inside. The other room is much larger and occupies the remainder of the structure. Inside is a large concrete slab on the floor that likely served as an equipment mount of some kind. Behind the slab is a rectangular window. Running across the ceilings of both rooms are electrical sockets and brackets. In the larger room there is also a trench in the floor running along the dividing wall, possibly as a run for cables or piping. The phrase "T1" is painted onto the wall above the larger doorway.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	The exterior would not have been painted originally, the sections of the interior that appear to have been painted seem largely intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	The roof as a whole seems largely intact, though there are some major structural cracks developing on the interior ceiling that will eventually become hazardous.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	The walls are in generally good shape, only in certain areas are there minor cracks developing near the ceiling.

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	Largely intact, there are some major cracks developing in various sections throughout the floor, particularly around the trench.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	The structure's features are largely destroyed, there is a sliding track where the large garage doors may once have stood, whereas the only window is completely empty of panes or a frame. The large concrete pedestal is heavily weathered, and the metal wire brackets are mostly gone, the ones that remain are heavily corroded.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Heavy graffiti throughout the structure, as well as a significant amount of modern litter.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Located right on the main trail.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	No major safety hazards at present, though as these structural cracks, particularly in the ceiling continue to develop, they will eventually be a cause for concern of collapse.
Structure Point Total (of 35 possible points)	**23**	
Structure Name: **Wash House (5)**		
Site Location: **Glencairn Hill BOP**		
Construction Date: WWII		
Central GPS: -34.16555, 18.42805		
Elevation: (meters)	112	
Description:		

An intricate brick and concrete structure. The main body of the structure is approximately 5m by 5m square with a pitched roof, with a large concrete patio extending out from its northern side, and a smaller patio and stairway extending out from its southern side. Inside of the structure are the remnants of bathroom tiles, concrete pedestals, and tracks along the walls for pipes. Outside are several outdoor sinks and wash stations. The structure is located significantly downslope of the other structures, indicating that this may be the repository for the rainwater collected at the other structures. A number of broken barrels are also scatted in the area surrounding the structure.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Areas of original paint are very infrequent, though it is difficult to know its original extent.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing/destroyed
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	The condition of the plaster coating over the bricks has substantially deteriorated, though most of the walls seem structurally stable. Many of the bricks, particularly near where the ceiling would once have connected have weathered substantially.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	Much of the interior floor is now covered with thick layers of dirt, which is now host to a number of growing plants. Other sections remain in reasonable condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Door and windows all missing completely, pipes and pipe tracks are also gone or destroyed. Exterior wash stations remain in place, though are also heavily weathered.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-2	Some significant graffiti throughout the structure's interior.

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-2	Extensively overgrown, many plants now taking rood inside of the building.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No clear, trail, heavily overgrown surroundings.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Some broken glass and tile, but otherwise no major safety hazards.
Structure Point Total (of 35 possible points)	**15**	
Overall Site Summary: Glencairn Hill BOP		
Average score of all structures on site:	19	Structures: 3
Average score of structures excluding cisterns:	19	Structures: 3
Site Accessibility Number (Travel time to site from nearest town in minutes):	15	15 minute hike
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	400	
Highest Elevation on Site (Meters)	137	
Site Conservation Status (Active Protection and Restoration; Legally Protected but no active conservation, or No Protection)	NHRA >60 Only	

A.4 Karbonkelberg RDF Station

Structure Condition Assessment Worksheet		
Structure Name: **Equipment Box / Platform (2)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03789, 18.31971		
Elevation: (meters)	612	
Description:		
A brick box structure encased in a layer of cement, constructed on top of a cement foundation. The main body of the structure measures 3.8m square by approximately 1.5m tall. Attached to the side of the box is a set of cement stairs, bolted into the side of the structure, giving access to the top of the platform. The top of the platform has been coated in a layer of tar. Underneath, the interior of the structure is a small crawlspace with no windows and only a half door to provide access. Inside there are two small mounting platforms for equipment, as well as a metal hatch that could have provided electrical access. This was likely the case used to house RDF equipment, while the RDF dish would have been mounted on top.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Was likely not painted, the concrete coating over the bricks, as well as the tar coat over the platform remain in good condition.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	Good condition, both from the interior and exterior, tar coating is in good condition.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Some minor cracks developing in areas of the concrete layer, the bricks seem to be in good condition still.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Cement floor on the interior of the crawlspace is in good condition.

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Missing doorway, mounting platforms are in good condition. Metal hatch is somewhat rusted and corroded. Metal mounts on the top of the platform, as well as those bolting the steps into the side of the platform are rusting significantly.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some very minor graffiti.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Trails throughout the site are in good condition
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No major hazards, though being inside of the crawlspace is generally not a good idea.
<u>Structure Point Total (of 35 possible points)</u>	**30**	
Structure Name: **Lavatory (3)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.0378, 18.31976		
Elevation: (meters)	615	
Description:		
A small brick structure, measuring 3.75m by 2.5m, by 2.5m tall. The main part of the structure is a long rectangle, with an "L" shaped curtain wall extending out from the middle of the structure for added privacy. There are a number of vertical vents cut into the narrow face of the structure for ventilation. Several wooden beams exist to indicate that there was once a roof, but that it is since deteriorated. Along the main section of the privy, there is a wash basin on the opposite wall from the location of the toilet.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	May have been surfaced with cement, though this too has since largely degraded.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	Missing, only wooden beams remain.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-4	Though the walls as a whole are largely stable, several sections of bricks are missing or majorly chipped, som minor cracks have begun developing. Significant wear near the interface with the former ceiling.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Cement floor is in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Door missing, washbasin intact but filled with brick rubble. The actual privy feature is also missing. Frames for the door are in reasonable shape.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Some loose tile and brick rubble on the floor. Otherwise no major hazards.

Structure Point Total (of 35 possible points)	**24**	
Structure Name: **Equipment Shed (4)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03776, 18.3198		
Elevation: (meters)	615	
Description:		
A small rectangular brick structure measuring 2.7m by 1.25m by roughly 2m tall. There is a small opening for a doorway in the center of the long edge. The interior floor is made of concrete, and possesses a small raised stone platform measuring 20cm by 30cm, its purpose is unknown. There are no windows. Though there was likely a roof, it is no longer present. There is what appears to be the partial remnants of a plaque mounted on the exterior of the building adjacent to the doorway, as well as several small holes in the brick walls through which some thin metal ribbons are passed through.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-7	Large sections of missing brick wall. The top section of the wall where the ceiling might have been is heavily worn.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Cement floor is in good condition. Some sections are covered over with dirt.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Completely missing the door, metal ribbons are significantly corroded. Plaque mounted by door is broken in half. Raised stone platform inside seems to be largely intact.
Fire Damage (-1 = signs of charring from veldfires)	0	

Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Some small plants growing inside of the structure.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards
<u>Structure Point Total (of 35 possible points)</u>	**19**	
Structure Name: **Main Operations Building (5)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03786, 18.31983		
Elevation: (meters)	612	
Description:		
A large brick and cement structure. Its shape is rectangular, measuring approximately 12m by 5m. It is built upon a large concrete foundation. There is a set of concrete steps leading up to the structure into a central doorway. Next to the structure is a second concrete foundation, measuring 1.8m square that would likely have housed a water barrel or cistern. There are openings for several windows throughout the structure, though they have been filled in and mortared with bricks. The inside of the structure is divided into a long hallway along the line of the entrance, with three rooms connecting to the central hall. Though the exact purpose of each room is unclear, they each have a substantial amount of electrical wiring and cable boxes, indicating that this structure would likely have been used as the operations and control center for the RDF equipment. A number of openings and protrusions from the rear of the building seem to indicate mounting and connection points for equipment and wires leading to the nearby equipment platform.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	The interior paint is all largely intact, the external surfacing is questionable however.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof appears to be in acceptable condition, no major cracks or breaks, much of the paint is still intact. Some small cracks do exist at the wall seams.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-4	The walls are in generally good condition, certain sections, particularly near equipment features are host to some large cracks. Many of the bricks appear heavily weathered, though this is largely just aesthetic damage.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The cement floor is in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Some of the electrical features are in excellent condition, many of the metal mountings, as well as some of the stone fitting points are cracked and heavily worn. There is no door, and the windows have already been filled in with brick.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some graffiti on the interior, but nothing major. Small amounts of modern litter.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Some minor accumulated brush and other litter inside.
Structure Point Total (of 35 possible points)	**25**	

Structure Name: **Single Room Structure (6)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03782, 18.32049		
Elevation: (meters)	597	
Description:		
A single room brick and cement structure measuring 4.25m by approximately 4m. Adjacent to its western wall is a small 1.5m square cement foundation that would likely have had a water barrel or cistern attached to it. It has a pitched roof, though only the wooden beams of it remain. There is a single window opposite the doorway, as well as what appears to be a coat hook mounted on a wooden panel by the door.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Does not appear to have been painted, though the cement coating over the bricks remains mostly intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	Only the wooden beams remain, and even these are extremely deteriorated.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-6	The walls are largely intact, though there are the beginnings of some major structural cracking, particularly in the sections over the doorway and window. The furrowed interface with the former ceiling is also heavily degraded.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The floor is in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	The door is completely missing. The window pane is also missing, but the wooden frame seems to be in a survivable condition, with no major signs of wood rot or deterioration, as is the wooden doorframe. The metal hook by the door is extremely rusted, and the air vents

		near the ceiling are also in acceptable condition.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Some rubble on the floor, and some of the wooden ceiling beams are now hanging down from the rafters. As these structural cracks in the walls worsen, they will also become collapse hazards.
Structure Point Total (of 35 possible points)	**21**	
Structure Name: **Lavatory (7)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03792, 18.32062		
Elevation: (meters)	597	
Description:		
A small brick structure coated in a thin layer of cement, measuring 3.6m by 2.5m. Shaped like a long rectangle for the main part of the building, there is an "L" shaped curtain wall extending out from the center for privacy. Extending out from the side is a small trough, likely a drainage canal to funnel water or waste runoff. There are a series of vertical slits cut into the narrow face of the structure for ventillation. Adjacent to the structure is another small cistern type foundation, with mounting points on the structure where it may have housed a water barrel, possibly for storing water or waste.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Would likely not have been painted originally, though the thin cement outer layer is still intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	The walls are in good condition, particularly with the external layer still intact. There are only some small sections where cracks have begun to develop in the outer layer.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The cement floor is in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	The door (if there originally was one) is gone. The washbasin is still intact, though covered by some rubble. The wooden pieces of the toilet are still present, though disarticulated and scattered around the main room of the privy. Sections of the drainage pipes are also broken and scattered around.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**26**	

Structure Name: **Brick Cistern (8)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03801, 18.32169		
Elevation: (meters)	597	
Description:		
A small rectangular brick structure measuring 4.2m by 2.5m. The walls are made from brick, while the "ceiling" is actually a large concrete slab with metal handles that appear to have been used in lowering the slab down onto the brick foundation. The interior is hollow (as seen through a broken section of the concrete slab and brick wall), that indicates this was likely used as a cistern. It is constructed on top of a concrete foundation.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Was not likely painted originally
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	The concrete slab is still largely intact, except for a large chunk that is missing out of the southern central portion.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-4	The brick walls are in good condition, except for a missing chunk in the same location as the mission section of the concrete slab. It is possible a single event is the result of this damage.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot be seen from the exterior, the inside is filled with rubble and debris.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	There are no major features to have been destroyed. The metal rungs on the exterior of the concrete slab are somewhat corroded, though still intact. Artifact materials scattered nearby are also significantly deteriorated.
Fire Damage (-1 = signs of charring from veldfires)	-1	Nearby burned foliage indicates this area may have burned within the past several years.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor	0	

graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).		
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**27**	
Structure Name: **Circular Cement Cistern (9)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03782, 18.32177		
Elevation: (meters)	585	
Description:		
A circular cement cistern, measuring 4m in diameter. The structure projects 40cm above the ground, indicating that the larger portion of it is buried. On its roof is a square opening for the cistern hatch, and looking through into the inside it is still filled with water. Other features include an overflow drainage channel, as well as a square mounting platform for some kind of equipment immediately adjacent to the structure. The cistern's lid appears to be a large concrete slab that was set on top of the cylindrical body.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Would likely not have been painted originally
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	In good condition, only some areas of the outer surface have begun to

		chip away around the edges of the circle.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls are in good condition, there are no signs of structural damage, only some aesthetic damage to the exterior.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot be determined from the structure's exterior.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Cistern hatch is missing, though its square frame is still in good condition. The overflow drain and other metal pipes are heavily corroded. The equipment platform adjacent to the cistern is also in fair condition.
Fire Damage (-1 = signs of charring from veldfires)	-1	Indications of burned foliage nearby, though no lasting marks on the structure itself.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	No notable hazards. Some exposed rebar on the equipment mounting platform.
<u>Structure Point Total (of 35 possible points)</u>	**30**	
Structure Name: **Main Dormitory Building (10)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03797, 18.32225		

Elevation: (meters)	584	
Description:		
An extensive brick structure with multiple rooms. It is shaped like a rectangle, measuring approximately 15m by 8m. There is a large patio on the southern side of the building, which appears to have been host to outdoor sinks, and may have been a wash station. There is a large walled off "backyard" behind the building as well, with an enormous amount of artifact scatter. Other rooms include what appear to be a kitchen, as well as a washroom, and then two large rooms that may have been barracks style accommodation. The structure is in an extreme state of disrepair, with large sections of collapsed walls.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Most all of the paint has been destroyed.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing completely
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-8	Enormous areas of collapsed walls that are now just piles of rubble. Some sections of wall remain, though even these are heavily weathered with major structural cracks and oftentimes missing sections.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	Some sections missing, many others covered over by piles of rubble.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Missing doors and windows completely in many areas, other sections have fared better. The outdoor sinks and many of the possible kitchen-area features remain in place. Extensive artifacts remain on the site, though these are predominantly scattered throughout the area.
Fire Damage (-1 = signs of charring from veldfires)	-1	Evidence of burnt foliage surrounding the structure.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti.

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Significant amounts of rubble on the floors and in vicinity, remaining walls are still in danger of collapse.
Structure Point Total (of 35 possible points)	**12**	
Structure Name: **Single Lavatory (11)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03761, 18.32228		
Elevation: (meters)	582	
Description:		
A small brick structure coated in a thin layer of cement, measuring approximately 3.6m by 2.5m. Shaped like a long rectangle for the main part of the building, there is an "L" shaped curtain wall extending out from the center for privacy. There are a series of vertical slits cut into the narrow face of the structure for ventilation. There is a large drainage pipe extending from behind the structure out over a small pit.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	The external concrete layer is still intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	Only some of the wooden beams remain.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	The walls are in generally good condition, better on the outside where they are still protected by the cement coating. The interior bricks show signs of weathering,

		and some of the grout has decayed from between the bricks, but this is mostly aesthetic damage.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The floor remains in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	The wash basin is missing, as well as any door if there was one to begin with. The toilet remains intact.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
<u>Structure Point Total (of 35 possible points)</u>	**29**	
Structure Name: **Double Lavatory (12)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.03753, 18.32168		
Elevation: (meters)	582	
Description:		

A small brick structure coated in a thin layer of cement, measuring approximately 3.6m by 5m. Constructed the same as a regular lavatory, except there are two mirrored lavatories constructed together. Shaped like a long rectangle for the main part of the building, there are two "L" shaped curtain walls extending out from either side for privacy. There are a series of vertical slits cut into the narrow face of the structure for ventilation. There are two large drainage pipes extending from behind the structure out over a small pit. The walls of the toilet area are covered in a thin black material, possibly for sanitation. There is no roof remaining.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Would not have been painted originally, though the cement coating remains intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	Only some of the wooden beams remain. A section of the corrugated tile ceiling is sitting on the floor.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	The walls are in generally good condition, some of the bricks, particularly on the interior faces have been weathered. Small missing sections from the interface with what would have been the ceiling.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The floor remains in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	May not have originally had doors, though if so they are no longer present. The toilets are still intact, as well as the drainage pipes linking them to the pit behind the structure.
Fire Damage (-1 = signs of charring from veldfires)	-1	Evidence of burnt foliage nearby.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	

Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**28**	
Structure Name: **Equipment Garage (13)**		
Site Location: **Karbonkelberg RDF Station**		
Construction Date: WWII		
Central GPS: -34.0375, 18.32059		
Elevation: (meters)	579	
Description:		
A large brick and cement structure, measuring 14m by 5.25m. It is shaped rectangularly and is laid out internally as a single large room. There is a large garage door in the center, with two smaller regular sized doors on either side. It is constructed on top of a large concrete foundation. On the opposite wall from the doors are a series of windows. The windows are rectangular (oriented vertically) and arranged in two sets of three, with one large window in the center, and two smaller windows offset to either side and somewhat below. This is an unusual pattern and may serve some functional purpose outside of aesthetics. There is a large concrete platform situated on the floor near the western side of the main room that likely served as an equipment platform. Further, in the center of the far wall opposite the doors near the ceiling is a large circular opening, perhaps for electrical equipment or wires. There is a very large pile of metal refuse in the center of the room.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	The paint on the interior is heavily degraded, whereas the cement coating on the exterior of the brick is still largely intact.

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	The roof appears to be in decent condition, the exterior is coated with tar, while the inside is supported by a network of thick wooden beams.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	There is a great deal of aesthetic damage to the interior walls, though this does not appear to have affected the structural stability. The exterior walls also seem to be in fairly good condition, though some cracks have started to develop in the cement coating.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	Large areas of the cement flooring are missing, as well as host to some major cracks. The ramp and foundation are also significantly deteriorated.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	The doors and window frames are completely missing. The concrete platform inside of the structure is also heavily deteriorated. The air vents seem to be in reasonable condition still. Massive piles of historic metal ribbons also lie inside, corroding.
Fire Damage (-1 = signs of charring from veldfires)	-1	Evidence of burning around the structure, charred vegetation.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Corroding metal refuse inside, missing sections of the building foundation and floors.
Structure Point Total (of 35 possible points)	**22**	

Overall Site Summary: Karbonkelberg RDF Station		
Average score of all structures on site:	24.42	Structures: 12
Average score of structures excluding cisterns:	23.6	Structures: 10
Site Accessibility Number (Travel time to site from nearest town in minutes):	45	>45 minute hike
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	600	
Highest Elevation on Site (Meters)	615	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	Passive Legal Protection	

A.5 Middle North Battery

Structure Condition Assessment Worksheet		
Structure Name: **Aquifer (1)**		
Site Location: **Middle North Battery**		
Construction Date: 1890		
Central GPS: -34.1741, 18.42388		
Elevation: (meters)	88	
Description:		

A sizable concrete and brick structure, with the main body of the aquifer buried below the ground. There are three distinct tiers to the structure. The lowermost section is constructed from cement, and is buried at least 2m into the ground. It represents the main body of the water storage. Above this is a section of wall constructed on top of the lower body, built from bricks and plastered over, inset about 20-30cm from the lower portion. It measures roughly 60cm in height, and is topped over with large concrete slabs that form the roof of the main structure. There is a square opening for an access hatch in the southwest corner of the structure. Finally there is in the Northwest corner of the aquifer, a small brick structure built on top of the cement layer that provides access into the aquifer below. Through a small doorway there is a metal ladder that leads down into the main body of the aquifer. Several feet of water can be seen to still be collected within. On the side of the access structure is a plaque reading "V.R. 1890"		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Much of the paint still remains on the access structure, while the plaster layer covering the middle section of bricks also remains intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The divisions between the large stone slabs that form the ceiling of the main structure have a significant amount of plant life growing in them, as well as some minor structural cracks. Though these do not appear to be imminently threatening to the stability of the structure.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	The walls were constructed to be quite thick, and so still appear to be in fair condition. A number of cracks have begun to form, particularly in the plaster layer over the middle brick section, as well as in some areas of the lower cement portion, particularly at the seam between the two lower layers. The brick walls of the upper access house also appear to be in good condition, with some cracks forming around the door.

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot be determined without going inside of the lower portion of the aquifer.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	There would have been few features originally, though the window of the access structure is missing its window panes. The wooden frame is showing some signs of deterioration, though is still largely intact. It is unclear if there was a door originally. The ladder down into the aquifer seems to have been intentionally removed. Several of the overflow pipes appear to be significantly corroded.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No notable graffiti or litter.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Located on a road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-3	The lack of a ladder leading out of the otherwise open pit to the aquifer may deter some people from attempting to go in, but presents a significant hazard of entrapment if someone fell in accidentally.
<u>Structure Point Total (of 35 possible points)</u>	**25**	
Structure Name: **Shed (2)**		
Site Location: **Middle North Battery**		
Construction Date: WWI		
Central GPS: -34.17397, 18.42377		
Elevation: (meters)	88	
Description:		

A rectangular brick garage with a pitched roof measuring approximately 3m by 4m. The garage door is located facing the road and ocean. The numbers "278" are posted in large address stickers over the open door, and are likely modern. The interior brick walls have been painted white. The floor is made from cement. The roof is constructed from wooden beams and corrugated metal.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Only the interior walls appear to have been painted originally, and is still largely intact, though noticibly deteriorating.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is in overall good condition, the exposed wooden beams the ends of the roof, as well as under the eaves show significant signs of rotting damage. The corrugated metal sheets are still in place.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls are in very good condition, with little to no signs of damage on the lower brick walls. The upper section of wall below the roof is covered in a plaster layer which appears to be cracking horizontally along the line of the ventilation pipes and wooden beams for the eaves.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The cement floor appears to be in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	The ventilation pipes under the eaves appear to be heavily corroded. The garage door is missing,
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No graffiti or litter.

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Along a road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**32**	
Structure Name: **Square Structure (3)**		
Site Location: **Middle North Battery**		
Construction Date: likely 1890 (or pre WWI)		
Central GPS: -34.17452, 18.42399		
Elevation: (meters)	80	
Description:		
A small square structure built from thick stone blocks mortared together. It measures approximately 3.5m square. The walls are approximately 30cm thick. The side facing the road has an opening for a door, while each of the other three sides has a single rectangular window in its center. The windows are made from heavy iron bars. The numbers "321" are posted in stickers on one of the side faces, and is likely a modern addition. This structure could easily have operated as a prison cell, though its purpose is unclear, particularly why there was need for such heavy construction. There are a number of metal fastenings on the walls, as well as bands of discoloration on various sections of the walls. It is located adjacent to the gun battery complex, and so may have served some combat function.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some amount of paint remains, though it is heavily deteriorated. There are the remnants of what may be

		camouflage coloring on the exterior of the structure as well.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is still almost entirely intact, though the pair of iron beams in the ceiling holding it up appear to be heavily corroded, and will eventually buckle.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls are in very good condition, largely in part to their heavy construction, there are some minor cracks at the interface with the roof.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	The floor seems to be in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	The front door is missing. The iron windows are still in place, though are substantially rusted. The wooden window frames are heavily rotted and deteriorated, though some sections still have their intial paint coating on them. The air vents in the upper walls are also heavily deteriorated.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	On a road.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
<u>Structure Point Total (of 35 possible points)</u>	**29**	
Structure Name: **Gun Battery Complex (4)**		

Site Location: **Middle North Battery**		
Construction Date: WWI		
Central GPS: -34.175, 18.42407		
Elevation: (meters)	76	
Description:		
An extensive gun battery complex built during WWI. There are circular gun mounts for several guns, as well as substantial dugouts, ammunition hoists, and underworks for the storage and loading of ammunition. The site is under active management and restoration by the Simon's Town Naval Museum, so large portions of the lower areas are currently restricted for access. Various sections of the complex are constructed from cement, brick, and metal. One of the cannons has been restored and remounted for display.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	There would likely have been little paint originally, though some of the camouflage coloring still remains.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	N/A	
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Minor cracks in some of the concrete structure, but overall in good condition (from what can be seen from accessible areas)
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	Minor cracks in some of the concrete floors, but overall in good condition (from what can be seen from accessible areas)
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Many of the doors, windows, and other features still remain, though are significantly rusted.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	On a road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Limited access areas appear to contain substantial pitfalls.
Structure Point Total (of 35 possible points)	**26**	
Structure Name: **Dormitory (5)**		
Site Location: **Middle North Battery**		
Construction Date: WWI		
Central GPS: -34.17559, 18.424		
Elevation: (meters)	73	
Description:		
A large, multi-room housing or office structure constructed from the same heavy stone as structure #3. The numbers "324" have been posted in modern stickers above the front entrance. The main part of the structure is shaped like a long rectangle, with the main entrance in the center of the long edge, flanked by two large windows on either side. A small porch stands out front, with the pedestals for what may have once been columns supporting an awning. In the rear of the structure are a number of irregularly shaped rooms, forming a small courtyard in the back of the structure. The windows and doors are all made from heavy iron bars, likely indicating their military use.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Most if not all of the original white paint appears to still be in place.

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	The roof is still largely intact, though appears to have suffered from substantial fire damage to the facade. In addition, a number of wooden beams and debris hang down from the exterior roof. Some of the interior ceiling has suffered damage in the areas connecting to the large I-Beams, other areas show the development of major structural cracks.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	The walls have suffered a great deal of aesthetic damage, particularly with the chipping paint, but appear structurally sound. Some areas have begun to develop cracks, notably around the hearth and door features.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	The floor appears to be in good condition in most areas, in other areas only the floor beams and grading gravel remain.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Most all of the windows remain in place and in reasonable condition. Most of the metal is corroded, but still intact. The window frames show significant signs of rot and deterioration. The hearth feature has deteriorated significantly, while the bathroom tile in what may have been the wash area or privy has been significantly destroyed. The doorways are generally missing. The air vents and pipes are also substantially corroded and deteriorated. Some of the tracks remain for electrical wiring and equipment, though these to are substantially deteriorated.
Fire Damage (-1 = signs of charring from veldfires)	-1	Some evidence of fire damage throughout the structure, particularly on the roofing eaves.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	

Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	On a road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Minor hazards of exposed metal and broken tile.
Structure Point Total (of 35 possible points)	**23**	
Structure Name: **Drainage Structure or Cistern (6)**		
Site Location: **Middle North Battery**		
Construction Date: WWI		
Central GPS: -34.17372, 18.42412		
Elevation: (meters)	75	
Description:		
A small square brick cistern, measuring approximately 1.5m square. Topped with a cement block, with a square metal hatch allowing access into the cistern. Located downslope of the rest of the complex, so may not have stored water for use on site, but may have been a part of the complex's larger drainage network.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	Cement slab appears to be in good condition
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Appear to be in good condition, with no notable signs of damage
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot determine from exterior of structure

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	0	The cistern hatch is still present, and appears to be in fairly good condition.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
<u>Structure Point Total (of 35 possible points)</u>	**35**	
Structure Name: **Small Square Structure, (Unknown Structure) (7)**		
Site Location: **Middle North Battery**		
Construction Date: WWI		
Central GPS: -34.17379, 18.42434		
Elevation: (meters)	68	
Description:		
A small square brick and cement structure, measuring roughly 1.5m square. The main body of the structure is built from mortared stone blocks, while the roof of the structure appears to be poured cement, formed into a slight square pitch. Its purpose is unknown. It is built in the lower basin below the site, and so may have served some role in the drainage system, or may also have been a guard post at the lower end of the hill.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	Roof appears to be in good condition.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	No notable damage to walls
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot determine from structure exterior
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	0	No observable features.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No trails leading to it, but not far from the road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards
Structure Point Total (of 35 possible points)	**34**	
Overall Site Summary: Middle North Battery		

Average score of all structures on site:	29.14	Structures: 7
Average score of structures excluding cisterns:	29.4	Structures: 5
Site Accessibility Number (Travel time to site from nearest town in minutes):	10	5-10 minute drive, 1-2 minute walk
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	350	
Highest Elevation on Site (Meters)	88	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	Active Conservation	

A.6 Olifantsbos RDF Station

Structure Condition Assessment Worksheet		
Structure Name: **Main Dormitory (1)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		
Central GPS: -34.26448, 18.38596		
Elevation: (meters)	74	
Description:		
Large rectangular brick structure measuring 15.5m by 4.4m. Single story. None of the roof remains, but it appears to have been a shingled roofed structure, given the shingle debris scattered throughout. There are several rooms throughout the structure, including several rooms of indeterminate function. One room possesses a hearth, and may have been a kitchen or lounge. Another contains what appears to be a shower or wash station. There is a large concrete patio in the front of the structure. Several rooms have full sized plants growing in them. Along the length of the structure is a buried drainage channel. Appears likely to have been a dormitory.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some original interior paint remains, brick exterior would not have had any

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	Some minor cracking, no major or structural deterioration
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	Large areas missing floor, other areas relatively intact
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Doors completely missing, most window frames intact, interior piping and tiling heavily degraded
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	no significant graffiti or cultural refuse
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-2	Significant overgrowth, several rooms have full size plants growing in them
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	-1	Significant signs of wildlife living within and nearby the structure, animal tracks, spall
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Relatively clear hiking path to structure
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Minor broken glass and tile on floor, missing floors with some debris.
<u>Structure Point Total (of 35 possible points)</u>	**18**	
Structure Name: **Cistern (2)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		

Central GPS: -34.2643, 18.38594		
Elevation: (meters)	73	
Description:		
A small concrete box measuring 2.3m square. In the southeast corner of the ceiling is the opening for the cistern hatch. Running from the Southwest corner is a brown ceramic pipe leading to the nearby dormitory structure. There is a small vent pipe in the northwest corner.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Mostly intact
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	good, no major cracks
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	good, no major cracks
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	cannot tell from exterior of cistern
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Cistern hatch largely intact, metal pipes heavily corroded
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	

Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	no notable hazards
Structure Point Total (of 35 possible points)	**32**	Good overall condition
Structure Name: **Observation Bunker (3)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		
Central GPS: -34.26444, 18.38562		
Elevation: (meters)		
Description:		
A concrete observation bunker measuring 4.85m by 4.2m exterior dimensions. The structure faces west overlooking the ocean, with the thinner side of the rectangle oriented in this direction. There are two smaller walls made from piled stones plastered together projecting at 45 degree angles from the northeast and southeast corners of the structure, possibly for additional stability, or as camouflage. A large window faces the ocean, with the remnants of metal storm shutters that could have been drawn up to close the barrier. On the opposite face of the structure is an opening for a door. Running vertically along the roof of the building are two rubble lines, likely used as visual breaks to add to the camouflage ability of the structure. Inside are a pair of small concrete pedestals, that would likely have served as equipment mounts for various ranging and ocular detection equipment.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Largely intact, most of original camouflage coloring still in place
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	Good condition overall, minor areas of cracks or structural damage
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Light damage, some minor cracks, small sections of exposed rebar

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Good condition, some debris
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Equipment platforms in good shape, significant corrosion to metal shutters and shutter mounts, several missing
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	no notable overgrowth
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Corroded metal shutters are the only notable hazard
Structure Point Total (of 35 possible points)	**27**	Good condition overall
Structure Name: **Cistern or RDF Equipment Box (5)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		
Central GPS: -34.26444, 18.38583		
Elevation: (meters)	70	
Description:		
Located at the highest point of the site is a small concrete box, measuring roughly 2m square by 1.5m vertical. Though constructed to the same specifications as other concrete cisterns, the prominent location of this one indicates that it may have been used as an equipment case for the site's RDF electronics. There is a similar hatch on the ceiling of the box.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	None remaining, but may not have had any originally
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	good condition
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	minor staining, no structural damage
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	Cannot be seen from exterior of structure, filled with debris inside
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	0	No notable damage
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	Rocky terrain, but not meant to be accessed
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	
Structure Point Total (of 35 possible points)	**31**	Very good condition

Structure Name: **Lavatory (6)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		
Central GPS: -34.26433, 18.38575		
Elevation: (meters)	73	
Description:		
A small brick pit-toilet outhouse. Heavily deteriorated with missing sections of wall. What remains is constructed as a rectangle with a small slat in on of the lengthwise ends for a door, though common construction of these would have a privacy wall extending out to cover this doorway from view. There are two small air vents built into the sides of the long walls near the privy.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Brick
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-6	Large areas missing, bricks removed by weathering
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Interior largely destroyed
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	somewhat overgrown
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	
Structure Point Total (of 35 possible points)	**21**	Significant damage
Structure Name: **Cistern (7)**		
Site Location: **Olifantsbos RDF Station**		
Construction Date: WWII		
Central GPS: -34.26463, 18.38592		
Elevation: (meters)	76	
Description:		
A small concrete box measuring roughly 2.3m square. One corner posesses the opening for the cistern hatch - a raised square opening into the body of the cistern. Iron fasteners remain where a hatch would likely have been mounted to open or close this opening. A small hole through the concrete in the opposite corner likely served as the housing for a pipe feeding into the cistern.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	cannot be seen from cistern exterior
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Cistern hatch missing, iron fasteners significantly corroded
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards
Structure Point Total (of 35 possible points)	**33**	Very good condition overall
Overall Site Summary: Olifantsbos RDF Station		
Average score of all structures on site:	27	Structures: 6
Average score of structures excluding cisterns:	22	Structures: 3
Site Accessibility Number (Travel time to site from nearest town in minutes):	50	30 Minute Drive, 20 minute hike
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	

Approximate distance of site from ocean (meters):	250	
Highest Elevation on Site (Meters)	76	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	Passive Legal Protection	

A.7 Simon's Town Quarry BOP

Structure Condition Assessment Worksheet		
Structure Name: **Battery Observation Post - With Patio (1)**		
Site Location: **Simon's Town Quarry BOP**		
Construction Date: WWII		
Central GPS: -34.20211, 18.44706		
Elevation: (meters)	137	
Description:		
A concrete and brick observation bunker constructed with its lower half buried under the ground. This Battery Observation Post was constructed as part of a larger assembly. The front of the BOP faces the ocean, while its rear faces the large hill behind it. The entrance to the BOP connects to a large concrete patio, which has also been dug roughly 1m into the ground in order to maintain an even surface with the floor of the BOP. Also connected to this patio is what appears to be a hearth feature, or a simple brick stove. A series of drainage channels run along the periphery of the dugout patio, presumably to prevent runoff from collecting inside, while a set of concrete steps leads back up to ground level. The BOP itself is roughly 5m square, constructed with a large slat in its ocean facing side to form a horizontal window. Metal storm shutters would have connected to the base of this window. The roof of the structure is furrowed concrete, covered with dirt and gravel to break up the building's outline and provide camouflage. The back of the structure is open, with no doors or apparent way to close off the structure. Inside there is a small half-wall, as well as three cement pedestals that would have been used as mounts for range finding equipment. The outlines of electrical wires can be seen running along the walls. A network of metal pipes can be seen lying on the ground throughout the site that likely collected water from the channels and piped it throughout the site.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	None of the building exteriors here seem to have been painted originally. Instead, the structure looks to have been coated with a roughened concrete or plaster to break up the visual outline. Portions of the interior looks to have been painted green, though only a small amount of this remains.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is in very good condition, save for some small sections of the interior near the interface with the metal I-Beam that supports the section of roof over the window. Corrosion from the metal seems to have lead to some secondary deterioration of the surrounding cement.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-5	The walls are all intact, though networks of sizable cracks have spread throughout most of the interior walls, this may be related to the additional stress and water damage from being buried. Large sections of the "patio" wall have also deteriorated, losing its outer coating and exposing the interior gravel matrix.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	The concrete patio floor is mostly covered by dirt and overgrown, though the sections of exposed concrete show networks of minor cracks. The floor of the BOP structure has significantly degraded, with major sections having been destroyed. Large structural cracks appear throughout the remainder.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	The concrete pedestals inside the BOP are in fair condition with some cracks, though most still have their original paint. The wooden boards that once served as cable tracks are still in good condition, with little sign of rot damage. Some of the metal storm shutters remain, though roughly half are no longer present. The drainage channels surrounding the patio are in varying shape, some areas have been considerably damaged, while others are in relatively good shape. The small brick stove has also suffered considerable damage, with many of the ceiling bricks having collapsed in to the interior, while the plaster coating is chipped away in many areas.
Fire Damage (-1 = signs of charring from veldfires)	-	Some signs of charred foliage nearby as well as fire damage on the exterior of the structure.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No notable graffiti or litter

Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	The area surrounding the patio is fairly overgrown, while the interior of the patio is now covered with dirt and somewhat overgrown in some areas.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No clear trail or path to the structure
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	A fair amount of broken tile and other artifacts scattered throughout the site, but no major hazards.
Structure Point Total (of 35 possible points)	**21**	
Structure Name: **Battery Observation Post - Central (2)**		
Site Location: **Simon's Town Quarry BOP**		
Construction Date: WWI		
Central GPS: -34.20237, 18.44745		
Elevation: (meters)	135	
Description:		
The smallest of the three observation bunkers on site. It is a square structure, approximately 5m square, constructed from brick and concrete. Its front faces the ocean, while its rear faces the hill behind it. A large slat is cut into the front of the structure forming a large horizontal window. The roof is built from furrowed concrete and covered with a grey plaster or cement coating. The structure is half buried in the ground, with only the area of the window and roof sticking above the surface. In the rear of the structure is a small brick alleyway cut down into the ground to allow access into the structure. There is an opening for a door into the structure, but the interior could not be explored due to the presence of a homeless man living inside.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	There does not appear to have been original paint on the exterior, though the interior could not be seen to determine
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The exterior of the roof appears to be in good condition, upon close inspection a fine network of tiny cracks has spread throughout much of it, though this does not appear to have effected structural integrity.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls, as seen from the exterior appear to be in very good condition. The walls of the brick alleyway in the rear are also in good condition.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N.D.	Cannot determine without going inside.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	The structure's features seem to be in overall fair condition. Roughly half of the metal storm shutters remain in place, while the rest have deteriorated or been removed. Small sections of metal pipe are scattered in the surrounding area, but are also in reasonable condition.
Fire Damage (-1 = signs of charring from veldfires)	-1	Signs of charred foliage surrounding the structure.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	A person living inside.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No passable trail
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.

Structure Point Total (of 35 possible points)	**27**	
Structure Name: **Battery Observation Post - With Shed (3)**		
Site Location: **Simon's Town Quarry BOP**		
Construction Date: WWII		
Central GPS: -34.20257, 18.44752		
Elevation: (meters)	136	
Description:		
The largest battery observation post on site. It is constructed with multiple tiers or terraces, all connected together and built into the ground, yet each level rising above the one in front of it, matching the slope of the hill, yet all connected as a single structure. The lowest tier of the structure was likely an administrative or operations room. It is square, and built to roughly the same dimensions as the BOP (around 5m square) buried halfway into the ground, except with a single, traditional style window looking out to the ocean. There are tracks for electrical wires running along the walls and ceiling. Above this, and connected by a short flight of concrete steps is the actual BOP. It is similarly around 5m square, and built into the ground, but the horizontal window slat sits just above the roof of the operations room below and in front of it. There are three concrete pedestals arranged in a triangle that would have served as mounts for range finding equipment. Constructed directly behind, and slightly above the BOP is a storage shed. It was constructed into the hillside behind it, with large wooden beams supporting a roof and walls made from corrugated tile and metal. It is now filled with rubble and debris. On top of a large boulder above and behind the structure is a concrete platform bolted into the stone, and likely served as an equipment mount for some kind of machinery.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Most all of the original paint still seems to be in place. Some sections of degradation on the interior.

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	The roof of the exterior storage shed has only some of its wooden beams remaining, as well as collapsed sections of tile roofing scattered across the ground. The roofs of the BOP and operations room are in better condition, yet the metal beams supporting the roof of the operations room are quite heavily corroded, and could eventually become a structural hazard if they begin to buckle.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	The walls are in generally good condition, only some minor cracks appear in the walls of the BOP and operations room. The walls of the storage shed were likely only ever corrugated metal and tile, and have since become disarticulated from the wooden beams that once kept them in place.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	The only notable damage are some minor cracks. However, much of the floor is covered by various debris, particularly in the storage shed area with is completely covered by various building materials and debris.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	The wooden window sill in the operations room is in fair condition, with little sign of damage to the wood, though some substantial corrosion on the metal frame. The electrical cables and cable tracks are somewhat corroded. The metal casing for the air vents is also substantially corroded. Nearly all of the metal storm shutters for the BOP window are still present and in reasonable good condition. The metal door to the BOP is also still in place and rusted but not dangerously corroded. The brick drainage channel leading downhill from the structure is intact, as are the brick steps and outer stone retaining walls. The cement equipment platforms are also in good condition, with little sign of cracking or degradation. The network of water pipes leading in and around the structure are also in good condition. Many sections have become separated from one another, but they show relatively little sign of corrosion.
Fire Damage (-1 = signs of charring from veldfires)	-1	Signs of burned foliage around the structure.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor	-1	Some substantial overgrowth in and around the shed, but little else.

overgrowth, small plants growing within and around the structure; 0 = no overgrowth).		
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No clear path to structure
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Substantial amounts of broken debris on the floor of the storage shed, but few other notable hazards.
Structure Point Total (of 35 possible points)	**23**	
Structure Name: **Concrete Box Structure - Possible Sentry post or Lavatory (4)**		
Site Location: **Simon's Town Quarry BOP**		
Construction Date: WWII		
Central GPS: -34.20225, 18.4472		
Elevation: (meters)	138	
Description:		
A small square structure measuring approximately 1.5m square. It is built from large stone blocks, with roughly half of its total height buried under ground. Its floor is roughly 1m below ground. There is no door, and no apparent way to attach one, as well as a small rectangular (20cm by 30cm) window in the wall opposite the open face, as well as another small window facing the rest of the site. The open face is facing the ocean. There are a number of ceramic and metal pipes running downslope from the structure. The size and layout of the building seem to indicate that it was a small sentry post. Its above ground portion is too small to be a latrine, but the windows would be at eye level for someone standing on the sub-ground level floor. The roof is made from poured concrete. The reason for the pipes however is unclear.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	Some minor pitting in the concrete.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-4	No apparent structural damage to walls above ground. The below ground cement walls however are missing several large chunks.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	N/A	The floor appears to be dirt, though may have original flooring that is now completely covered over by a dirt layer.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	There is some minor corrosion to some of the metal features mounted on the walls, the the purpose for these is unclear.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor litter.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No clear trail.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Some rusty nails sticking out and down from the eaves of the roof.
<u>Structure Point Total (of 35 possible points)</u>	**26**	

Structure Name: **Lavatory (6)**		
Site Location: **Simon's Town Quarry BOP**		
Construction Date: WWII		
Central GPS: -34.20271, 18.44757		
Elevation: (meters)		
Description:	134	
A small brick double-outhouse, painted over with an intentionally roughened cement/plaster coating. The structure is shaped like a "W" with a "U" shaped nested within it. This creates two separated chambers in the center of the structure for the outhouses. The outhouse is connected to the series of pipes running throughout the site, as well as notably a square brick drainage channel leading underground. A metal plaque on the concrete drainage channel reads "ABC" overtop of "C E" Another section of concrete is engraved with the letters "C E". There are a pair of vertical slats in the walls that serve as air vents into the outhouses. The structure as a whole measures approximately 6m by 4m.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	The cement/plaster coating is in place however.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Missing completely. Sections of corrugated tile roofing can be seen lying as debris on the floor.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-6	Most of the walls are intact. Some significant cracking/g can be seen in some of the standing walls, while the central wall dividing the two sides of the outhouse has been significantly destroyed and is missing its upper half.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	The floor is completely covered with dirt, and thick layers of building material debris, so the actual state of the flooring could not be determined.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Completely missing the privy features, some may yet remain within the piles of debris, but is unclear. Much of the piping is still intact, as well as the drainage channels and underground drainage entries.

Fire Damage (-1 = signs of charring from veldfires)	-1	Evidence of charred foliage nearby.
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Some minor overgrowth, particularly in the interior.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	No trail.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Significant debris hazards.
Structure Point Total (of 35 possible points)	**16**	
Overall Site Summary Simon's Town Quarry BOP		
Average score of all structures on site:	22.6	Structures: 5
Average score of structures excluding cisterns:	22.6	Structures: 5
Site Accessibility Number (Travel time to site from nearest town in minutes):	5	5 minute walk
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Within	
Approximate distance of site from ocean (meters):	700	
Highest Elevation on Site (Meters)	138	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	NHRA >60 Only	

A.8 Rooikrans RDF Station

Structure Condition Assessment Worksheet		
Structure Name: **908 Building (1)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.34562, 18.47485		
Elevation: (meters)	256	
Description:		
Rectangular cinderblock structure with a pitched corrugated metal roof supported by wooden beams. The interior roof is flat. The wooden door is disarticulated and lying inside, with "908" painted on it. There are three windows in total, all horizontally rectangular with wooden frames. One on the face with the door, and two on the opposite face. Small wooden eaves overhang the structure. A small water barrel stands behind the structure.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some paint remains on the exterior, most all on the interior is in fair condition
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-2	Interior roof appears to be in fair/good condition, exterior is missing some of the corrugated metal sheets, eves are deteriorating and falling off
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Brick / cinderblocks have held up very well, no visible signs of structural damage
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Intact, just stained
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Door lying inside, window frames in good condition, most still have some paint on them, wood shows little signs of rot.
Fire Damage (-1 = signs of charring from veldfires)	0	No discernable fire damage

Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	No visible graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Minor plant overgrowth around, but not within the structure
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	Former trails in very poor condition, largely unusable
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No noticeably unsafe elements
Structure Point Total (of 35 possible points)	**29**	Very good overall condition
Structure Name: **Lavatory (2)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.34546, 18.47435		
Elevation: (meters)	249	
Description:		
A small cinderblock outhouse, rectangular in shape with a large protruding "L" shaped curtain wall for privacy. The actual privy section is taller with some of the corrugated metal roofing still in place. A wooden door sits inside covering the washbasin. Sits nearby the 908 building and sentry post, and was likely the constructed to serve the occupants of these buildings.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	A fair amount of the original paint remains
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-2	Missing all but a small section of the corrugated metal roof

Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Good condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Floor intact, still has some original paint on it
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	Door disarticulated but present, toilet seat and wash basin missing, may have been removed upon decommission
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Open pit below toilet, steep vertical drop into the pit below. Otherwise good.
Structure Point Total (of 35 possible points)	**27**	Good condition overall
Structure Name: **Wash House (3)**		
Site Location: **Cape Point Lodge Station**		
Construction Date: WWII		
Central GPS: -34.34582, 18.47484		
Elevation: (meters)	256	
Description:		

A large cinderblock structure, with very large water barrel attached to it via a network of pipes. Rectangular in shape, with no windows on the short sides. On the long face there are two doors leading into narrow, separate rooms, each with a single window on the far wall. The remnants of ceramic tiles and the tracks of water pipes indicate that this may have been a wash house of some kind.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Most interior paint is still present, but little of the exterior paint
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-2	Largely intact, most of the corrugated metal roofing is gone, though the wooden beams and interior roof remain intact.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-2	Good condition, some minor cracking, lost grout between bricks, a few missing bricks
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	No significantly visible damage
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, significant damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, moderate rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Doors disarticulated but lying inside structure, some damage to former piping and tile, window frames appear largely intact and in fair condition, some rust on hinges
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Some minor overgrowth, plants extending their way into the interior of the structure
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	Pathways now too overgrown to use

Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	Some small broken pieces of metal pipe and tile, otherwise in good shape
Structure Point Total (of 35 possible points)	**25**	Overall fair condition
Structure Name: **Lavatory (4)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.34598, 18.47478		
Elevation: (meters)	252	
Description:		
A small cinderblock pit-toilet outhouse, similar in construction to the others, but mirrored to the layout of structure #2. Constructed on a larger concrete foundation. The wooden toilet cover is still intact.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some paint remaining
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-4	Missing former roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	Good condition, top section of formerly roofed area is now rubble
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Concrete floor is in good condition
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Toilet and washbasin still present, some minor damage
Fire Damage (-1 = signs of charring from veldfires)	0	

Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	Some minor debris on floor, but no other notable hazards
Structure Point Total (of 35 possible points)	**27**	Fairly good condition overall
Structure Name: **Main Building (5)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.34574, 18.47522		
Elevation: (meters)	259	
Description:		
The largest structure on site. Built from cinderblocks with a pitched roof. The roof gap is filled with traditional red bricks. Large wooden beams extend over the edge of the building, supporting sections of gutter that would likely have funneled rainwater into the various water barrels next to each structure. There are two rooms in the interior, with a single front entrance to the structure. The ceiling has a number of electrical sockets, several of which still contain wiring, indicating that this may have been an operations center for the RDF equipment. A large wooden door sits on the floor inside the larger side room. There are five windows in total, two and two opposite each other on the short sides of the building, with one adjacent to the door on one of the longer faces. A water barrel sits next to the building face with no windows.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some paint on exterior, most on interior though it is deteriorating significantly
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	0	Good condition as seen from interior, exterior was too high to be able to see. Eves deteriorating somewhat
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Good condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	aesthetic damage only
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	Doors disarticulated but laying inside (propped up on stones for some reason, to keep off ground?) some minor damage to wooden window sills
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	some minor graffiti
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-1	Minor overgrowth around structure's exterior
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	any former trails are now far too overgrown to see or use
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	no notable hazards
Structure Point Total (of 35 possible points)	**30**	Good condition overall
A small cinderblock pit-toilet outhouse. Built to be taller than the others, (perhaps because it is situated on slightly lower ground. There is no remaining roof, but the waved concrete at the top of the structure would likely have fit the corrugated metal roofing. The privacy curtain wall faces the ocean. It is constructed on top of a large concrete foundation.		

Structure Name: **Lavatory (6)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.3456, 18.47524		
Elevation: (meters)	252	
Description:		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	little remaining paint
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	N/A	Missing, but may not have originally had a roof
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Good condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	fine condition
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Lavatory features missing, wooden debris on floor likely the remnants of these
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	

Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Significant wooden debris (with nails) on floor, exposed hole below toilet with steep vertical drop into the pit below
Structure Point Total (of 35 possible points)	**27**	Fair condition overall
Structure Name: **Sentry Post (7)**		
Site Location: **Rooikrans RDF Station**		
Construction Date: WWII		
Central GPS: -34.34536, 18.47429		
Elevation: (meters)	249	
Description:		
Small square cinderblock structure facing the entrance to the upper site. The roof is angled, sloping across the whole of the structure to one side. A large window overlooks the walking trail to the site and the fence gate. A small wooden door remains in place and closed. Its size and simple interior indicate that it was likely a small office or guard post.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Most all paint still present
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only).	-1	Fairly good condition, appears to be shifting laterally to one side
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	Very good condition
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	

Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (but present nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows in place, aesthetic damage only to frames and features.	0	Door still in place, window panes missing, but wooden frames still in good condition
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	-1	Trail is heavily overgrown
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No discernable hazards
Structure Point Total (of 35 possible points)	**33**	Very good condition overall
Overall Site Summary: Rooikrans RDF Station		
Average score of all structures on site:	28.29	Structures: 7
Average score of structures excluding cisterns:	28.29	No dedicated cistern structures on site
Site Accessibility Number (Travel time to site from nearest town in minutes):	45	30 minute drive (Simonstown), 15 minute climb
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Distant	
Approximate distance of site from ocean (meters):	270	
Highest Elevation on Site (Meters)	259	

Site Conservation Status (Active Protection and Restoration; Legally Protected but no active conservation, or No Protection)	Passive Legal Protection

A.9 Slangkop RDF Station

Structure Condition Assessment Worksheet		
Structure Name: **Cliffside Observation Post (1)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.14821, 18.32369		
Elevation: (meters)	140	
Description:		
A brick and cement structure built into the side of the cliffs. The structure is shaped generally like a rectangle, but with its ocean facing side projecting slightly out into slight triangle. The structure is approximately 7m by 3.5m. The entrance to the structure is on its southern side, and requires walking across a section of narrow pathway between the building's outer wall and the sheer drop of the cliff. There is a small window on the opposite face of the door, and a large (1m x 1.5m) window on the ocean facing side. In addition, there are a number of smaller holes in the walls for air vents, as well as in the ceiling, presumably for wiring access for equipment. There are two linear trenches cut into the concrete floor, intersecting at a perpendicular angle in the center of the single room structure. This was likely used as a track for wires or other equipment. The roof is made from cement, and is furrowed to break up the visual outline. Surrounding the other sides of the structure (the non ocean faces) is a large concrete retaining wall, built at least 4-5m up to keep the mountainside from collapsing in on the structure. It was likely used as a station for range finding equipment. In the rear corner of the room is a small (60cmx50cm) raised block that may have been used as an equipment mount of some kind.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-1	Some of the original interior pain survives, It is unclear if the exterior was painted.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is completely intact and in largely good condition. There are however some sizable cracks in the

		interface between the roof and walls.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	The walls are all intact, though some significant cracking can be seen throughout large portions of the walls. The exterior retaining walls seem to be in good condition.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	Minor cracking only.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Doors and windows completely missing. Most of the air vents are also missing. The metal mounts and equipment features in the walls are extremely corroded.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Significant graffiti, covering nearly all of the interior walls, and some of the exterior walls.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Clear trail to the structure.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-3	The trail to the structure forces you to walk across the very narrow walkway between the structure's exterior and the sheer drop of the cliff.
<u>Structure Point Total (of 35 possible points)</u>	**19**	
Structure Name: **Observation Bunker (2)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.148, 18.32357		
Elevation: (meters)	140	

Description:		
A very unique battery observation post constructed to fit with the unique terrain of the cliffs. The structure is actually two normal BOPs fit together at their corners at 90 degree angles. One faces Northwest, while the other faces Southwest. In the center of the structure where the corners meet is a small tower, projecting roughly 1.5 meters above the roofs of the BOPs. Overtop of all of this, a wall of rubble has been piled up over the roofs fanning out over the whole of the structure as a form of camouflage with the cliffs behind it. The main entrance is in the center of the structure at the junction of the three buildings, with short passages leading to the left and right into each BOP section, and what was once a ladder leading up into the central tower.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Some small areas of paint remain, though practically every surface of the structure is covered with graffiti.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	The roofs of both BOPs have collapsed catastrophically. Although they collapsed onto lower portions of the structure they remain relatively in place, though completely disconnected from their original connection points. Other areas of the roofing remain intact, though all with major structural cracks.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-6	Most of the walls remain intact and standing, though there are a number of major structural cracks running throughout the structure. Particularly around the pillars supporting the central tower and junction of the two BOPs.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	The cement flooring is largely intact, with some areas of cracking.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	With the collapse of the roofs of both BOPs, the window sections have been utterly demolished, including the I-Beams that once supported the windows. Other structural support beams throughout the structure are

		extremely compromised. The cement equipment pedestals in each BOP are all heavily deteriorated if not completely destroyed.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Nearly every surface is covered with graffiti, in addition to some litter throughout.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible from park trails
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-4	Extremely dangerous, this building is at major risk of structural collapse and should not be entered.
Structure Point Total (of 35 possible points)	**12**	
Structure Name: **RDF Equipment Structure (3)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.14817, 18.32388		
Elevation: (meters)	146	
Description:		

A rectangular building measuring 5.5m by 3.5m. It is constructed at the peak of the local mountain, at the highest point of elevation in the area. It is constructed from large stone blocks mortared together, with a flat roof made from concrete supported by wooden beams. The door faces the ocean, as well as the remnants of a small window adjacent to the door. There are the remnants of several large rectangular windows on each of the other faces, but all of the windows have been filled with bricks and cement. The interior of the structure has a series of indentations into the walls where the windows would have been, designed in a way that is remnant of castle firing ports, but may have been related to the equipment in use. There is a large metal pole sticking out from the roof of the structure that was likely the mounting point for the site's RDF dish.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Most all of the interior paint appears to be intact. It is unclear if the exterior was painted.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	The roof appears to be in good condition, the paint still covers the beams.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	0	The walls are in good condition, there is little damage to the exterior stonework, and no signs of damage to the interior walls.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	No notable damage.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	The door is missing, and the windows have been plastered over, with the exception of one, which appears to have been broken back open.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Substantial graffiti throughout the interior, and some parts of the exterior structure.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	

Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	A trail exists, though it is not very clear.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**31**	
Structure Name: **Twin Cisterns (4)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.14832, 18.3244		
Elevation: (meters)	128	
Description:		
A pair of cinderblock cisterns, each measuring 2.2m square by roughly 2m tall. They are constructed roughly 1m apart and slightly offset. The roofs of the cisterns are constructed from concrete slabs. In the center of each cistern's roof, slightly offset to one edge is a square opening with a metal hatch allowing access into the construct. Several metal pipes protrude from each cistern, allowing for the inflow and outtake of water from each.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	It is unclear what initial paint there was. There is still some form of coating over the cinderblocks however.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	0	The roofs are in good condition, no signs of damage.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls are in very good condition. There are only a few minor areas of pitting in the walls.

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Cannot determine from structure exterior.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	One of the cisterns still has its metal hatch, the other does not. Otherwise, the metal pipes protruding from the cistern walls are somewhat corroded.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Clear trails
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards
<u>Structure Point Total (of 35 possible points)</u>	**32**	
Structure Name: **Main Dormitory Structure (5)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.14812, 18.32454		
Elevation: (meters)	128	
Description:		

A very large brick dormitory, designed generally as a rectangle but with a chunk taken out from the central portion of one side to form a courtyard and entrance. It measures approximately 20m by 10m. There are a number of different rooms throughout the structure, including a large main room, bathrooms, washrooms, stoves/hearths, what was likely a kitchen, and other unidentified spaces. There is a large patio out in front of the structure, as well as a network of above and below ground drainage channels that likely served as the structure's sewer system.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	-2	Only very small sections of what may have been the original paint remain.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-4	Completely missing
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-7	Most of the walls are still largely intact. There are major structural cracks running throughout the structure, as well as some areas with missing or destroyed sections of wall.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-3	Large portions of the floors are completely destroyed. Other sections of cement appear to be in fine condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Completely missing doors and windows. Drainage features are in relatively good condition. Rare areas of doors and windows with remaining wooden frames appear to be in fair condition, not showing signs of rot damage. Much of the bathroom tile remains, though is significantly broken. Hearth and stove features remain relatively intact. Piping has been largely destroyed, with sections of pipe and tile lying throughout the site. Privy features have been destroyed. Air vent grates are also missing.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1	-3	Significant graffiti throughout the structure. Also a common hangout place for locals. While there we

minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).		witnessed several people climbing on top of the structure.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	-2	Significantly overgrown, with several rooms rendered inaccessible by extensive plant growth.
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	0
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible by trail
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-2	Potential collapse hazards.
Structure Point Total (of 35 possible points)	**8**	
Structure Name: **Cement Foundation with Sentry Box (6)**		
Site Location: **Slangkop RDF Station**		
Construction Date: WWII		
Central GPS: -34.14815, 18.3247		
Elevation: (meters)	128	
Description:		
A small concrete box, slightly larger than a standing person. The structure is thin and tall. It is constructed from cement, with a cement slab at a slight angle used for a roof. There are no windows, and one fully open side facing away from the rest of the site. Though this does not appear exactly like other sentry posts, its function is unclear. It is constructed adjacent to a large cement foundation, that itself measures 12m by 5m. There is a small hole in one side of the structure about half way up (now filled in), as well as two small metal fasteners in the side of the cement roof slab.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Unpainted, but may not have been so originally.

Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	Cement roofing slab is in good condition, woth only some slight damage to the corners.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	Walls are also in good condition, minor pitting in the concrete in few areas.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	0	Floor is in good condition.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	There are no major features, but the small metal fasteners in the roof slab are somewhat corroded.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-1	Some minor graffiti.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible by trail.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No major hazards.
<u>Structure Point Total (of 35 possible points)</u>	**31**	
<u>Overall Site Summary:</u> Slangkop RDF Station		
Average score of all structures on site:	22.17	Structures: 6
Average score of structures excluding cisterns:	20.2	Structures: 5

Site Accessibility Number (Travel time to site from nearest town in minutes):	15	15 minute hike from town
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	
Approximate distance of site from ocean (meters):	450	
Highest Elevation on Site (Meters)	146	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	Passive Legal Protection	

A.10 Upper North Battery (SCALA #1 Gun)

Structure Condition Assessment Worksheet		
Structure Name: **Gun Battery (1)**		
Site Location: **Upper North Battery**		
Construction Date: WWII		
Central GPS: -34.17672, 18.41942		
Elevation: (meters)	198	
Description:		
The No. 1 Gun of the SCALA Battery, an ordinance breach loading 9.2 inch gun MK X on MK IX Mounting. The site is currently under restoration by the SA Naval Museum and Naval Heritage Trust. The gun is built into a large battery complex, constructed behind a large semicircular concrete berm. The turret is encased in thick metal armor, and built on top of a rotating circular platform that would allow it to pivot. The barrel of the gun extends several meters overtop of the concrete berm. Underneath this pivot is a large underworks, that would include ammunition storage and ammunition hoist. Currently the underworks is not accessible except through a small break in the floor of the pivot, which while on site, several local people climbed through to access the interior of the turret. Behind the turret is a large concrete driveway, with a series of concrete pillars, as well as a large cement platform covered with metal sheets that is likely a loading bay into the turret underworks below. Adjacent to the loading bay is a small concrete box with a small metal door on the side facing the loading bay, its purpose is unclear. Another section of the underworks is accessible through a doorway down a small flight of concrete steps leading downhill from the driveway, though this section does not appear to be linked to the main turret area. The purpose of the large concrete pillars is unclear, though they each have a pair of metal mounting points on top that may have been used for delivering them, or could have been used as anchors for hoists.		
Condition Metric	**Attribute Score**	**Notes**

Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	The turrets paint is in reasonable condition, though this is likely the result of restoration efforts. Some areas are chipped, and most of the surface is leaking corrosion from the metals underneath.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof of the turret itself could not be seen, though has likely also been maintained alongside the rest of the turret as part of the restoration effort.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-3	While the paint has done a good job of preserving the structure at large, it cannot hide the effects of the metal corrosion underneath. There are sizable areas of the turret walls that are cracked or pitted, revealing extensive metallic corrosion underneath.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	The metal panels that form the floor of the exterior turret base (roof of the turret underworks) are all still present, though most have lost a good deal of paint and are substantially corroded. There is a small missing section near the concrete berm that is large enough for people to crawl in and out of however. The concrete driveway is also substantially cracked, though still largely intact.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-1	The visible features are in generally good condition. The concrete pillars in the driveway contain some minor cracks, but are otherwise intact. The concrete and metal sheets of the loading bay are also in good condition. The concrete box with the small metal door is also in good condition, with no signs of significant damage. Though its purpose is unclear. A small concrete mounting point on the western side of the concrete semicircular berm is also intact, though the mounting points are rusted. Its purpose is also unclear.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-2	Some significant graffiti throughout the site, as well as some modern litter in the underworks. There may also be signs of modern human inhabitation of the accessible area of the underworks.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible by road.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-3	The upper levels of the complex are fairly safe to be in and around, the gap that leads down into the underworks however requires crawling in and out of, and represents a significant hazard for anyone attempting to explore the structure's interior. This gap should be sealed off until the structure as a whole is restored.
Structure Point Total (of 35 possible points)	**23**	

Structure Name: **Lavatory (2)**		
Site Location: **Upper North Battery**		
Construction Date: WWII		
Central GPS: -34.17657, 18.4196		
Elevation: (meters)	195	
Description:		
A small brick structure approximately 3m across by 2m wide. There are three chambers within the structure, laid out like three bathroom stalls. Each chamber has an opening for a door on the side of the structure facing the turret, as well as a ventilation slat, and a plumbing slat on the opposite wall facing away from the site. The structure is built on top of a concrete foundation. A single wooden beam remains from what was once the structure's roof. In addition, there are several electrical boxes and cable tracks on the walls of the various stalls. One reads: "G.E.C. 10A 500V 15A 250V, Made in England, X3027" In addition there are the remnants of several plumbing valves on the lower walls as well. On the rear wall of each stall are four metal mounting points arranged in a rectangle that likely was where the privy features were mounted to the wall.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	N/A	Likely did not have paint originally
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-3	Only a single wooden roofing beam remains.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-4	The exterior brick is largely intact, with only some minor damage. The interior plaster/cement coating is cracked and significantly weathered, but also largely intact. Some areas of the interior wall appear charred.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-1	Nearly all of the floors are covered with dirt and debris, the sections that are visible however are largely intact with only some minor cracking.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-4	Doors are completely missing. Mounting points are heavily rusted and corroded. The electrical boxes and wiring brackets are also heavily rusted and corroded, though still somewhat intact.
Fire Damage (-1 = signs of charring from veldfires)	-1	Some apparent fire damage to sections of the wall, as well as significant charred foliage in vicinity.

Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	0	Little to no visible graffiti or litter.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	0	No notable hazards.
Structure Point Total (of 35 possible points)	**22**	
Structure Name: **Operations Building or Shed (3)**		
Site Location: **Upper North Battery**		
Construction Date: WWII		
Central GPS: -34.17656, 18.41946		
Elevation: (meters)	195	
Description:		
A rectangular cinderblock structure, measuring approximately 7m by 4m. The structure is built into the side of the hill on which the turret sits at the peak of. The roof is made of cement, with its ends intentionally furrowed to break up the visual outline. It is further camouflaged with green and white paint. In the ceiling are three square holes, (roughly 20cm square) that were likely used skylights or as ports for electrical equipment and wiring. There are two doors on opposite sides of the structure's long face (the one opposite the hill), each with an adjacent window. The structure is divided into two halves. The southern door and window are both open (the door is actually missing) allowing access into the southern room of the structure. One of the ceiling ports leads into this room. Otherwise it is square with the only notable features being a series of small metal beams projecting out from the walls roughly 30-40cm in a line along the wall roughly 60cm above the ground. The purpose of these beams is unclear. They are arranged in a way that could have been supports for rows of desks or tables, though they appear too low to the ground to have served this purpose. These beams run along the central dividing wall, as well as the rear wall facing the hill. The door and window to the northern room of the structure are sealed, and so the interiors could not be accessed. In front of the structure is a sizable concrete patio.		

Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	The camouflage exterior paint, as well as the interior paint both appear to be almost fully intact.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is made from a cement slab covered in a layer of asphalt. The cement appears to be in good condition, while the outer coating of cement is heavily cracked and missing in some sections. Much of the roof is covered by dirt that has run down from the hill above. The interior roofing has taken some damage in the area around the square ceiling port, exposing some of the rebar.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls are in very good shape, the paint appears to have done an excellent job of protecting against degradation. There are only some areas of minor cracking.
Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	Most of the interior floor is covered by dirt and some debris, while the floor that is visible appears to be in fairly good condition with only some minor cracks. The exterior patio area however is heavily cracked and broken, with several missing sections of concrete.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-2	One of the doors is missing, while the metal storm shutters from its adjacent window are also missing. The opposite door and window (with storm shutters) are present though substantially rusted and corroded (they are also missing most all of the original white paint). The metal beams inside of the structure (of unknown purpose) are in relatively good condition, and though rusted seem structurally sound. The ceiling ports are also in fairly good condition, with their metal fasteners showing some rust, but not extensive corrosion. It is clear that these ports have been the catalyst for some damage to the ceiling however.
Fire Damage (-1 = signs of charring from veldfires)	0	
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-2	Extensive graffiti throughout the structure.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible from the road
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	The rusted metal beams projecting out from the wall pose a minor hazard.
Structure Point Total (of 35 possible points)	**26**	

Structure Name: **Shed - Possible Dormitory (4)**		
Site Location: **Upper North Battery**		
Construction Date: WWII		
Central GPS: -34.17659, 18.41921		
Elevation: (meters)	195	
Description:		
Constructed to very similar specifications as the adjacent operations building / shed, except that it is somewhat longer (lengthwise). It is a rectangular cinderblock and cement structure, (with much thicker walls than the adjacent building), measuring approximately 9m by 4m. The structure is built into the side of the hill on which the turret sits at the peak of. The roof is made of cement covered with a layer of asphalt, with its eaves intentionally furrowed to break up the visual outline. It is painted green, though not with the same green and white camouflage coloring as the adjacent building. In the ceiling is one square hole, (roughly 20cm square) that was likely used as a port for electrical equipment and wiring. There are two doors on opposite sides of the structure's long face (the one opposite the hill), each with an adjacent window. There is also a central window offset towards the southern door. The structure is laid out in the interior as a single large room. In front of the structure is a sizable concrete patio. The structure is divided into two rooms, roughly equal in size. Each room is rectangular with the only notable features being a series of small metal beams projecting out from the walls roughly 30-40cm in a line along the wall roughly 60cm above the ground. The purpose of these beams is unclear. They are arranged in a way that could have been supports for rows of desks or tables, though they appear too low to the ground to have served this purpose. They may have been supports for bunk beds. These beams run along the central dividing wall, as well as the rear wall facing the hill.		
Condition Metric	**Attribute Score**	**Notes**
Original Paint (-2= <30%, -1 = 30%-70%, 0 = >70%)	0	Most all of the interior and exterior paint seems to remain intact. The exterior paint is showing signs of chipping and weathering however.
Structural Condition of Roof (-4 = Missing, -3 = Beams only, -2 = Beams, major damage to facade, -1 = Largely intact, 0 = Good condition/aesthetic damage only)	-1	The roof is intact overall. The exterior coating of asphalt has held up well, with only some minor cracks throughout. The interior ceiling has fared much worse, showing signs of major cracking, and some severe pitting in the concrete that has exposed a significant amount of the internal rebar framework, further hastening corrosion and degradation.
Structural Condition of Walls (-10 = Missing; -8 = Catastrophic structural damage; -6 = Major structural cracks, missing pieces, exposed rebar; -4 minor structural cracks, light damage; -2 aesthetic or light damage; 0 = Good condition or aesthetic damage only)	-1	The walls appear to be in very good condition, the paint seems to have effectively protected them. There are only some minor cracks in a few areas.

Structural Condition of Floor (-3 = Missing / destroyed; -2 = Major structural damage, missing sections; -1 = Light damage, minor cracks; 0 = Good condition or aesthetic damage only)	-2	The cement floors on the interior of the structure are in fairly good shape, though substantially covered with dirt and modern refuse. The concrete patio in front of the structure however has suffered significant amounts of damage, is heavily cracked and is missing major sections.
Condition of Features (-4 = completely missing doors, windows, and other features, major rot or damage to frames and features; -3 = missing doors and window panes, catastrophic damage to remaining features, -2 = doors disarticulated (lying nearby), missing window panes, significant rot or damage to frames and features; -1 = doors and windows disarticulated, minor damage to frames and other features; 0 = Doors and windows present, aesthetic damage only to frames and features.	-3	Both doors are missing completely. There were likely metal storm shutters covering the windows originally, as the mounting bolts for them are still present, though the shutters are now missing. The remaining window frames are made from both metal and wood. The metal sections are substantially rusted, and while the wooden frames seems substantially deteriorated, they are still intact and present. The metal beams, whether for bunk beds, or tables, or some other purpose, are rusted, though not overly corroded. The ceiling port still has its metal hatch cover, which appears to be in reasonable condition.
Fire Damage (-1 = signs of charring from veldfires)		
Cultural Impacts (-3 = Wall to wall graffiti, significant modern trash accumulation; -2 = graffiti covering most walls, significant litter; -1 minor graffiti, minor modern trash accumulation; 0 = no graffiti and minimal litter).	-3	Significant graffiti throughout the structure, in addition to enormous amounts of modern litter and refuse within the structure. Possible signs of use for human habitation.
Natural Overgrowth (-2 = extensive overgrowth, sizable plants growing within and around the structure; -1 minor overgrowth, small plants growing within and around the structure; 0 = no overgrowth).	0	
Wildlife Activity (-1 = signs of wildlife activity within or around the structure; 0 = no obvious signs of wildlife activity).	0	
Structure Accessibility (-1 no clear trail or path to structure; 0 = any passable path to structure)	0	Easily accessible from the road.
Structural Safety (-4 = Exposed rebar, broken glass, (likely) asbestos tiles, unstable structural elements that could cause serious injury, or otherwise extremely dangerous to be in and around; -3 = Serious hazards in and around the structure, -2 = Moderate hazards, -1 = Minor hazards such as broken glass on floor, 0 = little risk posed by structural condition.	-1	The weakening ceiling will eventually become a significant hazard, but at present the preponderance of litter as well as the rusting beams projecting out from the walls pose minor hazards.
Structure Point Total (of 35 possible points)	**24**	
Overall Site Summary Upper North Battery (SCALA #1 Gun)		
Average score of all structures on site:	23.75	Structures: 4
Average score of structures excluding cisterns:	23.75	Structures: 4
Site Accessibility Number (Travel time to site from nearest town in minutes):	10	9 minute drive, 1-2 minute walk
Site Accessibility Category (Within an Inhabited Area = <5 minutes travel time; Nearby an Inhabited Area = 5-20 minutes travel time; Distant from Inhabited Areas = > 20 minutes travel time)	Nearby	

Approximate distance of site from ocean (meters):	600	
Highest Elevation on Site (Meters)	198	
Site Conservation Status (Active Protection and Restoration; Passive Legal Protection but no active conservation, or No Protection)	Active Conservation	

APPENDIX B: Newsprint Survey

Weekday	(MM-DD-YYYY)	Article Title	Author	Origin	Page #	Category	Notes, Quotes, Synopsis
Wednesday	12/11/1940	Corps of Signals - Advertisement for women SAWAS			12	Coastal Defense / RDF	
Monday	7/28/2941	Seaward Defense in Action				Coastal Defense / RDF	Fighting in Mediterranean and guarding ports; birth of the navy in Jan 13 1940 - seaward Defense force; quickly became a powerful force - subs that survive encounters with them know
Friday	11/28/1941	Defense forces pay				Coastal Defense / RDF	subsistence rates raised by 1s
Wednesday	2/25/1942	Manpower for Defense			5	Coastal Defense / RDF	detail to improve defense force recruitment
Monday	3/23/1942	Cape Towns Blackout Regulations			6	Coastal Defense / RDF	Series of questions to minister of defense, call for postponement for more consideration; street danger fears, auto accidents
Friday	11/13/1942	The Blackout of Cape Town			4	Coastal Defense / RDF	Still cant use lights despite protests, inconvienence is worth the safety
Saturday	2/13/1943	Radio Location of U-Boats			7	Coastal Defense / RDF	Powerful new weapon used by navy, first mention of RADAR (not by name) well kept secret that gives the navy eyes to hunt uboats and aircraft
Tuesday	3/23/1943	Cape Town's Blackout			3	Coastal Defense / RDF	Major inconvienience, necessary public services, new lights that may serve both purposes
Friday	4/9/1943	Little Ships Record			1	Coastal Defense / RDF	Coastal defense vessel successes in sinking uboats

Friday	4/30/1943	SA Scientists Honored			2	Coastal Defense / RDF	Medal and grant for brigadier Schonland, university history and previous war history as wireless operator in france; how he now works on specialized scientific research, also worked on thunderstorm research
Monday	5/31/1943	Guarding the Home Front			3	Coastal Defense / RDF	laudable work of NRV National Reserve Volunteers, defending home, unity of peoples, greater purpose
Friday	7/9/1943	Big Naval Air Station			8	Coastal Defense / RDF	1.5 million pound Aerodrome near Cape Town, defending the coast
Saturday	4/8/1944	Reconnaissance of Battle			3	Coastal Defense / RDF	RAF Mosquitoes long flight surveying for enemy subs/ships
Saturday	4/8/1944	The German Ocean Raiders				Coastal Defense / RDF	Aghulas mines in 1940-41 were laid by the German raider ship *Atlantis,* was sunk by the *Devonshire*
Wednesday	8/8/1945	Brigadier Schonland on A-Bomb			2	Coastal Defense / RDF	"Sooner than expected"
Monday	11/27/1939	AD for "Confessions of a Nazi Spy"				Espionage/Subversion	
Wednesday	6/5/1940	Nazi Activity in Uraguay				Espionage/Subversion	Honeycombed with agents
Thursday	9/12/1940	The Nazis in our Midst			8	Espionage/Subversion	General Smuts talking about the Nazi influence in the country that has turned men false against their compatriots. Small minority of opposition but will be supressed
Wednesday	12/11/1940	Radio Transmitter Displayed			5	Espionage/Subversion	In london by Nazi spy
Wednesday	12/11/1940	How America Fights Spies			12	Espionage/Subversion	constant subversion of broadcasts, fake s.o.s. signals, lure ships into traps
Saturday	4/8/1941	Allegations of High Treason			14	Espionage/Subversion	Two professors/teachers in Johannesburg

Wednesday	4/16/1941	Harbouring Alleged			3	Espionage/Subversion	Story of money from Ossewa Brandweg; Several military men hiding, then helping a desserter escape
Wednesday	4/16/1941	Seargent Placed Under Arrest			3	Espionage/Subversion	Statement in Potchefstroom case, plans by Seargent H.L. Pretorius and comrades to assault a military camp. Caught and tried. "J.P. on slander charge" "Doing the dirty work of the English" - telling people not to join army - did not faithfully carry out recruiting policy
Saturday	5/3/1941	SABC and the War News			1	Espionage/Subversion	Picked up, recorded, and relayed enemy transmissions to the gov in 1940, then had their Roberts-Heights transmitter apprehended by the gov
Friday	6/19/1941	Damaged a Ship				Espionage/Subversion	Italian subversives destroyed/damaged a merchant ship - facing 20 years prison
Tuesday	10/21/1941	U.S. lag due to nazi inflitration			1	Espionage/Subversion	
Saturday	9/27/1941	U.S. Spy trail drama				Espionage/Subversion	uncovered Nazy spy ring
Thursday	1/29/1942	Sabotage Plot in Transvaal			1	Espionage/Subversion	Lines of great power plant blown down, dynamited, explosions seen
Monday	3/23/1942	Robey Leibbrandt in Namaqualand			1 and 3	Espionage/Subversion	Appearance on coast last June, Farmers evidence of treason trial; suitcase, footprints to sea, wad of 5 pound notes, motorcars and unknown men; Transvaller and Nationalist - didn't like Smuts
Tuesday	4/21/1942	Blackot Plot			1	Espionage/Subversion	Explosives found in the veld between Krugers Dorp and Burgher Shoop - set to explode during Sunday's blackout, found by police
Tuesday	4/21/1942	More Wires Cut			5	Espionage/Subversion	telephone wires, sabotage or theft
Tuesday	4/21/1942	Japanese Spy			5	Espionage/Subversion	Found in Berilochs
Tuesday	5/3/1942	Sabogate Cases			2	Espionage/Subversion	Being tried in Bloemfontain magestrate courts
Saturday	5/30/1942	The Opposition and Sabetours			6	Espionage/Subversion	Sabotage is beyond even what most malon supporters can stomach

Monday	11/30/1942	Treason Case Informers			3	Espionage/Subversion	case of men attempting to steal explosives from a munitions battery, tried
Saturday	2/13/1943	Treason Trial			8	Espionage/Subversion	concluded in pretoria
Friday	4/9/1943	Code found in Pipe			3	Espionage/Subversion	Trial of Jacobus van Heerden on posession of explosives, a stolen car, and hotel room with coded message hidden within a pipe. Stolen typewriter. Stermajen? - no Opposed to gov? definitely so
Saturday	10/9/1943	Arms Thefts			5	Espionage/Subversion	Pretoria arms magazine broken into and raided by a group of men, stole a number of guns; had inside information
Thursday	10/5/1944	Spies Arrested			1	Espionage/Subversion	Rome
Thursday	11/30/1944	Secrets Act Charge			3	Espionage/Subversion	Story of plan of A. Camp; man on trial for sharing sketch map to persons other than was his duty
Monday	11/27/1939	War Risk Rate Reduced				Maritime Activity	10s per cent on coastal voyages, down from 60s, claims of shipping resuming and people with no reservations queuing up to travel coastally. Still no travel abroad. 20s for trips south of Equator
Tuesday	11/28/1939	War Risk Rates Raised				Maritime Activity	Doubled for North Sea, but dropped in Mediterranean
Saturday	4/6/1940	Mass Produced Cargo Ships				Maritime Activity	Britain to break records
Tuesday	5/28/1940	Union Castle Line Advertisement				Maritime Activity	Cape Town to Durban 9 pounds
Thursday	10/24/1940	British Export Trade Fully Maintained in Septermber			6	Maritime Activity	
Saturday	11/23/1940	U.S. Cargo Ships for Britain			Cover	Maritime Activity	
Saturday	1/25/1941	12 More Ships for Britain			11	Maritime Activity	Brought from US
Saturday	1/4/1941	US to Build 300 Merchantmen			4	Maritime Activity	direct benefit to Britain

Saturday	11/8/1941	Merchant Navy Storm			3	Maritime Activity	Question of official recognition, put them in naval uniforms or not?
Monday	3/9/1942	S.A. Whale ship Torpedoed			2	Maritime Activity	Near St. Vincent
Thursday	1/29/1942	Advertisement: Don't Talk about Ships or Shipping, but do talk about the quality and vlaue offered by the Diamond House				Maritime Activity	
Monday	3/23/1942	Sea Freights Increased				Maritime Activity	due to war rates increase
Saturday	6/13/1942	Freights Up			3	Maritime Activity	25% increase in Cape-Durban freight rates, - no reason given
Thursday	8/18/1942	War Risk Rates Rise			1	Maritime Activity	US increasing risk rate from 15 to 25s per cent enemy interference between NA and S. Africa is the probable cause
Friday	11/13/1942	Marine Risks			1	Maritime Activity	dropping risk rates in Med due to increased security - subnote: increasing rates to and from SA ports
Wednesday	2/24/1943	Merchant Fleet of Britain			2	Maritime Activity	how it will replace losses and compete with US after war
Monday	8/16/1943	Trade After the War			4	Maritime Activity	general discussion
Wednesday	1/5/1944	Enough Ships			3	Maritime Activity	Can never have enough shipping, but US says needs are about adequate, uboats have failed, allies can now press iniative
Monday	4/24/1944	For Merchant Seamen			2	Maritime Activity	Marked drop in contributions to the merchant seamen's fund, but their brafery and such deserves continued contributions
Thursday	10/5/1944	British Ship Losses				Maritime Activity	UK shipping tonnage halved throughout the war, now 7 million. US now controls 2/3 of merchant shipping tonnage with 22million

Friday	11/3/1944	War Risks Cut			2	Maritime Activity	lowered by 0.5% between western hemisphere, med, india, and E. Africa
Friday	11/3/1944	Union Trade with USA			2	Maritime Activity	Healthy signs for the future
Thursday	11/30/1944	UK Shipping Position				Maritime Activity	tallies on tonnage lost, and the amounts left over for post-war service, 17.5 million gross tons at start
Friday	1/12/1945	New York to Cape			3	Maritime Activity	setting up Sea lines
Thursday	1/25/1945	Trade With West Africa				Maritime Activity	Good prospects for Union
Friday	5/25/1945	Shipping Control			2	Maritime Activity	Agreement to continue shipping to the far east after the war
Thursday	6/7/1945	Confusion in Convoy			1	Maritime Activity	U.S. Ship hits iceburg in North Atlantic
Friday	7/6/1945	Shipping Services after War			5	Maritime Activity	Replacement plans for South African trade plans
Wednesday	7/20/1945	Easing Import Control				Maritime Activity	Increase in permit controls
Saturday	8/18/1945	Prospects of Sea Travel				Maritime Activity	no regular mail service expected until 1947
Saturday	8/18/1945	Camera Ban Removed			1	Maritime Activity	photos in docks now allowed, war security restrictions being removed
Saturday	1/20/1940	Good Fruit for Cape Town				Maritime-Tangential	Export difficulties of fruit to london creates economic boost of export quality fruit for South Africans
Saturday	3/16/1940	Exports Boom in India				Maritime-Tangential	
Saturday	3/16/1940	Swedish Trade				Maritime-Tangential	
Wednesday	6/5/1940	Money, Mines, and Markets (general section)				Maritime-Tangential	
Thursday	7/25/1940	War by Blockade				Maritime-Tangential	Relatively small shipping losses, small/slight effect only on imports/exports

Thursday	7/11/1940	Durban Port Control				Maritime-Tangential	
Tuesday	8/6/1940	Merchant Navy Funds List				Maritime-Tangential	
Saturday	11/23/1940	Union's Prosperity - Imports and Exports Increasing			4	Maritime-Tangential	
Saturday	11/23/1940	Mild Reactions to the markets			8	Maritime-Tangential	all to the good of investorrs, Rumania joining war
Friday	6/19/1941	Acute Timber Shortages due to military requisitions of imported timber				Maritime-Tangential	
Saturday	7/5/1941	The Problem of Empire Wool Supplies				Maritime-Tangential	
Saturday	7/5/1941	Rice Shortage in the Union				Maritime-Tangential	
Wednesday	2/25/1942	South Africa's Record Trade			7	Maritime-Tangential	huge 6 million pound surplus
Thursday	7/22/1943	Protest Meetings			5	Maritime-Tangential	Western Cape Trade Unions meeting to discuss (metal?)/food price increases
Monday	10/23/1944	No Shortage of Timber			4	Maritime-Tangential	builder reviews the housing position
Thursday	4/9/1942	None this issue				N/A	
Thursday	9/24/1942	None this issue				N/A	
Friday	10/8/1943	None this issue				N/A	
Monday	8/30/1943	None this issue				N/A	
Monday	11/9/1943	None this issue				N/A	
Monday	11/29/1943	None this issue				N/A	
Wednesday	12/29/1943	None this issue				N/A	
Monday	5/22/1944	None this issue				N/A	
Friday	2/4/1944	None this issue				N/A	

Monday	6/26/1944	None this issue				N/A	
Friday	7/21/1944	None this issue				N/A	
Wednesday	8/9/1944	None this issue				N/A	
Wednesday	8/25/1944	None this issue				N/A	
Tuesday	2/6/1945	None this issue				N/A	
Monday	3/29/1945	None this issue				N/A	
Friday	4/27/1945	None this issue				N/A	
Monday	9/17/1945	None this issue				N/A	
Friday	11/24/1939	Meeting of Afrikaners in Petersburg - Call for independent republic under Hertzog				Population Dynamics	"New Party's Policy"
Friday	11/24/1939	The Hertzog - Malan Talks	SAPA - Reuter	Pretoria		Population Dynamics	Republican issue settled with no great difficulty
Friday	11/24/1939	Loyal Support for Government				Population Dynamics	Dominion party full support for Smuts' references to revelations about Nazi intrigue in country
Friday	11/24/1939	SWA Aliens to Lose Vote				Population Dynamics	Enemy aliens, (Germans from SWA)
Friday	11/24/1939	Colored who Wish to Serve				Population Dynamics	Expanding enlistment centers for non-combat coloureds
Monday	11/27/1939	Criticizing the Government				Population Dynamics	J.H. Hofmeyr - finance minister calls for unity, end to criticism
Tuesday	11/28/1939	The Negotiations that Failed				Population Dynamics	Afrikaans nationalism and Hertzog's calls for Republicanism, Malanite separatism, Mr. Havenga. Destructiveness of disunity, majority for the union
Tuesday	11/28/1939	Amalgamation Talks Failure				Population Dynamics	Question of republicanism, Jewish problem, merging of the two parties. Mr. Havenga explains key points of difference

Saturday	1/20/1940	Opposition Shows their Hand				Population Dynamics	53 questions for Tuesday. Fair and legal trial for Germans interned; Jewish immigration limits; gold mining divisions of proceeds, miners vs. gov.; Child's journal slandering Hertzog; neutrality as cowardly; German payments program, was the Union asked by Germany about neutrality? Was was its response?
Saturday	1/20/1940	500 Recruits Wanted				Population Dynamics	Regiment westelise Province. Alternating English and Afrikaans, comradery and brotherhood; active citizen force
Wednesday	1/17/1940	Nationalists Criticized				Population Dynamics	by a General
Saturday	1/6/1940	Allied Trade Unionists				Population Dynamics	French + British get together to combat propaganda from Moscow and Berlin encouraging trade union organization and strikes
Tuesday	3/19/1940	Copper Mine Strike				Population Dynamics	unconstitutional and devisive in a time of war, questioning leader's authority to strike, miners want to work
Monday	3/4/1940	United Party Majority Assured				Population Dynamics	Union party lost seats to anti-war opposition, but will still hold majority
Monday	2/26/1940	Doubtful Literature in the Union				Population Dynamics	Black list of banned media - not fit for decent media
Saturday	4/20/1940	Large and Unhelpful Opposition				Population Dynamics	Mining profits taxation battle
Wednesday	5/8/1940	Realistic View of Republicanism	W.F. Marais			Population Dynamics	A transvaal farmer's appeal for a wider ideal; SA is stronger together, no need for Afrikaner individualism when they can work together with their kindred stock; lack nothing here that they could have in a separate nation; writing to other Afrikaners
Thursday	7/25/1940	Gold Miners and War				Population Dynamics	Secretary of mining unions joint committee attempting to help war effort - assures miners that Union gov is not pro-company or disadvantaging labor
Saturday	9/7/1940	Noon pause Disturbed at Port Elizabeth				Population Dynamics	protesters demonstration quashed by police

Thursday	9/12/1940	Opposition Attitude Explained	J.G. Strydon		3	Population Dynamics	Opposition leader says "National Suicide" to resist Nazi invasion if it came; imprisonment of innocent nationalists; poor treatment of German interns; "Afrikaners would not fight if invaded" called disgraceful, they would be conscripted if need be
Thursday	11/7/1940	Hertzog out of Politics?			Cover	Population Dynamics	Views of Afrikaans press-the Burger, Hertzog's resignation from Hermigde Party; Heritage Party split, called diaster by Afrikaans media; must not let fraternal feud "divide the Afrikaans people's chances of destroying the bonds of Imperialism and power of money"
Saturday	11/23/1940	Political Fact and Party Fiction			6	Population Dynamics	Afrikaners fighting for liberation when independence has already been achieved, already posess a majority in government offices - General Kemp an afrikaner said so himself
Wednesday	12/11/1940	Government's Internment Policy	H.G. Lawrence, minstry of the interior		Cover + 3	Population Dynamics	All german and Italian nationals interned, and many union nationals believed to be subversives; in Nov 1930 3073 Germans; 707 Italians - 388 released. Right of appeal only for Union nationals, but "careful deliberation of evidence for all"
Wednesday	12/11/1940	Field for Home-Grown Facism	Prof. Grey - U of Wits.		5	Population Dynamics	Caused by sheer poverty, economic helplessness, and feelings of resentment
Saturday	4/8/1941	South African War Effort - Issue not in Doubt			19	Population Dynamics	Citizen service speech, Union sent as many volunteers despite political differences as many other commonwealth members; remarkable war effort
Wednesday	4/16/1941	Labor Shortage			14	Population Dynamics	Coloureds leaving Cape Town
Tuesday	5/20/1941	A new party in the Union				Population Dynamics	Afrikaner party loyal to Smuts
Saturday	7/5/1941	Nazism in South Africa				Population Dynamics	Ani-semitism as bait for the unwary, democratic Afrikaner talking about bad totalitarianism, lie of nazism

Thursday	9/4/1941	Nazism in Schools				Population Dynamics	Union party in Transvaal congress noted campaign in schools to promote democracy in children, and planned steps to counter it. How to counter these counters without threatening democracy? Do they constitue subversion?
Saturday	11/8/1941	Minesweeper adopted			3	Population Dynamics	Johannesburg workers party catering to them
Monday	3/9/1942	Trade Unions at Law			2	Population Dynamics	company ownership of garmant workers union to reveal names of members/leaders
Thursday	1/29/1942	To Avoid Strikes in Wartime			10	Population Dynamics	Abitratators, awards, strikes illegal, 500 pound fine or 3 years in jail
Tuesday	4/21/1942	Arming Natives			3	Population Dynamics	Potchefstroam council agrees with Smuts to train and arm Africans and Coloureds to defend nation
Tuesday	5/3/1942	Loyalty of SWA			5	Population Dynamics	Many went there as pro-germans, but now 95% support the war effort
Saturday	5/30/1942	Afrikaners and the War			6	Population Dynamics	Afrikaner letter to editor about how bad hitler is
Friday	10/2/1942	Illegal Strike		Johannesburg	5	Population Dynamics	Sweets Manufactory Association - sweet workers Union and gov must find a way to quash strike
Friday	11/13/1942	Higher Wages			5	Population Dynamics	Native railway workers get raise
Saturday	12/3/1942	What Gen Hertzhog really stood for			3	Population Dynamics	Influence after his death: Afrikaner party, Ossewa Brandweg, and New Order parties left adrift
Saturday	12/3/1942	The Opposition and a General Election				Population Dynamics	Afrikaners changing tune, supporting Hitler is laughable
Monday	1/4/1943	The Labor Party and the Government			3	Population Dynamics	Helpful and working together to keep up wartime production
Monday	1/4/1943	labor demands total effort for war			5	Population Dynamics	Stands with Smuts gov

Friday	4/30/1943	Closer Unity of Labor			3	Population Dynamics	national meeting of labor unions for cooperation, want helathcare plans from gov; 'straight facts'
Friday	4/30/1943	Labor's Attitude			4	Population Dynamics	Gov must win election or workers will return to slavery, even if there is some antagonism
Monday	5/31/1943	Mine Natives Refuse			6	Population Dynamics	to work with bodies of comrades still in the mines, seemed ornary, standstill production
Saturday	10/9/1943	Apathy Is Dangerous			7	Population Dynamics	United party's election triumph
Saturday	10/9/1943	Fight Nazism in the Union			7	Population Dynamics	Nationalists want you to forget they opposed the war; election results prove people stand with the gov and Smuts
Wednesday	3/15/1944	Malan's Message			1	Population Dynamics	Praise for Ireland's rejection of US call to expell German and Irish diplomats
Wednesday	3/15/1944	Dr. Malan and Eire			2	Population Dynamics	Expelling diplomats would fundamentally threaten their neutrality
Friday	3/24/1944	German Held Land in SWA			2	Population Dynamics	Ten fold increase in taxes to force selling of land
Friday	3/24/1944	Native Wages on the Mines			2	Population Dynamics	proposals by Rand Requirey Commission; wage increases necessary to allow acceptable level of living; though half of population are directly or indirectly dependent on the mines
Monday	4/24/1944	Quislings in Trade Union			4	Population Dynamics	men going overtop of executive board, making threats and undermining union strategy, condemned by union board. Note: Quisling = traitor
Tuesday	9/12/1944	Big Job for the Cape				Population Dynamics	post war plans for the national and labor parties
Friday	12/8/1944	The Mine Defamation Act			3	Population Dynamics	Council's argument for the defense; man being sued for damages relating to his story in "The Guardian" calling the mines a system for the abuse and mistreatment of native miners, being sued for 10K in damages
Friday	1/12/1945	Graphic Story of Impi Battle in Natal				Population Dynamics	Tribal conflict
Thursday	1/25/1945	Another Protest by Opposition			3	Population Dynamics	censure motions place on order paper, just a matter of meeting timing, not discriminitory

Thursday	2/22/1945	A Feeble Defense			6	Population Dynamics	Dr. Malan backtracking on his desire for nutrality throughout the war
Thursday	2/22/1945	Dr. Malan Apoligises				Population Dynamics	
Friday	3/2/1945	Ship Repairs Held Up			3	Population Dynamics	Engineers strike
Saturday	11/25/1939	Fatherland in Peril				Propaganda	
Saturday	11/25/1939	Plots Against Hitler				Propaganda	
Saturday	1/20/1940	74 Days in Lifeboat - german sailors				Propaganda	
Saturday	1/20/1940	Man's Mortal Foe is Nazism				Propaganda	
Saturday	1/13/1940	The Australian War Machine				Propaganda	destroyers and sloops, naval power
Tuesday	3/19/1940	New War Loan Success				Propaganda	
Saturday	3/16/1940	*Graf Spee* conquers in a Film				Propaganda	"For Freedom" memorialization
Saturday	3/16/1940	A.A. batteries to Show Paces				Propaganda	Demonstration in Johannesburg
Saturday	4/6/1940	Clumsy German propaganda				Propaganda	
Saturday	4/6/1940	Neutrals Want an Allied Victory				Propaganda	support for German blockades despite hastle for neutrals
Wednesday	5/8/1940	Anti-Allied Campaign in Facist Press				Propaganda	
Wednesday	5/8/1940	Berlin Propaganda Campaign				Propaganda	
Thursday	7/11/1940	Nazi plots in Mexico				Propaganda	
Saturday	9/7/1940	England Eating Grass!				Propaganda	stoicism of their people
Saturday	9/7/1940	The Deceptions of Nazism	Prof J.L.M. Franken - U			Propaganda	A travesty of socialism, moral travesty

			Stellenbosch				
Tuesday	8/6/1940	Propaganda By Nazis			10	Propaganda	Danish Film reel
Thursday	9/12/1940	State of Mind of the German People	J.L. Hammond		8	Propaganda	Nazi views of power and honor
Thursday	10/24/1940	War Material from USA			6	Propaganda	
Thursday	10/24/1940	Eire and U-Boats			14	Propaganda	Debunking rumors of U-boats refueling in Ireland
Saturday	5/3/1941	Just Nuisance			1	Propaganda	Cape Town's best known Great Dane joins the navy
Friday	6/19/1941	London or (_____)				Propaganda	Thanks South Africa
Tuesday	5/20/1941	Deadly Thoroughness of Nazi Intelligence			1	Propaganda	To Romanian minister
Saturday	7/5/1941	The Bolchevist Red Herring			5	Propaganda	Rebuttal to Dr. Malan's Nazi/Afrikaner propaganda, misguided remarks that the USSR is the real threat to a christian nation
Wednesday	2/25/1942	New Scientific Quarterly			5	Propaganda	to counteract nazi propaganda
Saturday	6/13/1942	The Campaign of Deciept			7	Propaganda	German propaganda and agents in SA have been pervasive, but people still realize Smuts is the the Hero. Dr. Malan is a fool to fall for their propaganda
Wednesday	7/29/1942	Axis Claims			3	Propaganda	Stories from Axis media
Saturday	12/3/1942	Submarines don't worry this Seaman - Artist	John H. Marsh		9	Propaganda	Ships he has been on were torpedoed afterwards, but never hit him
Friday	4/9/1943	BBC a big war asset`			2	Propaganda	defense of the BBC against criticisms of doctored news and British propaganda. Lightening occupied europe against totalinarianism propaganda
Thursday	6/3/1943	The Transvaler			3	Propaganda	Lawsuit by the transvaller against Argus and The Star for claiming it had Zeeson (pro-german) themes. Accusations of sympathy. They demonstrated a number of pro-british headlines "would not have printed article if they knew it was Zeeson material"

Wednesday	1/5/1944	Honors for Navy Men				Propaganda	
Thursday	11/30/1944	Cool Nerve of Woman in Sinking Liner			5	Propaganda	children who laughed at Uboat captain - back in 42
Friday	4/13/1945	Zeesen Returns			5	Propaganda	Speaking german propaganda to Africa
Thursday	6/7/1945	Pity the Poor Huns			3	Propaganda	Justice with mercy/tolerance
Saturday	11/25/1939	Hitler's Secret Weapon				War at Sea	U-boats failing
Tuesday	11/28/1939	Rawapindi's Epic Fight				War At Sea	Merchant ship sunk heroically fighting pocket battleship Deutschland. Sunk with flag still flying "grand tradition safe"
Saturday	1/20/1940	Strangle Hold on Germany				War at Sea	Success of British Blockade
Saturday	1/20/1940	Lost British Submarine				War at Sea	caught in submarine nets at Heialoland Bight
Saturday	1/20/1940	Royal Indian Navy - Protecting Coastal Waters				War at Sea	highly trained, well equipped mine sweepers and aerial scouts search for submarines and mines
Saturday	1/13/1940	Britain's Sea Power - Cape Town's Place in the Scheme of Empire Defense				War at Sea	maintaining control of the seas, submarines for coastal Defense, depth charges for enemy
Saturday	1/6/1940	Minesweepers at Work				War at Sea	Daring heroism of minesweeping flotillas
Saturday	1/6/1940	British Shipping in Wartime				War at Sea	No substantial losses that shipbuilding can't replace, navy's effeciency in protection, nevertheless the need for state controlled shipping, losses well below 1917, utilizing tonnage most efficiently, potentially larger future needs
Tuesday	3/19/1940	Another Zeesen "sinking" Arrives				War at Sea	ships Germany says they sunk arriving in port
Saturday	3/16/1940	Dutch Ship Attacked - After Refusal to Sail in Convoy				War at Sea	

Monday	3/4/1940	U-Boat War to be Intensified				War at Sea	Nazi warning to neutrals, Navicerts - passes given to ships to ease searches by British controlled ships, doesn't actually make ships a target as Germany contends
Monday	3/4/1940	Germany's War on Merchantmen				War at Sea	British, French, and Italian losses in Atlantic; single ship losses, no damage to convoys; subs, mines, and air threats; message to germany about British life-boat shootings, rumors are untrue
Saturday	4/6/1940	U-Boat Menace now Overcome				War at Sea	no ship sunk in 10 days; convoy system a big factor, sinking german subs; Germany may soon cease buliding submarines; sinking neutrals, but not allies
Saturday	5/4/1940	Mediterranean Precautions				War at Sea	Using navy to induce neutrals in Med. To remain so, demonstrations
Wednesday	5/8/1940	German Submarine's Report				War at Sea	Assistance from Italians, Italian navy massing
Wednesday	5/8/1940	Valuable Cargo Saved				War at Sea	Merchang Ship Escapes *Graf Spee,* heroing voyage
Wednesday	5/8/1940	Mines Discovered off Cape Coast				War at Sea	are germans using new type? Mines found off Cape Aghulas, bing cleared but raider still on the loose, navagation as usual, apparent defect in the mines; fantastic threats by German naval command; Navy watching coast, reinforcing mine sweeping squadrons
Tuesday	5/28/1940	More German Ships Sunk				War at Sea	Subtext: continued Allied and Neutral losses
Thursday	7/25/1940	German Escort Vessel Hit				War at Sea	Aerial torpedo attack
Saturday	9/7/1940	Big British Fleet in Malta				War at Sea	
Saturday	9/7/1940	Daring Naval Exploit				War at Sea	of south african patrol boat
Saturday	9/7/1940	Dutch Captain's Gallentry				War at Sea	Saved his ship from Nazi bombers
Saturday	9/7/1940	Big Guns out at Sea				War at Sea	Naval practice tomorrow
Saturday	9/7/1940	Rescue Boats Fired Upon				War at Sea	in English Channel
Tuesday	8/6/1940	Minesweeper Lost			10	War at Sea	Very small side brief

Wednesday	10/9/1940	New Monster of the Fleet			Cover	War at Sea	Cheers in malta for the new battleship
Wednesday	12/11/1940	Three U-boats destroyed			7	War at Sea	flying boat's good work, cape trader's escape
Wednesday	12/11/1940	British Losses at Sea			12	War at Sea	U.S. help in replacing them
Saturday	1/25/1941	Security of Atlantic			1	War at Sea	Hum of American shipyards guaranteees safety of Atlantic
Saturday	1/25/1941	Mails for Union Lost			12	War at Sea	Nov 12-14 mail from UK lost to enemy action
Saturday	1/4/1941	The Navy's New Weapon			4	War at Sea	valuable work of corvette
Wednesday	3/5/1941	Naval Expansion of the Great Powers			7	War at Sea	Huge capital ships under construction
Friday	2/28/1941	New U-Boat Boast			7	War at Sea	Use of wolfpack tactics - 192,000 tons lost in two days sunk correct, but guised as a laughable boast by Hitler. Numbers confirmed by navy
Saturday	4/8/1941	Lifeboat Saga				War at Sea	Reference to a book, a heroing tale
Thursday	3/20/1941	Ships to Help Britain			4	War at Sea	U.S. Ships to Britain, and naval demonstrations by US squadron in Sydney
Thursday	3/20/1941	Sinking Ship Saved			4	War at Sea	
Thursday	3/20/1941	Torpedoed Ship Safe, Other Cape Traders Escape			7	War at Sea	
Wednesday	4/16/1941	Bigger U.S. Navy			14	War at Sea	
Wednesday	4/16/1941	American Ships in Combat Zones			16	War at Sea	merchant ships to be escorted at all times
Friday	6/19/1941	Toll of Axis Shipping			1	War at Sea	To over 400,000 tons captured or sunk or denied
Friday	6/19/1941	The Shipping Position			17	War at Sea	Parliament to discuss in secret the battle of the atlantic
Friday	6/19/1941	Enemy vessels sunk				War at Sea	British submarine success
Friday	6/19/1941	War on Enemy Shipping				War at Sea	
Tuesday	5/20/1941	Enemy's Heavy losses at sea				War at Sea	
Monday	7/28/2941	Salving Merchant Ships and Cargoes			7	War at Sea	

Tuesday	10/21/1941	Torpedoing of the Kearny			3	War at Sea	U.S. ship, diplomatic incident
Friday	11/28/1941	The Navy Sweeps Bomb Alley			3	War at Sea	two axis merchantmen sunk
Saturday	11/8/1941	U-Boat losses			5	War at Sea	Admirality claims 1226 men were recovered from sunken uboats, about 33 sunk
Wednesday	2/25/1942	Merchant Ship Losses			3	War at Sea	Figures to end of 1941, over 13 million tons of allied hsipping lost (1/5 of prewar total). Axis between 5 and 6 million. Russia has sunk 0.5 million. Recent increase due to Japan's surprise declaration. Overall downard trend due to better defenses and convoys. Risk rates up to 300s/cent on Atlantic and Pacific routes
Wednesday	2/25/1942	Churchill in War Debate			4	War at Sea	Increase in shipping losses in past few months, but overall enormous improvement in general strategic situation
Wednesday	2/25/1942	The Long View of the War			6	War at Sea	Rise in shipping losses innevitable, to be expected, but allies will be able to sustain the losses and win through attrition
Wednesday	2/25/1942	Two Tankers Lost			7	War at Sea	U.S.
Monday	3/23/1942	Beatuing U-Boats in the S. Atlantic			3	War at Sea	Sites of wreckage now rare in S. Atlantic, once infested with Uboats, now much safer thanks to RAF outposts in West Africa
Tuesday	5/3/1942	Axis Ships Sunk			2	War at Sea	
Monday	7/13/1942	Hunting U-Boats			4	War at Sea	War in Atlantic was won, now Nazi subs hunt in more distant waters. But allies now hunt subs on traffic lanes near their bases which should ultimately win the war at sea - heroic tale
Monday	7/13/1942	Ships Sunk off East Coast			5	War at Sea	of Africa, torpedoed
Saturday	6/13/1942	Smashing Blow to Japanese Navy			7	War at Sea	
Saturday	5/30/1942	U-Boat destroyed			8	War at Sea	near U.S.
Wednesday	9/2/1942	Axis Sea Losses			1	War at Sea	

Saturday	10/12/1942	Navy off Africa			7	War at Sea	Powerful naval squadron from britain now operating in Indian Ocean
Friday	11/13/1942	U-Boat Sunk			1	War at Sea	
Friday	11/13/1942	Allies new Fleet			3	War at Sea	U.S. delivers merchant ships
Tuesday	1/26/1943	War on Uboats			1	War at Sea	American liberator aircraft now operating out of British bases to hunt subs, destroying them with increadible efficiency
Tuesday	1/26/1943	New Hide-Outs for U-boats			1	War at Sea	German Order for French ports
Tuesday	1/26/1943	More U-boats			2	War at Sea	German Uboat stength is increasing, but new destoyers and aircraft are being constructed to counter them
Wednesday	2/24/1943	Biggest Allied Battleship			2	War at Sea	45K ton Iowa
Wednesday	2/24/1943	Uboat Menace Warning				War at Sea	No early cure says Col. Knox, still grave menace, outbuilding sub kills but also outbuilding merchant losses
Monday	3/1/1943	RAF Blast Uboat bae at St. Nazaire				War at Sea	
Monday	3/1/1943	Enemy Ship Hit			4	War at Sea	near india
Tuesday	3/23/1943	War on U-Boat Pests	Naval Chief		1	War at Sea	Naval chief - warning by. Uboats also in south atlantic - offensive forces and defensive coastal watchers here to meet them. Don't speak about it or press for details. Necessity of coastal blackout
Tuesday	3/23/1943	Japanese Shipping Losses			4	War at Sea	Enemy shipping losses
Friday	4/9/1943	More Survivors land in Cape Town				War at Sea	heroing ordeal of ship destruction's survival
Thursday	5/13/1943	Convoy escort fights 25 U-boats			2	War at Sea	North Atlantic - 4 sunk and 6 probably destroyed, no mention of allied ship casualties, only enemy
Thursday	5/13/1943	Attacks on Convoy			4	War at Sea	growing increasingly desperate allies succeeding in breaking through the pirates
Monday	5/31/1943	Uboats sunk			1	War at Sea	
Thursday	6/3/1943	Sunk off the Union				War at Sea	great courage surviving the destruction

Thursday	6/3/1943	Uboat Menace			4	War at Sea	More Uboat destructions and fewer merchant sinkings, curves increasing due to more/better escort vessels. Increasing skill/experience of naval crews vs decreasing skill of german crews as their ships are sunk, none survive
Thursday	6/3/1943	The Uboat War			4	War at Sea	Many sinkings, 20+ in the last month, but still 400 active that must be destroyed, but main threat has been checked
Thursday	6/24/1943	Blitz on Uboats			1	War at Sea	Major success through June, but still a threat
Monday	8/16/1943	The Uboats			2	War at Sea	80 Sunk in past 3 months due to excellent convoy protection and aircraft; germans cant sustain material and personell losses, but they still have capacity to build more, not done yet; "Claims of refit recall of uboats to explain losses"
Saturday	9/17/1943	Disasterous Month for the Uboats			5	War at Sea	More uboats sunk than merchantmen ships in August!
Monday	9/27/1943	U-Boat Destroyed off S.A. coast			1	War at Sea	Hunted in Indian Ocean for 5 days, killed by RAF planes - grand/terrific explosions; second sinking in SA waters this month
Saturday	10/9/1943	The Uboat War			4	War at Sea	lul through september, but then convoy attacked by wolfpack. Few ship losses, greater damage to subs; despite losses, average merchant ships very safe
Thursday	11/11/1943	Strange Sea Battle			1	War at Sea	Destroyer on top of Uboat
Thursday	11/11/1943	Atlantic Uboat Cruisers			1	War at Sea	Monster new german craft, type sunk by the Borin was one such
Thursday	11/11/1943	Shipping Losses			4	War at Sea	Hitler's redoubld uboat efforts have failed, more subs than ships sunk, always a threat still, but a diminishing one
Monday	12/13/1943	Convoys get Through			3	War at Sea	5 uboats sunk in atlantic - major attack fails, gallantry of captains
Saturday	1/22/1944	Uboat Captives				War at Sea	As threat to allied shipping is reduced, uboats are taking engineers and masters prisoner, depriving allies of experienced crew
Monday	2/21/1944	Ship Bombed in Convoy			4	War at Sea	Survivor's story, perfect orderly evacuation, kindness of soldiers

Monday	4/24/1944	Uboat Menace Shrinks			3	War at Sea	Reduced from menace to problem, still out there though
Tuesday	7/13/1944	Torpedoed off Coast			4	War at Sea	torpedoed ship, gallant sacrifice, mostly a list of facts
Tuesday	9/12/1944	Big Tokyo Convoy Wiped Out			1	War at Sea	
Tuesday	9/26/1944	Hard Blow at Shipping			4	War at Sea	RAF assaulted a large german convoy
Tuesday	12/19/1944	Success of American Subs and Planes in Destroying Japanese Shipping				War at Sea	
Thursday	2/22/1945	Japan's Naval Weakness			1	War at Sea	fleet crippled by Nimitz
Friday	3/2/1945	U-boats destroyed			3	War at Sea	10 german e-boats destroyed
Monday	5/14/1945	More Uboats Surrender			3	War at Sea	20 surrendered, 100 found in French bases
Friday	5/25/1945	New SA Frigate			5	War at Sea	
Friday	6/29/1945	Shipping Sunk			1	War at Sea	Japanese shipping sunk
Monday	9/3/1945	Wartime Sinking in SA Waters			1	War at Sea	over 700,000 tons sent to the bottom; "uboat packs offensive off the cape" many sinkings in 1941 and 1942; at least a dozen sub sinkings, as many as 5 in one day
Friday	11/24/1939	Secret Session of Commons?				War-General	Opposition wanted to discuss troop supplies behind closed doors
Monday	11/27/1939	Soviet Press Abuse				War-General	Violent Attack on Finland
Saturday	1/20/1940	Fierce Fighting in Red Retreat				War-General	Losses to Finnish troops
Saturday	3/16/1940	End of Finnish War				War-General	
Saturday	4/20/1940	War Material from USA				War-General	
Tuesday	5/28/1940	Surrender of Belgium				War-General	
Wednesday	6/5/1940	Epic Story of Dunkirk Evacuations				War-General	valiant defeat
Thursday	10/24/1940	Vital Conference on War Supplies			7	War-General	Dhell Meeting importance

Thursday	10/24/1940	Rangefinders and Gun Sites now being Produced in Cape Town			8	War-General	
Monday	7/28/2941	British Salute Russians				War-General	
Monday	7/28/2941	Japanese Ship in Table Bay evacuating Japanese from Union			3	War-General	
Thursday	9/2/1941	Few Enemy Aircraft over Britain			11	War-General	Nazi bombs in northeast, slight damage. Berlin again pounded
Wednesday	8/13/1941	Stiff Russian Resistance			1	War-General	
Saturday	9/27/1941	Leningrad holding on				War-General	
Monday	3/9/1942	More Jap Successes			1	War-General	running amok in pacific - no one to contest
Monday	3/9/1942	Causes of Java Trajedy			5	War-General	weakenss of air and sea power in pacific
Wednesday	2/25/1942	Call to arms for men and women			5	War-General	
Tuesday	4/21/1942	Heroic Retreat from Rangoon			7	War-General	
Wednesday	7/29/1942	Recruiting Improves in Cape			5	War-General	nearly at half of 1200 man quota for replacing Tobruke losses from Cape Quota
Thursday	5/13/1943	Africa Campaign Ends			1	War-General	continent cleared of enemy
Monday	5/15/1944	Preparation for D-Day Invasion				War-General	
Monday	6/12/1944	E-boats dispersed - threatening beacheads in France				War-General	E-Boat = fast attack / landing craft
Friday	11/3/1944	Demobalization			3	War-General	plans in canadian navy
Tuesday	12/19/1944	Battle of the Bulge Counter Attack				War-General	
Friday	4/13/1945	FDRs death			1	War-General	
Friday	5/25/1945	Hitler's Uboat			1	War-General	Would have taken him to Japan

Wednesday	8/8/1945	Heroshima Havoc			1	War-General	terrible effect of new bomb
Sunday	1/14/1940						
CAPE TIMES							
Saturday	9/30/1939	Fair World we Build but to Destroy	Hamsi		1	War-General	poem of nature's beauty, lament -Hamsi
Friday	9/29/1939	War Increase in Wine Exports	SAPA-Reuter		20	Maritime Activity	war will be good for wine industry, england importing; cargo restrictions- only room for 1200 hogsheads per ship
Friday	9/29/1939	Fewer British Ships Lost	SAPA-Reuter		15	War at Sea	Churchill - great success against German Subs, captured more enemy shipping than was lost
Friday	9/29/1939	Confidence in Smuts	SAPA-Reuter			Population Dynamics	
Friday	9/29/1939	Convoy System Effective	SAPA-Reuter		1	War at Sea	Canadian supplies reach Britain, SA
Friday	9/29/1939	How RAF pilot sank Uboat	SAPA-Reuter		1	War at Sea	
Friday	9/29/1939	Allied Toll of Uboats	SAPA-Reuter			War at Sea	12 in a month, British sunk 10 of 12, too fast to replace