

Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape

- 3 December 2017 -

Report to:

Sello Mokhanya (Eastern Cape Provincial Heritage Resources Agency – EC PHRA, APM Unit)
E-mail: smokhanya@ecphra.org.za; Tel: 043 745 0888; Postal Address: N/A

Thina Mgweba (EOH-Coastal and Environmental Services)
E-mail: t.mgweba@cesnet.co.za; Tel: 043 726 7809; Postal Address: P.O. Box 8145, Nahoon, East London, 5210



Prepared by:

Karen van Ryneveld (ArchaeoMaps)
E-mail: karen@archaeomaps.co.za; Tel: 084 871 1064; Postal Address: Postnet Suite 239, Private Bag X3, Beacon Bay, 5205

Specialist Declaration of Interest

I, Karen van Ryneveld (Company – ArchaeoMaps; Qualification – MSc Archaeology), declare that:

- I act as independent specialist in this application;
- I do not have any financial or personal interest in the application, its' proponent or subsidiaries, aside from fair remuneration for specialist services rendered;
- I am suitably qualified, accredited and experienced to act as independent specialist in this application;
- That work conducted have been done in an objective manner – and that any circumstances that may have compromised objectivity have been reported on transparently;
- That all material information collected for purposes of this application, that may reasonably influence the decision of the competent authority, are transparently disclosed in the report; and
- That work conducted have been done in accordance with relevant heritage legislation, regulations and policy guidelines, and with cognisance to environmental legislation, regulations and policies, including the principle of Integrated Environmental Management (IEM).



Signature –

- 3 December 2017 -

Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape

Executive Summary

Project Description –

EOH-CES have been appointed as independent EAP by UWP Consulting, on behalf of the project proponent, the South African National Roads Agency SOC Limited (SANRAL), to apply for the EA, including a BAR and EMPr to the Eastern Cape DEDEAT for the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, GKLM, Eastern Cape. Major aspects of the development include:

- The upgrade of the portion of the R63 Section 16 between km 1,00 and km 43,64, including vertical and horizontal alignment, and re-surfacing thereof;
- Widening of the current road prism to a SANRAL design standard and to a standard cross section of up to 13,4m;
- Lengthening of major and minor drainage structures, widening of 4 bridge structures;
- Construction of 1 new bridge structure;
- Upgrading of a major intersection at R63/N2 T-Junction: +/- km 43,64;
- Replacement of concrete lined drains to suit new design levels;
- Investigation of a void / sinkhole which extends some 3m beneath the road near km 18,40; and
- The utilization of 8 quarry / borrow pit sites to source material for construction works.

The Phase 1 Archaeological & Cultural Heritage Impact Assessment –

Project Name & Locality: *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, GKLM, Eastern Cape [1:50,000 Map Ref – 3227DA].

Summary of Findings:

A total of 19 archaeological and cultural heritage sites, namely Sites R63-S1 to R63-S19, were identified during the field assessment. Development will not impact on any of the identified heritage resources. All identified heritage sites comprise Colonial Period sites, aside from Site R63-S2, a LIA grave site and Site R63-S19 a contemporary site of worship.

Caution needs to be taken while working in proximity to the railway line, with the railway line having been constructed more than 100 years ago, and thus being a heritage site. The development proposal does not include impact on the railway reserve.

Contemporary bridges and stone lined culverts and drainage channels do not comprise heritage sites or structures formally protected by the NHRA 1999.

- The proposed development poses no ‘fatal flaws’ with reference to archaeological and cultural heritage resources.
- From an archaeological and cultural heritage point of view consideration of a ‘No-Go’ option is irrelevant.
- No additional archaeological or cultural heritage mitigation recommendations, aside from temporary conservation measures during the course of construction at Site R63-S2 apply to the development.
- The development will have no cumulative impact on archaeological or cultural heritage resources.
- [In the event of any incidental archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, being identified during the course of development the process described in ‘Appendix B: Heritage Protocol for Incidental Finds during the Construction Phase’ should be followed. The developer is advised to ensure a sufficient heritage contingency budget to address incidental finds during the course of development.]

Recommendations –

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, GKLM, Eastern Cape, proceed provided the developer comply with the listed heritage compliance recommendations (see Page iii).

The EC PHRA-APM Unit HIA Comment will state legal requirements for development to proceed, or reasons why, from a heritage perspective, development may not be further considered.

Heritage Compliance Summary – Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape				
Map Code	Site	Co-ordinates	Site Significance	Recommendations
Upgrade of the N63, Section 16 Development				
Start	N6 Bridge [km 1,00]	S32°41'35.8"; E27°34'25.2"	-	N/A
End	N2 Intersection [km 43,64]	S32°34'41.2"; E27°57'19.4"	-	N/A
Q4	Quarry 4	S32°39'22.7"; E27°38'52.4"	-	N/A
Q11	Quarry 11	S32°35'42.2"; E27°45'50.9"	-	N/A
BP22	Borrow Pit 22	S32°35'03.5"; E27°46'13.1"	-	N/A
BP25	Borrow Pit 25	S32°33'32.9"; E27°46'04.1"	-	N/A
Q18	Quarry 18	S32°35'14.7"; E27°48'19.1"	-	N/A
BP26	Borrow Pit 26	S32°35'14.9"; E27°50'19.1"	-	N/A
BP23	Borrow Pit 23	S32°34'37.1"; E27°55'59.1"	-	N/A
Q9	Quarry 9	S32°33'50.8"; E27°57'40.4"	-	N/A
Site R63-S1	Colonial Period – Bridge	S32°39'16.1"; E27°38'46.8"	Automatic High Provincial Grade II Significance	Recorded for heritage database purposes only
Site R63-S2	LIA – Grave and Memorial	S32°35'05.4"; E27°46'24.3"	High / Medium Significance Generally Protected IV-A	Temporary heritage conservation and signage during the construction phase
Site R63-S3	Colonial Period – Farmstead	S32°35'16.0"; E27°49'29.7"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S4	Colonial Period – Residence	S32°34'41.6"; E27°53'09.1"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S5	Colonial Period – Outbuildings	S32°34'37.1"; E27°53'17.2"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S6	Colonial Period – Outbuildings	S32°34'36.8"; E27°53'19.0"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S7	Colonial Period – Store	S32°34'39.2"; E27°53'20.1"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S8	Colonial Period – GKLM Building 1	S32°34'37.5"; E27°53'28.8"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S9	Colonial Period – Store	S32°34'36.4"; E27°53'30.0"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S10	Colonial Period – GKLM Building 2	S32°34'36.9"; E27°53'32.4"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S11	Colonial Period – Structure (Standard Bank)	S32°34'36.3"; E27°53'30.8"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S12	Colonial Period – Residence	S32°34'35.7"; E27°53'33.0"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S13	Colonial Period – Store	S32°34'37.0"; E27°53'31.7"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S14	Colonial Period – Store	S32°34'37.1"; E27°53'30.5"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S15	Colonial Period – Residence	S32°34'35.6"; E27°53'39.5"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S16	Colonial Period – Residence	S32°34'35.8"; E27°53'42.8"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S17	Colonial Period – Memorial	S32°34'34.7"; E27°53'43.4"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S18	Colonial Period – School	S32°34'34.6"; E27°53'45.2"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S19	Contemporary Period – Church	S32°34'35.2"; E27°54'06.8"	High / Medium Significance Generally Protected IV-A	Formal heritage conservation measures in place

CONTENTS

1 – Project Description & Terms of Reference	1
2 – The Phase 1 Archaeological & Cultural Heritage Impact Assessment	3
2.1) Archaeological & Cultural Heritage Legislative Compliance	3
2.2) Methodology & Gap Analysis	3
2.1 – Pre-feasibility Assessment	5
2.1.1) Pre-feasibility Summary	5
2.1.2) The SAHRA 2009 MPD & SAHRIS	5
2.1.3) SAHRA Provincial Heritage Site Database – Eastern Cape	6
2.1.4) General Discussion	6
2.2 – Field Assessment	8
2.2.1) Quarries, Borrow Pits and the Line Route	8
2.2.1.1) Quarry 4 – S32°39'22.7"; E27°38'52.4"	8
2.2.1.2) Quarry 11 – S32°35'42.2"; E27°45'50.9"	8
2.2.1.3) Borrow Pit 22 – S32°35'03.5"; E27°46'13.1"	8
2.2.1.4) Borrow Pit 25 – S32°33'32.9"; E27°46'04.1"	8
2.2.1.5) Quarry 18 – S32°35'14.7"; E27°48'19.1"	9
2.2.1.6) Borrow Pit 26 – S32°35'14.9"; E27°50'19.1"	9
2.2.1.7) Borrow Pit 23 – S32°34'37.1"; E27°55'59.1"	9
2.2.1.8) Quarry 9 – S32°33'50.8"; E27°57'40.4"	9
2.2.1.9) The Line Route	9
2.2.2) Heritage Sites.....	9
2.2.2.1) Site R63-S1: Colonial Period – Bridge: S32°39'16.1"; E27°38'46.8"	9
2.2.2.2) Site R63-S2: Later Iron Age (LIA) – Grave and Memorial: S32°35'05.4"; E27°46'24.3"	10
2.2.2.3) Site R63-S3: Colonial Period – Farmstead: S32°35'16.0"; E27°49'29.7"	10
2.2.2.4) Site R63-S4: Colonial Period – Residence: S32°34'41.6"; E27°53'09.1"	10
2.2.2.5) Site R63-S5: Colonial Period – Outbuildings: S32°34'41.6"; E27°53'09.1"	11
2.2.2.6) Site R63-S6: Colonial Period – Outbuildings: S32°34'36.8"; E27°53'19.0"	11
2.2.2.7) Site R63-S7: Colonial Period – Store: S32°34'39.2"; E27°53'20.1"	11
2.2.2.8) Site R63-S8: Colonial Period – GKLM Building 1: S32°34'37.5"; E27°53'28.8"	11
2.2.2.9) Site R63-S9: Colonial Period – Store: S32°34'36.4"; E27°53'30.0"	11
2.2.2.10) Site R63-S10: Colonial Period – GKLM Building 2: S32°34'36.9"; E27°53'32.4"	12
2.2.2.11) Site R63-S11: Colonial Period – Structure (Standard Bank): S32°34'36.3"; E27°53'30.8"	12
2.2.2.12) Site R63-S12: Colonial Period – Residence: S32°34'35.7"; E27°53'33.0"	12
2.2.2.13) Site R63-S13: Colonial Period – Store: S32°34'37.0"; E27°53'31.7"	12
2.2.2.14) Site R63-S14: Colonial Period – Store: S32°34'37.1"; E27°53'30.5"	13
2.2.2.15) Site R63-S15: Colonial Period – Residence: S32°34'35.6"; E27°53'39.5"	13
2.2.2.16) Site R63-S16: Colonial Period – Residence: S32°34'35.8"; E27°53'42.8"	13
2.2.2.17) Site R63-S17: Colonial Period – Memorial: S32°34'34.7"; E27°53'43.4"	13
2.2.2.18) Site R63-S18: Colonial Period – School: S32°34'34.6"; E27°53'45.2"	14
2.2.2.19) Site R63-S19: Contemporary Period – Church: S32°34'35.2"; E27°54'06.8"	14
3 – Environmental Impact Assessment Rating	27
4 – Recommendations	29
5 – Acronyms & Abbreviations	31
6 – References	32

Appendix A:

Schematic Outline of the Pre-colonial and Colonial Periods in South Africa

Appendix B:

Heritage Protocol for Incidental Finds during the Construction Phase

Appendix C:

Resumé: Karen van Ryneveld

List of Maps

Map 1: Locality of the Upgrade of the R63 Section 16 study site, GKLM, Eastern Cape (Base Map – MapStudio, 2008)	1
Map 2: Locality of the Upgrade of the R63 Section 16 study site, GKLM, Eastern Cape [1:50,000 Map Ref – 3227DA and 3227DB]	1
Map 3: Layout of the R63 Section 16 study site, GKLM, Eastern Cape (EOH-CES 2017)	2
Map 4: Spatial distribution of geo-referenced PHSs in the SAHRA – Eastern Cape database in relation to the Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64] study site (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)	6
Map 5: Phase 1 AIA field assessment results for the proposed R63, Section 16, development	15
Map 6: Close-up of identified heritage sites in Komga	16

List of Plates

Plate 1: General view of Quarry 4	17
Plate 2: General view of Quarry 11	17
Plate 3: General view of BP 22	17
Plate 4: General view of BP 25	17
Plate 5: General view of BP 26	18
Plate 6: General view of BP 23	18
Plate 7: General view of Quarry 9	18
Plate 8: Start of the R63, Section 16, line route at km 1,00	18
Plate 9: General view of the R63, Section 16, line route [1]	19
Plate 10: General view of the R63, Section 16, line route [2]	19
Plate 11: General view of the R63, Section 16, line route [3]	19
Plate 12: End of the R63, Section 16, line route at km 43,64	19
Plate 13: View of Site R63-S1	20
Plate 14: View of Site R63-S2	20
Plate 15: View of Site R63-S3	20
Plate 16: View of Site R63-S4	20
Plate 17: View of Site R63-S5	21
Plate 18: View of Site R63-S6	21
Plate 19: View of Site R63-S7	21
Plate 20: View of Site R63-S8	21
Plate 21: View of Site R63-S9	22
Plate 22: View of Site R63-S10	22
Plate 23: View of Site R63-S11	22
Plate 24: View of Site R63-S12	22
Plate 25: View of Site R63-S13	23
Plate 26: View of Site R63-S14	23
Plate 27: View of Site R63-S15	23
Plate 28: View of Site R63-S16	23
Plate 29: View of Site R63-S17	24
Plate 30: View of Site R63-S18	24
Plate 31: View of Site R63-S19	24
Plate 32: Selected bridges along the line route [1]	24
Plate 33: Selected bridges along the line route (rail bridge 1)	25
Plate 34: Selected bridges along the line route (bridge in Komga)	25
Plate 35: Selected bridges along the line route (rail bridge 2)	25
Plate 36: Stone paved culverts [1]	25
Plate 37: Stone paved culverts [2]	26
Plate 38: Stone paved culverts [3]	26
Plate 39: Stone paved culverts [4]	26
Plate 40: Stone paved culverts [5]	26

List of Tables

Table 1: Extract from the NHRA 1999, Section 38	3
Table 2: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations4	5
Table 3: Archaeological and basic cultural heritage probability assessment	28
Table 4: Environmental Impact Assessment Rating	30
Table 5: Heritage compliance summary	30

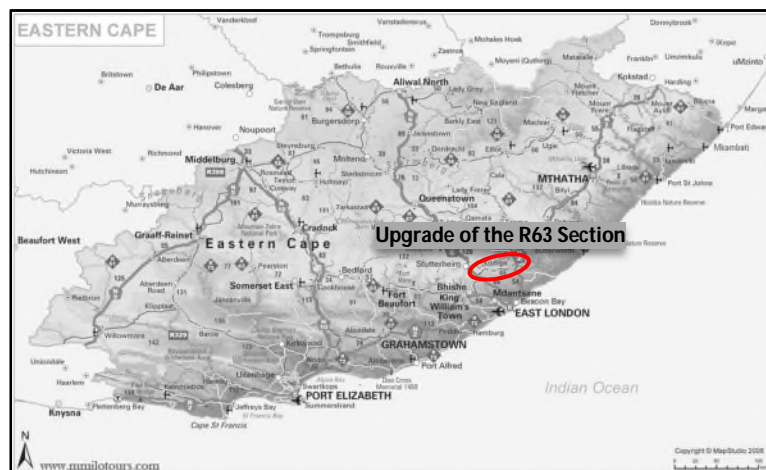
1 – Project Description & Terms of Reference

EOH Coastal & Environmental Services (EOH-CES) have been appointed as independent Environmental Assessment Practitioner (EAP) by UWP Consulting, on behalf of the project proponent, the South African National Roads Agency SOC Limited (SANRAL), to apply for the Environmental Authorization (EA), including a Basic Assessment Report (BAR) and Environmental Management Plan (EMPr) to the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) for the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, Great Kei Local Municipality (GKLM), Eastern Cape. Major aspects of the development include (EOH-CES 2017):

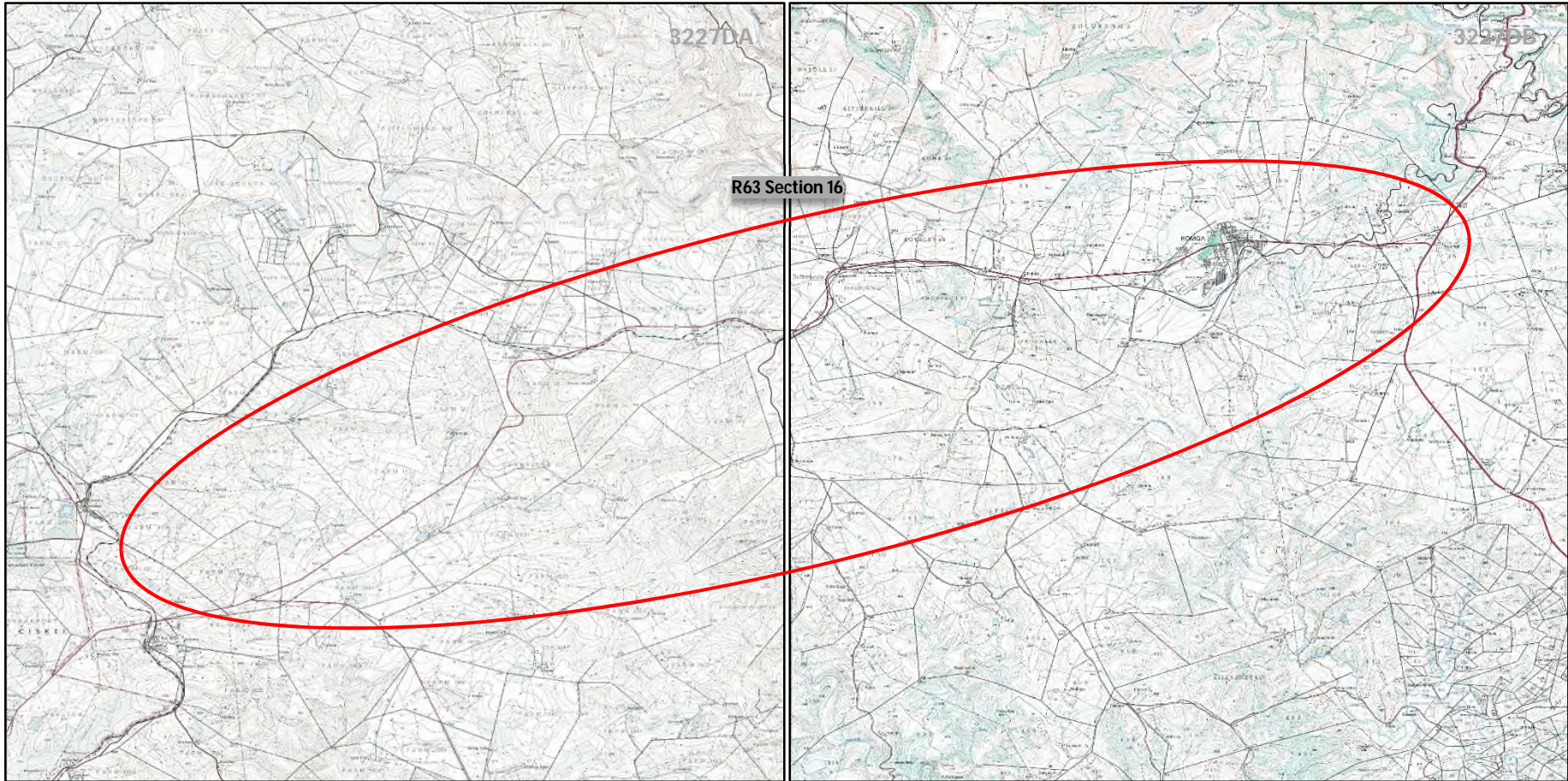
- o The upgrade of the portion of the R63 Section 16 between km 1,00 and km 43,64, including vertical and horizontal alignment, and re-surfacing thereof;
- o Widening of the current road prism to a SANRAL design standard and to a standard cross section of up to 13,4m;
- o Lengthening of major and minor drainage structures, widening of four (4) bridge structures;
- o Construction of one (1) new bridge structure;
- o Upgrading of a major intersection at R63/N2 T-Junction: +/- km 43,64;
- o Replacement of concrete lined drains to suit new design levels;
- o Investigation of a void / sinkhole which extends some 3m beneath the road near km 18,40; and
- o The utilization of eight (8) quarry / borrow pit sites to source material for construction works.

ArchaeoMaps have been appointed by EOH-CES to compile the Phase 1 Archaeological & Cultural Heritage Impact Assessment (AIA) for the development, as specialist component to the application's Heritage Impact Assessment (HIA), and with findings and recommendations thereof to be included in the BAR and EMPr. Terms of Reference (ToR) for the Phase 1 AIA are summarized as:

- o Describe the existing area to be directly affected by the proposal in terms of its archaeological and cultural heritage characteristics as formally protected by the National Heritage Resources Act, No 25 of 1999 (NHRA 1999) and the general sensitivity of these components to change;
- o Describe the likely scope, scale and significance of impacts (positive and negative) on the archaeological and cultural heritage resources of the area associated with the 1) construction and 2) operation or use phases of the proposal;
- o Make recommendations on the scope of any mitigation measures that may be applied during the 1) construction and 2) operation or use phases to reduce / avoid the significance of identified related impacts. Mitigation measures could be design recommendations as well as operational controls, monitoring programmes, Phase 2 mitigation, management procedures and the like;
- o Broadly describe the implication of a 'No-Go' option;
- o Broadly comment on the cumulative impact (positive or negative) on archaeological or cultural heritage resources associated with the 1) construction and 2) operation or use phases of the proposal; and
- o Confirm if there are any outright 'fatal flaws' to the proposal at its current location from an archaeological and cultural heritage perspective.



Map 1: Locality of the Upgrade of the R63 Section 16 study site, GKLM, Eastern Cape (Base Map – MapStudio, 2008)



Map 2: Locality of the Upgrade of the R63 Section 16 study site, GKLM, Eastern Cape [1:50,000 Map Ref – 3227DA and 3227DB]



Map 3: Layout of the R63 Section 16 study site, GkLM, Eastern Cape (EOH-CES 2017)

2 – The Phase 1 Archaeological & Cultural Heritage Impact Assessment

2.1) Archaeological & Cultural Heritage Legislative Compliance

The Phase 1 Archaeological & Cultural Heritage Impact Assessment (AIA) for the *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, GKLM, Eastern Cape, was requested to meet the Eastern Cape Provincial Heritage Resources Authority's (EC PHRA) requirements with reference to archaeological and basic cultural heritage resources in terms of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999), with specific reference to Section 38(1)(a) and 38(1)(c)(i). This report is submitted in (partial) fulfilment of the NHRA 1999, Section 38(3) requirements, for purposes of a NHRA 1999, Section 38(4) / Section 38(8) Heritage Impact Assessment (HIA) Comment by the EC PHRA.

NHRA 1999, Section 38	
1)	Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorized as –
a)	The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
b)	The construction of a bridge or similar structure exceeding 50m in length;
c)	Any development or other activity which will change the character of a site –
i.	Exceeding 5,000m² in extent; or
ii.	Involving three or more existing erven or subdivisions thereof; or
iii.	Involving three or more erven or subdivisions thereof which have been consolidated within the past five years; or
iv.	The costs which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
d)	The rezoning of a site exceeding 10,000m ² in extent;
e)	Any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority;
Must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.	

Table 1: Extract from the NHRA 1999, Section 38

The Phase 1 AIA aimed to locate, identify and assess the significance of archaeological and cultural heritage resources, inclusive of archaeological deposits / sites (Stone Age, Iron Age and Colonial Period), rock art and shipwreck sites, built structures older than 60 years, sites of military history older than 75 years, certain categories of burial grounds and graves, graves of victims of conflict, basic living heritage and cultural landscapes and viewsapes as defined and protected by the NHRA 1999, Section 2, 34, 35 and 36, that may be affected by the development.

This report comprises a Phase 1 AIA, including a basic pre-feasibility study and field assessment only. The report was prepared in accordance with the 'Minimum Standards' specifications for Phase 1 AIA reports, as stipulated by SAHRA (2007).

Additional relevant legislation pertaining to the Phase 1 AIA is listed as:

- o National Environmental Management Act, No 107 of 1998 (NEMA 1998) and associated Regulations (2017).

2.2) Methodology & Gap Analysis

The Phase 1 AIA includes a basic pre-feasibility study and field assessment:

- o The pre-feasibility assessment is based on the Appendix A schematic outline of South Africa's Pre-colonial and Colonial past, associated with introductory archaeological as well as general and scientific literature available and relevant to the study site. Databases consulted include the SAHRA 2009 Mapping Project Database (MPD), the South African Heritage Resources Information System (SAHRIS) and SAHRA database(s) on declared Provincial Heritage Sites (PHS) pertaining to the study site. The study excludes consultation of museum and university databases.

- The field assessment was done over a 2 day period with fieldwork conducted by the author. The assessment was done by vehicle and foot and limited to a Phase 1 surface survey. GPS co-ordinates were taken with Garmin Montana 680 (Datum: WGS84) Photographic documentation was done with a Canon EOS 1300D camera. A combination of Garmap (Base Camp) and Google Earth software was used in the display of spatial information.

The Phase 1 AIA was done according to the system and 'Minimum Standards' prescribed for the 3-tiered Phase 1-3 Heritage Impact Assessment (HIA) process (SAHRA 2007):

- Phase 1 HIA – A Phase 1 HIA is compulsory for development types as stipulated in the NHRA 1999, Section 38(1) and Section 38(8), including any other development type or study site as required by the South African Heritage Resources Agency (SAHRA) or relevant Provincial Heritage Resources Authority (PHRA). A Phase 1 HIA comprises at minimum of an archaeological (AIA) and palaeontological (PIA) study, but aims to address all heritage types protected by the NHRA 1999 and to alert developers to additional heritage specialist study requirements, if and where relevant to a development. Phase 1 HIA studies focusses on pre-feasibility and desktop studies, routinely coined with field assessments in order to locate, describe and assign heritage site significance ratings to identified resources that may be impacted by development. The aim of a Phase 1 AIA is to make site specific and general development recommendations regarding identified heritage resources for development planning and implementation purposes and may include recommendations for conservation, heritage site declaration, monitoring, Phase 2 mitigation (excavation), or destruction.
- Phase 2 HIA – Phase 2 HIAs are as a norm required where heritage resources of such significance have been identified during the Phase 1 HIA that mitigation (excavation) thereof is necessary for development purposes. Aside from large scale Phase 2 mitigation (routinely to precede development impact), lower keyed Phase 2 requirements may well include sampling, testing and monitoring during the construction or implementation phase of a development. Phase 2 HIA work is as a norm done under a compulsory heritage permit.
- Phase 3 HIA – As an extension to Phase 2 HIA work or cases where recommendations for heritage declaration formed part of a development's heritage compliance requirements, heritage resources of such scientific or heritage tourism significance, that their long-term conservation and continued research would be necessary within a development framework is proposed as a Phase 3 HIA.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations are done according to the combined NHRA 1999, Section 7(1) and SAHRA (2007) system.

SAHRA Archaeological & Cultural Heritage Site Significance System			
Site Significance	Field Rating	Grade	Recommended Mitigation
High Significance	National Significance	Grade I	Heritage site conservation / Heritage site development
High Significance	Provincial Significance	Grade II	Heritage site conservation / Heritage site development
High Significance	Local Significance	Grade III-A	Heritage site conservation or extensive mitigation prior to development / destruction
High Significance	Local Significance	Grade III-B	Heritage site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	Grade IV-A	Heritage site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	Grade IV-B	Heritage site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	Grade IV-C	On-site sampling, monitoring or no heritage mitigation required prior to or during development / destruction

Table 2: SAHRA archaeological and cultural heritage site significance assessment ratings and associated mitigation recommendations

2.1.1) Pre-feasibility Summary

Based on the Appendix A schematic outline of the Pre-colonial and Colonial Periods in South Africa and background literature and database information, the probability of archaeological and cultural heritage resources affected by, or situated in proximity to the *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]*, GKLM, Eastern Cape, can briefly be described as:

Archaeological and Basic Cultural Heritage Probability Assessment – Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], GKLM, Eastern Cape			
Primary Type / Period	Sub-period	Sub-period type site	Probability
EARLY HOMININ / HOMINID	-	-	None
	Graves / human remains: High scientific significance		
STONE AGE	Earlier Stone Age (ESA)		Low
	Middle Stone Age (MSA)		Low
	Later Stone Age (LSA)		Low
		Rock Art	None
		Shel Middens	None
	Graves / human remains: ESA & MSA - High scientific significance; LSA – High scientific & social significance		
IRON AGE	Early Iron Age (EIA)		None-Low
	Middle Iron Age (MIA)		None
	Later Iron Age (LIA)		Medium-High
	Graves / human remains: EIA – High scientific significance; MIA & LIA – High scientific & social significance		
COLONIAL PERIOD	Colonial Period		Medium-High
		LSA – Colonial Period Contact	None
		LIA – Colonial Period Contact	Medium
		Industrial Revolution	Low
		Apartheid & Struggle	Low
	Graves / human remains: Medium-high scientific & high social significance		

Table 3: Archaeological and basic cultural heritage probability assessment

2.1.2) The SAHRA 2009 MPD & SAHRIS

Four (4) archaeological Cultural Resources Management (CRM) reports are recorded in the SAHRA 2009 Mapping Project Database (MPD) and situated within an approximate 20km radius from the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site, referenced as:

- Hirst, M. & Victor, S. 2004. (Amathole Museum). *An Heritage Impact Assessment of the Development of the East London Regional Waste Disposal Site on the Grave of the Xhosa Poet Laureate S.E.K. Mqhayi (1875-1945) at Ntab'Ozuko, Berlin, Eastern Cape.*
- Van Ryneveld, K. 2008. (ArchaeoMaps). *Phase 1 Archaeological Impact Assessment: Residential Development, Matola Private Game Reserve, Portion 2 of Farm 36, Komga, Eastern Cape, South Africa.*
- Van Schalkwyk, J.A. 2008. (National Cultural History Museum). *Heritage Impact Survey Report for the Proposed Development Southwest of Bisho, Eastern Cape Province.*
- Van Schalkwyk, L. 2008. (eThembeni). *Heritage Impact Assessment of the Proposed N2 Wild Coast Toll Highway.*

Post compilation of the SAHRA 2009 MPD eight (8) SAHRIS cases have been recorded, with study sites situated within the rough 20km radius from the *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site. Three (3) of the recorded cases are not associated with any heritage reports, including SAHRIS CaseID 9222, the Longacre Eskom Line, SAHRIS CaseID 1226, the Upgrade of the Nompumelelo Local Roads and SAHRIS CaseID 2339, Gravel Mining on Farm 359, KWT, while the Heritage Impact Assessment (HIA) for SAHRIS CaseID 2821, the KWT Bulk Sewerage Project comprises only of a Palaeontological Impact Assessment (PIA). The remaining two (2) SAHRIS cases are associated with archaeological CRM reports, with these referenced as:

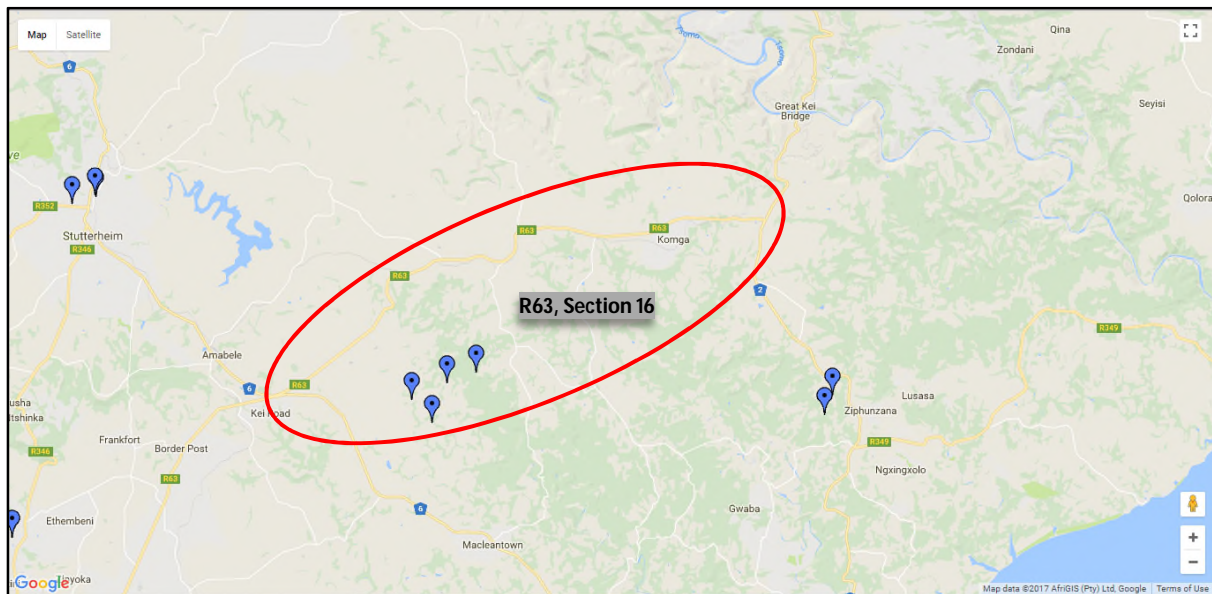
- Anderson, G. 2014. (Umlando). *Heritage Survey of the Great Kei Wind Energy facility, Eastern Cape.*
- Gaigher, S. 2015. (G&A Heritage). *Heritage Impact Assessment Report for the Proposed Upgrade and Construction of the Kei Road Water Treatment Works and Conveyance.*
- Van Ryneveld, K. 2013. (ArchaeoMaps). *Phase 1 Archaeological Impact Assessment. Ngcizele Phase 2 Village Water Supply, near Centane, Amathole District Municipality, Eastern Cape, South Africa.*

- Van Schalkwyk, J.A. 2011. (Private). *Heritage Impact Assessment for the Proposed 400kV Electricity Transmission Line, Neptune to Poseidon Substations, East London to Cookhouse, Eastern Cape Province.*

2.1.3) SAHRA Provincial Heritage Site Database – Eastern Cape

No geo-referenced declared Provincial Heritage Sites (PHS) are recorded in the SAHRA – Eastern Cape database (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape) and situated within an approximate 5km radius from the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site, with the closest PHS, situated more than 5km from the study site listed as:

- SAHRA Identifier 9/2/090/0010 - Mgwali Mission Complex, Stutterheim District
- SAHRA Identifier 9/2/090/0010-002 - Manse, Mgwali Mission Complex, Stutterheim District
- SAHRA Identifier 9/2/090/0010-003 - Original School, Mgwali Mission Complex, Stutterheim District
- SAHRA Identified 9/2/090/0010-004 - Old Hostel, Mgwali Mission Complex, Stutterheim District



Map 4: Spatial distribution of geo-referenced PHSs in the SAHRA – Eastern Cape database in relation to the *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site (https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape)

2.1.4) General Discussion

Limited archaeological and cultural heritage information are obtainable from archaeological CRM reports consulted, serving to describe the general heritage sensitivity of the greater *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site. Van Schalkwyk (2011) reported on the range of Stone Age, including Earlier (ESA), Middle (MSA) and Later Stone Age (LSA) sites and occurrences having been identified along the approximate 200km Neptune to Poseidon powerline route, while Anderson (2014) recorded a MSA site from the Great Kei Wind Energy Facility study site. Gaigher (2015) recorded a number of Iron Age sites during his assessment for the Kei Road Water Treatment Works (WTW), all being Later Iron Age (LIA) sites and including a large cemetery, two (2) smaller family cemeteries or burial grounds, one (1) possible grave and one (1) oral history settlement site, where habitation is believed to date back to the 1970s and where grave sites may well be present, though not identifiable on the surface. Hirst & Victor (2004) reported on the grave of the Xhosa Poet Laureate S.E.K. Mqhayi, near Berlin. Van Ryneveld (2013) recorded LIA stone walling from the Ngizele area and Anderson (2014) reported on a wealth of LIA labourer settlement sites from the in excess of 5,000ha Great Kei Wind Energy Facility study site, with many of the settlements recorded inferred to be associated with graves, although surface traces of graves are no longer present. Colonial Period resources recorded include a number of farmsteads as well as an old bridge near Fort Beaufort, documented during the Neptune to Poseidon powerline assessment (Van Schalkwyk 2011), while Gaigher (2015) recorded the Lonsdale Bridge and the numerous Colonial Period structures comprising the Kings Cross Railway Siding. Anderson

(2014) again recorded a number of Colonial Period farmsteads characterizing the Great Kei Wind Energy Facility study site, and with the Colonial Period record of the area complimented by the identification of the Durham Memorial.

Komga was founded in 1877, at a site where a military camp was established in 1854. An increase in people from the 1860s onwards led to its acquisition of municipal status in 1904. Komga played an important role during the 9th Frontier War (1870s) in supplying Colonial forces from the Komga Mounted Infantry. The Komga Mounted Infantry was also used during the Anglo-Boer War (Anderson 2014; <https://en.wikipedia.org/wiki/Komga>). Literature describes 'Komga' as having a Khoe origin meaning '*place of an abundance of clay*', while others give it a Xhosa origin, meaning '*secluded place*' (<https://archive.org/details/DictionaryOfSouthernAfricanPlaceNames>).

A total of nineteen (19) archaeological and cultural heritage sites, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of the proposed *Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64]* study site, namely Sites R63-S1 to R63-S19. All of the identified sites comprise Colonial Period heritage sites, being structures pre-dating 60 years of age, and more than often 100 years of age, aside from Site R63-S2, which is a LIA burial site (grave) with associated memorial and Site R63-S19, a contemporary site, protected by the NHRA 1999 as a place of worship (spiritual / religious heritage significance). None of the identified heritage sites will be directly impacted by development. Site R63-S4 to R63-S19 are all clustered in Komga.

Aside from the abovementioned heritage sites, the developer needs to caution against impact on the railway line. The railway line, by definition a heritage site, having been constructed approximately 100 years ago, run alongside the road alignment for significant portions thereof. Development will not impact on the rail reserve. Rail bridges affected by the proposed development do not comprise part of the railway line heritage significance, since they were constructed during the late 1960s / early 1970s, reasonably inferred to post-date 60 years of age.

A number of contemporary cultural features will be affected by the proposed development, including primarily bridge structures and stone lined culverts. Stone lined culverts (more or less 130-140) and storm water drainage channels are inferred to post-date 60 years of age, with the use of stone in their construction the result of local raw material utilization and not indicative of Colonial Period building methods.

2.2.1) Quarries, Borrow Pits and the Line Route

2.2.1.1) Quarry 4 – S32°39'22.7"; E27°38'52.4"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface or within large exposed sections at the Quarry 4 study site. (Site R63-S1 is situated in proximity to the Quarry 4 study site, but will not be impacted by development). It is recommended that development at the Quarry 4 study site proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.2) Quarry 11 – S32°35'42.2"; E27°45'50.9"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface of the Quarry 11 study site. It is recommended that development at the site proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.3) Borrow Pit 22 – S32°35'03.5"; E27°46'13.1"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface or within exposed sections at the Borrow Pit 22 study site. Development at the site may proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.4) Borrow Pit 25 – S32°33'32.9"; E27°46'04.1"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface or within exposed sections at the Borrow Pit 25 study site. It is recommended that development at the site proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.5) Quarry 18 – S32°35'14.7"; E27°48'19.1"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface of the proposed Quarry 18 study site. It is recommended that development at Quarry 18 proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.6) Borrow Pit 26 – S32°35'14.9"; E27°50'19.1"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface of the Borrow Pit 26 study site. Development may proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.7) Borrow Pit 23 – S32°34'37.1"; E27°55'59.1"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface or within existing exposed sections at the Borrow Pit 23 study site. It is recommended that development at Borrow Pit 23 proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.8) Quarry 9 – S32°33'50.8"; E27°57'40.4"

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified on the surface or within large exposed sections at the Quarry 9 study site. Development at Quarry 9 may proceed without the developer having to comply with additional heritage compliance requirements.

2.2.1.9) The Line Route

Eighteen (18) archaeological and cultural heritage sites are situated along the line route, including Sites R63-S2 to R63-S19, as described below.

2.2.2) Heritage Sites

2.2.2.1) Site R63-S1: Colonial Period – Bridge: S32°39'16.1"; E27°38'46.8"

Site R63-S1 demarcates the locality of an old steel bridge, pre-dating 60 years of age and most probably 100 years of age, and by implication formally protected by the NHRA 1999. The site is situated approximately 150m from the proposed Quarry 4 study site and at a similar distance from the road alignment. No heritage conservation measures are in place.

- **Site Significance and Recommendations:** R63-S1 comprises a heritage site / structure pre-dating 60 years of age and receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. No formal conservation measures are in place. The site is situated approximately 150m from any aspect of the proposed development (Quarry 4 and the road alignment), and will by implication not be impacted by development. No additional conservation measures on behalf of the developer is necessary prior to development. The site was recorded for heritage database purposes only.

2.2.2.2) Site R63-S2: Later Iron Age (LIA) – Grave and Memorial: S32°35'05.4"; E27°46'24.3"

Site R63-S2 comprises a single stone cairn grave with a memorial, situated immediately adjacent to the R63 and directly opposite the Borrow Pit 22 study site. Formal conservation measures, including the memorial, of which the inscription have in the interim been removed and roadside seating evidence continued conservation and development at the grave site.

The following information is available on the site (www.artefacts.co.za/main/Buildings/bldgframes.php?bldgid=12041): *'The memorial is a rectangular column built of rounded local stones on a stepped plinth and with a triangular pediment. A bronze plaque, inscribed in English and Afrikaans was mounted on the north face of the memorial. A transcription of the English text of the plaque is provided below:*

It was here, during the First Battle of Draaibosch on 29th December, 1877, at the beginning of the Ninth Kafir (sic) War of 1877 – 78 that Major Garrett Moore (Connaught Rangers) while commanding a patrol of Frontier Armed Mounted Police and courageously assisted by Sergt. D. Harber and Cpl. J. Court of that force, performed the deed of bravery which won for him the first Victoria Cross to be earned on South African soil. – Erected in collaboration with the Historical Monuments Commission'. (The memorial was erected in 1956).

- **Site Significance and Recommendations:** The site R63-S2 grave and memorial comprises a heritage site formally protected by the NHRA 1999. The site is ascribed a SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. The site is situated immediately adjacent to the R63. Proximity of the site to the development area is of concern. It is recommended that the developer ensures that additional heritage conservation measures, including temporary heritage fencing (construction netting or a similar visually clear demarcation), with temporary heritage signage, indicating the area as *'No Entry – Heritage Site'* be erected around the grave and the memorial for the tenure of construction activities in the vicinity of the site.

2.2.2.3) Site R63-S3: Colonial Period – Farmstead: S32°35'16.0"; E27°49'29.7"

Site R63-S3 comprises a Colonial Period farmstead, visible from the R63 alignment. Site features include the original farmhouse and outbuildings, with structures older than 60 years and reasonably inferred to be older than 100 years. The farmstead is situated approximately 100m from the R63. Formal conservation measures, including a permanent fence with access gate are in place.

- **Site Significance and Recommendations:** Site R63-S3, a Colonial Period farmstead pre-dating 60 years of age (and probably 100 years of age), receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. Formal conservation measures are in place. No additional conservation measures on behalf of the developer for purposes of development is necessary.

2.2.2.4) Site R63-S4: Colonial Period – Residence: S32°34'41.6"; E27°53'09.1"

Site R63-S4 constitutes the first of the cluster of historical structures in Komga. The site comprises a Colonial Period residence, pre-dating 60 years of age, and is most probably older than 100 years. The residence is situated immediately adjacent to the R63. Formal conservation measures comprising a permanent fence with access gate are in place.

- **Site Significance and Recommendations:** Site R63-S4 comprises a Colonial Period residence and receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site is situated immediately adjacent to the R63, but with formal conservation measures already in place. No additional conservation measures on behalf of the developer is required prior to or during construction activities in the vicinity of the site.

2.2.2.5) Site R63-S5: Colonial Period – Outbuildings: S32°34'41.6"; E27°53'09.1"

Site R63-S5 comprises two (2) Colonial Period outbuildings, pre-dating 60 years of age and most probably 100 years of age. The property on which the outbuildings are situated immediately adjoins the R63 road reserve. Permanent conservation measures, including a fence and access gate are in place.

- **Site Significance and Recommendations:** The Site R63-S5 Colonial Period outbuildings receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. Permanent conservation measures are in place. No additional heritage conservation measures for purposes of development are necessary.

2.2.2.6) Site R63-S6: Colonial Period – Outbuildings: S32°34'36.8"; E27°53'19.0"

The Site R63-S6 Colonial Period site comprises a large outbuilding, currently used for residential purposes as well as a number of smaller structures, in close proximity to the R63 road reserve and with formal conservation measures, including a permanent fence with access gate already in place.

- **Site Significance and Recommendations:** The Site R63-S6 Colonial Period outbuildings receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. Permanent conservation measures are in place. No additional heritage conservation measures for purposes of development are necessary.

2.2.2.7) Site R63-S7: Colonial Period – Store: S32°34'39.2"; E27°53'20.1"

Site R63-S7 comprises a Colonial Period structure, pre-dating 60 years of age and most probably 100 years of age. The building is currently used as a spaza store. The property on which the building is situated immediately borders the R63 road reserve. Formal conservation measures, including a permanent fence with access gate are in place.

- **Site Significance and Recommendations:** Site R63-S7 comprises a Colonial Period heritage site, formally protected by the NHRA 1999. The site receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. Permanent conservation measures are in place. No additional heritage conservation measures for purposes of development are necessary.

2.2.2.8) Site R63-S8: Colonial Period – GKLM Building 1: S32°34'37.5"; E27°53'28.8"

Site R63-S8 constitutes a Colonial Period building, pre-dating 60 years of age and from an architectural point of view confirmed older than 100 years. The building is fairly well conserved and currently used by the Great Kei Local Municipality (GKLM). The building, situated on the main road of Komga, immediately adjoins the R63 road reserve. No conservation measures are in place.

- **Site Significance and Recommendations:** Site R63-S8 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the R63 road reserve. The building is currently used by the GKLM. Based on current usage, conservation measures during the construction phase are not recommended, as this may well negatively impact on the operations and service delivery of the municipality. It is recommended that development proceed without the developer having to comply with additional heritage conservation requirements in the vicinity of Site R63-S8.

2.2.2.9) Site R63-S9: Colonial Period – Store: S32°34'36.4"; E27°53'30.0"

The Site R63-S9 locality demarcates a Colonial Period store (situated adjacent to Site R63-S10, the current Sanlam building), with the building older than 60 years of age and reasonably inferred to be older than 100 years. The store

directly fronts the Komga main street, the R63; No conservation measures are in place. Site R63-S9 is still in use and fairly well conserved.

- **Site Significance and Recommendations:** Site R63-S9 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately fronts the R63. The building is currently in use. No heritage conservation measures during the course of construction are recommended, as this will have an unnecessary negatively impact on the economic viability of the store.

2.2.2.10) Site R63-S10: Colonial Period – GKLM Building 2: S32°34'36.9"; E27°53'32.4"

Site R63-S10 comprises a Colonial Period building, pre-dating 60 years of age and most probably 100 years of age. The property on which the building is situated immediately adjoins the R63, with the building still in use by the Great Kei Local Municipality (GKLM), and well conserved. Formal conservation measures, including a permanent fence with access gate are in place.

- **Site Significance and Recommendations:** The Site R63-10 Colonial Period building receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. Formal conservation measures, including a permanent fence with access gate, with these complying with SAHRA / EC PHRA minimum standards for heritage site conservation, are in place. No additional conservation measures need to be instated for purposes of development.

2.2.2.11) Site R63-S11: Colonial Period – Structure (Standard Bank): S32°34'36.3"; E27°53'30.8"

Site R63-S11 represents the two (2) structures situated on the property used by Standard Bank. Both buildings pre-date 60 years of age and can reasonably be inferred be older than 100 years; the site is thus formally protected by the NHRA 1999. Buildings are well conserved and still in use. No formal conservation measures are in place.

- **Site Significance and Recommendations:** Site R63-S11 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. No formal conservation measures (permanent fence with access gate) are in place. No conservation measures are recommended during the construction phase, as this will unnecessarily impact negatively on the operations and service delivery of the bank.

2.2.2.12) Site R63-S12: Colonial Period – Residence: S32°34'35.7"; E27°53'33.0"

Site R63-S12 constitutes a Colonial Period residence, pre-dating 60 years of age. The site is fairly well conserved and still in use. The property directly borders the Komga main road, or R63, but formal conservation measures, including a permanent fence with access gate are in place.

- **Site Significance and Recommendations:** Site R63-S12 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. Formal conservation measures, including a permanent fence with access gate are in place. No additional conservation measures are necessary for purposes of development.

2.2.2.13) Site R63-S13: Colonial Period – Store: S32°34'37.0"; E27°53'31.7"

Site R63-S13 comprises an old Colonial Period store, with the structure pre-dating 60 years of age and reasonably inferred to be older than 100 years. The shop directly fronts the Komga main road, or the R63; no conservation measures are in place.

- **Site Significance and Recommendations:** Site R63-S13 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. No conservation measures are in place. Conservation measures are not recommended during the construction phase, as this will impact negatively on operation of the store.

2.2.2.14) Site R63-S14: Colonial Period – Store: S32°34'37.1"; E27°53'30.5"

Site R63-S14 comprises a Colonial Period store, situated immediately adjacent to the Site R63-S13 store. The building pre-dates 60 years of age, and is probably more than 100 years old. The store directly fronts the Komga main road, or the R63. No conservation measures are in place.

- **Site Significance and Recommendations:** Site R63-S14 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. No conservation measures are in place. Conservation measures during the course of construction are not recommended since this may well have an unnecessary negative impact on the shop operations.

2.2.2.15) Site R63-S15: Colonial Period – Residence: S32°34'35.6"; E27°53'39.5"

The Site R63-S15 locality represents a Colonial Period residence, pre-dating 60 years of age. Formal conservation measures, including a boundary wall and access gate are in place, with these measures complying with SAHRA / EC PHRA minimum standards for heritage site conservation.

- **Site Significance and Recommendations:** Site R63-S15 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. Formal conservation measures, including a boundary wall and access gate, are in place. The developer need not comply with additional heritage conservation measures during construction in the vicinity of the site.

2.2.2.16) Site R63-S16: Colonial Period – Residence: S32°34'35.8"; E27°53'42.8"

Site R63-S16 comprises a Colonial Period residence, pre-dating 60 years of age. The site can reasonably be inferred to be older than 100 years. The property immediately adjoins the Komga main road, or the R63. Formal conservation measures, including a boundary wall and access gate are in place.

- **Site Significance and Recommendations:** Site R63-S16 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63. Formal conservation measures, including a boundary wall and access gate, are in place. No additional conservation measures for purposes of development are necessary.

2.2.2.17) Site R63-S17: Colonial Period – Memorial: S32°34'34.7"; E27°53'43.4"

Site R63-S17 comprises the Colonial Period War Memorial, with the building situated on the Komga Primary School (Site R63-S18) property. The War Memorial building is formally conserved within the school boundary. Two (2) commemorative plaques hosts the following inscriptions:

- 'Komga Memorial; The Great War 1914 – 1918; To the memory of – F. Belter, M.O. Bennett, H.E. Branfield, J.S. Brangwin, E. Brown, J. Connock, G. Gottingham, W. Cowrie, H.N. Gayland, E. Goodwin, R.E.S. Hardwich, C.F. Kriedmann, H. McCormick, H. Nash, G. Rust, D. Sage, J. Short, G.D. Snyman, S.W. Sparks, I. Threnfell, J. Wilson; 11-11-1925'.
- 'Komga War memorial; 1939 – 1945; Roll of Honour – Baisley, I., Greer, S.H., Lothian, J., Murray, I.D., Nash, L.C., Reynolds, H.C.K., Theorald, W.M.'

- **Site Significance and Recommendations:** Site R63-S17 receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately adjoins the Komga main road, or the R63, but is formally conserved within the Komga Primary School boundary. No additional conservation measures are necessary for purposes of development.

2.2.2.18) Site R63-S18: Colonial Period – School: S32°34'34.6"; E27°53'45.2"

Site R63-S18 demarcates the locality of the Komga Primary School, believed to be one of the oldest schools in South Africa (<https://en.wikipedia.org/wiki/Komga>). The building pre-dates 60 years of age, and is well older than 100 years. The Colonial Period building is fairly well conserved and still in use. The school property directly borders the Komga main road, or the R63, but formal conservation measures, including a permanent fence with access gate, are in place. Existing formal conservation measures comply with SAHRA / EC PHRA minimum standards for heritage site conservation.

- **Site Significance and Recommendations:** Site R63-S18, the Komga Primary School, receives automatic SAHRA / EC PHRA protection as a site of *High Significance* with a *Provincial Grade II Field Rating*. The site immediately borders the Komga main road, or the R63. Formal conservation measures, including a permanent fence and access gate, are in place. The developer need not comply with additional heritage conservation measures for purposes of development.

2.2.2.19) Site R63-S19: Contemporary Period – Church: S32°34'35.2"; E27°54'06.8"

The Site R63-S19 locality demarcates the position of a contemporary church. The church is situated approximately 50m from the R63 alignment, with the church property permanent fenced with an access gate, thus compliant with SAHRA / EC PHRA minimum standards for heritage site conservation. Although the building is younger than 60 years of age the site is protected under the NHRA 1999 as a site of religious / spiritual significance, and classed as a 'worship' site.

- **Site Significance and Recommendations:** Site R63-S19 is ascribed a SAHRA / EC PHRA *High / Medium Significance* and a *Generally Protected IV-A Field Rating*. The site is situated approximately 50m from the R63 alignment, with formal conservation measures in place. No additional conservation measures on behalf of the developer is necessary for purposes of development.



Map 5: Phase 1 AIA field assessment results for the proposed R63, Section 16, development



Map 6: Close-up of identified heritage sites in Komga



Plate 1: General view of Quarry 4



Plate 3: General view of BP 22



Plate 2: General view of Quarry 11



Plate 4: General view of BP 25



Plate 5: General view of BP 26



Plate 7: General view of Quarry 9



Plate 6: General view of BP 23



Plate 8: Start of the R63, Section 16, line route at km 1,00



Plate 9: General view of the R63, Section 16, line route [1]



Plate 11: General view of the R63, Section 16, line route [3]



Plate 10: General view of the R63, Section 16, line route [2]



Plate 12: End of the R63, Section 16, line route at km 43,64



Plate 13: View of Site R63-S1



Plate 15: View of Site R63-S3



Plate 14: View of Site R63-S2



Plate 16: View of Site R63-S4



Plate 17: View of Site R63-S5



Plate 19: View of Site R63-S7



Plate 18: View of Site R63-S6



Plate 20: View of Site R63-S8



Plate 21: View of Site R63-S9



Plate 23: View of Site R63-S11



Plate 22: View of Site R63-S10



Plate 24: View of Site R63-S12



Plate 25: View of Site R63-S13



Plate 27: View of Site R63-S15



Plate 26: View of Site R63-S14



Plate 28: View of Site R63-S16



Plate 29: View of Site R63-S17



Plate 31: View of Site R63-S19



Plate 30: View of Site R63-S18



Plate 32: Selected bridges along the line route [1]



Plate 33: Selected bridges along the line route (rail bridge 1)



Plate 35: Selected bridges along the line route (rail bridge 2)



Plate 34: Selected bridges along the line route (bridge in Komga)



Plate 36: Stone paved culverts [1]



Plate 37: Stone paved culverts [2]



Plate 39: Stone paved culverts [4]



Plate 38: Stone paved culverts [3]



Plate 40: Stone paved culverts [5]

3 – Environmental Impact Assessment Rating

Identified archaeological and cultural heritage resources are ascribed an Environmental Impact Assessment (EIA) rating, based on the outline presented below to provide a significance rating of development impact on resources, both during the 1) construction and 2) operation and use phases of development (in accordance with NEMA 1998, Regulations 2014):

Overall Nature:	1) Negative (negative impact on affected biophysical or human environment), or 2) Positive (benefit to the affected biophysical or human environment).
Type:	1) Direct (caused by the action and occur at the same time and place), 2) Indirect or secondary (caused by the action and are later in time or further removed in distance but reasonably foreseeable), or 3) Cumulative (impact which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions; can result from individually minor, but collectively significant actions taking place over a period of time).
Spatial Extent:	1) Site (immediate area of activity, incorporating a 5m zone from the edge of the affected area), 2) Local (area up to and/or within 10km from the 'site' as defined above), 3) Regional (entire community, basin or landscape), or 4) National (South Africa).
Duration:	1) Short-term (impact would last for the duration of activities; quickly reversible), 2) Medium-term (impact would affect project activity; reversible over time), 3) Long-term (impact would continue beyond project activity), or 4) Permanent (impact would continue beyond decommissioning).
Severity:	1) Low , 2) Medium , or 3) High , being +) Positive , or -) Negative (based on separately described categories examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functionality or slightly alters the environment itself).
Reversibility:	1) Completely reversible (completely reversible impact with implementation of correct mitigation measures), 2) Partly reversible (partly reversible impact with implementation of correct mitigation measures), or 3) Irreversible (impact cannot be reversed, regardless of mitigation or rehabilitation measures).
Irreplaceable loss:	1) Resource will not be lost (resource will not be lost provided mitigation measures are implemented), 2) Resource will be partly lost (partial loss or destruction of the resource will occur even though management and mitigation measures are implemented), or 3) Resource cannot be replaced (resource is irreplaceable no matter which management or mitigation measures are implemented).
Probability:	1) Unlikely (<40% probability), 2) Possible (40% probability), 3) Probable (>70% probability), or 4) Definite (>90% probability).
Mitigation potential:	1) High or completely mitigatable (relatively easy and cost effective to manage. Specialist expertise and equipment generally not required. Nature of impact easily understood and may be mitigated through implementation of a management plan or 'good housekeeping', including regular monitoring and reporting regimes. Significance of the impact after mitigation is likely to be low or negligible), 2) Moderate or partially mitigatable (management requires higher level of expertise and resources to maintain impacts with acceptable levels. Mitigation can be tied up in the design of the project. Significance of the impacts after mitigation is likely to be low to moderate. It may not be possible to mitigate the impact entirely, with residual impacts resulting), or 3) Low or un-mitigatable (will not be possible to mitigate the impact entirely, regardless of expertise and resources. Potential to manage the impacts may be beyond the scope of the project. Management of the impact is not likely to result in a measurable change in the level of significance).
Impact significance:	1) Negligible , 2) Low (largely of HIGH mitigation potential, after consideration of other criteria), 3) Moderate (largely of MODERATE or partial mitigation potential, after consideration of other criteria), or 4) Substantial (largely of LOW mitigation potential, after consideration of other criteria).

Environmental Impact Assessment Rating: Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape												
Potential Impacts	Overall nature	Type	Spatial extent	Duration	Severity	Reversibility	Irreplaceable loss	Probability	MITIGATION POTENTIAL	IMPACT SIGNIFICANCE		MITIGATION MEASURES
										Without mitigation	With mitigation	
SITES: R63-S1, R63-S2, R63-S3, R63-S4, R63-S5, R63-S6, R63-S7, R63-S8, R63-S9, R63-S10, R63-S11, R63-S12, R63-S13, R63-S14, R63-S15, R63-S16, R63-S17, R63-S18 and R63-S19												
Construction phase	(+)	Direct	Site	Permanent	Medium - High (+)	N/A	Resource will not be lost	Definite	High / Completely mitigatable	Moderate	Negligible	Conservation
Operational phase	(+)	Direct	Site	Permanent	Medium - High (+)	N/A	Resource will not be lost	Definite	High / Completely mitigatable	Moderate	Negligible	Conservation
Mitigation details: Identified heritage resources that will be conserved by development, including temporary conservation measures during the course of construction, where formal conservation measures are already in place and where no additional conservation measures for purposes of development are recommended												

Table 4: Environmental Impact Assessment Rating

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], GKLM, Eastern Cape, proceed provided the developer comply with the listed heritage compliance recommendations (see Table 5).

A total of 19 archaeological and cultural heritage sites, namely Sites R63-S1 to R63-S19, were identified during the field assessment. Development will not impact on any of the identified heritage resources. All identified heritage sites comprise Colonial Period sites, aside from Site R63-S2, a LIA grave site and Site R63-S19 a contemporary site of worship.

Caution needs to be taken while working in proximity to the railway line, with the railway line having been constructed more than 100 years ago, and thus being a heritage site. The development proposal does not include impact on the railway reserve.

Contemporary bridges and stone lined culverts and drainage channels do not comprise heritage sites or structures formally protected by the NHRA 1999.

- The proposed development poses no 'fatal flaws' with reference to archaeological and cultural heritage resources.
- From an archaeological and cultural heritage point of view consideration of a 'No-Go' option is irrelevant.
- No additional archaeological or cultural heritage mitigation recommendations, aside from temporary conservation measures during the course of construction at Site R63-S2 apply to the development.
- The development will have no cumulative impact on archaeological or cultural heritage resources.
- [In the event of any incidental archaeological and cultural heritage resources, as defined and protected by the NHRA 1999¹, being identified during the course of development the process described in 'Appendix B: Heritage Protocol for Incidental Finds during the Construction Phase' should be followed. The developer is advised to ensure a sufficient heritage contingency budget to address incidental finds during the course of development.]

The EC PHRA-APM Unit HIA Comment will state legal requirements for development to proceed, or reasons why, from a heritage perspective, development may not be further considered.

Notes: Should any registered Interested & Affected Party (I&AP) wish to be consulted in terms of Section 38(3)(e) of the NHRA 1999 (socio-cultural consultation / SAHRA SIA) it is recommended that the developer / EAP ensures that the consultation be prioritized within the timeframe of the environmental assessment process.

¹ Simplified Guide to the Identification of Archaeological Sites:

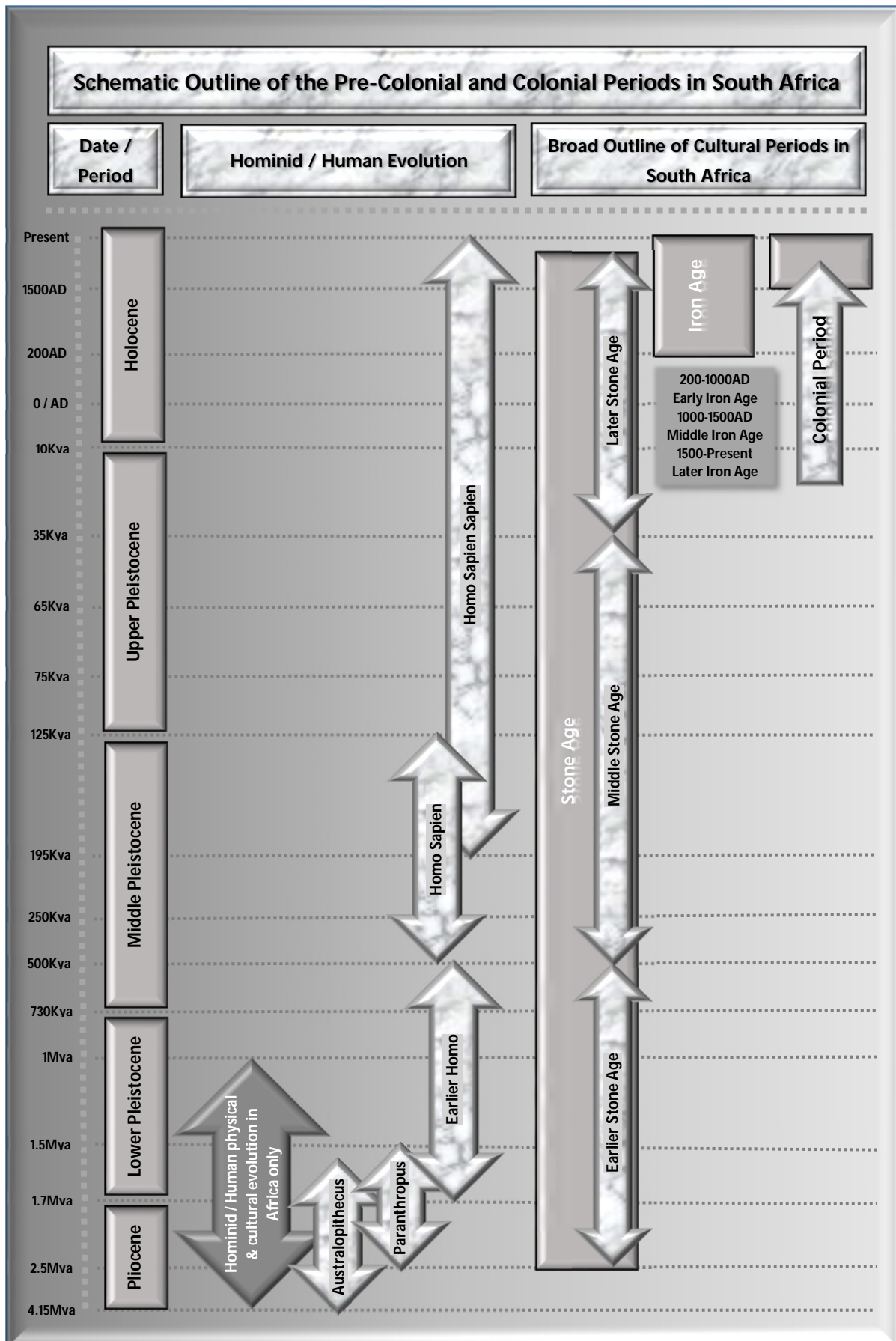
- ❖ **Stone Age** – Knapped stone display flakes and flake scars that appear unnatural and may result in similar type 'shaped' stones often concentrated in clusters or forming a distinct layer in the geological stratigraphy. ESA shapes may represent 'pear' or oval shaped stones, often in the region of 10cm or larger. Typical MSA types include blade-like or rough triangular shaped artefacts, often associated with randomly shaped lithics or flakes that display use- or edge-wear around the rim of the artefact. LSA types are similar to MSA types, but generally smaller (≤3cm in size), often informally shaped, and are frequently found in association with bone, pieces of charcoal, ceramic shards and food remains.
 - **Rock Art** – Includes both painted and engraved images.
 - **Shell Middens** – Include compact shell lenses that may be quite extensive in size or small ephemeral scatters of shell food remains, often associated with LSA artefact remains, but may also be of MSA and Iron Age cultural association.
- ❖ **Iron Age** – Iron Age sites are often characterized by stone features, i.e. the remains of former livestock enclosures or typical household remains; huts are identified by either mound or depression hollows. Typical artefacts include ceramic remains, farming equipment, beads and trade goods, metal artefacts (including jewellery) etc. Remains of the 'Struggle' – events, histories and landmarks associated therewith are often, based on cultural association, classed as part of the Iron Age heritage of South Africa.
- ❖ **Colonial Period** – Built environment remains, either urban or rural, are of a Western cultural affiliation with typical artefacts representing early Western culture, including typical household remains, trade and manufactured goods, such as old bottle, porcelain and metal artefacts. War memorial remains, including the vast array of associated graves and the history of the Industrial Revolution form important parts of South Africa's Colonial Period heritage.
- ❖ **Grave and Cemetery Sites** – Marked grave and cemetery sites are routinely associated with the Iron Age and Colonial Period. Unmarked grave sites associated with the Stone Age, Iron Age and Colonial Period may be uncovered during the course of development.

Heritage Compliance Summary – Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape				
Map Code	Site	Co-ordinates	Site Significance	Recommendations
Upgrade of the N63, Section 16 Development				
Start	N6 Bridge [km 1,00]	S32°41'35.8"; E27°34'25.2"	-	N/A
End	N2 Intersection [km 43,64]	S32°34'41.2"; E27°57'19.4"	-	N/A
Q4	Quarry 4	S32°39'22.7"; E27°38'52.4"	-	N/A
Q11	Quarry 11	S32°35'42.2"; E27°45'50.9"	-	N/A
BP22	Borrow Pit 22	S32°35'03.5"; E27°46'13.1"	-	N/A
BP25	Borrow Pit 25	S32°33'32.9"; E27°46'04.1"	-	N/A
Q18	Quarry 18	S32°35'14.7"; E27°48'19.1"	-	N/A
BP26	Borrow Pit 26	S32°35'14.9"; E27°50'19.1"	-	N/A
BP23	Borrow Pit 23	S32°34'37.1"; E27°55'59.1"	-	N/A
Q9	Quarry 9	S32°33'50.8"; E27°57'40.4"	-	N/A
Site R63-S1	Colonial Period – Bridge	S32°39'16.1"; E27°38'46.8"	Automatic High Provincial Grade II Significance	Recorded for heritage database purposes only
Site R63-S2	LIA – Grave and Memorial	S32°35'05.4"; E27°46'24.3"	High / Medium Significance Generally Protected IV-A	Temporary heritage conservation and signage during the construction phase
Site R63-S3	Colonial Period – Farmstead	S32°35'16.0"; E27°49'29.7"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S4	Colonial Period – Residence	S32°34'41.6"; E27°53'09.1"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S5	Colonial Period – Outbuildings	S32°34'37.1"; E27°53'17.2"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S6	Colonial Period – Outbuildings	S32°34'36.8"; E27°53'19.0"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S7	Colonial Period – Store	S32°34'39.2"; E27°53'20.1"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S8	Colonial Period – GKLM Building 1	S32°34'37.5"; E27°53'28.8"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S9	Colonial Period – Store	S32°34'36.4"; E27°53'30.0"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S10	Colonial Period – GKLM Building 2	S32°34'36.9"; E27°53'32.4"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S11	Colonial Period – Structure (Standard Bank)	S32°34'36.3"; E27°53'30.8"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S12	Colonial Period – Residence	S32°34'35.7"; E27°53'33.0"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S13	Colonial Period – Store	S32°34'37.0"; E27°53'31.7"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S14	Colonial Period – Store	S32°34'37.1"; E27°53'30.5"	Automatic High Provincial Grade II Significance	In-situ Conservation (no additional conservation measures required)
Site R63-S15	Colonial Period – Residence	S32°34'35.6"; E27°53'39.5"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S16	Colonial Period – Residence	S32°34'35.8"; E27°53'42.8"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S17	Colonial Period – Memorial	S32°34'34.7"; E27°53'43.4"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S18	Colonial Period – School	S32°34'34.6"; E27°53'45.2"	Automatic High Provincial Grade II Significance	Formal heritage conservation measures in place
Site R63-S19	Contemporary Period – Church	S32°34'35.2"; E27°54'06.8"	High / Medium Significance Generally Protected IV-A	Formal heritage conservation measures in place

Table 5: Heritage compliance summary

AD	: Anno Domini (the year 0)
AIA	: Archaeological Impact Assessment
AMAFA	: Amafa aKwaZulu-Natali (Natal PHRA)
ASAPA	: Association of Southern African Professional Archaeologists
BAR	: Basic Assessment Report
BC	: Before the Birth of Christ (the year 0)
BCE	: Before the Common Era (the year 0)
BID	: Background Information Document
BP	: Before the Present (the year 0)
cm	: Centimetre
CMP	: Conservation Management Plan
CRM	: Cultural Resources Management
DAC	: Department of Arts and Culture
DEAT	: Department of Environmental Affairs and Tourism
DME	: Department of Minerals and Energy
EAP	: Environmental Assessment Practitioner
ECO	: Environmental Control Officer
ELO	: Environmental Liaison Officer
EC PHRA	: Eastern Cape Provincial Heritage Resources Authority
EIA ₁	: Environmental Impact Assessment
EIA ₂	: Early Iron Age
EMPr	: Environmental Management Plan / Programme Report
ESA	: Earlier Stone Age
ha	: Hectare
HIA	: Heritage Impact Assessment
HWC	: Heritage Western Cape
ICOMOS	: International Council on Monuments and Sites
IEM	: Integrated Environmental Management
km	: kilometre
Kya	: Thousands of years ago
LIA	: Later Iron Age
LSA	: Later Stone Age
m	: metre
m ²	: Square meter
MIA	: Middle Iron Age
Mm	: millimetre
MPRDA 2002	: Mineral and Petroleum Resources Development Act, No 28 of 2002
MSA	: Middle Stone Age
Mya	: Millions of years ago
NEMA 1998	: National Environmental Management Act, No 107 of 1998
NHRA 1999	: National Heritage Resources Act, No 25 of 1999
PIA	: Palaeontological Impact Assessment
PHRA	: Provincial Heritage Resources Authority
PSSA	: Palaeontological Society of South Africa
PPP	: Public Participation Process
SAHRA	: South African Heritage Resources Agency
SAHRIS	: South African Heritage Resources Information System
SIA	: Social Impact Assessment

1. Anderson, G. 2014. (Umlando). *Heritage Survey of the Great Kei Wind Energy Facility, Eastern Cape.*
2. EOH-CES. 2017. *The Upgrading of National Route R63 Section 16 between N6 Bridge (km 1,0) and the N2 East of Komga (km 43,64) within the Great Kei Local Municipality of the Eastern Cape Province.*
3. Gaigher, S. 2015. (G&A Heritage). *Heritage Impact Assessment Report for the Proposed Upgrade and Construction of the Kei Road Water Treatment Works and Conveyance.*
4. Hirst, M. & Victor, S. 2004. (Amathole Museum). *An Heritage Impact Assessment of the Development of the East London Regional Waste Disposal Site on the Grave of the Xhosa Poet Laureate S.E.K. Mqhayi (1875-1945) at Ntab'Ozuko, Berlin, Eastern Cape.*
5. <https://archive.org/details/DictionaryOfSouthernAfricanPlaceNames> [Accessed: November 2017].
6. <https://en.wikipedia.org/wiki/Komga> [Accessed: November 2017].
7. https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Eastern_Cape [Accessed: November 2017].
8. SAHRA. 2007. *Minimum Standards for the Archaeological and Palaeontological Components of Impact Assessments.*
9. South African Government. (No 107 of) 1998. *National Environmental Management Act.*
10. South African Government. (No 25 of) 1999. *National Heritage Resources Act.*
11. Van Ryneveld, K. 2013. (ArchaeoMaps). *Phase 1 Archaeological Impact Assessment – Ngcizele Phase 2 Village Water Supply, near Centane, Amathole District Municipality, Eastern Cape, South Africa.*
12. Van Schalkwyk, J.A. 2011. (Private). *Heritage Impact Assessment for the Proposed 400kV Electricity Transmission Line, Neptune to Poseidon Substations, East London to Cookhouse, Eastern Cape Province.*
13. www.artefacts.co.za/main/Buildings/bldgframes.php?bldgid=12041 [Accessed: November 2017].





Heritage Impact Assessment (HIA) – Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], Great Kei Local Municipality, Eastern Cape

Heritage Protocol for Incidental Finds during the Construction Phase

Should any palaeontological, archaeological or cultural heritage resources, including human remains / graves, as defined and protected by the NHRA 1999, be identified during the construction phase of development (including as a norm during vegetation clearing, surface scraping, trenching and excavation phases), it is recommended that the process described below be followed.

➤ **On-site Reporting Process:**

1. The identifier should immediately notify his / her supervisor of the find.
2. The identifier's supervisor should immediately (and within 24 hours after reporting by the identifier) report the incident to the on-site SHE / SHEQ officer.
3. The on-site SHE / SHEQ officer should immediately (and within 24 hours after reporting by the relevant supervisor) report the incident to the appointed ECO / ELO officer. [Should the find relate to human remains the SHE / SHEQ officer should immediately notify the nearest SAPS station informing them of the find].
4. The ECO / ELO officer should ensure that the find is within 72 hours after the SHE / SHEQ officers report reported on SAHRIS and that a relevant heritage specialist is contacted to make arrangements for a heritage site inspection. [Should the find relate to human remains the ECO / ELO officer should ensure that the archaeological site inspection coincides with a SAPS site inspection, to verify if the find is of forensic, authentic (informal / older than 60 years), or archaeological (older than 100 years) origin].
5. The appointed heritage specialist should compile a 'heritage site inspection' report based on the site specific findings. The site inspection report should make recommendations for the destruction, conservation or mitigation of the find and prescribe a recommended way forward for development. The 'heritage site inspection' report should be submitted to the ECO / ELO, who should ensure submission thereof on SAHRIS.
6. SAHRA / the relevant PHRA will state legal requirements for development to proceed in the SAHRA / PHRA Comment on the 'heritage site inspection' report.
7. The developer should proceed with implementation of the SAHRA / PHRA Comment requirements. SAHRA / PHRA Comment requirements may well stipulate permit specifications for development to proceed.
 - Should permit specifications stipulate further Phase 2 archaeological investigation (including grave mitigation) a suitably accredited heritage specialist should be appointed to conduct the work according to the applicable SAHRA / PHRA process. The heritage specialist should apply for the permit. Upon issue of the SAHRA / PHRA permit the Phase 2 heritage mitigation program may commence.
 - Should permit specifications stipulate destruction of the find under a SAHRA / PHRA permit the developer should immediately proceed with the permit application. Upon the issue of the SAHRA / PHRA permit the developer may legally proceed with destruction of the palaeontological, archaeological or cultural heritage resource.
 - Upon completion of the Phase 2 heritage mitigation program the heritage specialist will submit a Phase 2 report to the ECO / ELO, who should in turn ensure submission thereof on SAHRIS. Report recommendations may include that the remainder of a heritage site be destroyed under a SAHRA / PHRA permit.
 - Should the find relate to human remains of forensic origin the matter will be directly addressed by the SAPS: A SAHRA / PHRA permit will not be applicable.

NOTE: Note that SAHRA / PHRA permit and process requirements relating to the mitigation of human remains requires suitable advertising of the find, a consultation, mitigation and re-interment / deposition process.

➤ **Duties of the Supervisor:**

1. The supervisor should immediately upon reporting by the identifier ensure that all work in the vicinity of the find is ceased.
2. The supervisor should ensure that the location of the find is immediately secured (and within 12 hours of reporting by the identifier), by means of a temporary conservation fence (construction netting) allowing for a 5-10m heritage conservation buffer zone around the find. The temporary conserved area should be sign-posted as a 'No Entry – Heritage Site' zone.
3. Where development has impacted on the resource, no attempt should be made to remove artefacts / objects / remains further from their context, and artefacts / objects / remains that have been removed should be collected and placed within the conservation area or kept for safekeeping with the SHE / SHEQ officer. It is imperative that where development has impacted on palaeontological, archaeological and cultural heritage resources the context of the find be preserved as good as possible for interpretive and sample testing purposes.
4. The supervisor should record the name, company and capacity of the identifier and compile a brief report describing the events surrounding the find. The report should be submitted to the SHE / SHEQ officer at the time of the incident report.

➤ **Duties of the SHE / SHEQ Officer:**

1. The SHE / SHEQ officer should ensure that the location of the find is recorded with a GPS. A photographic record of the find (including implementation of temporary conservation measures) should be compiled. Where relevant a scale bar or object that can indicate scale should be inserted in photographs for interpretive purposes.
2. The SHE / SHEQ officer should ensure that the supervisors report, GPS co-ordinate and photographic record of the find be submitted to the ECO / ELO officer. [Should the find relate to human remains the SHE / SHEQ officer should ensure that the mentioned reporting be made available to the SAPS at the time of the incident report].
3. Any retrieved artefacts / objects / remains should, in consultation with the ECO / ELO officer, be deposited in a safe place (preferably on-site) for safekeeping.

➤ **Duties of the ECO / ELO officer:**

1. The ECO / ELO officer should ensure that the incident is reported on SAHRIS. (The ECO / ELO officer should ensure that he / she is registered on the relevant SAHRIS case with SAHRIS authorship to the case at the time of appointment to enable heritage reporting).
2. The ECO / ELO officer should ensure that the incident report is forwarded to the heritage specialist for interpretive purposes at his / her soonest opportunity and prior to the heritage site inspection.
3. The ECO / ELO officer should facilitate appointment of the heritage specialist by the developer / construction consultant for the heritage site inspection.
4. The ECO / ELO officer should facilitate access by the heritage specialist to any retrieved artefacts / objects / remains that have been kept in safekeeping.
5. The ECO / ELO officer should facilitate coordination of the heritage site inspection and the SAPS site inspection in the event of a human remains incident report.
6. The ECO / ELO officer should facilitate heritage reporting and heritage compliance requirements by SAHRA / the relevant PHRA, between the developer / construction consultant, the heritage specialist, the SHE / SHEQ officer (where relevant) and the SAPS (where relevant).

➤ **Duties of the Developer / Construction Consultant:**

The developer / construction consultant should ensure that an adequate heritage contingency budget is accommodated within the project budget to facilitate and streamline the heritage compliance process in the event of identification of incidental palaeontological, archaeological and cultural heritage resources during the course of development, including as a norm during vegetation clearing, surface scraping, trenching and excavation phases, when resources not visible at the time of the surface assessment may well be exposed.

Resumé
Karen van Ryneveld
2017

Name: Karen van Ryneveld

Contact Details: 1) Mobile – 084 871 1064
2) E-mail – karen@archaeomaps.co.za
3) Website – www.archaeomaps.co.za
4) Postal address – Postnet Suite 239, Private Bag X3, Beacon Bay, 5205

Company: ArchaeoMaps cc

Occupation: Archaeologist

Qualification: MSc Archaeology (WITS University – 2003)

Accreditation: 1) Association of Southern African Professional Archaeologists (ASAPA) accredited Cultural Resources Management CRM practitioner [member nr – 163]
 o 2010 – ASAPA CRM Section: Principle Investigator – Stone Age
 o 2005 – ASAPA CRM Section: Field Director – Iron Age & Colonial Period
 2) SAHRA, AMAFA, EC PHRA and HWC listed ASAPA accredited CRM archaeologist

Tertiary Education

2015 – Present **University of Fort Hare (UFH), East London** (MPhil Environmental Studies)

2010 **University of South Africa (UNISA), Pretoria** (Project Management 501)

2006 – 2007 **Nelson Mandela Metropolitan University (NMMU), Port Elizabeth** (Undergraduate Certificate in Geographical Information Systems – GIS)

2001 – 2003 **University of the Witwatersrand (WITS), Johannesburg** (MSc Archaeology)

1999 – 2000 **University of Pretoria (UP), Pretoria** (BA Hons. Archaeology)

1991 – 1993 **University of Pretoria (UP), Pretoria** (BA Archaeology & History of Art)

Courses

2016/01 SPA (Safety Passport Alliance) – Petrol Retail [SA Safety Management Training Services – SMST]

Employment – Professional Archaeology

2007/04 – Present ArchaeoMaps [Self-employed] (Archaeologist – CRM)

2006/06 – 2007/03 National Museum, Bloemfontein (Archaeologist – CRM, Dept. of Archaeology)

2005/04 – 2006/05 McGregor Museum, Kimberley (Archaeologist – CRM / Research, Dept. of Archaeology)

2004/04 – 2005/01 Amafa aKwaZulu-Natali (HoD: Archaeology, Palaeontology & Meteorites Unit – APM Unit)

2002/09 – 2004/03 McGregor Museum, Kimberley (Archaeologist – CRM / Research, Dept. of Archaeology)

Employment – Freelance: Ground Penetrating Radar

2015/10 – Present Terra Scan assistant (BCM area, EC) – GPR & underground utilities focussing on petrol retail (oil & gas) industry

Archaeology – Summary

Karen has been involved in CRM archaeology since 2003 and has been the author (including selected co-authored reports) of approximately 500 Phase 1 AIA studies. Phase 1 AIA work is centred in South Africa, focussing on the Northern and Eastern Cape provinces and the Free State. She has also conducted Phase 1 work in Botswana (2006 / 2007). In 2007 she started ArchaeoMaps, an independent archaeological and heritage consultancy. In 2010 she was awarded ASAPA CRM Principle Investigator (PI) status based on large scale Phase 2 Stone Age mitigation work (De Beers Consolidated Mines – Rooipoort, Northern Cape, 2008 / 2009) and has also been involved in a number of other Phase 2 projects including Stone Age, Shell Middens, Grave / Cemetery projects and Iron Age sites.

In addition to CRM archaeology she has been involved in research, including the international collaborations at Maloney's Kloof and Grootkloof, Ghaap Plateau, Northern Cape (2005 / 2006). Archaeological compliance experience includes her position as Head of the Archaeology, palaeontology and Meteorites (APM) Unit at AMAFA aKwaZulu-Natali (2004).

Company Profile

Company Name : ArchaeoMaps cc
 Registration Number : 2005/180719/23
 VAT Number : Not VAT Registered
 Accountant : AZIMA Financial Services
 Members / Shareholders : Karen van Ryneveld (100%)
 BBBEE Status : Exempted Micro Enterprise (EME)