HERITAGE IMPACT ASSESSMENT REPORT:
PROPOSED GONUBIE FILLING STATION,
LOCATED ON FARM NO. 809, PORTION 66
(OF PORTION 9), BUFFALO CITY
METROPOLITAN MUNICIPALITY,
EASTERN CAPE PROVINCE

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Prepared for: Kantey and Templar (CLIENT)

Date: 18 February 2022

DECLARATION

I, Alexander Antonites, declare that:

- I am conducting all work and activities relating to the <u>proposed filling station</u> on <u>Farm no.</u> 809, <u>Portion 66 of Portion 9</u>, in an objective manner, even if this results in views and findings that are not favourable to the client.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity.
- I have not, and will not engage in, conflicting interests in the undertaking of the activity.
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- All the particulars furnished by me in this declaration are true and correct.

Signature of specialist

February 2022

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ABBREVIATIONS AND ACRONYMS

Abbreviation/Acronym	Description
ASAPA	Association for South African Professional Archaeologists
AIA	Archaeological Impact Assessment
BP	Before Present
BCE	Before Common Era
BGG	Burial Grounds and Graves
CSF	Correctional Services Facility
CRM	Culture Resources Management
DPW	Department of Public Works
DWS	Department of Water and Sanitation
ECO	Environmental Control Officer
EIA	Early Iron Age (also Early Farmer Period)
EIA	Environmental Impact Assessment
EFP	Early Farmer Period (also Early Iron Age)
ESA	Earlier Stone Age
GDS	Green Drop System
GIS	Geographic Information Systems
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
LFP	Later Farmer Period (also Later Iron Age)
LIA	Later Iron Age (also Later Farmer Period)
LSA	Later Stone Age
MIA	Middle Iron Age (also Early later Farmer Period)
MSA	Middle Stone Age
NHRA	National Heritage Resources Act No.25 of 1999, Section 35
PFS	Pre-Feasibility Study
PHRA	Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Association
YCE	Years before Common Era (Present)

EXECUTIVE SUMMARY

This report is the result of a Heritage Impact Assessment (HIA) for a proposed filling station (~0.3ha) on the farm no 809, within the Buffalo City Metropolitan Municipality, Eastern Cape Province.

The project area is located north of the M10/Main Road to Gonubie, 800m east of the intersection with the N2 highway northeast of East London. A single site visit was conducted on 19 January 2022.

Project Title	Proposed Gonubie Filling Station
Project Location:	32°56'25.25"\$; 27°57'42.13"E
1:50 000 Map Sheet	3227 DD
Farm Portion / Parcel	Farm No. 809, Portion 66 (of portion 9),
Magisterial District /	Buffalo City Metropolitan Municipality
Municipal Area	
Province	Eastern Cape Province

The larger landscape is a sensitive heritage zone and contains several Stone Ae scatters, shell middens and some Iron Age sites as well as buildings and locations of historical and cultural significance. As a result, a heritage assessment of the project area was conducted to identify any sensitive heritage sites/areas and to mitigate against future impacts on the heritage landscape.

No finds of any heritage value were identified during this HIA. The study revealed that the project area has previously disturbed by construction activities that limit the possibility of finding heritage remains.

Monitoring of the development progress by an ECO is recommended during the planning and construction phases of the project. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended, and the archaeological specialist should be notified immediately.

Heritage Impact Assessment Report:
Proposed Gonubie Filling station on Farm No.
809, Portion 66 (of portion 9), East London, Buffalo
City Metropolitan Municipality, Eastern Cape
Province

Dr Alexander Antonites

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1 PROJECT BACKGROUND

Kantey and Templar Consulting Engineers appointed Alexander Antonites to undertake a heritage assessment for a proposed filling station on farm number 809, Portion 66 (of portion 9). The project footprint is approximately 0.3ha. The project area is located north of Main Road (M10) towards Gonubie, approximately 800m after the N2 highway intersection.

The size of the area under consideration necessitates a heritage impact assessment (HIA) in terms of section 38(1) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA). A heritage assessment of the entire area earmarked for the filling station was conducted to identify sensitive heritage areas and to mitigate against future impacts on the heritage landscape.

Table 1: The affected properties and details of the property owners

Farm Name	Portion Number	21-SG Code	Property Owner
809	66	C02300000000079900116	N/A

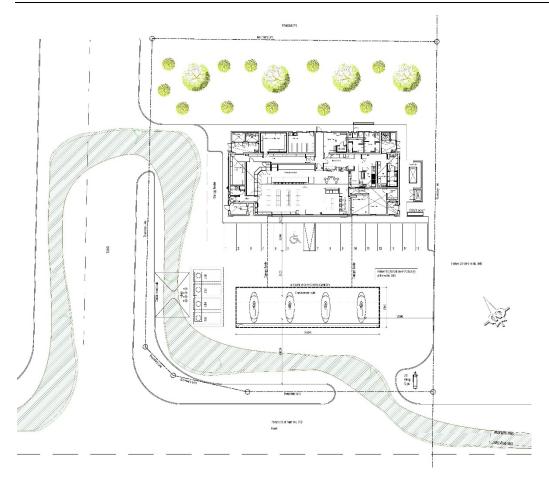


Figure 1: Project Plan



Figure 2: Project Area on Google Earth (2021).



Figure 3: Project alignment indicated on 1:50 000 map (3227DD).

2 TERMS OF REFERENCE

The heritage component of the EIA is set out in the National Environmental Management Act (Act 107 of 1998) and section 38 of the National Heritage Resources Act (NHRA; Act 25 of 1999).

The NHRA protects all structures and features older than 60 years, archaeological sites and material and graves as well as burial sites. This legislation ensures that developers implement measures to limit the potentially negative effects that the development could have on heritage resources.

Legislation determines defines the terms of reference for heritage specialists as the following:

- To provide a detailed description of all archaeological artefacts, structures (including graves) and settlements that may be affected (if any)
- Assess the nature and degree of significance of such resources within the area
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance
- Assess and rate any possible impact on the archaeological and historical remains within the area, which may emanate from the proposed development activities.
- Propose possible heritage management measures if such action is necessitated by the development.
- Liaise and consult with the South African Heritage Resources Agency (SAHRA and/or PHRA)

2.1 HERITAGE LEGISLATION, CONSERVATION AND MANAGEMENT

Heritage Resources are any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities, and history. It includes sites, structures, places, natural features, and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic, or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

2.1.1 Heritage Bodies

The South African Heritage Resources Agency (SAHRA) is an agency within the Department of Sport, Arts and Culture tasked with an overall legislative mandate to identify, assess, manage, protect, and promote heritage resources in South Africa. SAHRA is mandated to coordinate the identification and management of the national estate. The aims are to introduce an integrated system for the identification, assessment, and management of the heritage resources and to enable provincial and local authorities to adopt powers to protect and manage them.

2.1.2 Legislation regarding archaeology and heritage sites

The following Acts has direct bearing on Heritage resource protection and management process:

National Heritage Resources Act No 25 of 1999, section 35

The National Heritage Resources Act No 25 of 1999 (section 35) defines protected cultural heritage resources as:

- Archaeological artifacts, structures and sites older than 100 years
- Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- Objects of decorative and visual arts
- Military objects, structures and sites older than 75 years
- Historical objects, structures and sites older than 60 years
- Proclaimed heritage sites
- Graveyards and graves older than 60 years
- Meteorites and fossils
- Objects, structures and sites of scientific or technological value.

The national estate includes the following:

- Places, buildings, structures and equipment of cultural significance
- Places to which oral traditions are attached or which are associated with living heritage
- Historical settlements and townscapes
- Landscapes and features of cultural significance
- Geological sites of scientific or cultural importance
- Archaeological and paleontological importance
- Graves and burial grounds
- Sites of significance relating to the history of slavery
- Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

In terms of activities carried out on archaeological and heritage sites the Act states that:

"No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority."

(NHRA 1999:58)

No person may, without a permit issued by the responsible heritage resources authority:

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite.
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."

No person may, without a permit issued by SAHRA or a provincial heritage resources agency:

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves.
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."

<u>Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925</u> Graves and burial grounds are commonly divided into the following subsets:

- (a) ancestral graves
- (b) royal graves and graves of traditional leaders
- (c) graves of victims of conflict d. graves designated by the Minister
- (e) historical graves and cemeteries
- (f) human remains

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National

Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant local authorities.

National Environmental Management Act No 107 of 1998

This Act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made. Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible, the disturbance should be minimized and remedied.

2.2 RATING OF SIGNIFICANCE

The National Heritage Resources Act (Act 25 of 1999) also stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

Grade I: Heritage resources with qualities so exceptional that they are of special national significance.

Grade II: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region.

Grade III: Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, as set out in Section 3(3) of the act.

Significance is influenced by the context and state of the archaeological site. Six criteria were considered following Kruger (2019):

- Site integrity
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures)
- Density of scatter (dispersed scatter)
- Social value
- Uniqueness
- Potential to answer current and future research questions.

The categories of significance were based on the above criteria the above and the grading system outlined in NHRA. It is summarised in Table 3.

Table 2: Field rating of significance

Significance	Rating Action
No significance : sites that do not require mitigation.	None
Low significance : sites, which may require mitigation.	2a. Recording and documentation (Phase1) of site; no further action required
	2b. Controlled sampling (shovel test pits, auguring), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium significance : sites, which require mitigation.	3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High significance : sites, where disturbance should be avoided.	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism
High significance : Graves and burial places	4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; mitigation and or exhumation and reinternment [including 2a, 2b & 3]

3 STATEMENT OF SIGNIFICANCE AND IMPACT RATING

This section outlines the potential impact of risk situations and scenarios commonly associated with heritage resources management. Refer to Appendix 1: for guideline of the rating of impacts and recommendation of management actions for areas of heritage potential within the study area.

3.1 DIRECT, INDIRECT AND CUMULATIVE EFFECTS

Beyond the initial direct or primary impact, the HIA should also consider the potential indirect and cumulative impacts. Winter and Baumann (2005) define **direct or primary impacts** as those that occur at the same time and in the same space as the proposed activity. **Indirect effects** occur at a later stage or at a different place from the causal activity or may be impacts that occur as through a "complex pathway" (Winter and Baumann 2005, 24). **Cumulative effects** are a constellation of processes that are seemingly insignificant in isolation but have a significant cumulative effect on heritage resources (ibid.).

3.1.1 Direct Impact Rating Criteria

The criteria used for assessment of impacts is based on the guidelines set out by Winter and Baumann (2005) and Department of Environmental Affairs and Tourism (1998):

Extent

EXICIII	
Local	extend only as far as the footprint of the proposed activity/development
Site	Impact extends beyond the project footprint to immediate surrounds
Regional	within which development takes place, i.e. farm, suburb, town, community
National	Impact is on a national level

Duration

Short term	The impact will disappear with through mitigation or through natural processes
Medium term	The impact will last up to the end of the phases, where after it will be negated
Long term	impact will persist indefinitely, possibly beyond the operational life of the activity, either because of natural processes or by human intervention
Permanent	Permanent where mitigation either by natural process of by human intervention will not occur in such a way or in such a time span that the impact can be considered transient

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Magnitude severity

Low	where the impact affects the resource in such a way that its heritage value is not affected
Medium	where the affected resource is altered but its heritage value continues to exist albeit in a modified way
High	where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed

Probability

1 10 bability	
Improbable	where the possibility of the impact to materialize is very low either because of design or historic experience;
Probable	where there is a distinct possibility that the impact will occur
Highly	probable, where it is most likely that the impact will occur; or
Definite	where the impact will occur regardless of any mitigation measures.

Impact Significance

Low	negligible effect on heritage – no effect on decision
Medium	where it would have a moderate effect on heritage and – influences the decision
High	high risk of, a big effect on heritage. Impacts of high significance should have a major influence on the decision
Very high	high risk of, an irreversible and possibly irreplaceable impact on heritage – central factor in decision-making

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3.1.2 Direct Impact Weighting Matrix

Aspect	Description	Weight	
Extent			
	Local	1	
	Site	2	
	Regional	3	
Duration			
	Short term	1	
	Medium term	3	
	Long term	4	
	Permanent	5	
Magnitude/Severity			
	Low	2	
	Medium	6	
	High	8	
Probability			
	Improbable	1	
	Probable	3	
	Highly Probable	4	
	Definite	5	
Impact Rating	Sum (Duration, Scale, Magnitude) x Probab	bility	
Negligible		<10	
Low		<40	
Moderate		<60	
High		>60	

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4 OVERVIEW OF THE SOUTH AFRICAN ARCHAEOLOGICAL AND HISTORICAL CONTEXT

4.1 STONE AGE

In Southern Africa, the Stone Age is defined by the use of stone cobbles and flakes that have been modified into tools such as scrapers, points and hand axes. Our early ancestors such as *Homo ergaster* and early *Homo sapiens* first used these tools as much as 1.4 million years ago (Mitchell 2002:59). Stone technology would persist throughout the human species development right up to the arrival of iron using farming people in southern Africa some 2000 years ago. Changes in the stone tool technology over time allows different stone tool industries to be chronologically separated based on trends in tool design. This provides the useful partitioning of the entire Stone Age sequence into three broad phases outlined by Lombard et al. (Lombard et al. 2012) below:

Early Stone Age: 2 million – 200 000 years ago Middle Stone Age: 300 000 – 20 000 years ago Later Stone Age: 40 000 – <2 000 years ago

4.2 IRON AGE

The advent of the Iron Age in southern Africa sees the widespread adoption of metallurgy, ceramics, and agriculture. The period is associated with farming communities who spoke Bantu languages and dates from around AD 350 up to the 1800s (Huffman 2007). The Iron Age has been divided into distinct periods. These periods, however, do not mark changes in technology (as is the case with the Stone Age) but rather signify changes in the social and political organisation of the Iron Age farmers. The three periods of the Iron Age are presented by Huffman (2007) as follows:

Early Iron Age: AD 200 – 900 Middle Iron Age: AD 900 – 1300 Late Iron Age: AD 1300 – 1840

The Iron Age is thus considered the period, which covers the unwritten history of precolonial farming communities and, as a chronological unit, ends with the contact between the Bantu farmers and European settlers.

4.3 HISTORICAL/COLONIAL PERIOD

The historical period is best regarded as a phase where historical sources can be reliably used to reconstruct past events. The earliest sources of historical data found in southern Africa take the form of oral accounts that were recorded by travellers and missionaries as they explored the interior of the country while later sources tend to be more formally constructed as literacy rates increased with more European settlers entering the region.

5 ARCHAEOLOGICAL AND HISTORICAL CONTEXT OF THE PROJECT AREA

The desktop study focussed on the relevant previous research conducted in the area based on previous heritage reports and published material for the purpose of constructing an integrated background discussion on the cultural environment of the project area.

5.1 PUBLISHED RESEARCH

Published resources were consulted to identify any archaeological or historic findings that pertain to the project. No published material that directly impact the proposed development area were identified.

5.2 HERITAGE REPORTS

Several heritage project reports on the SAHRIS database and the SAHRA 2009 Mapping Project Database (MPD) within an approximate 30km radius from the proposed development was consulted. These are:

Author	Year	Project	Findings
Anderson,	2009	Heritage Survey of the Proposed Toboshane	Modern structures,
G		Valley Estate, East London	Middle and Late Stone
			Age sites, Historic
			structure
Anderson,	2009	Heritage Survey of the Marine Aquaculture	Shell middens
G		Zone, East London Industrial Development Zone	
Anderson,	2009	Heritage Survey of the Proposed Proud Heritage	Later Stone Age site,
G		Eco-Estate & Conservancy	Archaeological stone
			structures, Modern
			structures
Anderson,	2011	Heritage Survey of the Proposed Ikwezi 10 MW	Middle and Later Stone
G		PV Solar Energy Facility, Site 60826.	Age sites
Anderson,	2014	Heritage Survey of the Great Kei Wind Energy	Modern graves, Modern
G		Facility, Eastern Cape	structures, Middle Stone
			Age artefact
Binneman, J	2008	A Phase 1 Archaeological Heritage Impact	Late Iron Age artefacts,
		Assessment of the Proposed Phase 2	Middle Stone Age
		Development of the Chintsa River Golf Course,	artefacts
		Chintsa, Great Kei Municipality, Eastern Cape	
Binneman, J	2009	A Letter of Recommendation (with Conditions)	None
		for the Exemption of a Full Phase 1	
		Archaeological Heritage Impact Assessment for	
		the Application for a mining permit on Farm	
		850/19 East London, Amathole District	
		Municipality, Eastern Cape Province	
Binneman,	2009	A Letter of Recommendation (with Conditions)	None
J. & Booth,		for the Exemption of a Full Phase 1	
С		Archaeological Impact Assessment for the	
		Proposed Weathered Dolerite (Sabunga) Mine	
		on Portion 1 of Farm No. 800, Gonubie, East	

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		London, Amathole District Municipality, Eastern	
		Cape Province	
Binneman,	1996	Proposed Eastern Cape Zinc and Phosphoric	Shell middens
J. &		Acid Project: Baseline Report: Sensitivity of	
Webley, L.E		Cultural Sites.	
Booth, C	2015	Archaeological and Heritage Investigation of	Modern structures
·		Proposed Deviations and Repeater Sites for an	
		Environmnetal Authorisation Amendment for	
		Fibreco Route 4 (George to Port Elizabeth) and	
		5 (Port Elizabeth to Durban)	
Coetzee,	2008	Cultural Heritage Survey for the Nungu Trading	Historic and modern
F.P		672 (Pty) Ltd Prospecting Application, East	graves, historic and
		London, Eastern Cape	modern structures
Mahlasela,	2006	Heritage Impact Assessment of the Proposed	Contemporary structures,
M. &		Gqunube Valley Eco Golf Resort	Modern graves
Minkley, G			
Van	2007	Phase 1 Archaeological Impact Assessment:	Modern structures
Ryneveld, K		Realignment of the 6 th Fairway, East London Golf	
		Club, East London, Eastern Cape, South Africa	
Van	2007	Phase 1 Archaeological Impact Assessment:	Modern structures,
Ryneveld, K		Mnt. Coke Eco-Residential and Golf Estate, East	modern graves
		London, Eastern Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	Modern structures,
Ryneveld, K		Retail and Residential Development, Portions 3	modern graves
		& 5 of Farm 1234, Gonubie, East London, Eastern	
\ / aua	0000	Cape, South Africa	Ma alawa aliwa aliwa
Van	2008	Phase 1 Archaeological Impact Assessment:	Modern structure
Ryneveld, K		Hotel & Conference Centre Development, Portion 2 of Farm 992, Cove Rock, East London,	
		Eastern Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	Modern structures
Ryneveld, K	2000	Development of a Shopping Mall & Commercial	Wodell shoclores
Kyriovola, K		Offices, Portions 21, 22 & 23 of Farm 925, Cove	
		Rock, East London, Eastern Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	Modern structures
Ryneveld, K	2000	Residential Development, Portions 3, 4 & 18 of	- Medern sine ereres
11,710 1010,711		Farm 807, Quenera, East London, Eastern Cape,	
		South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Residential Development, Farm 960, East	
		London, Eastern Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Riverleigh Township Developmnet, Farm 817/53,	
		East London, Eastern Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Residential Development, Matola Private Game	

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		Reserve, Portion 2 of Farm 36, Komga, Eastern	
		Cape, South Africa	
Van	2008	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Rezoning & Subdivision for Mixed Use Development, Farm 939, Cove Rock, East	
	0000	London, Eastern Cape, South Africa	
Van Ryneveld, K	2008	Phase 1 Archaeological Impact Assessment: Industrial Development, Erven 17532 & 49336, Orange Grove, East London, Eastern Cape, South Africa	Modern structure
Van	2008	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K	2000	Riverleigh Township Development, Farm 817/53, East London, Eastern Cape, South Africa	THOTIO
Van Ryneveld, K	2008	Phase 1 Archaeological Impact Assessment: Residential Development, Portions 3, 4 & 18 of Farm 807 Quenera East London, Eastern Cape, South Africa	Modern structure
Van Ryneveld, K	2008	Phase 1 Archaeological Impact Assessment: Residential Development, Portions 1 & 4 of Farm 1245, Cove Rock, East London, Eastern Cape, South Africa	Modern structures
Van Ryneveld, K	2008	Phase 1 Archaeological Impact Assessment: Warehousing & Light Industrial Development, Farm 922, Cove Rock, East London, Eastern Cape, South Africa	Modern structures
Van Ryneveld, K	2008	Phase 1 Archaeological Impact Assessment: Proposed Pipeline, Portion of Farm 1008, Winterstrand, East London, Eastern Cape, South Africa	Modern structures
Van Ryneveld, K	2010	Phase 1 Archaeological Impact Assessment: Consolidation and Rezoning of Farm 60/01 and Farm 640/29, East London, Eastern Cape, South Africa	Stone Age artefact,
Van Ryneveld, K	2012	Phase 1 Archaeological Impact Assessment: Oxford Harbour View Development, Erven 15833, 15834, 15835 and 33367, East London, Eastern Cape, South Africa	Historic structures
Van Ryneveld, K	2014	Phase 1 Archaeological Impact Assessment: Proposed Construction of the Needs Camp/ Potsdam Bridge and Access Road, (near East London), BCMM, Eastern Cape, South Africa	Contemporary place of worship, Stone Age site
Van Ryneveld, K	2014	Phase 1 Archaeological Impact Assessment: Proposed Utilization of the Needs Camp/ Potsdam Borrow Pit [NCP_BP01], (near East London), BCMM, Eastern Cape, South Africa	None

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Van	2015	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Residential Development, Farm RE/1234,	
		Gonubie, East London, BCMM, Eastern Cape	
Van	2015	Phase 1 Archaeological Impact Assessment:	None
Ryneveld, K		Orange Grove Residential Development, Farm	
		RE/862, East London, BCMM, Eastern Cape	
Van	2015	Phase 1 Archaeological Impact Assessment:	Historic and modern
Ryneveld, K		The Cove Ridge Estate Mixed-Use	structures
		Development, Portions 21, 22 and 23 of Farm	
		925, Cove Ridge, East London, Buffalo City	
		Metropolitan Municipality, Eastern Cape	
Van	2008	Heritage Impact Assessment of the Proposed N2	Historical structures and
Schalkwyk, L		Wild Coast Toll Highway	graves, stone cairns
Van	2011	Heritage Impact Assessment for the proposed	Stone Age sites, Modern
Schalkwyk, L		Eskom 400kV Electricity Transmission Lines,	structures
		Neptune to Poseidon Substations, East London	
		to Cookhouse, Eastern Cape province	
Webley, L. &	2008	Phase 1 Heritage Impact Assessment: The	Modern structures
Vernon, G		Construction of a dual Carriageway Linking	
		Fitzpatrick Road and Currie Street on the	
		"sleeper site", Erf 15835 Buffalo City, Eastern	
		Cape	

Most of the heritage reports conducted in the area reported on modern and contemporary structures younger than 60 years, and therefore, not protected by the NHRA 1999. Historic and contemporary graves, however, remains common in the area. Stone Age and Iron Age archaeological finds are less common. The findings from adjacent heritage reports can summarize the archaeological and historic landscape of the proposed development area as follows:

5.3 STONE AGE

Heritage reports within 30km of the project area, have identified a limited Stone Age expression with only a few isolated artefact and scatters recorded. Of note is the Early Stone Age hominin footprints dated to approximately 127 000 years ago preserved in coastal aeolianite at Nahoon Point (Lockley et al. 2008; Morrissey et al. 2017). Van Ryneveld (2010) noted a single Early Iron Age handaxe from the Nahoon Valley to the west and commented on the unsuitability of the local stone for knapping of stone tools.

Van Schalkwyk (2011) reported on several Stone Age sites, while Van Ryneveld (2014) and Anderson (2011) reported on several low density Early and Middle Stone Age artefact scatters to the south-west of East London. These sites are all more than 15km radius from the project area. Later Stone Age sites/ artefacts are more common around East London, than earlier periods, particularly in the form of shell middens along the coast (cf. Binneman & Webley 1996; Anderson 2009a, 2009b, 2009c; Van Ryneveld 2010b).

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5.4 IRON AGE

In terms of the eastern coastal regions of South Africa, three settlements phases have been described for the Early Iron Age based on the distribution of decorated (diagnostic) ceramic assemblages (cf. Maggs & Michael 1976; Maggs 1980; Binneman et al. 1992; Huffman 2007:

- The first phase termed Msuluzi (650 to 750 CE)
- The second phase termed Ndondondwane (750 to 950 CE)
- The third phase termed Ntshekane (950 to 1050 CE)

The Iron Age site of Canasta Place in East London represents the southernmost Early Iron Age settlement in South Africa (Nogwaza 1994). From the mid-2nd millennium CE, an abrupt divergence from the traditional Msuluzi-Ntshekane ceramics suggests an influx of new groups of people (early Nguni) on the eastern coast (cf. Mitchell 2002; Huffman 2007). This Nguni sequence can be divided into three phases:

- Blackburn (1050 to 1500 CE)
- Moor Park (Southern Nguni; 1350 to 1700 CE)
- Ngabeni (Northern Nguni; 1700 to 1850 CE)

These groups, today collectively referred to as the Xhosa, usually constructed their settlements in elevated areas and may consist of large stone-walled enclosures characterized by the use of larger, more regular stones to construct the inner and outer faces, which was then filled with smaller rubble (Maggs 1976). No Heritage assessments reported on any prominent Iron Age sites in the area. The most prominent Late Iron Age site consists of the Cover Rock site discussed below.

5.5 COLONIAL PERIOD

Numerous Colonial Period resources occur in the study area, but are particularly in the vicinity of the East London Harbour (Van Ryneveld 2007, 2010, 2014a, 2014b; Webley & Vernon 2008).

In 1488, Bartolomeu Dias became the first European navigator to sail around the southernmost tip (Cape of Good Hope) of Africa in order to establish new shipping trade routes to Asia via the Atlantic and Indian oceans. Due to limited resources and pressure from his crew, Dias only ventured eastward until they reached the present Keiskama river before turning around (Randles 1988). Nearly a decade later, Vasco da Gama successfully crossed the Indian ocean, trading with Khoekhoen at Mossel Bay before heading to Mazambique and establishing new trade routes with the east (Randles 1988).

In 1652, the Dutch East Indian Company (VOC) established a trading post in Cape Town under the command of Jan van Riebeeck. From the 1700's many of the settlers (Trekboere) expanded inland. Here, conflict between Trekboers and Khosa people in the region increased and ultimately resulted in several Frontier wars (cf. Milton 1983).

As the number of Cape migrants, and later British settlers (1820) increased, population pressures and competition of land became intense. The inevitable wars resulted in shifting borders between Xhosa and Boer land. It was only after the British annexed the Cape in 1806 that authorities directed their attention to securing the Eastern regions against the Xhosa.

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In 1847, a post was built on the West Bank of Buffalo River. In 1848, Sir Harry Smith annexed the port and surrounding territory and named it East London. From 1857 onwards, many German and other European settlers increasingly settled the Eastern Cape coast between the Buffalo and Keiskamma Rivers.

An archaeological site of note in the area during this period is the Late Iron Age site of Cove Rock, situated south of the Buffalo River (Coetzee 2008, Van Ryneveld 2010, 2015). This site is closely associated with the history of the Xhosa prophetess Nongqawuse. In 1856, the young prophetess prophesized the 'Cattle Killing'. It is believed that at Cove Rock, cattle (an estimated 400 000) were chased off of the cliffs by Xhosa 'seers', while thousands of fields of their crops were burned in order to meet the ancestors demand to ensure the expulsion of white colonists from Xhosa land. This ultimately resulted in the death of thousands of Xhosa people by starvation.

6 HERITAGE IMPACT ASSESSMENT

Desktop and field-based research were conducted to ensure a high probability of recording heritage sites in the project area.

6.1 DESKTOP STUDY

The desktop study focussed on the relevant previous research conducted in the area based on previous reports, published material, aerial photographs, remote sensing data that has bearing on the immediate project area.

6.1.1 Heritage Reports

Heritage reports on the SAHRIS database was consulted to identify studies within the immediate area (see above).

6.1.2 Map data

Historical and current topographical maps were consulted as sources of information on potential areas of significance. These were georeferenced in ArcGIS and Google earth with the project area superimposed.

6.1.3 Remote Sensing Data

Historical and modern aerial and satellite imagery of the project area was studied to identify any heritage sites. Historical aerial imagery from the National Geo-spatial Information database from 1938, 1970 and 1998, and recent Google Earth imagery between 2003 and 2022 were inspected. The remote sensing data was used to date earthmoving activities on the site as well as building ruins (refer to results below).

6.1.4 Published Research

Publication repositories were consulted for any published research that pertains to the project.

6.2 FIELD SURVEY

An archaeological foot survey of the project area was conducted on 19 January 2022. The survey was conducted following standard archaeological practice of walking transects, spaced roughly 20m apart. The survey team used real time positioning in relation to the project by means of a mobile GIS application. Sites of interest and of the project area were handheld GPS (Garmin GPSMap 66S) and recorded using Datum WGS 84.

6.2.1 Limitations

Access

The project was accessed from the M10/Main Road. No other access restrictions were encountered.

Visibility

Generally, the visibility at the time of the HIA site inspection (19 January 2022) high with moderate grass cover present. Tree cover was mostly absent.

Previous Impact

Google earth images from 2004 indicates that built structures – likely residential – once covered most of the project area. These structures were demolished prior to 2012. Therefore, previous impact is severe and includes the construction and demolition of a building of a relatively recent date.





Figure 3: General views facing (a) west and (b) facing south over the project area.





Figure 4 (a,b): General views of northern parts of project area.

6.3 RESULTS OF THE HERITAGE ASSESSMENT

The heritage assessment failed to identify any material of cultural, historical, or archaeological significance. Extensive disturbance of the project area was visible during the field assessment as seen in the presence of building rubble an invasive species such as lantana (*Verbenaceae* sp.) and sisal which are associated with disturbed soils. These features are likely linked to the relatively recent construction, use, and subsequent demolition of buildings that stood on the property prior to 2012. These buildings and yard are first visible in the 2004 Google Earth images but absent in the next set (2012). Therefore, demolition occurred between these 2004 and 2012. The construction date for the building is not certain but from the aerial images it clearly post-dates 1970. The available images are from 1998, while it seems that no structures are present in the project area in this set, it could be due to low image resolution. Regardless, the demolished buildings that were once in the project area, were younger than 60 years and therefore not protected by the NHRA (1999).





Figure 5 a & b: building rubble and disturbed soils where demolished buildings stood.





Figure 6: (a) sisal trees (b) lantana (Verbenaceae sp.) indicative of disturbed areas.

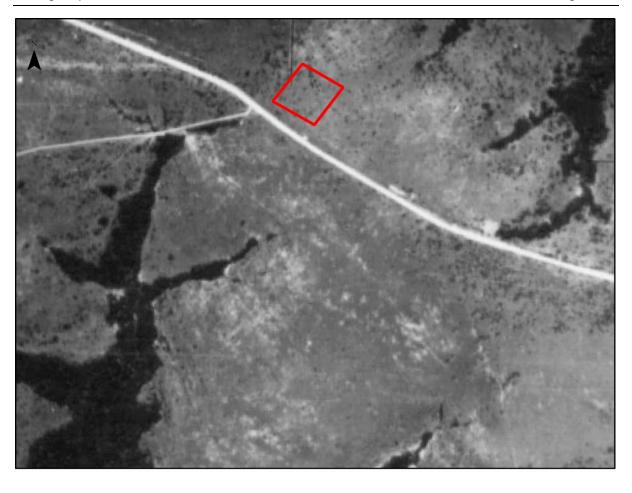


Figure 2: Aerial imagery from 1938 indicating project area in relatively pristine condition. No visible archaeological features.

100

200

400 Meters

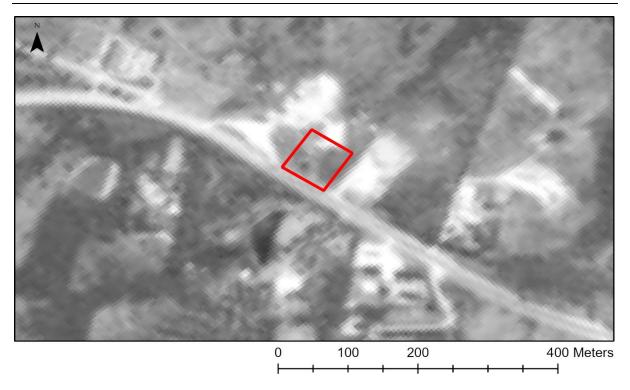


Figure 3: Aerial imagery from 1970. Relatively pristine landscape with no visible archaeological features



Figure 4: Google Earth imagery from 2004. Buildings and associated outside spaces cover most of the project area.



Figure 10: Google Earth image (2014) showing the demolished building foundations faintly visible.



Figure 51: Google Earth image (2021) showing project area in current state.

6.3.1 Stone Age

No Stone Age material was found in the project area.

6.3.2 Iron Age

No Iron Age material was found in the project area.

6.3.3 Historical Sites

No Historical period features were found in the project area.

6.3.4 Graves and Burial Grounds

No graves or burial grounds were encountered during the survey.

6.4 PALEONTOLOGICAL SENSITIVITY

The project area falls within a Very High sensitivity zone (Red) which requires a field assessment and protocol for finds. This is be attached as a specialist report.



Figure 12: Paleontological sensitivity map.

7 CONCLUSION & RECOMMENDATION

Since no features or sites of heritage value was identified in the desktop study or field survey, it is the opinion of this author that no mitigation is needed for the project to proceed. Monitoring of the development progress by an ECO is recommended during the planning and construction phases of the project. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended, and the archaeological specialist should be notified immediately.

REFERENCES

Anderson, G. 2009. Heritage Survey of the Proposed Toboshane Valley Estate, East London.

Anderson, G. 2009. Heritage Survey of the Marine Aquaculture Zone, East London Industrial Development Zone.

Anderson, G. 2009. Heritage Survey of the Proposed Proud Heritage Eco-Estate & Conservancy.

Anderson, G. 2011. Heritage Survey of the Proposed Ikwezi 10 MW PV Solar Energy Facility, Site 60826.

Binneman, J., Webley, L. & Biggs, V. 1992. Preliminary notes on an Early Iron Age site in the Great Kei River Valley, Eastern Cape. *South African Field Archaeology* 1: 108-109.

Binneman, J. & Webley, L.E. 1996. *Proposed Eastern Cape Zinc and Phosphoric Acid Project: Baseline Report: Sensitivity of Cultural Sites.*

Coetzee, F.P. 2008. Cultural Heritage Survey for the Nungu Trading 672 (Pty) Ltd Prospecting Application, East London, Eastern Cape.

Goodwin, A.J.H. and Van Riet Lowe, C. 1929. The Stone Age cultures of South Africa. *Annals of the South African Museum* 27: 1-289.

Huffman, T.N. 2007. *Handbook to the Iron Age: The archaeology of Pre-Colonial farming societies in Southern Africa*. Kwazulu-Natal: University of Kwazulu-Natal Press.

Lockley, M., Roberts, G. and Kim, J.Y. 2008. In the footprints of our ancestors: an overview of the hominid track record. *Ichnos* 15(3-4): 106-125.

Lombard, M., Wadley, J.D., Wurz, S., Parsons, I., Mohapi, M., Swart, J. and Mitchell, P. 2012. South African and Lesotho Stone Age Sequence Updated. *South African Archaeological Bulletin* 67(195): 120-144.

Maggs, T. 1976. Iron Age communities of the Southern Highveld. Pietermaritzburg: Natal Museum.

Maggs, T. 1980. Msuluzi Confluence: a seventh century Early Iron Age site on the Tugela River. *Annals of the Natal Museum* 24(1): 111-145.

Milton, J. 1983. The Edges of War. A History of Frontier Wars (1702-1878). Kenwyn: Juta & Co.

Mitchell, P. 2002. The Archaeology of Southern Africa. Cambridge: Cambridge University Press

Morrissey, P., Knight, J. and Stratford, D.J. 2017. The palaeoenvironmental context of the Nahoon Point footprints: preliminary results. 21st Biennial Conference of the South African Society of Quaternary Research, Johannesburg 3-7: 29.

Nogwaza, T. 1994. Early Iron Age Pottery from Canasta Place, East London District. *Southern African Field Archaeology* 3: 103-106.

Randles, W.G.L. 1988. Bartolomeu Dias and the Discovery of the South-east Passage Linking the Atlantic to the Indian Ocean (1488). Volume 188. UC Biblioteca Geral 1.

Van Ryneveld, K. 2007. *Phase 1 Archaeological Impact Assessment: Mnt. Coke Eco-Residential and Golf Estate, East London, Eastern Cape, South Africa.*

Van Ryneveld, K. 2010. Phase 1 Archaeological Impact Assessment: Consolidation and Rezoning of Farm 60/01 and Farm 640/29, East London, Eastern Cape, South Africa.

Van Ryneveld, K. 2014a. Phase 1 Archaeological Impact Assessment: Proposed Construction of the Needs Camp/ Potsdam Bridge and Access Road, (near East London), BCMM, Eastern Cape, South Africa.

Van Ryneveld, K. 2014b. Phase 1 Archaeological Impact Assessment: Proposed Utilization of the Needs Camp/ Potsdam Borrow Pit [NCP_BP01], (near East London), BCMM, Eastern Cape, South Africa.

Van Ryneveld, K. 2015. Phase 1 Archaeological Impact Assessment: Residential Development, Farm RE/1234, Gonubie, East London, BCMM, Eastern Cape.

Van Schalkwyk, J. 2011. Heritage Impact Assessment for the proposed Eskom 400kV Electricity Transmission Lines, Neptune to Poseidon Substations, East London to Cookhouse, Eastern Cape province.

Webley, L. & Vernon, G. 2008. Phase 1 Heritage Impact Assessment: The Construction of a dual Carriageway Linking Fitzpatrick Road and Currie Street on the "sleeper site", Erf 15835 Buffalo City, Eastern Cape.

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Appendix 1: HERITAGE LEGISLATION BACKGROUND

A1.1 NATIONAL HERITAGE RESOURCES ACT NO 25 OF 1999, SECTION 35

According to the National Heritage Resources Act of 1999 a historical site is any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years.

The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens
- visual art objects
- military objects
- numismatic objects
- objects of cultural and historical significance
- objects to which oral traditions are attached and which are associated with living heritage
- · objects of scientific or technological interest
- any other prescribed category

With regards to activities on archaeological and heritage sites this Act states that: "No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority." (34. [1] 1999:58)

"No person may, without a permit issued by the responsible heritage resources authority-

- a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.
- b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite.
- c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."
- "No person may, without a permit issued by SAHRA or a provincial heritage resources agency may
 - a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves.

b) bdestroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.

c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."

A1.2 HUMAN TISSUE ACT OF 1983 AND ORDINANCE ON THE REMOVAL OF GRAVES AND DEAD BODIES OF 1925

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

Appendix 2: MANAGEMENT AND MITIGATION ACTIONS

A2.1 CATEGORIES OF SIGNIFICANCE

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

A2.1.1 Aesthetic value:

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

A2.1.2 Historic value:

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually a place has historical value because of association with an event, person, phase or activity.

A2.1.3 Scientific value:

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.

A2.1.4 Social value

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group.

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources, i.e. formally protected and generally protected sites:

Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by the provincial HRA (MP-PHRA).
- Grade 3 or local heritage sites.

Generally protected sites:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 60 years.
- Structures older than 60 years.

With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories.

A2.2 MITIGATION CATEGORIES

The following provides a guideline of relevant heritage resources management actions in the conservation of heritage resources:

A2.2.1 No further action / Monitoring

Where no heritage resources have been documented, heritage resources occur well outside the impact zone of any development or the primary context of the surroundings at a development footprint has been largely destroyed or altered, no further immediate action is required. Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage\ remains are destroyed.

A2.2.2 Avoidance

This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources.

A2.2.3 Mitigation

This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g. the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.

A2.2.4 Compensation

Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

A2.2.5 Rehabilitation

Rehabilitation is considered in heritage management terms as an intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not

appropriate when the process necessitates the removal of previous historical layers, i.e. restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.

A2.2.6 Enhancement

Enhancement is appropriate where the overall heritage significance and its public appreciation value are improved. It does not imply creation of a condition that might never have occurred during the evolution of a place, e.g. the tendency to sanitize the past. This management action might result from the removal of previous layers where these layers are culturally of low significance and detract from the significance of the resource. It would be appropriate in a range of heritage contexts and applicable to a range of resources. In the case of formally protected or significant resources, appropriate enhancement action should be encouraged. Care should, however, be taken to ensure that the process does not have a negative impact on the character and context of the resource. It would thus have to be carefully monitored.