
PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**WATER SUPPLY BACKLOG IN CHDM:
CLUSTER 2, PHASE 2, REGIONAL SCHEME 3,
(NEAR LADY FRERE), EASTERN CAPE, SOUTH AFRICA**

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1) TERMS OF REFERENCE

Biotechnology and Environmental Specialist Consultancy (BESC) has been appointed as independent environmental consultant by Uhambiso Consult (Pty) Ltd on behalf of the project proponent, the Chris Hani District Municipality (CHDM), to prepare the Basic Assessment Report and the Environmental Management Plan Report for the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project*. ArchaeoMaps Archaeological Consultancy has been appointed by BESC to conduct the Phase 1 Archaeological Impact Assessment (AIA) as specialist sub-section to the Basic Assessment Report.

1.1) *Development Location, Details & Impact*

The proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project* is situated approximately 20km south-east of Lady Frere, 30km north-west of Cofimvaba and 50km west of Queenstown in the Eastern Cape, bordering the Lubisi dam to the north-east. The project focuses on the supply of water to the villages of Njombela, Maloyi, Qutubeni, Drayini, Ligwa, Kwatshatsu, Endwe and Lubolo, as well as smaller villages and settlements in the direct vicinity thereof. The approximate 90km line route development is designed to closely follow existing gravel access roads and tracks, while more or less 10km of the development alignment will traverse prior undisturbed land.

The proposed development area can easily be accessed via the R410 (Lady Frere) or the R61 (Cofimvaba), from where a network of gravel access roads leads to the study site.

The study site comprises of communal land, primarily used for agricultural and live stock farming. The most prominent vegetation types can be described as *Tsomo Grassland* and *Drakensberg Foothill Moist Grassland*, while the area is geographically characterized by moderately rolling hills and mountainous areas, much incised by river gorges displaying a mosaic of drier vegetation types and forest (BESC 2010).

The proposed development aims to address, in part, the magnitude of water supply problems across the project area. At present villagers are reliant on an insufficient supply of water, often requiring them to walk great distances to collect water (supplemented by limited municipal truck supplies from Lady Frere). Current water supplies are also unstable, resulting in the lack of or extremely limited quantities thereof; prohibiting access to minimum amounts required for domestic or economic use. In addition analysis of water sources showed that water is seldom of a quality suitable for human consumption (BESC 2010).

The proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project* will include the following activities (BESC 2010):

1. Construction of pipelines with diameters between 50mm and 100mm;
2. Installation and replacement of standpipes;
3. Rehabilitation of borehole pumps, meters, mechanical and electrical equipment for boreholes;
4. Repair of equipment and ancillary works to the existing infrastructure and equipment; and
5. Minor earthworks such as the construction of berms and gabions.

Based on the above the impact of the proposed development can be described as localized but total; implying the loss of all surface and sub-surface heritage resources in the immediate vicinity of the line route with an estimated impact development corridor not exceeding 7-10m in width.



Figure 1: General locality of the proposed Regional Scheme 3 development area between Lady Frere, Cofimvaba and Queenstown - 1



Figure 2: General locality of the proposed Regional Scheme 3 development area between Lady Frere, Cofimvaba and Queenstown - 2



Figure 3: The villages of Njombela, Maloyi, Qutubeni, Drayini, Ligwa, Kwatshatsu, Endwe and Lubolo located within the proposed Regional Scheme 3 development area



Figure 4: The proposed Regional Scheme 3 development alignment



Figure 5: Regional Scheme 3 – development co-ordinates

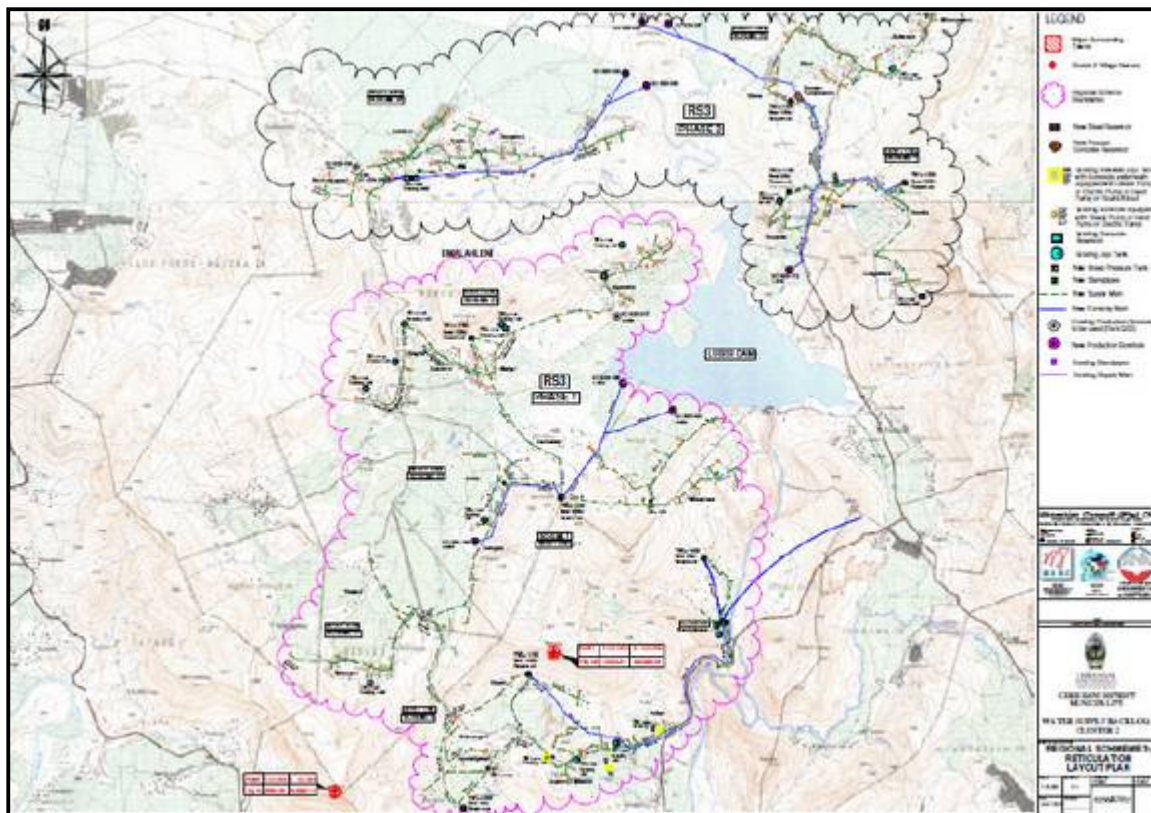


Figure 6: Greater design plan of the Regional Scheme 3 study site (courtesy Uhambiso Consult & BESC)

2) THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

2.1) *Archaeological Legislative Compliance*

The Phase 1 Archaeological Impact Assessment (AIA) was requested by the South African Heritage Resources Agency (SAHRA) mandatory responsible for the National Heritage Resources Act, Act No 25 of 1999 (NHRA 1999). The Phase 1 AIA comprises one of three parts of the Heritage Impact Assessment (HIA) for purposes of development compliance to requirements set out in the NHRA 1999, being:

- 1) The Palaeontological Impact Assessment (PIA);
- 2) The Archaeological Impact Assessment (AIA); and
- 3) The Socio-cultural Impact Assessment (SCIA).

The Phase 1 AIA was requested as specialist sub-section to the HIA for the developments' Basic Assessment Report and Environmental Management Plan (EMP) Report in compliance with requirements of the National Environmental Management Act, No 107 of 1998 (NEMA 1998), the NEMA 2nd Amendment Act, No 62 of 2008 (NEMA 2008) and the NEMA Regulations (2006), and the NHRA 1999 and NHRA Regulations (2000 & 2002).

The Phase 1 AIA aimed to locate, identify and assess the significance of cultural heritage resources, inclusive of archaeological deposits / sites, built structures older than 60 years, burial grounds and graves, graves of victims of conflict and cultural landscapes or viewsapes as defined and protected by the NHRA 1999, that may be affected by the proposed development.

- Palaeontological deposits / sites as defined and protected by the NHRA 1999 are not included as subject to this report.
- No socio-cultural consultation was conducted with the aim to identify intangible heritage resources or sites of cultural significance associated with oral histories. Comments on potential socio-cultural aspects are included in section 2.5) Socio-cultural Consultation.

2.2) *Methodology & Assessor Accreditation*

The Phase 1 AIA was conducted over a 5 day period (2010-08-09 to 2010-08-13) by one archaeologist. The assessment was done by foot and LVD, and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. GPS co-ordinates were taken with a Garmin GPSmap 60CSx GPS (Datum: WGS84). Photographic documentation was done with a Pentax K20D camera. A combination of Garmap and Google Earth software was used in the display of spatial information.

The assessment was done by Karen van Ryneveld (ArchaeoMaps):

- Qualification: MSc Archaeology (2003) WITS University.
- Accreditation:
 1. 2004 – Association of Southern African Professional Archaeologists (ASAPA) – Professional Member.
 2. 2005 – ASAPA CRM Section: Accreditation – Field Director (Stone Age, Iron Age, Colonial Period).
 3. 2010 – ASAPA CRM Section: Accreditation – Principle Investigator (Stone Age).

Karen van Ryneveld is a SAHRA listed CRM archaeologist.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT			
<i>SITE SIGNIFICANCE</i>	<i>FIELD RATING</i>	<i>GRADE</i>	<i>RECOMMENDED MITIGATION</i>
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	Site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	-	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	-	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	-	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

Table 1: SAHRA archaeological and cultural heritage site significance assessment

2.3) Coverage and Gap Analysis

The Phase 1 AIA covered the total of the proposed approximate 90km linear line route, but approaching spot assessment methodology along the 10km virgin area alignment due to thick vegetation limiting basic access to the precise line route. The assessment aimed at a development corridor of between 7-15m, with deviations thereof based on basic visibility (open landscapes), existing access and landscape gradient and sites within an approximate 100m distance from the line route development were recorded.

More formal villages and settlement areas were often characterized by fenced homesteads providing for very limited or confined road reserves and by implication development impact corridors. The majority of the study site is however typified by open landscape, used for farming purposes, and fairly informal settlement or development located adjacent thereto. Where settlement patterns became less formalized fenced homesteads became less common, allowing a wider assessment area and interpretation, despite the fact that assessment did not impact on informal homestead perimeters for purposes of ownership privacy.

Landscape features that affected the assessment area are primarily based on slope gradient, with particularly steep slopes often regulating access roads and of necessity also the development corridor. Steep slopes, often the result of changing underlying geology are also regularly associated with a change in vegetation. Thick vegetation on most of the higher lying areas, hills and mountains resulted in poor surface visibility, negatively affecting assessment outcomes particularly in virgin areas where access roads and tracks couldn't provide for at least minimum surface visibility and often slight sub-surface assessment and interpretation.

2.4) Phase 1 AIA Assessment findings

A total of 50 archaeological and cultural heritage resources or type sites, as defined and protected under the NHRA 1999, were identified during the course of the Phase 1 AIA for the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project*.

Identified heritage resources are classed in the following categories:

1. *Contemporary Resources*, including graves and cemeteries (20 sites). Identified sites include cemeteries and burial places primarily in current use but more than often with an origin pre-dating 60 years of age implying that these sites despite their description as ‘contemporary’ are formally protected under the NHRA 1999. Traditional burial practices, where graves are not customarily marked with an inscribed headstone, makes identification of graves pre-dating and post-dating 60 years of age particularly difficult. Formal (formally fenced cemeteries with access gates) and informal (unfenced) cemeteries were found in mosaic distribution and brief community consultation indicated that burial practice and grave type is essentially based on cultural preference, and may include burial in a homestead yard, at an unfenced cemetery or burial place or in a formal cemetery. Based on cultural preference and the evident direct ancestral relation between earlier graves and the contemporary community it is recommended that local consultation precede formal conservation in accordance with SAHRA Minimum Site Conservation Standards, since fencing of ancestral sites may well be perceived as offensive by (some of) the local populations or communities.
2. *Historical Period Tradition Resources* is represented by a single site that, based on proximity from the study site, will not be impacted on by the proposed development.
3. *Iron Age Tradition Resources*, including primarily Iron Age Homesteads as well as evidence of communal farming (26 sites) are all ascribed to the Later Iron Age. Preliminary consultation with villagers at the time of the assessment indicated that known origin of Iron Age occupation in the area dates to 3-4 generations ago, but slightly higher temporal time depth may well be inferred based on archaeological findings. Iron Age sites were spread across the extent of the study site. Sites are as a norm quite big with individual site components or features spread quite widely across the landscape. Current development design indicates that particular caution was taken during planning of the development to not impact on the fairly visible Iron Age remains; recorded sites will not be impacted on but proximity of sites to the development are of importance. The existing access road (and by implication the proposed development alignment) will in 2 cases traverse Iron Age sites (Site I10 and I25), but will not impact on individual site features. Again it is recommended that basic SAHRA Site Conservation Standards – the formal fencing of heritage sites protected under the NHRA 1999, be considered against cultural preference and current land use. Brief community consultation during the time of the assessment indicated that villagers still often visit ancestral sites and that the formal fencing thereof may in cases be considered as offensive to direct descendants of the sites. In addition particularly widespread site components would require that large portions be fenced in, this will affect current land use practices, primarily informal livestock farming, the primary income of the community at large. Sites are at present fairly well maintained and affected by low impact of grazing livestock serving the additional purpose of keeping vegetation quite low. Without the finances to manage fenced sites, sites may well become overgrown causing greater damage to the sites than the present low negative impact of grazing stock.
4. *Stone Age Tradition Resources* were found widespread across the proposed study site. Resources were categorized in 3 classes for purposes of the site descriptions namely:
 - *High Density MSA Deposits (Area 1, Area 2 and Area 3);*
 - *Medium Density MSA and LSA Deposits (Area 4, Area 5, Area 6 and Area 7); and*
 - *Low density Stone Age Deposits*

Development will directly impact on all of the abovementioned classes. High and Medium density Deposits are typified by particularly large surface occurrences often approaching 100’s of hectares in size; conservation of these deposits will not be possible if cognizance is taken of the aim of the development namely the supply of potable water to contemporary villagers / homesteads. It is recommended that development be preceded by Phase 2 archaeological mitigation. Based on the limited impact of the

development on large Stone Age sites Phase 2 mitigation is suggested to be restricted to excavation at a single High Density MSA Deposit, with excavated data supplemented by test pitting only at High and Medium Density Areas to provide a basic interpretation of Stone Age resources across the area. In addition development will impact on Low Density Stone Age Deposits, characterizing much of the proposed study site – it is recommended that development in these areas proceed as applied for without the developer having to engage in additional mitigation of Low Density Stone Age Deposits, based on their limited scientific value vs. data that will be gained from mitigation as recommended.



Figure 7: Phase 1 AIA assessment findings

2.4.1) Contemporary Resources

A total of 20 contemporary cultural heritage resources were identified during the Phase 1 AIA of the proposed Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project, near Lady Frere in the Eastern Cape. None of the identified resources will be directly impacted on by the proposed development; sites will by implication be conserved.

Formal cemeteries (formally fenced with an access gate) and informal cemeteries (unfenced, open cemeteries) were located in mosaic distribution across the study site, implying that there is no pattern associated with the type of cemeteries for example formal cemeteries in more formal villages and informal cemeteries in more rural areas. Informal consultation with a number of villagers during the assessment indicated that burial practice (in a formal or informal cemetery) can primarily be ascribed to personal / cultural preference. Based thereon, and because many graves pre-dating 60 years of age form component parts of both formal and informal cemeteries, but are evidently directly ancestral to contemporary inhabitants, it is recommended that direct descendant preference and contemporary practice be considered and that the SAHRA minimum standards for site conservation be contemplated rather than being imposed. In light of the above preliminary conservation recommendations include both formal and informal conservation measures, and no conservation where formal conservation measures are already in place or where proximity from the development alignment would not require any addition conservation measures. Local consultation prior to any conservation measures taken is primary, and should override preliminary conservation recommendations made in this report: Formal conservation should only proceed if approved by the immediate community. The same hold true for any informal conservation measures. Where formal or informal measures are taken borders of cemeteries should be verified with the immediate local community. Should a particular local community be opposed to both formal and informal conservation measures (as this may be regarded as disrespectful), it is recommended that development proceeds in the vicinity of the site provided particular care is taken to not impact on the site(s).

With regards to identified cemetery or contemporary heritage sites the following preliminary conservation measures are recommended:

1. No additional conservation measures are necessary for Sites C4, C7, C8, C14, C16 and C18.
2. Formal conservation (provided it is approved by the local community) is recommended for Sites C2, C3, C6, C9, C10, C11, C12, and C17.
3. Temporary conservation (provided it is approved by the local community) is recommended for sites C1, C5, C13, C15, C19 and C20.

2.4.1.1) SITE C1 – Cemetery - S31°50'45.8"; E27°25'06.4"



Figure 8: Locality of Site C1

Site C1 (S31°50'45.8"; E27°25'06.4") is situated in Lubolo Village, immediately adjacent to the main access road at the fence of the village school. The site comprises of a small informal burial area of perhaps 3 graves, 2 of which are clearly identifiable. A stone scatter immediately to the north of the 2 identifiable graves may be indicative of an old grave. The 2 identifiable graves are typified by well built-up stone outlines, earth fills and inscribed headstones. One of the graves pre-date 60 years of age, while the other post-dates 60 years: The site is formally protected under the NHRA 1999.

The site need not be impacted on by the proposed development. The graves are situated approximately 3-4m from the current road alignment, with proposed development impact restricted to the immediate road reserve; but proximity of the graves to the development area is of concern.

- RECOMMENDATIONS:** *Site C1 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. Development need not impact on the site, but proximity of the site to the development area does necessitate conservation measures: The developer may consider either formal or temporary conservation measures. Temporary conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- 1) Site C1 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.

OR

FORMAL CONSERVATION MEASURES

- 1) Site C1 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.
- 2) Formal conservation should be considered only if within legal parameters regarding obstruction / development to a road or road reserve.
- 3) Formal conservation should commence only after community consultation and approval.



Figure 9: View of the Site C1 graves



Figure 10: Close-up of the C1 graves with inscribed headstones

2.4.1.2) SITE C2 – Cemetery - S31°52'12.0"; E27°24'05.9"



Figure 11: Locality of Site C2

Site C2 (S31°52'12.0"; E27°24'05.9") comprises of a relatively large approximate 80x80m cemetery located south-west of the settlement locally known as Lanti Cocestin. Graves are traditionally stone outlined and earth filled with many of the graves having stone headstones, often inscribed. Graves may date back to approximately 3-4 generations, with many pre-dating 60 years of age and implying at least an approximate date of origin of the settlement. Site C2 is formally protected under the NHRA 1999. (The C2 cemetery overlies rich Stone Age deposits).

The line route has been planned to pass safely north of the site, between Sites C2 and C3 and development will not impact directly on the site.

- RECOMMENDATIONS:** *Site C2 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The line route will pass north of the site, between Sites C2 and C3: Proximity of the site to the development alignment does call for conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- Site C2 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C2 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should commence only after community consultation and approval.*



Figure 12: View over a portion of the C2 cemetery



Figure 13: A selection of graves from Site C2

2.4.1.3) SITE C3 – Cemetery - S31°52'06.4"; E27°24'01.3"



Figure 14: Locality of Site C3

Site C3 (S31°52'06.4"; E27°24'01.3") comprises the 2nd Lanti Cocestin cemetery situated towards the north-west of Site C2. The site again comprises an approximate 80x80m area containing primarily traditionally stone outlined and earth filled graves. Many graves have stone headstones, often inscribed. A single modern individually fenced grave comprises part of the C3 cemetery. The cemetery is formally protected under the NHRA 1999. (Site C3 overlies rich Stone Age deposits).

The line route will pass south of the site and will not impact on any of the C3 graves. Due to proximity of the site to the line route additional conservation measures are required.

- **RECOMMENDATIONS:** *Site C3 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The line route will pass south of the site, between Sites C2 and C3: Proximity of the site to the development alignment does call for conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- 1) *Site C3 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C3 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should commence only after community consultation and approval.*



Figure 15: A selection of graves from Site C3



Figure 16: General view of Site C3 with the modern individually fenced grave in the foreground

2.4.1.4) SITE C4 – Cemetery - S31°52'27.9"; E27°23'40.3"



Figure 17: Locality of Site C4

The Site C4 cemetery (S31°52'27.9"; E27°23'40.3") is situated to the south of Dwareni Village and approximately 120m south of the proposed line route: development will by implication not impact on the site. The site comprises of a number of widely scattered graves varying from well defined stone outlined and earth filled graves to graves where only the original stone outlines are still discernable, inferred to represent older graves. The informal cemetery is accessibly by a gravel access road network. The site is formally protected under the NHRA 1999.

- RECOMMENDATIONS:** *Site C4 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated 120m to the south of the proposed line route; development will thus not impact on the site and the site will be conserved in situ. Additional conservation measures are not necessary prior to development.*



Figure 18: View of a selection of the C4 graves - 1



Figure 19: View of a selection of the C4 graves - 2

2.4.1.5) SITE C5 – Cemetery - S31°52'24.6"; E27°23'35.4"



Figure 20: Locality of Site C5

Site C5 (S31°52'24.6"; E27°23'35.4") comprises of a line of graves along the homestead gravel access road with the grave closest to the line route development being approximately 10m thereof. The family cemetery constitutes a heritage site formally protected under the NHRA 1999. Due to ownership privacy all graves weren't inspected but it can reasonably be inferred that some graves will pre-date 60 years of age. Graves are typically stone outlined and earth filled.

- RECOMMENDATIONS:** *Site C5 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated at least 10m from the proposed development line route; development will not impact directly on the site; the site will thus be conserved. Due to the location of the family cemetery, immediately adjacent to the homestead gravel access road formal conservation would imply rerouting of the access road and is thus not recommended. The developer may consider temporary conservation measures (pole with plastic danger tape) during the construction period provided it is preceded by family consultation and approval.*



Figure 21: General view of Site C5



Figure 22: Close-up of some of the C5 graves

2.4.1.6) SITE C6 – Cemetery - S31°50'34.0"; E27°20'06.6"

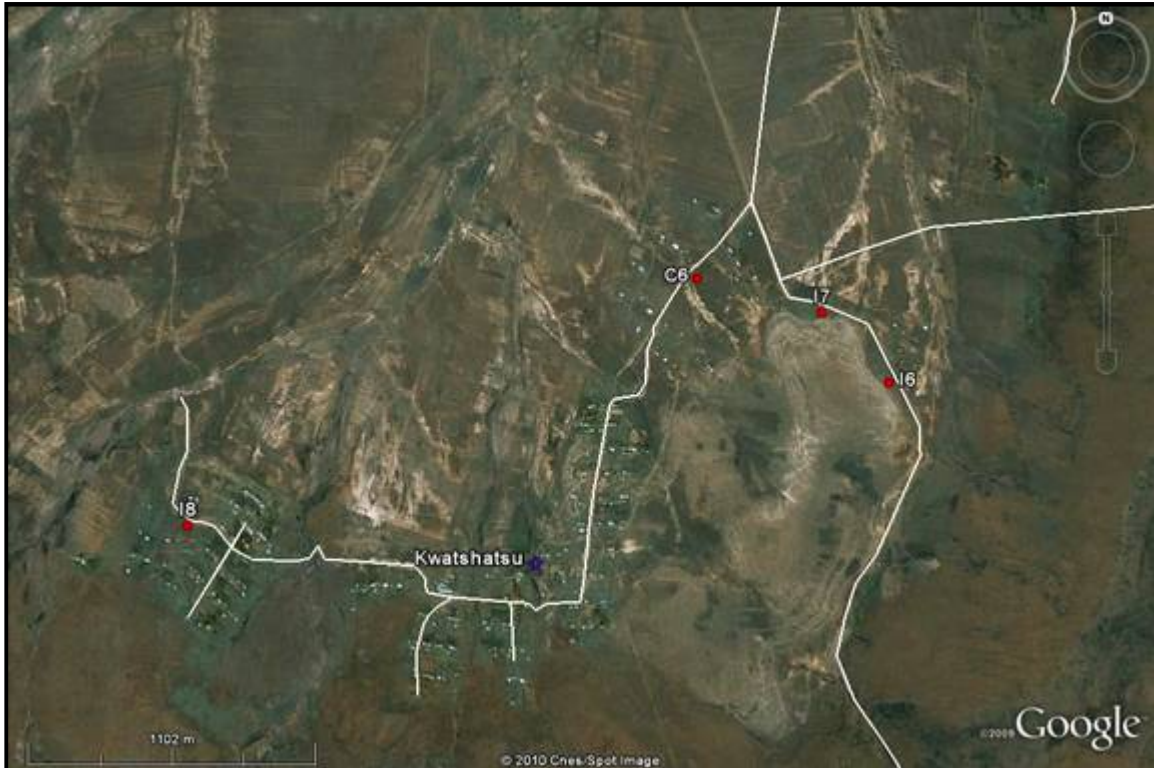


Figure 23: Locality of Site C6

Site C6 (S31°50'34.0"; E27°20'06.6") is situated to the east of the Kwatshatsu gravel access road and the proposed development alignment. The site comprises of a relatively large cemetery with grave types varying from traditionally stone outlined and earth filled graves, some with headstones and some not, to graves demarcated simply by head and footstones to modern graves. The site comprises a formal heritage site, as protected by the NHRA 1999. At presents graves end at a safe distance from the gravel road.

- RECOMMENDATIONS:** *Site C6 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The line route will pass safely to the west of the cemetery and will not impact thereon. Proximity of the site to the development alignment does call for conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- Site C6 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C6 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should commence only after community consultation and approval.*



Figure 24: View of the C6 cemetery from the access road / line route development



Figure 25: Close-up of a selection of the C6 graves

2.4.1.7) SITE C7 – Cemetery - S31°49'31.0"; E27°21'08.0"



Figure 26: Locality of Site C7

Site C7 (S31°49'31.0"; E27°21'08.0") constitutes the formal cemetery for the settlement north-east of Kwatshatsu. The site comprises of a relatively large formally fenced cemetery with required measures of access; complying thus to minimum site conservation standards set by SAHRA. Graves in the cemetery vary from traditionally stone outlined and earth filled graves, some with headstones and some headstones are inscribed, to modern grave types, in cases individually fenced. Based specifically on the decayed and leveled appearance of traditional type graves the cemetery is assumed to have been in use for quite a reasonable period of time; many graves may well pre-date 60 years of age.

- RECOMMENDATIONS:** *Site C7 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated more than 300m from the proposed line route and will not be impacted on. The site is fenced with an access gate; complying to SAHRA minimum site conservation standards. No additional conservation measures are necessary prior to development in the greater area.*



Figure 27: General view of the Site C7 cemetery



Figure 28: View of a selection of the graves from Site C7

2.4.1.8) SITE C8 – Cemetery - S31°49'52.3"; E27°21'11.5"



Figure 29: Locality of Site C8

The Site C8 area (S31°49'52.3"; E27°21'11.5") comprises of a formally fenced area, containing at least an identifiable modern grave, but more graves may be present in the fenced area, not accessible at the time of the assessment. Current conservation measures thus comply with minimum site conservation standards set by SAHRA. The site is directly associated with the contemporary residence located immediately north thereof, inferred to be the direct descendants of buried individuals. To the south of the C8 site a number of stone walled stock enclosures and residential mound remains are directly associated with the C8 site. Iron Age tradition homestead remains are quite visible and located within a safe distance from the road and development alignment; development will not impact negatively thereon.

- RECOMMENDATIONS:** *Site C8 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated in close proximity to the line route development but necessary conservation measures, complying with SAHRA minimum conservation standards are already in place; no additional measures are recommended. Associated Iron Age tradition homestead remains are located towards the south of the C8 site, inferred to be directly associated with C8 and the contemporary residence to the north of Site C8. Development will not impact directly on the remains but the developer may consider temporary conservation in the vicinity, if in consultation with the family.*



Figure 30: View of Site C8



Figure 31: Earlier settlement remains directly associated with Site C8

2.4.1.9) SITE C9 – Cemetery - S31°49'54.8"; E27°21'11.2"



Figure 32: Locality of Site C9

Site C9 (S31°49'54.8"; E27°21'11.2") is situated immediately to the south of Site C8 and may in part be associated with the homestead remains located between the sites. Site C9 constitutes a number of traditional type graves of which at the time of assessment only decayed stone outlines could be discerned. The old cemetery is situated particularly close to the access road and proposed development alignment necessitating definite conservation measures prior to development. At least 8-10 old graves could be identified, but more may be present and known to contemporary residents in the immediate vicinity.

- RECOMMENDATIONS:** *Site C9 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated particularly close to the access road and development alignment necessitating definite conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- Site C9 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C9 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should commence only after community consultation and approval.*



Figure 33: View of some of the C9 graves



Figure 34: Further grave remains at Site C9

2.4.1.10) SITE C10 – Cemetery - S31°47'06.2"; E27°21'38.9"



Figure 35: Locality of Site C10

Site C10 (S31°47'06.2"; E27°21'38.9") constitutes a particularly large formal, but unfenced cemetery. Graves at the cemetery varies from simple head and footstone markers, to typical stone outlined and earth filled graves, again some with headstones of which some are inscribed to modern graves often individually fenced. The cemetery has evidently been used over quite an extensive period of time with many of the graves pre-dating 60 years of age.

The site will not be directly impacted on by the proposed development but proximity of the site to the development alignment does necessitate conservation of the site.

- RECOMMENDATIONS:** *Site C10 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site adjoins the existing access road and by implication the proposed development alignment on 2 sides, necessitating definite conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- 1) Site C10 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C10 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should be considered only if within legal parameters regarding obstruction / development to a road or road reserve.*
- 3) *Formal conservation should commence only after community consultation and approval.*



Figure 36: View of a selection of the C10 graves - 1



Figure 37: View of a selection of the C10 graves - 2



Figure 38: View of a selection of the C10 graves - 3



Figure 39: View of a selection of the C10 graves - 4

2.4.1.11) SITE C11 – Cemetery - S31°47'36.7"; E27°21'31.3"



Figure 40: Locality of Site C11

Site C11 (S31°47'36.7"; E27°21'31.3") is situated to the north-east of the access road and proposed development alignment a little before the bridge across the Bengu River from Qutubeni Village. The site comprises of a medium sized cemetery containing both older and newer graves, implying that the site has been used over an extensive period of time. Grave types include both older traditional type graves as well as modern individually fenced graves.

The site will not be directly impacted on by the proposed development alignment but proximity of the site to the development area does require conservation measures to be in place prior to commencement of development.

- **RECOMMENDATIONS:** Site C11 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated immediately to the north of the proposed line route and will not be impacted on directly by the proposed development. Proximity of the site to the development area does call for caution. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.

TEMPORARY CONSERVATION MEASURES

- 1) Site C11 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C11 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should be considered only if within legal parameters regarding obstruction / development to a road or road reserve.*
- 3) *Formal conservation should commence only after community consultation and approval.*



Figure 41: A selection of graves from the C11 cemetery



Figure 42: View of the C11 cemetery

2.4.1.11) SITE C11 – Cemetery - S31°47'36.7"; E27°21'31.3"



Figure 43: Locality of Site C12

The Site C12 (S31°46'15.4"; E27°23'01.1") cemetery comprises at least 1 of the formal cemeteries of Njombela Village. The cemetery is situated north of the access road to the village with a safe distance between the graves and the road, and by implication the proposed development alignment. Graves comprise primarily of traditional stone outlined and earth filled graves, some with headstones, with some of the headstones being inscribed. A number of more modern graves, some of which are individually fenced are also present. It can reasonably be inferred that the site has been used over quite an extensive period of time, implying that many of the graves pre-date 60 years of age.

The proposed development will not impact on the site; proximity thereof to the site is however of concern and conservation measures should be considered.

- RECOMMENDATIONS:** *Site C12 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The line route will pass south of the site: Proximity of the site to the development alignment does call for conservation measures. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- 1) Site C12 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.

OR

FORMAL CONSERVATION MEASURES

- 1) Site C12 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.
- 2) Formal conservation should commence only after community consultation and approval.



Figure 44: View of the C12 cemetery



Figure 45: Close-up of a selection of graves from the C12 cemetery

2.4.1.13) SITE C13 – Cemetery - S31°45'51.5"; E27°23'34.5"



Figure 46: Locality of Site C13

Site C13 (S31°45'51.5"; E27°23'34.5") comprises of approximately 10 graves situated south of the access road and development alignment at Njombela Village. The site is bordered to the south by a fence, but the demarcation does not surround the site. Graves are typified by stone outlines and are earth filled, many with headstones, some of which are inscribed. Some of the graves may well pre-date 60 years of age, but the site is evidently still in use. The site is formally protected under the NHRA 1999.

The site need not be impacted on by the proposed development. The graves are situated more than 3-4m from the current road alignment, with proposed development impact restricted to the immediate road reserve; but proximity of the graves to the development area is of concern.

- RECOMMENDATIONS:** *Site C13 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. Development need not impact on the site, but proximity of the site to the development area does necessitate conservation measures: The developer may consider either formal or temporary conservation measures. Temporary conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- 1) Site C13 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.

OR

FORMAL CONSERVATION MEASURES

- 1) Site C13 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.
- 2) Formal conservation should be considered only if within legal parameters regarding obstruction / development to a road or road reserve.
- 3) Formal conservation should commence only after community consultation and approval.



Figure 47: General view of Site C13



Figure 48: Close-up of some of the C13 graves

2.4.1.14) SITE C14 – Cemetery - S31°48'05.6"; E27°22'46.7"



Figure 49: Locality of Site C14

Site C14 (S31°48'05.6"; E27°22'46.7") comprises of approximately 15 discernable graves, but more may well be present. Graves appear to be of quite significant age and can reasonably be inferred to all pre-date 60 years of age: The site is by implication formally protected under the NHRA 1999. Graves are typically characterized only by stone head and footstone markers. The site is situated amongst a concentration of Iron Age sites and particularly close to Site I20, inferred to be 1 of the older identified Iron Age sites in the vicinity. The site may be directly related to occupation of Site I20, but with traditional continued use of the cemetery a feasible possibility considering the lack of identified cemeteries among other Iron Age remains in the vicinity. Site C14 is situated immediately adjacent to a now dry streambed and more than 300m towards the north-east of the proposed development alignment. The site will not be impacted on by development.

- RECOMMENDATIONS:** *Site C14 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated more than 300m from the proposed road alignment and will not be impacted on; the site will by implication be conserved. Compliance to additional conservation measures are not necessary, based on proximity of the site to the road alignment. Additional conservation measures are not necessary, but the developer may consider either temporary or formal conservation, provided these are preceded by local consultation.*



Figure 50: General view of Site C14



Figure 51: Close-up of some graves at Site C14



Figure 52: Further graves at the C14 site

2.4.1.15) SITE C15 – Cemetery - S31°48'38.7"; E27°23'12.8"



Figure 53: Locality of Site C15

Site C15 (S31°48'38.7"; E27°23'12.8") constitutes a single grave, typically stone outlined and earth filled. Conservation of the grave indicates that it may not be too old; however assignation pre-dating or post-dating 60 years of age is not possible. The site in general comprises a heritage resource as defined in the NHRA 1999. The site is situated in an eroded area, containing badly conserved associated structure remains, more or less 70m south of the proposed line route.

- RECOMMENDATIONS:** *Site C15 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated approximately 70m south of the proposed line route and will not be impacted on by the proposed development. Additional conservation measures are not required prior to development. However, the developer may consider temporary conservation during the construction phase in the vicinity of the site, provided temporary conservation is preceded by local community consultation.*



Figure 54: View of the C15 grave



Figure 55: General view of the C15 area



Figure 56: The C15 grave and associated structure remains in proximity to a contemporary homestead

2.4.1.16) SITE C16 – Cemetery - S31°48'39.6"; E27°23'19.5"

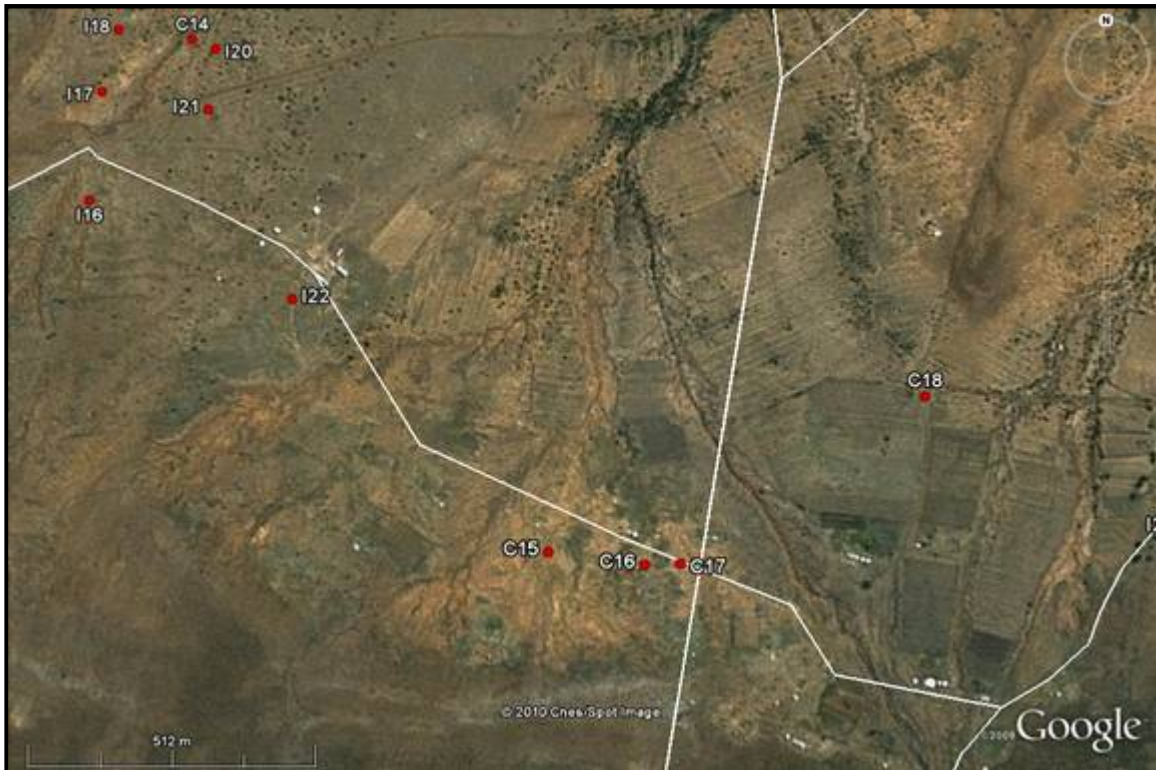


Figure 57: Locality of Site C16

Site C16 (S31°48'39.6"; E27°23'19.5") comprises of a formally fenced cemetery situated approximately 30m south of the proposed line route. The site is at present fenced with an access gate, thus complying with minimum conservation standards set by SAHRA. Graves include types demarcated by stone head and footstones, stone outlined and earth filled types, with or without additional headstones and modern type graves some of which are individually fenced. The site will not be directly impacted on by the proposed development; proximity of the line route to the site does call for concern.

- RECOMMENDATIONS:** *Site C16 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated more or less 30m south of the proposed line route. The site is at present fenced with an access gate, implying compliance to SAHRA minimum standards for site conservation. No additional conservation measures are required prior to development.*



Figure 58: General view of the C16 cemetery



Figure 59: View of a collection of graves from the C16 cemetery

2.4.1.17) SITE C17 – Cemetery - S31°48'39.6"; E27°23'22.0"



Figure 60: Locality of Site C17

The Site C17 area (S31°48'39.6"; E27°23'22.0") is characterized by a large collection of graves, counting to 30-40 in total. The area is at present unfenced and situated in direct proximity to the proposed development alignment. Graves at the site constitute primarily stone outlined and earth filled graves, some of which has headstones, and again some of which are inscribed. More modern type graves are also present at the site.

Proximity of the site to the proposed development line route is of particular concern and conservation measures are vital prior to commencement of the development.

- RECOMMENDATIONS:** *Site C17 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. Development is proposed particularly close to the site and conservation measures are vital prior to commencement of development. The developer may consider either formal or temporary conservation measures. Formal conservation measures are recommended.*

TEMPORARY CONSERVATION MEASURES

- Site C17 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.*

OR

FORMAL CONSERVATION MEASURES

- 1) Site C17 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.
- 2) Formal conservation should commence only after community consultation and approval.



Figure 61: General view of Site C17



Figure 62: A selection of graves from Site C17

2.4.1.18) SITE C18 – Cemetery - S31°48'30.0"; E27°23'40.0"



Figure 63: Locality of Site C18

Site C18 (S31°48'30.0"; E27°23'40.0") represent a formally fenced cemetery situated approximately 360m from the proposed line route; the site will by implication not be impacted on by development. Current conservation measures at the cemetery are in line with minimum conservation standards prescribed by SAHRA. Graves at the site are characterized by earth mounds with headstones, some of which are inscribed. In addition grave types are complimented by modern type graves. (The cemetery overlies fairly rich Stone Age deposits).

- RECOMMENDATIONS:** *Site C18 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated more or less 360m from the proposed line route. The site is at present fenced with an access gate, implying compliance to SAHRA minimum standards for site conservation. No additional conservation measures are required prior to development.*



Figure 64: General view of Site C18



Figure 65: A selection of graves from the C18 cemetery

2.4.1.19) SITE C19 – Cemetery - S31°48'47.7"; E27°23'44.9"

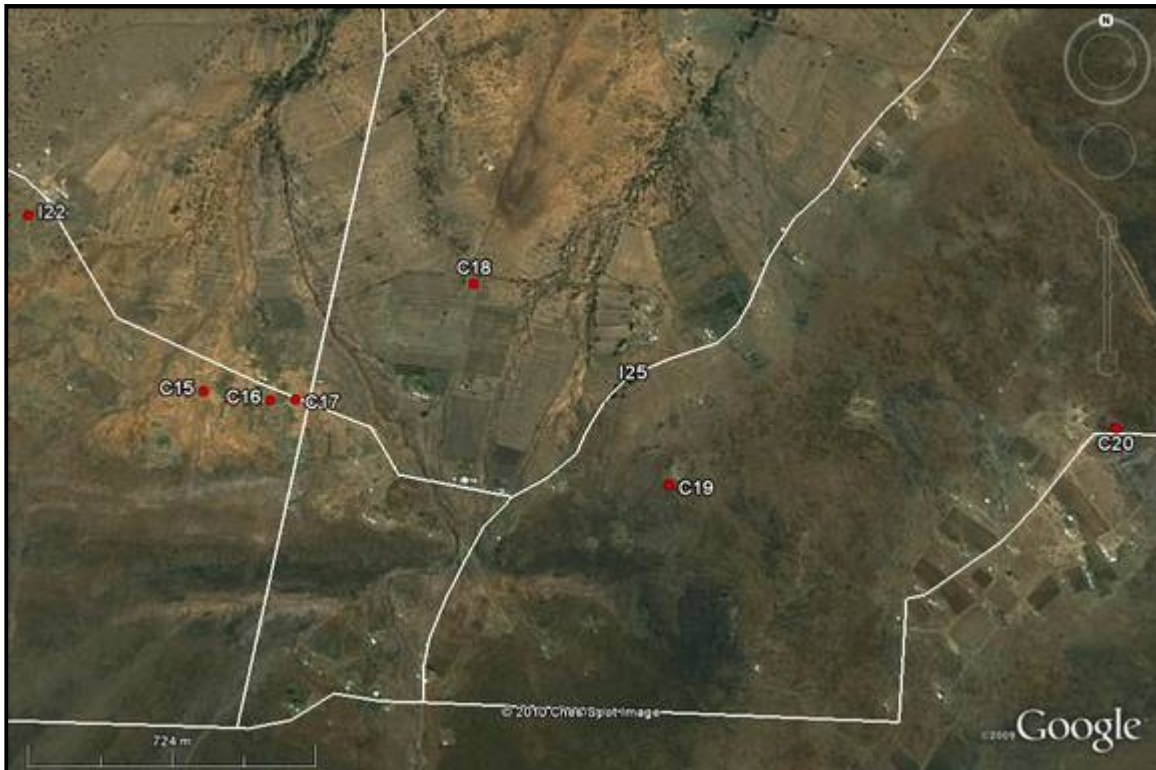


Figure 66: Locality of Site C19

Site C19 (S31°48'47.7"; E27°23'44.9") comprises of approximately 25 graves concentrated in a small informal cemetery. The site is situated approximately 250m from the line route and development will not affect the site. Origin of the site is inferred to be quite old and many of the sites may well predate 60 years of age: The site is formally protected under the NHRA 1999. Graves at the site vary in appearance – some being identified by a faintly discernable stone outline only while others confine to the typical stone outline and earth filled type, still clearly visible. (The site overlies rich Stone Age deposits).

- RECOMMENDATIONS:** *Site C19 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site is situated more than 250m from the proposed development alignment: Development will not impact on the site and the site will by implication be conserved. Based on proximity of the site to the alignment route no additional conservation measures are required prior to commencement of development. However, the developer may consider temporary conservation during the construction phase, provided temporary conservation is preceded by local community consultation.*



Figure 67: General view of the Site C19 cemetery



Figure 68: View of a selection of graves from C19

2.4.1.20) SITE C20 – Cemetery - S31°48'43.9"; E27°24'43.7"



Figure 69: Locality of Site C20

Site C20 (S31°48'43.9"; E27°24'43.7") is situated along the eastern central part of the development alignment approximately 8m thereof. The site, located in an area of particularly steep landscape gradient will not be impacted on by development, due to elevation, despite proximity. The small cemetery comprises of approximately 12 graves, not all of which are clearly identifiable. Traditional stone outlined and earth filled graves have often collapsed to simple stone outlines or scatters of stone markers, implying at least relative time depth in use of the site. (The C20 cemetery overlies rich Stone Age deposits).

- RECOMMENDATIONS:** Site C20 comprises of a heritage site as defined and protected under the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. Development need not impact on the site, but proximity of the site to the development area does necessitate conservation measures: The developer may consider either formal or temporary conservation measures. Temporary conservation measures are recommended.

TEMPORARY CONSERVATION MEASURES

- Site C20 should be temporarily fenced (pole with plastic danger tape) prior to commencement of development in the area to demarcate the site as a no-go area. All temporary site markers should be removed after work has been completed.

OR

FORMAL CONSERVATION MEASURES

- 1) *Site C20 should be formally conserved (permanent fencing with at least 1 access gate) prior to commencement of development in the area.*
- 2) *Formal conservation should be considered only if within legal parameters regarding obstruction / development to a road or road reserve.*
- 3) *Formal conservation should commence only after community consultation and approval.*



Figure 70: View of the C20 cemetery



Figure 71: An old grave at the C20 cemetery characterized only by a scatter of grave markers

2.4.2) *Historical Period Tradition Resources*

A single Historic Period Tradition resources was identified during the Phase 1 AIA of the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project, near Lady Frere in the Eastern Cape.*

Historic Period Tradition type sites have an extremely striking low presentation across the development area with the recorded site representing proximity presence only and in that implying past use of the general landscape. The site is situated more than 800m from the proposed development alignment and will not be affected.

The single Historic Period Tradition resource identified during the Phase 1 AIA is testimony to both low development impact on these type of resources as well as past landscape use.

2.4.2.1) SITE H1 – Historic Period Structure - S31°52'39.4"; E27°24'00.2"



Figure 72: Locality of Site H1

Site H1 (S31°52'39.4"; E27°24'00.2") comprises the only identified Historic Period structure; testimony to the extremely low presence of Historic Period Tradition resources across the development area. The site is situated approximately 800m from the proposed development alignment, on route to Dwareni Village. The H1 residence, predating 60 years of age, and by implication formally protected under the NHRA 1999, is at present formally fenced, privately owned and still in use. A later addition outbuilding is utilized as the 'Lanti Trading Store'.

- RECOMMENDATIONS:** *Site H1 comprises a historic period structure as defined and protected by the NHRA 1999. The site is ascribed a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The site will not be impacted on by the proposed development: The site will be conserved; minimum compliance to formal conservation measures is at present in place.*



Figure 73: View of Site H1-1



Figure 74: View of Site H1-2



Figure 75: A later addition outbuilding on the property, currently used as the 'Lanti Trading Store'

2.4.2) *Iron Age Tradition Resources*

Twenty six Iron Age sites were identified during the Phase 1 AIA of the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project*, near Lady Frere in the Eastern Cape. Aside from 2 sites (Sites I10 and I25) development will not impact on Iron Age resources. Development will in addition not impact on any site features / components at Sites I10 and I25.

Based on the lack of surface artefacts assignment of dates to Iron Age resources proved particularly difficult. Relative dating based on settlement pattern or structure form implies that sites with circular structures would predate sites dominated by rectangular remains, but acculturation or cultural adaptation and change cannot be interpreted as a defining dating method or measure. In addition it was evident that many older sites (circular stock enclosure remains) are renovated and repaired and in continuing use. Fairly high degrees of cultural or at least generational overlay were also present at many identified sites; sites were used for extensive periods of time, with evidence thereof often present on-site. Supplementing recorded Iron Age site localities, many contemporary homesteads may in fact have an origin pre-dating 60 and even 100 years of age, implying that alterations to these structures are in fact subject to SAHRA / EC PHRA permit conditions (pre-dating 60 years) or in effect formally protected as archaeological sites (pre-dating 100 years).

Identified Iron Age sites are widely spread across the development area with current sites as a norm located in proximity to contemporary homesteads, smaller settlement areas and villages; implying direct ancestry of the sites to contemporary villagers. Informal consultation indicated that occupancy of the area is known to date at least to 3-4 generations ago, often supported by graves of grandparents and great grandparents. However, greater temporal time depth may well hold true. Inter-site distribution patterns thus coincided loosely with contemporary village areas, closely associated with water resources, mountainous terrain and past and present farming practices. Intra-site distribution at identified Iron Age sites was characterized by site features or component parts spread widely across the landscape, in particular making formal conservation thereof quite difficult based on the large areas that would need to be fenced off and would no longer be available for contemporary land-use practices and farming endeavors, the primary economic sector that supports the community. Based primarily on land-use, but also taking cognizance of cultural preference and practice (informal consultation again in cases indicated that the fencing of ancestral sites may be viewed as offensive by descendants) it is recommended that sites be conserved in situ rather than complying to basic SAHRA site conservation standards (formal fencing with an access gate).

Informal consultation as well as the current development design indicated that particular care was taken with respect to the identification of sites across the development area during the planning process, including a high degree of community consultation, to ensure that development will not impact on sites of relevance to the local community, in the case of the *Water Supply Backlog in the CHDM, Cluster 2, Phase 2, Regional Scheme 3 Project* area, particularly evidenced by later Iron Age (and related cemetery and burial grounds) remains.

2.4.3.1) SITE I1 – Iron Age Homestead - S31°52'31.4"; E27°23'43.9"



Figure 76: Locality of Site I1

Site I1 (S31°52'31.4"; E27°23'43.9") is identified by the ruined remains of a circular stock enclosure. No clearly identifiable associated remains were found in the immediate vicinity but localized changes in vegetation and slight mounds may be indicative of related hut structures, alternatively these may be the result of later disturbance associated with more contemporary nearby settlement. The site is situated approximately 220m south of the proposed line route and will not be impacted on by development.

- RECOMMENDATIONS:** *Site I1 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 220m south of the proposed development alignment and will not be impacted on; the site will by implication be conserved. Additional conservation measures are not required prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 77: General view of Site 11

2.4.3.2) SITE I2 – Iron Age Homestead - S31°52'23.0"; E27°23'35.7"



Figure 78: Locality of Site I2

Site I2 (S31°52'23.0"; E27°23'35.7") is situated immediately north of the proposed development alignment and immediately adjacent to the access road. The site is identified by the remains of a circular stock enclosure, without any particular associated structures, aside from a more contemporary rectangular kraal. Both these structures are inferred to relate directly to the contemporary villagers living just south of the site; archaeological remains may thus be of direct ancestral association. The proposed line route development will not impact on the site, but proximity of the site does call for caution.

- RECOMMENDATIONS:** *Site I2 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated next to the road and proximity of the site to the line route calls for caution. Again development will not impact on the site – no additional conservation measures are recommended prior to development. (Temporary conservation measures are not recommended).*



Figure 79: General view of Site I2



Figure 80: Close-up of the I2 circular kraal remains

2.4.3.3) SITE I3 – Iron Age Homestead - S31°52'26.6"; E27°22'56.1"



Figure 81: Locality of Site I3

Site I3 (S31°52'26.6"; E27°22'56.1") Comprises of the ruined remains of 2 hut structures with associated rectangular stock enclosure remains. The site is overlain by even more recent structures, rectangular in shape. Overall a fairly recent date is inferred. The site is situated east of the proposed development alignment with a fence between the site and the existing road reserve ensuring conservation of the remains.

- RECOMMENDATIONS:** *Site I3 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA LOW SIGNIFICANCE and a GENERALLY PROTECTED C FIELD RATING: The site is situated next to the development alignment but with an existing fence between the road reserve and the site ensuring conservation thereof. Additional conservation measures are not recommended.*



Figure 82: View of Site I3

2.4.3.4) SITE I4 – Iron Age Homestead - S31°51'37.4"; E27°22'45.1"



Figure 83: Locality of Site I4

Site I4 (S31°51'37.4"; E27°22'45.1") is located approximately 250m from the proposed development alignment; based on both proximity and steep landscape gradient the site will not be affected by the development; the site will by implication be conserved. The site comprises of the well conserved hut walls of one structure and foundation remains of another structure with ruined remains of the original circular stock enclosure situated slightly to the north of the site. Based on circular stock enclosure foundation remains relative time depth may be inferred and the site may well represent early occupation of settlement along the slopes of the mountain.

- RECOMMENDATIONS:** *Site I4 constitutes a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated more than 250m from the proposed development alignment. Based on both proximity and steep landscape gradient the site will not be impacted on by development; the site will by implication be conserved. No additional conservation measures are recommended prior to development.*



Figure 84: View of Site C4 with stone hut foundation in the background

2.4.3.5) SITE I5 – Iron Age Homestead - S31°52'18.1"; E27°22'17.9"



Figure 85: Locality of Site I5

Site I5 (S31°52'18.1"; E27°22'17.9") comprises of the ruined remains of a circular stock enclosure situated approximately 70m from the proposed development alignment. Based on proximity and the steep landscape gradient of the hill the site will not be impacted on by the proposed development. No associated residential remains or middens were located in proximity to the kraal remains and it may be possible that these are overlain by the nearby contemporary homestead; reflecting on cultural continuity and traditional inheritance and settlement practices.

- RECOMMENDATIONS:** *Site I5 constitutes a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 70m from the development alignment and will not be impacted on by development; the site will by implication be conserved. No additional conservation measures are recommended prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 86: Remains of the I5 ruined stock enclosure in close proximity to a contemporary homestead

2.4.3.6) SITE 16 – Iron Age Homestead - S31°50'49.9"; E27°20'37.7"



Figure 87: Locality of Site 16

Site 16 (S31°50'49.9"; E27°20'37.7) constitutes a rather complex set of primarily rectangular stock enclosure remains spread along the northern slope of the hill. Two adjoining rectangular stock enclosures is located towards the south-east of the site and also hosts a traditional type grave (stone outlined and earth filled) but with a modern gravestone. The grave does not pre-date 60 years of age, but origin of the site may well be much older than the grave, based on traditional settlement and inheritance practices. Towards the north-west of the stock enclosure and grave cluster a number of circular hut remains were found, numbering no less than 6-7 in total. Hut remains are complemented by small middens, at least 4 further rectangular stock enclosures and clear evidence of the area having been used for agricultural purposes in the past. No associated artefacts were found on the surface of the site.

- RECOMMENDATIONS:** *Site 16 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site, situated on the slope next to the road and development alignment will not be impacted on by development. No additional conservation measures are recommended prior to development. (Temporary conservation measures are not recommended).*



Figure 88: General view of the southern part of Site 16



Figure 89: The grave at Site 16



Figure 90: View of some hut remains situated towards the northern part of Site 16

2.4.3.7) SITE 17 – Iron Age Homestead - S31°50'39.1"; E27°20'27.2"



Figure 91: Locality of Site 17

The Site 17 locality (S31°50'39.1"; E27°20'27.2") is characterized by the ruined remains of a rectangular stone stock enclosure. Slightly to the north of the structure the fairly well conserved remains of 2 huts are clearly visible. Inspection of the general hut area revealed a number of additional, evidently older hut foundations, middens and smaller portions of partly standing stone walls, inferred to be remnants of earlier occupation of the site. No associated artefacts were visible on the surface of the site. The site is a good example of local Iron Age settlement pattern where a site is often reused by immediate descendants of the original owners reflecting generational overlay at a single site.

Site 17 is situated just south of the existing road and proposed development alignment, against the slope of the hill. Despite close proximity of the site it will not be impacted on by development.

- RECOMMENDATIONS:** *Site 17 constitutes a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated in direct proximity to the proposed development alignment but will not be impacted on; the site will by implication be conserved. No additional conservation measures are recommended prior to development. (Temporary conservation measures are not recommended).*



Figure 92: General view of Site 17, with the quite visible hut remains in the background



Figure 93: Close-up of the hut remains



Figure 94: Close-up of the hut remains with evidence of additional structures as partially standing walls

2.4.3.1) SITE I1 – Iron Age Homestead - S31°52'31.4"; E27°23'43.9"



Figure 95: Locality of Site I8

Site I8 (S31°51'07.1"; E27°18'48.6") is situated in Kwatshatsu Village. The site is characterized by remains of a circular and rectangular stock enclosure with slightly discernable remains of a single hut structure between the 2 enclosures. The site is situated approximately 15-20m from the proposed line route and will not be impacted on. The site is inferred to be directly ancestral to contemporary villagers and contemporary homesteads may well demarcate extensions to the site.

- RECOMMENDATIONS:** *Site I8 comprises of a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED C FIELD RATING: The site is situated approximately 15-20m south of the proposed line route and will not be impacted on by the proposed development. In-situ conservation is recommended; no additional conservation measures are necessary prior to development in the area. (Temporary conservation measures are not recommended).*



Figure 96: General view of Site 18

2.4.3.9) SITE I9 – Iron Age Homestead - S31°49'27.2"; E27°20'04.4"



Figure 97: Locality of Site I9

The Site I9 locality (S31°49'27.2"; E27°20'04.4") is typified by the extremely recent structure remains of a fairly large homestead. Cultural overlay may well be present based on the variety of building materials used varying from stone to mud and modern brick. Site features is primarily evidenced by foundation remains, with no visible standing walls and an evident emphasis on rectangular structures. Some 'daga smears' may however indicate the positions of circular hut structures. The general area is quite disturbed but some mounds may well be indicative of original middens while scant metal artefacts are still present on site. The fairly recent site may in itself not be of significant archaeological value (although the origin of the site may have significant temporal depth), but site sensitivity is heightened by the presence of 3 areas with grave remains, all located along the north-western edge of the site and south of the northern access road at S31°49'27.1"; E27°20'02.4"; S31°49'26.0"; E27°20'01.5" and S31°49'26.9"; E27°20'00.6", providing for a site extent of more than 140m in diameter. Grave sites are in general not well preserved, difficult to discern and characterized mostly by only scatters or heaps of stones. At least 7 graves could be identified but more may well be present. (The site overlies rich Stone Age deposits).

- RECOMMENDATIONS:** *Site I9 constitutes a later Iron Age archaeological site (with graves), as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated north of the access road and proposed development alignment with the graves centered along the north-eastern perimeter of the site. Development will not impact on the site and is planned on the furthest side from the graves. Site I9 will be conserved by the*

development. Additional conservation measures are not recommended prior to development. (Temporary conservation measures are not recommended as this may in fact impact negatively on the site).



Figure 98: General view of Site I9



Figure 99: View of a grave from Site I9

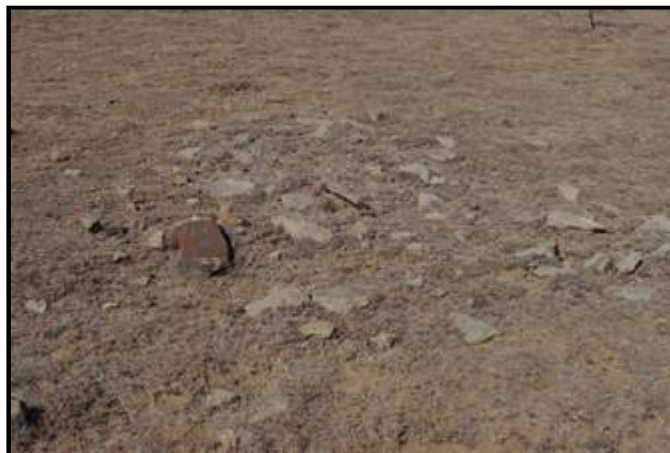


Figure 100: A grave from Site I9 with only the headstone still standing and the remainder marked by scatter of stones

2.4.3.10) SITE I10 – Iron Age Homestead - S31°46'45.0"; E27°21'55.5"



Figure 101: Locality of Site I10

The Site I10 locality (S31°46'45.0"; E27°21'55.5") demarcates a particularly large area stretching for approximately 800m in a rough north-west to south-east direction and cross cutting the current road alignment and by implication the proposed development alignment, to be situated within the road reserve. The site is characterized by an extremely high number of stock enclosure remains all circular in form, with the majority of the remains located south of the Maloyi / Njombela road. While some remains are fairly well preserved with enclosure walls reaching in excess of 1.5m some are quite decayed with others only recognizable by low rising tumblers stones. Selected enclosures may well represent cultural overlay, implying that many may have been 'restored' for use well after the date of origin. Additional settlement remains were mainly concentrated towards the south of the road and includes a number of 'daga smears' indicative of hut localities as well as smaller circular stone foundation remains, the size of which implies residential rather than economic activity. Despite the lack of associated artefactual remains a number of relatively large middens are present, scattered amongst the stone ruins and the possibility of settlement remains being complimented with ample artefact evidence further serves to heighten the archaeological significance of the site. The site may well be directly ancestral to the Maloyi, Qutubeni or Njombela villagers. Based on settlement layout and structure shape the Site I10 remains may well be of the oldest identified within the greater development area.

Despite the fact that the site is directly traversed by the current road alignment and by implication by the proposed development alignment, no structures, middens or component parts of the site will be impacted on by the line route development, to be situated within the existing road reserve.

- RECOMMENDATIONS:** *Site I10 constitutes a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The particularly large site traverses the existing road and by implication the proposed development alignment. Development will thus directly impact on the site, however not on any particular site features. Considering the size of the site formal conservation thereof is not a feasible option when cognizance is taken of current land use practices and cultural preference. On the basis thereof it is recommended that development proceed across the Site I10 area, provided it is restricted to within the current road reserve, where it will not impact on any individual site features. Temporary conservation at the site is not recommended as it may well result in additional impact on individual component parts of the site.*

It is recommended that development across the Site I10 area proceeds as applied for without the developer having to comply with additional compliance requirements provided development is restricted to the existing road reserve. It is recommended that development proceeds without the developer having to apply for a SAHRA Site Destruction Permit.



Figure 102: View of the northern part of Site I10



Figure 103: General view over the southern part of Site I10



Figure 104: Close-up of a stock enclosure at the southern part of Site I10



Figure 105: Foundation remains at the southern part of Site I 10



Figure 106: A number of well conserved enclosures at I10

2.4.3.11) SITE I11 – Iron Age Homestead - S31°46'41.8"; E27°23'07.8"



Figure 107: Locality of Site I11

Site I11 (S31°46'41.8"; E27°23'07.8") is typified by the remains of a large circular stone kraal. To the west of the enclosure remains faint 'daga smears' imply the localities of at least 2 associated huts. No clearly identifiable middens were present and the general site area was devoid of associated artefacts. The site is inferred to represent early occupation at Njombela Village. The site may well be directly ancestral to contemporary villagers.

Site I11 is located more than 250m from the proposed development alignment and will not be impacted on by development.

- RECOMMENDATIONS:** *Site I11 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 250m from the proposed line route development area and will not be impacted on; the site will by implication be conserved. Additional conservation measures are not required prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 108: General view of Site I11

2.4.3.12) SITE I12 – Iron Age Homestead - S31°46'34.5"; E27°23'12.2"



Figure 109: Locality of Site I12

Site I12 (S31°46'34.5"; E27°23'12.2") is situated on the outskirts of Njombela Village, in particular close proximity to a contemporary homestead; it may well be inferred that the site is directly ancestral to occupants of this homestead. The site comprises of the remains of a relatively large circular stock enclosure, a rectangular stock enclosure and 3 further smaller circular foundations with low rising wall remains are interpreted as associated hut remains. The general site area is slightly disturbed and some mounds may well be middens. The site is inferred to represent at least a level of generational overlay; a scant scatter of surface metal artefacts may well relate to the last occupation of the site.

The I12 homestead remains are located more than 140m from the proposed development alignment and will not be impacted on by the proposed development.

- RECOMMENDATIONS:** *Site I12 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located more or less 140m from the proposed line route development area: development will not impact on the site. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended, this may in fact impact on the site).*



Figure 110: General view of Site 112

2.4.3.13) SITE I13 – Iron Age Homestead - S31°46'09.7"; E27°23'12.3"



Figure 111: Locality of Site I13

Site I13 (S31°46'09.7"; E27°23'12.3") is located approximately 50m west of the proposed development alignment and at a slight elevation in the generally hilly terrain of Njombela north. The site comprises of the ruined remains of a circular stock enclosure, complemented by well conserved circular stock enclosure remains of 2 kraals, both of which may well reflect a degree of 'restoration' implying continued use of the features after the residential portion of the site may have been abandoned. 'Daga smears' located east of the visible hut remains may imply early habitation of the site while the still standing hut remains reflect a 2nd level occupation. No associated artefacts were present on the surface of the site.

- RECOMMENDATIONS:** *Site I13 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 50m west of the proposed line route development area: development will not impact on the site. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended, this may in fact impact on the site).*



Figure 112: General locality of Site I13



Figure 113: View of the I13 homestead remains

2.4.3.14) SITE I14 – Iron Age Homestead - S31°48'15.7"; E27°22'18.6"



Figure 114: Locality of Site I14

Site I14 (S31°48'15.7"; E27°22'18.6") constitutes a quite extensive Iron Age homestead, situated approximately 70m north of the proposed development alignment. Component parts of the site include joined rectangular stock enclosure remains, a loose standing rectangular stock enclosure, remains of approximately 6-7 huts, which may well be indicative of generational overlay or reuse of the site in the past. Additional rectangular impact areas are present, middens and cleared rubble also demarcating agricultural fields. Site components are quite widespread across the landscape. The site may well be directly ancestral to low density contemporary occupation of the general area. (The site overlays low density Stone Age deposits).

- RECOMMENDATIONS:** *Site I13 comprises of a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 70m north of the proposed development alignment: development will not impact on the site. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 115: General view of Site I14



Figure 116: Joined stock enclosure remains at Site I14



Figure 117: Remains of a circular hut at Site I14

2.4.3.15) SITE I15 – Iron Age Homestead - S31°48'16.0"; E27°22'33.0"



Figure 118: Locality of Site I15

Site I15 (S31°48'16.0"; E27°22'33.0") is located 15m from the access road and proposed development alignment. The site comprises of the remains of a relatively large circular stone stock enclosure. A hole in the middle of the kraal is evidence of former grain storage practices. Towards the west of the enclosure a number of mound remains, some associated with clear evidence of former leveling techniques to provide a flat surface for the construction of huts are present. At least 4 hut remains were found in relatively close proximity from one another. The site is inferred to predate occupation of the I14 homestead, based on structure form. No associated surface artefacts were present. (The site overlays low density Stone Age deposits).

- RECOMMENDATIONS:** *Site I15 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located more or less 15m south of the proposed line route development area. The site will not be impacted on by development and will be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 119: Remains of the I15 stock enclosure



Figure 120: Mound remains indicative of a former hut



Figure 121: A series of platforms, mounds and leveled areas indicating the position of a former cluster of huts

2.4.3.16) SITE I16 – Iron Age Homestead - S31°48'16.2"; E27°22'39.5"



Figure 122: Locality of Site I16

The Site I16 locality (S31°48'16.2"; E27°22'39.5") demarcates the position of an Iron Age homestead comprising of the remains of a rectangular stock enclosure, a large circular stock enclosure and at least 5 localities characterized by 'daga smears' and vegetation change demarcating the positions of huts. The site is inferred to represent an example of generational overlay and may relatively be dated to post-date Site I15 and pre-date Site I14. No associated artefacts were discovered on the surface of the site and midden localities could not be confirmed. (The site overlays low density Stone Age deposits).

The site is situated approximately 100m south of the site and will not be impacted on by development.

- RECOMMENDATIONS:** *Site I16 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located approximately 100m from the proposed development alignment. The site will not be impacted on by development and will be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 123: View of the I16 rectangular kraal



Figure 124: View of the circular stock enclosure at I16



Figure 125: Residential hut remains at I16

2.4.3.17) SITE I17 – Iron Age Homestead - S31°48'09.0"; E27°22'40.1"



Figure 126: Locality of Site I17

Site I17 (S31°48'09.0"; E27°22'40.1") is situated approximately 100m north of the proposed development alignment. The site represents a very late homestead comprising of the ruined remains of a rectangular kraal and 2 huts, identifiable primarily by sand and stone mounds. No associated middens or artefacts were discovered at the site locale. (The site overlays low density Stone Age deposits).

The site is situated approximately 100m north of the site.

- RECOMMENDATIONS:** *Site I17 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED C FIELD RATING: The site is located approximately 100m from the proposed development alignment. The site will not be impacted on by development and will be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 127: View of the I17 stock enclosure



Figure 128: Residential remains at Site I17

2.4.3.18) SITE I18 – Iron Age Homestead - S31°48'15.7"; E27°22'18.6"



Figure 129: Locality of Site I18

Site I18 (S31°48'04.8"; E27°22'41.1") is characterized by the relatively wide spread component parts of the site, including a large adjoining rectangular stone stock enclosure situated close to surface evidence of leveling and clearance, and area evidently used in the past for agricultural purposes. Slightly to the south-east thereof rather scant, basically partially in-tact foundation remains of a circular stock enclosure were present. Both rectangular and circular foundation and mound residential remains are indicative of at least generational overlay at the site. The site is inferred to have been used over quite an extensive period of time, based particularly on the number of hut remains, fairly large middens and despite the lack of ceramic or surface artefacts that may well give a relative time depth particularly referring to early habitation or the origin of the site, metal artefacts on site was quite ample attesting at least to the period preceding abandonment of the site. (The site overlays low density Stone Age deposits).

The site is situated approximately 240-250m from the proposed line route and will not be impacted on by development.

- RECOMMENDATIONS:** *Site I18 comprises of later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 240-250m from the proposed development alignment. The site will not be impacted on by development and will be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 130: The stock enclosure at Site I18



Figure 131: Residential remains at Site I18



Figure 132: Site I18 – an example of metal artefacts on site

2.4.3.19) SITE I19 – Iron Age Homestead - S31°48'01.1"; E27°22'42.4"



Figure 133: Locality of Site I19

Site I19 (S31°48'01.1"; E27°22'42.4") is situated more than 360m from the proposed development alignment. Site components are again fairly widespread across the landscape and comprises of a rectangular stock enclosure and the remains of at least 5 identifiable huts. Despite the lack of surface artefacts a particularly large midden with exposed ash deposits are located in relatively close proximity to some of the hut remains. A small cleared area may indicate a former agricultural field. (The site overlays low density Stone Age deposits).

- RECOMMENDATIONS:** *Site I19 comprises of later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is situated approximately 360m from the proposed development alignment. The site will not be impacted on by development and will be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 134: Circular hut remains at Site I19



Figure 135: Hut remains at Site I19



Figure 136: Rectangular stock enclosure remains at Site I19

2.4.3.20) SITE I20 – Iron Age Homestead - S31°48'06.3"; E27°22'48.5"



Figure 137: Locality of Site I20

Site I20 (S31°48'06.3"; E27°22'48.5") comprises of the remains of at least 4-5 identifiable hut localities in relatively close proximity to stone foundation remains of a circular stock enclosure. Adjacent to the still discernable enclosure remains of a small portion of wall indicates the locality of a 2nd circular stock enclosure, of the approximate same size as the 1st and primarily discernable through vegetation change only. The site is located approximately 50m from the C14 cemetery and may well be directly associated therewith. The site is inferred to represent one of the earlier homesteads in the region, based primarily on structure form. No clearly identifiable midden or midden areas could be located and the surface of the site was devoid of artefacts. (The site overlays low density Stone Age deposits).

The site is located approximately 280m from the proposed line route and will not be impacted on by development.

- RECOMMENDATIONS:** *Site I20 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located more or less 280m north of the proposed development alignment; the Site will by implication be conserved. No additional conservation measures are required prior to development. (Temporary conservation measures are not recommended).*



Figure 138: General view of Site I20



Figure 139: Circular stock enclosure remains at Site I20



Figure 140: Remains of the 2nd enclosure at Site I20

2.4.3.21) SITE I21 – Iron Age Homestead - S31°48'10.4"; E27°22'48.1"



Figure 141: Locality of Site I21

The Site I21 locality (S31°48'10.4"; E27°22'48.1") is characterized by the fairly sparse scatter of Iron Age remains comprising of a small rectangular and medium sized circular stock enclosure. In addition the remains of at least 3 huts are evidenced by rectangular shaped mounds. No middens or associated surface artefacts were found at the site. (The site overlays low density Stone Age deposits).

The site is located approximately 170m north of the proposed line route.

- RECOMMENDATIONS:** *Site I21 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM-LOW SIGNIFICANCE and a GENERALLY PROTECTED C FIELD RATING: The site is located approximately 170m north of the proposed line route; the site will by implication not be impacted on by development. (Temporary conservation measures are not recommended).*



Figure 142: General view of Site I21



Figure 143: Remains of the I21 circular stock enclosure



Figure 144: Rectangular residential mounds

2.4.3.22) SITE I22 – Iron Age Homestead - S31°48'22.9"; E27°22'54.6"



Figure 145: Locality of Site I22

Site I22 locality (S31°48'22.9"; E27°22'54.6") is concentrated south-west of the proposed line route. The site comprises particularly wide spread site features located scant across the area. Features include the remains of 4 rectangular kraal structures, 3 circular kraals and clusters of residential remains including both rectangular and circular shaped mounds. Additional stone piles may be indicators of further site components. The general surface area is quite disturbed, but at least some mounds may prove to be middens associated with various occupation or habitation phases at the site. Surface artefacts relating to various occupation phases were not present at the site; the low quantity of metal artefacts evidently relates to the last phase prior to abandonment of the site.

The site is situated in the general area adjoining the school to the south-west. The proposed development alignment will be situated immediately next to the school fence and will not impact on any of the site features.

- RECOMMENDATIONS:** *Site I22 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located to the south-west of the school and the proposed line route will closely follow the school fence, not impacting on any of the identified site features. Additional conservation measures are not recommended prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 146: View of a portion of Site I22



Figure 147: Remains of a circular stock enclosure at I22



Figure 148: Hut mounds at Site I22

2.4.3.23) SITE I23 – Iron Age Agricultural Fields - S31°47'54.4"; E27°23'50.5"



Figure 149: Locality of Site I23

The Site I23 locality (S31°47'54.4"; E27°23'50.5") demarcates the position of a cluster of 7 hut remains, mainly comprising of raised stone platforms indicative of the original floor levels overlain by wall rubble. Structures is believed to have been used by selected family members directly involved in agricultural activities and no related stock enclosure remains were present. No surface artefacts were found in association with the residential area. Shallow middens were present on site. The activity area, or agricultural field(s), directly relating to the Site I23 hut remains however stretches north from the site to the banks of the Lubisi Dam. The area is characterized by stone cleared leveled and plowed fields intersected by *in situ* vegetation where sub-surface geological members proved to be too shallow or too hard. One such area is located at S31°47'34.1"; E27°23'43.7", where 'quarrying' yielded an extremely shallow sub-surface geological basal member, along the rim of which a series of stone scatters is interpreted as grain bin foundations.

The residential area is situated approximately 40m from the proposed development alignment. The area, also comprising the most significant part of the site with reference to information regarding past cultural activity, will not be directly impacted on by the development. The remainder of the site or the actual fields is not considered to be of particular archaeological value, based on the quality and quantity of information that can be gained from excavation in (re-used) agricultural fields. In addition impact on the fields will be limited considering site size and will be limited to the perimeter of the fields.

(A rich assemblage of Stone Age artefacts were present across the flood plain of the Lubisi Dam with lithic artefacts identified in the churned fields as well as in ‘virgin’ areas, not suitable for Iron Age agricultural practices.)

- RECOMMENDATIONS:** Site I23 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The Site I23 structure remains and immediate vicinity is ascribed SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING. The Site I23 agricultural fields, assumed to have been re-used over a number of generations to contemporary times is assigned a SAHRA LOW SIGNIFICANCE and a GENERALLY PROTECTED C FIELD RATING. The Site I23 residential area will not be impacted on by development. Development will impact on the agricultural fields. However, impact will be extremely limited with reference to actual site size and will in addition be limited to the perimeter of the fields (and in so doing considering contemporary land-use of the greater area). It is recommended that development at the Site I23 area proceeds as applied for without the developer having to apply for a SAHRA SITE DESTRUCTION PERMIT prior to work on the perimeter of the agricultural fields. (Temporary conservation measures are not recommended).



Figure 150: A cluster of hut remains at I23



Figure 151: Close-up of the stone foundations and remains of a hut



Figure 152: Stone scatters demarcated clearing activities for fields close to the Lubisi Dam



Figure 153: Quarrying / clearing of fields for agriculture



Figure 154: Stone piles indicating the localities of grain storage bin foundations at the fields

2.4.3.24) SITE I24 – Iron Age Homestead - S31°48'05.0"; E27°24'37.6"



Figure 155: Locality of Site I24

Site I24 (S31°48'05.0"; E27°24'37.6") is situated approximately 40m south-east of the proposed line route. The site comprises of a cluster of circular stock enclosure remains. Mounds in the vicinity may well be indicative of hut remains, alternatively they may represent middens. In addition the fairly well conserved remains of 2 huts may relate temporally to perhaps later use of the site. The site is located in direct association with contemporary homesteads on either side and is interpreted as directly ancestral thereto. No associated artefacts were found on the surface of the site.

- RECOMMENDATIONS:** *Site I24 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located to the south-east of the access road and proposed line route development and will not be impacted on by development. Additional conservation measures are not recommended prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 156: Circular stock enclosure remains at Site I24



Figure 157: Remains of ruined circular kraal remains at Site I24



Figure 158: The well conserved remains of 2 huts at Site I24

2.4.3.25) SITE I25 – Iron Age Homestead - S31°48'38.1"; E27°23'55.8"



Figure 159: Locality of Site I25

Site I25 (S31°48'38.1"; E27°23'55.8") cross-cuts the current access road and will by implication be impacted on by the proposed development. The site comprises of the relatively well preserved remains of a hut and 2 circular stock enclosures, located on either side of the access road. The fairly wide distribution of site features or components across the site extent implies that development will not impact on any of the component site parts. No clearly identifiable midden areas were found and no surface artefacts were present at the site.

- RECOMMENDATIONS:** *Site I25 constitutes a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site cross-cuts the current access road and by implication the proposed development alignment. Development will thus directly impact on the site, however not on any particular site features. Based on the fairly wide distribution of site features formal conservation thereof may not be a feasible option, particularly considering current land use practices and cultural preference. On the basis thereof it is recommended that development proceed across the Site I25 area, provided it is restricted to within the current road reserve, where it will not impact on any individual site features. Temporary conservation at the site is not recommended as it may well result in additional impact on individual component parts of the site.*

It is recommended that development across the Site I25 area proceeds as applied for without the developer having to comply with additional compliance requirements provided development is restricted to

the existing road reserve. It is recommended that development proceeds without the developer having to apply for a SAHRA Site Destruction Permit.



Figure 160: General view of Site I25



Figure 161: Stock enclosure and hut remains located south of the access road

2.4.3.26) SITE I26 – Iron Age Homestead - S31°48'37.4"; E27°24'51.0"



Figure 162: Locality of Site I26

Site I26 (S31°48'37.4"; E27°24'51.0") constitutes a particularly large site with the remains of 2 circular stock enclosures and 1 rectangular stock enclosure clearly visible and located next to the access road to the village. The larger of the circular stock enclosures as well as the rectangular stock enclosure are still in use, with walls in pristine condition. However, lower parts of particularly the circular stock enclosure indicate that the site or kraal has been renovated or repeatedly repaired in the past and the current wall is slightly different from an evident older foundation. In addition at least 4 hut remains were found. The surface of the site has again been cleared and no surface artefacts were discovered. A mound adjacent to the smaller circular enclosure may be indicative either of a hut locality or a midden.

Site I26 is situated approximately 150m north-east of the proposed development alignment and will not be impacted on.

- RECOMMENDATIONS:** *Site I26 represents a later Iron Age archaeological site, as defined and protected under the NHRA 1999. The site is assigned a SAHRA MEDIUM SIGNIFICANCE and a GENERALLY PROTECTED B FIELD RATING: The site is located approximately 150m north-east of the proposed line route development and will not be impacted on by development. Additional conservation measures are not recommended prior to development. (Temporary conservation measures are not recommended as this may in fact impact on the site).*



Figure 163: General view of Site I26



Figure 164: Hut remains at Site I26



Figure 165: The renovated circular stock enclosure at Site I26

2.4.3) Stone Age Tradition Resources

Three Stone Age type resources were identified during the Phase 1 AIA of the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project*, near Lady Frere in the Eastern Cape. Identified Stone Age resources were categorized as High Density MSA Deposits (Area 1, 2 & 3), Medium Density MSA and LSA Deposits (Areas 4, 5, 6 & 7) and Low Density Stone Age deposits. Development will directly impact on Stone Age resources. It is recommended that development be preceded by Phase 2 archaeological mitigation and test pitting at a High Density MSA deposit area as well as test pitting at Medium Density MSA and LSA Deposit to recover a representative sample of these assemblage types prior to development impact.

Stone Age sites and artefacts form a characteristic part of the heritage of the study site, underlying subsequent Iron Age and Contemporary resources. Identified sites are particularly large and it was not possible to determine site extent during the course of the Phase 1 AIA; more than often sites may approach 100's of hectares in size and conservation of deposits will not be possible in accordance with the aim of the proposed development, namely to supply potable water to the villages and settlements in question. In addition sites have already been negatively impacted on as a result of current development without having been preceded by Phase 2 archaeological mitigation. Stone Age deposits that will directly be impacted on by the proposed development alignment were placed in 3 categories, namely:

1. High Density MSA Deposits (Area 1, Area 2 and Area 3);
2. Medium Density MDA and LSA Deposits (Area 4, Area 5, Area 6 and Area 7); and
3. Low Density Stone Age Deposits, that characterize large part of the remainder of the study site.

Based on the limited impact of the proposed development versus particularly rich Stone Age deposits across the development area and the large site extents it is recommended that Phase 2 archaeological mitigation be restricted to excavation at a single High Density MSA Deposit, supplemented by test pitting to determine inter- and intra-site variation and test pitting at at least 2 Medium Density MSA and LSA Deposits to supplement basic High Density MSA data. In addition development across the remainder of the alignment route will impact on Low density Stone Age deposits. It is recommended that development across these areas proceed as applied for without the developer having to apply for a SAHRA Site Destruction Permits.

Informal consultation with locals during the assessment indicated that some villagers were aware of the fact that the 'stones' represented earlier artefacts, believed to have been made by 'Bushmen', the only Stone Age people familiar to the communities. The concept of a culture pre-dating the 'Bushman' was not comprehended. However, the majority of villagers were unaware of the fact that the many Stone Age artefacts across the development area was in fact indicative of a people having lived there before them; as a rule their concept of the past or 'long ago' was interpreted in terms of remaining ancestral Iron Age remains. Despite the lack of interpretation and comprehension of the significance of Stone Age sites artefacts were easily identified by villagers.

2.4.4.1) HIGH DENSITY MSA DEPOSITS

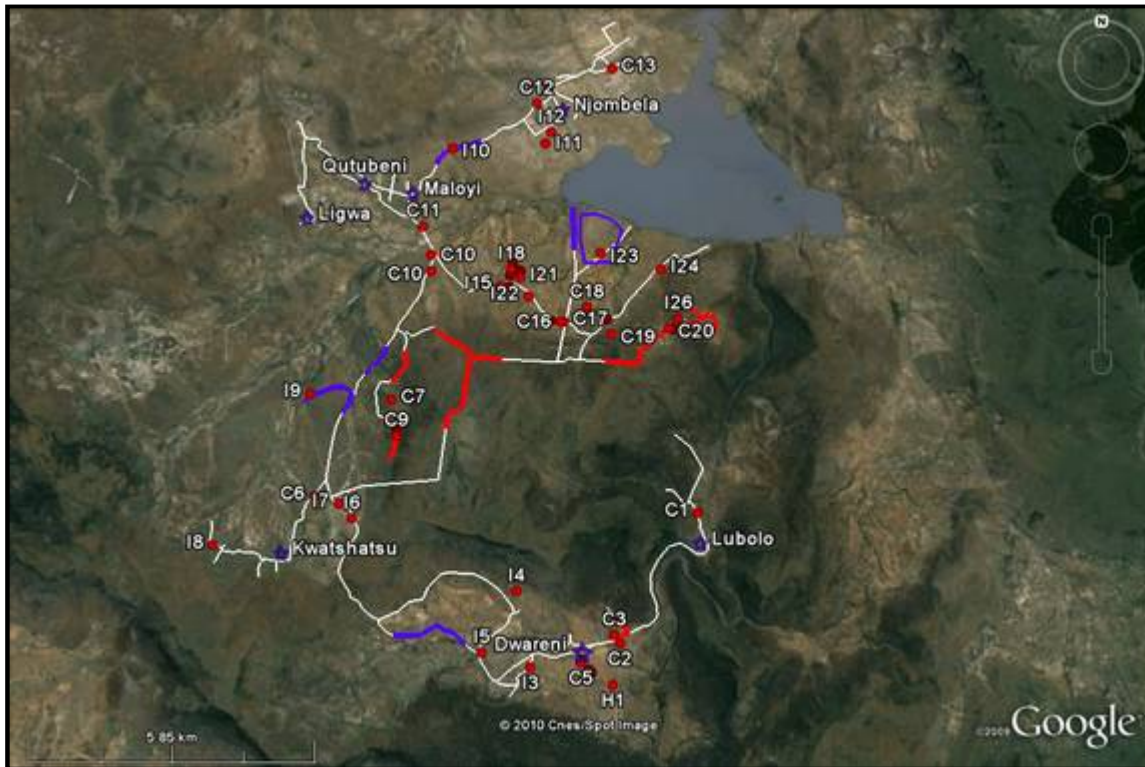


Figure 166: High density MSA deposits (red lines)

AREA 1: The most significant high density Middle Stone Age (MSA) area is located within the eastern-central settlement, situated south of the Lubisi dam (co-ordinates 89-99). The total of the settlement overlays the rich MSA assemblage; identified in the access road, cleared areas of the settlement, homestead yards and agricultural fields, with both sites I26 and C20 overlying deposits. Survey did not allow an estimation of site extent, but it can reasonably be inferred that deposits continue across the hill and westwards implying a projected estimate of 100's of hectares. Artefacts are assigned to the middle to later MSA, based primarily on artefact size with the assemblage typically dominated by flake and blade types. Geology of the environment may account for the high density of artefacts, having provided a suitable raw material for artefact manufacture. Artefact densities did vary, but ratios (artefacts: m²) of up to 15-20:1 were recorded. Artefact densities decreased towards the west (the 2nd last eastern-central village) with lesser numbers recorded in the vicinity of Site C19 and with no clear artefact member present in large riverine sections nearby. Artefacts were recorded along the southern line (to approximately midway between co-ordinates 89-79 and again continuing west thereof towards co-ordinate 64) but a portion of the line route proved inaccessible due to steep slopes and thick vegetation. Despite the lack of access it is inferred that deposits are continuous across to co-ordinate 64.

AREA 2: Area 2 constitutes deposits along the western-central part of the line route, in typology and technology very similar to the Area 1 deposits but with access specifically along the virgin area of the alignment often being very difficult clear continuity could not be established, neither could variation among the assemblages (co-ordinates 64-66). To the west of the virgin alignment village roads and tracks, limited to the bottom of the hill,

indicated much lower artefact ratios in the region of 5:1, indicating site limit, again closely associated with elevation and geology (co-ordinates 55-59). Where the village road meandered just too far west of the hill no artefacts, except of clear secondary context, were encountered.

AREA 3: The 3rd high density MSA area is located north-east of Dwareni Village at the settlement known as Lanti Cocestin (co-ordinates 129 to midway to 132). Here high artefact ratios (artefacts: m²) approaching 15-20:1 were identified underlying the C2 and C3 cemeteries, cleared and impacted on across the settlement itself and north-west along the proposed alignment route. Artefacts were again typologically and technologically ascribable to the middle to latter part of the MSA, and in surface appearance interpreted as a temporal continuation of the Area 1 and Area 2 deposits. The presence of lithic artefacts in the area is again ascribed to the geology of the area, having provided for suitable knapping material. Much lower artefact densities south of the stream, with exposed sections yielding anthropic sterile stratification only, attest to the close link between raw material availability and high density MSA surface deposits as opposed to areas where suitable raw material wasn't present.

- **RECOMMENDATIONS:** *High density MSA deposits at Area 1, Area 2 and Area 3 comprise of Stone Age archaeological sites, as defined and protected under the NHRA 1999. Identified areas are particularly large with site extents inferred to approximate 100's of hectares. In areas of contemporary and past Iron Age settlement infrastructure directly overlies Stone Age deposits. The areas have by implication already been impacted on, without mitigation preceding impact. Large site extents imply that rerouting of the alignment route may not be feasible with respect to the aim of the development, namely to provide water to contemporary villagers / households. Based on large site extent and the limited impact of the proposed development it is recommended that development be preceded by Phase 2 archaeological mitigation, but that mitigation be restricted to a single area with the aim of salvaging a representative sample of a typical High Density MSA Deposit. It is recommended that mitigation be done at Area 1 where development impact will be most significant.*

PHASE 2 ARCHAEOLOGICAL MITIGATION (EXCAVATION & TEST PITTING)

- 1) *In accordance with requirements of the NHRA 1999 Phase 2 archaeological mitigation should precede development impact at the study site;*
- 2) *Phase 2 archaeological mitigation should be done by an ASAPA accredited CRM archaeologist, under a permit issued by SAHRA. (Phase 2 archaeological mitigation permits are in addition subject to landowner approval, developer / project proponent agreement / repository acceptance);*
- 3) *It is recommended that based on depth of deposit and lithic sample size a mitigation excavation of between 9m²-36m² be done at Area 1 and if deemed necessary complimented by test-pitting in the vicinity of the village / Area 2 / Area 3 to salvage a representative sample of the assemblage type.*
- 4) *Excavated material should be permanently conserved at a SAHRA approved archaeological repository; and*
- 5) *A Phase 2 archaeological mitigation report should be submitted to the SAHRA APM Unit.*

OR

CONSERVATION

- 1) No development in areas of recorded High Density MSA deposits.



Figure 167: A typical Area 1 and Area 2 landscape, characterized by rich MSA deposits



Figure 168: High densities of Stone Age artefacts in the village road at Area 1



Figure 169: High densities of Stone Age artefacts present in churned fields at Area 1



Figure 170: A collection of MSA artefacts from Area 1



Figure 171: In situ artefacts from Area 2



Figure 172: A collection of MSA artefacts from the Site C2 cemetery at Area 3

2.4.4.2) MEDIUM DENSITY MSA & LSA DEPOSITS

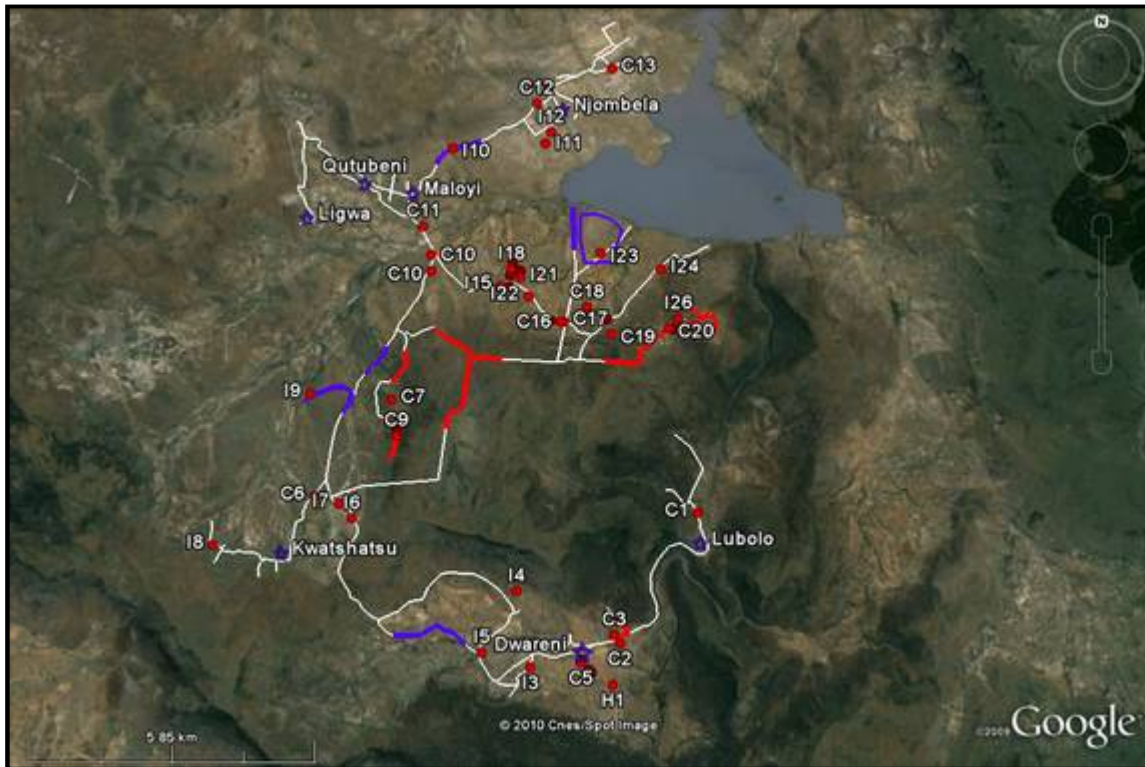


Figure 173: Medium density MSA and LSA deposits (blue lines)

AREA 4: Area 4 comprises the general area between co-ordinates 14-16 and underlying the large Iron Age Site I10. Medium density artefacts with an average artefact ratio (artefacts: m²) of 5-8:1 were recorded. Despite the mentioned artefact ratio it is important to note that surface deposits were not consistent across the area, implying that the artefact member may well continue sub-surfacely at places or alternatively that Stone Age deposits has a mosaic distribution pattern across the area. Lithic artefacts at Area 4 are primarily ascribed to the Middle Stone Age (MSA), based on artefact size, typology and technology. Deposits at Area 4 are inferred to be the result of suitable raw material for knapping purposes focusing along the mountainous terrain north of the site while a main drainage line / stream towards the south evidently provided additional vital resources for pre-historic communities making the area particularly apt for use.

AREA 5: Medium density Stone Age artefacts were encountered across the general area between co-ordinates 80-83 situated just south of the Lubisi dam. The western most development alignment is situated between 2 drainage lines: The general area was characterized by a low-medium density artefact ratio, averaged at 5:1, where present. Deposits are however inferred to have been heavily impacted on by past post-depositional processes particularly flooding and the essential ex-situ context of artefacts make the proposed line route rather preferable considering adjoining Stone Age rich deposits.

Immediately east of the western alignment route portion and covering the majority of the floodplain (containing the Site I23 agricultural field site Stone Age densities increased quite radically in places. Average artefact ratios

recorded approached 8-10:1 and typologically and technologically representing both the latter part of the Middle Stone Age (MSA) as well as probable macrolithic Later Stone Age (LSA) types. The possible temporal and technological sequence at the floodplain area is of particular importance. Surface artefacts were encountered in the disturbed churned agricultural fields as well as along area of less agricultural disturbance such as at the residential area. Iron Age 'quarrying' to clear agricultural fields however yielded a relatively shallow geological substrate implying that in situ anthropic context may not have very significant depth, perhaps to an average of 40-50cm in places but obviously increasing towards the banks of the Lubisi dam where greater sedimental deposits can reasonably be expected. Artefact densities, quite unexpectedly, decreased towards the eastern drainage line and proposed alignment route portion and no clear anthropic member was visible in large exposed sections of the stream; implying that due to ample water in the past it may have been the floodplain itself that served as draw card for pre-historic knappers rather than adjoining stream environments.

Despite impact on Stone Age deposits in the area, both the western and eastern line routes are situated at the perimeter of recorded floodplain deposits and will not impact on the site proper.

AREA 6: Area 6 is situated along the western central part of the development alignment between co-ordinates 32-38 and importantly underlying Site I9. The northern portion of identified deposits was discovered primarily within the access road and by implication the line route impact area adjoining formally fenced agricultural lands, homestead yards and a relatively large virgin area but forming part of a floodplain and in that very similar to the Area 5 assemblage, despite the lack of LSA lithic artefact types. Artefact ratios varied quite significantly across the area but with recorded ratios between 2-5:1 where present. In the southern part of Area 6, in the vicinity of Site I9, deposits were primarily discovered within the slightly scraped access road, by implication also the development impact area and churned agricultural field immediately adjoining the access road. Artefact densities in disturbed context were fairly high approximating 5-8:1, however receding quite radically in recordings depending on proximity from the road, implying that the deposit is in large confined to sub-surface in situ deposits. Artefacts in both areas (north and south, Area 6) are ascribable to the middle to latter part of the MSA and comprising typically of flake and blade types. With little geological outcrops as a source of raw material in the immediate vicinity it is inferred that these deposits relate to 'activity' rather than 'knapping' areas, where water sources of the floodplain localities served as attraction for pre-historic communities. Towards the south of the large agricultural field area, south of Site I9, churned fields yielded only anthropic sterile deposits implying that the artefact member either dips down below current agricultural impact or that past cultural use of the landscape was at least to a degree restricted; of probable significance relating to Stone Age use of the landscape or perhaps population size during MSA times.

AREA 7: Along the main access road from Dwareni to Kwatshatsu Village, roughly between co-ordinates 105-107, a medium density of Stone Age artefacts were discovered on the floodplain area north of the road. Artefacts were found surfacing in patches across the plain with an estimated artefact ratio (artefacts: m²) of 5:1 where present. Typologically and technologically the artefacts can be ascribed to the middle to latter part of the MSA, typically represented by flake and blade types with smaller flakes perhaps representing a macrolithic LSA component to the assemblage. Raw material used were not sourced from an immediate geological deposit, evidenced by the lack of artefacts along the alignment route just north of Area 7 where raw material proved to be of a quality not suitable for knapping. The floodplain site is again interpreted as an 'activity' area rather than a 'knapping' site, with the nearby stream having been the major attraction.

- RECOMMENDATIONS:** *Medium density MSA (and LSA) deposits at Area 4, Area 5, Area 6 and Area 7 comprise of Stone Age archaeological sites, as defined and protected under the NHRA 1999. Identified areas are again quite large extending far beyond the perimeter of the indicated portions along the line route. Site extents may well be 100's of hectares in size and determining the perimeters of these was beyond the scope of the study. Contemporary and past Iron Age settlement infrastructure directly overlies medium density Stone Age deposits, with sites having already been impacted without being preceded by Phase 2 archaeological mitigation. Large site extents imply that rerouting of the alignment route may not be feasible with respect to the aim of the development; the provision of water to contemporary villagers / households. Based on large site extent and the limited impact of the proposed development together with Phase 2 mitigation recommendations with respect to high density MSA deposits it is recommended that development be preceded by Phase 2 archaeological mitigation limited to test pitting only at at least 2 of the identified medium density areas to provide for a preliminary interpretation with respect to the type deposits. It is recommended that test pitting be done at Area 5 and Area 6, being the most significant identified deposits.*

PHASE 2 ARCHAEOLOGICAL MITIGATION (TEST PITTING)

- In accordance with requirements of the NHRA 1999 Phase 2 archaeological mitigation should precede development impact at the study site;*
- Phase 2 archaeological mitigation should be done by an ASAPA accredited CRM archaeologist, under a permit issued by SAHRA. (Phase 2 archaeological mitigation permits are in addition subject to landowner approval, developer / project proponent agreement / repository acceptance);*
- Test pitting is recommended at Area 5 and Area 6, being the most significant identified medium density deposits to salvage representative samples of the assemblage types.*
- Excavated material should be permanently conserved at a SAHRA approved archaeological repository; and*
- A Phase 2 archaeological mitigation report should be submitted to the SAHRA APM Unit.*

OR

CONSERVATION

- No development in areas of recorded Medium Density MSA and LSA deposits.



Figure 174: Stone Age artefacts scattered among the remains of Site I10 (Area 4)



Figure 175: General view of the Area 5 deposits



Figure 176: A collection of artefacts from Area 5



Figure 177: A collection of artefacts from Area 6

2.4.4.3) LOW DENSITY STONE AGE DEPOSITS

Throughout the Phase 1 AIA of the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project* the odd artefact or an area containing a particularly low density of Stone Age artefacts was encountered. These finds do constitute archaeological deposits as defined and protected under the NHRA 1999. However, particularly low densities of artefacts are, specifically with reference to significant Stone Age sites, regarded as fairly insignificant ‘features’ rather than ‘sites’. Finds may be the result of pre-historic deposition at terrains less intensely utilized during the prehistoric past, but their presence in places may also be ascribed to past disturbance primarily flooding, implying that artefacts are in secondary, ex-situ context. Mitigation in these areas will not yield significant information with regards to technology or typology. Low density types are difficult to ascribe to a particular phase, but no typical Earlier Stone Age (ESA) *fossils directeurs* were identified. Identified lithic samples are assigned primarily to the MSA but smaller artefacts may well represent macrolithic LSA use of the landscape.

- **RECOMMENDATIONS:** *Low density Stone Age deposits across the study site do comprise of Stone Age archaeological deposits, as defined and protected under the NHRA 1999. Identified finds and deposits are however regarded as ‘features’ rather than ‘sites and mitigation of these samples are not expected to yield significant information about the past, particularly with reference to identified prominent Stone Age sites located during the assessment. Development will by implication impact on low density Stone Age ‘features’: It is recommended that development proceeds as applied for without the developer having to comply with further heritage compliance requirements pertaining to low density Stone Age deposits and without the developer having to apply for a SAHRA Site Destruction Permit prior to impact on these deposits.*



Figure 178: An example of an in situ artefact at a low density Stone Age feature

2.5) *Socio-cultural Consultation*

Informal socio-cultural consultation was done at the time of the assessment. Of particular importance was the opinion of villagers with regards to formal conservation of heritage sites that pertain directly to them, including cemeteries and burial sites and Iron Age settlement and farming remains.

It was evident from opinions of villagers that formal conservation, in accordance with basic SAHRA Site Conservation Standards, of informal cemeteries and burial sites may well be perceived as offensive to villagers. Burial practice, grave type and location are highly flexible and based on cultural preference. Local consultation prior to formal conservation is vital across the study site where archaeological and heritage resources are directly related to the contemporary community.

In addition it was pointed out that the formal fencing of Iron Age Homesteads should preferably be preceded by individual consultation with the household or households to whom these sites directly relate, again fencing of ancestral site may be perceived as offensive. Particularly wide spread site components or on site features imply that individual sites often have fairly large site extents, formal fencing will impact on current land use practices, primarily livestock farming, the primary economic sector in which the community engage.

Villagers were fairly ignorant of the significance of Stone Age deposits across the study site, particularly in comparison with local knowledge relating to Iron Age remains.

3) CONCLUSION AND RECOMMENDATIONS

With reference to cultural heritage compliance as per the requirements of the NHRA 1999 it is recommended that the proposed *Water Supply Backlog in the CHDM: Cluster 2, Phase 2, Regional Scheme 3 Project*, near Lady Frere in the Eastern Cape proceeds as applied for provided the developer complies with the following requirements:

A total of 50 archaeological and cultural heritage resources and type sites, as defined and protected under the NHRA 1999 were identified during the assessment. Identified resources can briefly be described as:

1. Contemporary Resources – 20 sites;
2. Historic Period Tradition Resources – 1 site;
3. Iron Age Tradition Resources – 26 sites; and
4. Stone Age Tradition Resources, subdivided into 3 types of deposits namely;
 - High Density MSA Deposits (Area 1, Area 2 and Area 3)
 - Medium Density MSA and LSA Deposits; and
 - Low Density Stone Age Deposits.

1. **CONTEMPORARY RESOURCES** comprise primarily of formal and informal cemeteries and burial places (Sites C1-C20). It is recommended that both formal and temporary conservation measures be preceded by local consultation prior to implementation. Brief community consultation at the time of the assessment indicated that fencing of these ancestral sites may well be perceived as offensive by villagers. Particular caution was however taken in the development design to accommodate cemeteries and burial places and sites will not be directly impacted on by development.
2. **HISTORIC PERIOD TRADITION RESOURCES** comprise of a single identified site (Site H1). Based on proximity from the study site the resource will not be impacted on. Conservation measures in place comply with SAHRA Minimum Site Conservation Standards.
3. **IRON AGE TRADITION RESOURCES** include primarily Later Iron Age homesteads but also agricultural remains (Sites I1-I26). Component parts of the sites or on-site features are as a norm spread quite widely across the landscape implying that site extents are fairly large. Development will directly impact on 2 identified sites namely Site I10 and Site I25, where the existing access road runs through the site, implying that development within the road reserve will also impact on the sites. Development however need not impact on any site features. It is not recommended that Iron Age sites be formally conserved (formal fencing with an access gate), based on current land use patterns and brief community consultation at the time of the assessment, again indicating that formal conservation of these ancestral sites may well be perceived as offensive by descendants. All conservation measures (including temporary conservation) should be preceded by community consultation.
4. **STONE AGE TRADITION RESOURCES** have largely already been impacted on by past and present occupation of the area without having been preceded by mitigation. It is recommended that based on the limited impact of the proposed development, development be at least preceded by limited Phase 2 archaeological mitigation. Recommended Phase 2 mitigation should include excavation at Area 1 supplemented by test pitting at Area 1 / Area 2 / Area 3 to salvage a sample of significant High Density MSA Deposits prior to development impact. High Density MSA Deposit data should be supplemented by test pitting in at least 2 of the Medium density MSA and LSA Deposit areas, Area 5 and Area 6 are

recommended for test pitting. Low Density Stone Age deposits were found widespread across the landscape. Based on recommended Phase 2 archaeological mitigation and the limited scientific value of Low density Stone Age Deposits in comparison with High and Medium density sites it is recommended that development across Low density Stone Age deposits proceeds without the developer having to comply with additional mitigation requirements in these areas.

NOTE: Should any archaeological or cultural heritage resources as defined and protected by the NHRA 1999 and not reported on in this report be identified during the course of development the developer should immediately cease operation in the vicinity of the find and report the site to SAHRA / an ASAPA accredited CRM archaeologist.

All reported heritage sites should be assessed (on-site assessment / site inspection); after a SAHRA Site Significance assignment has been assigned recommendations regarding the future of the site can be made and may include conservation, site monitoring or Phase 2 archaeological mitigation.

CHDM WATER SUPPLY – CLUSTER 2, PHASE 2, REGIONAL SCHEME 3					
NJOMBELA, MALOYI, QUTUBENI, DRAYINI, LIGWA, KWATSHATSU, ENDWE AND LUBOLO					
<i>MAP CODE</i>	<i>SITE</i>	<i>TYPE / PERIOD</i>	<i>DESCRIPTION</i>	<i>CO-ORDINATES</i>	<i>PRELIMINARY RECOMMENDATIONS</i>
DEVELOPMENT AREA					
1	-	-	-	S31°45'22.0"; E27°24'02.4"	N/A
2	-	-	-	S31°45'32.5"; E27°24'12.9"	N/A
3	-	-	-	S31°45'47.7"; E27°24'10.6"	N/A
4	-	-	-	S31°45'38.1"; E27°24'03.4"	N/A
5	-	-	-	S31°45'45.0"; E27°23'50.7"	N/A
6	-	-	-	S31°45'53.6"; E27°23'42.2"	N/A
7	-	-	-	S31°45'57.6"; E27°23'32.4"	N/A
8	-	-	-	S31°45'58.6"; E27°23'16.2"	N/A
9	-	-	-	S31°46'06.5"; E27°23'13.7"	N/A
10	-	-	-	S31°46'18.8"; E27°23'40.6"	N/A
11	-	-	-	S31°46'25.4"; E27°23'30.2"	N/A
12	-	-	-	S31°46'10.4"; E27°23'11.4"	N/A
13	-	-	-	S31°46'36.7"; E27°22'59.7"	N/A
14	-	-	-	S31°46'26.4"; E27°22'50.4"	N/A
15	-	-	-	S31°46'46.6"; E27°21'49.5"	N/A
16	-	-	-	S31°47'14.0"; E27°21'29.1"	N/A
17	-	-	-	S31°47'07.2"; E27°21'20.0"	N/A
18	-	-	-	S31°47'26.8"; E27°21'22.1"	N/A
19	-	-	-	S31°47'02.2"; E27°21'09.8"	N/A
20	-	-	-	S31°47'19.8"; E27°21'06.2"	N/A
21	-	-	-	S31°46'57.2"; E27°20'27.0"	N/A
22	-	-	-	S31°46'45.3"; E27°20'11.5"	N/A
23	-	-	-	S31°46'38.0"; E27°20'00.7"	N/A
24	-	-	-	S31°46'27.7"; E27°19'54.3"	N/A
25	-	-	-	S31°47'10.4"; E27°19'59.6"	N/A
26	-	-	-	S31°47'09.8"; E27°19'55.1"	N/A
27	-	-	-	S31°47'31.8"; E27°20'07.2"	N/A
28	-	-	-	S31°47'34.6"; E27°19'55.8"	N/A
29	-	-	-	S31°47'15.6"; E27°20'58.6"	N/A

30	-	-	-	S31°47'30.9"; E27°21'23.1"	N/A
31	-	-	-	S31°47'57.5"; E27°21'43.5"	N/A
32	-	-	-	S31°48'44.0"; E27°21'12.1"	N/A
33	-	-	-	S31°48'48.4"; E27°21'17.6"	N/A
34	-	-	-	S31°49'18.9"; E27°20'41.9"	N/A
35	-	-	-	S31°49'26.9"; E27°20'36.3"	N/A
36	-	-	-	S31°49'23.5"; E27°20'21.0"	N/A
37	-	-	-	S31°49'33.1"; E27°19'59.6"	N/A
38	-	-	-	S31°49'48.6"; E27°20'24.1"	N/A
39	-	-	-	S31°50'24.3"; E27°20'16.3"	N/A
40	-	-	-	S31°50'35.4"; E27°20'20.5"	N/A
41	-	-	-	S31°50'41.6"; E27°20'00.1"	N/A
42	-	-	-	S31°50'50.9"; E27°19'57.6"	N/A
43	-	-	-	S31°50'51.4"; E27°19'53.7"	N/A
44	-	-	-	S31°51'17.3"; E27°19'48.1"	N/A
45	-	-	-	S31°51'17.3"; E27°19'37.7"	N/A
46	-	-	-	S31°51'24.5"; E27°19'38.2"	N/A
47	-	-	-	S31°51'16.6"; E27°19'28.9"	N/A
48	-	-	-	S31°51'28.7"; E27°19'23.9"	N/A
49	-	-	-	S31°51'16.1"; E27°19'24.9"	N/A
50	-	-	-	S31°51'09.8"; E27°18'55.4"	N/A
51	-	-	-	S31°51'06.9"; E27°18'57.3"	N/A
52	-	-	-	S31°51'18.6"; E27°18'49.4"	N/A
53	-	-	-	S31°51'04.1"; E27°18'46.3"	N/A
54	-	-	-	S31°50'50.8"; E27°18'46.5"	N/A
55	-	-	-	S31°49'08.7"; E27°21'19.0"	N/A
56	-	-	-	S31°49'19.5"; E27°20'59.8"	N/A
57	-	-	-	S31°49'41.6"; E27°20'57.3"	N/A
58	-	-	-	S31°49'52.0"; E27°21'11.6"	N/A
59	-	-	-	S31°50'10.8"; E27°21'06.5"	N/A
60	-	-	-	S31°48'49.4"; E27°21'23.6"	N/A
61	-	-	-	S31°48'43.1"; E27°21'40.9"	N/A
62	-	-	-	S31°48'49.6"; E27°21'48.1"	N/A
63	-	-	-	S31°48'58.1"; E27°22'06.9"	N/A
64	-	-	-	S31°49'03.1"; E27°22'09.3"	N/A
65	-	-	-	S31°49'36.7"; E27°22'02.2"	N/A
66	-	-	-	S31°49'41.7"; E27°21'51.6"	N/A
67	-	-	-	S31°50'23.9"; E27°21'43.8"	N/A
68	-	-	-	S31°50'28.4"; E27°20'45.0"	N/A
69	-	-	-	S31°48'19.6"; E27°22'07.8"	N/A
70	-	-	-	S31°48'13.0"; E27°22'39.0"	N/A
71	-	-	-	S31°48'20.9"; E27°22'55.6"	N/A
72	-	-	-	S31°48'32.4"; E27°23'04.0"	N/A
73	-	-	-	S31°48'40.1"; E27°23'23.4"	N/A
74	-	-	-	S31°49'06.3"; E27°23'16.6"	N/A
75	-	-	-	S31°48'42.4"; E27°23'29.6"	N/A
76	-	-	-	S31°48'46.5"; E27°23'32.4"	N/A
77	-	-	-	S31°49'04.0"; E27°23'25.8"	N/A
78	-	-	-	S31°48'48.3"; E27°23'43.3"	N/A
79	-	-	-	S31°49'04.9"; E27°23'34.4"	N/A
80	-	-	-	S31°48'10.8"; E27°23'30.7"	N/A
81	-	-	-	S31°47'24.6"; E27°23'28.8"	N/A
82	-	-	-	S31°47'45.0"; E27°24'06.9"	N/A
83	-	-	-	S31°47'36.4"; E27°24'14.0"	N/A
84	-	-	-	S31°48'34.0"; E27°24'06.5"	N/A
85	-	-	-	S31°47'55.3"; E27°24'48.0"	N/A
86	-	-	-	S31°47'58.0"; E27°24'51.3"	N/A

87	-	-	-	S31°47'53.9"; E27°25'06.8"	N/A
88	-	-	-	S31°47'49.8"; E27°25'15.0"	N/A
89	-	-	-	S31°49'07.5"; E27°24'20.2"	N/A
90	-	-	-	S31°48'57.7"; E27°24'21.8"	N/A
91	-	-	-	S31°48'44.5"; E27°24'41.7"	N/A
92	-	-	-	S31°48'44.8"; E27°24'50.2"	N/A
93	-	-	-	S31°48'41.3"; E27°24'55.3"	N/A
94	-	-	-	S31°48'37.5"; E27°25'09.2"	N/A
95	-	-	-	S31°48'28.7"; E27°24'57.6"	N/A
96	-	-	-	S31°48'34.1"; E27°25'15.1"	N/A
97	-	-	-	S31°48'40.7"; E27°25'20.9"	N/A
98	-	-	-	S31°48'42.4"; E27°25'18.5"	N/A
99	-	-	-	S31°48'46.0"; E27°25'19.7"	N/A
100	-	-	-	S31°50'55.1"; E27°20'40.7"	N/A
101	-	-	-	S31°51'24.4"; E27°20'26.2"	N/A
102	-	-	-	S31°51'42.1"; E27°20'35.7"	N/A
103	-	-	-	S31°51'56.7"; E27°20'57.3"	N/A
104	-	-	-	S31°52'07.8"; E27°21'19.6"	N/A
105	-	-	-	S31°51'59.8"; E27°21'42.2"	N/A
106	-	-	-	S31°52'04.8"; E27°21'55.1"	N/A
107	-	-	-	S31°52'19.8"; E27°22'15.5"	N/A
108	-	-	-	S31°52'08.2"; E27°22'20.2"	N/A
109	-	-	-	S31°52'07.5"; E27°22'26.0"	N/A
110	-	-	-	S31°52'01.2"; E27°22'35.6"	N/A
111	-	-	-	S31°51'51.7"; E27°22'43.6"	N/A
112	-	-	-	S31°51'50.1"; E27°22'48.1"	N/A
113	-	-	-	S31°52'36.7"; E27°22'28.8"	N/A
114	-	-	-	S31°52'19.1"; E27°22'57.3"	N/A
115	-	-	-	S31°52'25.1"; E27°22'56.7"	N/A
116	-	-	-	S31°52'30.9"; E27°22'51.5"	N/A
117	-	-	-	S31°52'32.7"; E27°22'46.9"	N/A
118	-	-	-	S31°52'39.4"; E27°22'45.6"	N/A
119	-	-	-	S31°52'38.3"; E27°22'29.6"	N/A
120	-	-	-	S31°52'47.6"; E27°22'38.7"	N/A
121	-	-	-	S31°52'21.2"; E27°23'16.3"	N/A
122	-	-	-	S31°52'18.5"; E27°23'29.9"	N/A
123	-	-	-	S31°52'26.2"; E27°23'38.3"	N/A
124	-	-	-	S31°52'13.3"; E27°23'43.3"	N/A
125	-	-	-	S31°52'10.8"; E27°23'26.5"	N/A
126	-	-	-	S31°52'06.1"; E27°23'26.9"	N/A
127	-	-	-	S31°52'17.5"; E27°23'15.7"	N/A
128	-	-	-	S31°52'14.8"; E27°23'08.6"	N/A
129	-	-	-	S31°52'10.1"; E27°24'03.3"	N/A
130	-	-	-	S31°52'05.0"; E27°24'13.3"	N/A
131	-	-	-	S31°52'03.2"; E27°24'08.3"	N/A
132	-	-	-	S31°51'49.2"; E27°23'55.9"	N/A
133	-	-	-	S31°52'00.2"; E27°24'27.7"	N/A
134	-	-	-	S31°51'53.3"; E27°24'34.9"	N/A
135	-	-	-	S31°51'26.7"; E27°24'29.9"	N/A
136	-	-	-	S31°51'07.9"; E27°24'44.1"	N/A
137	-	-	-	S31°51'12.2"; E27°25'04.7"	N/A
138	-	-	-	S31°51'06.7"; E27°25'14.6"	N/A
139	-	-	-	S31°50'55.6"; E27°25'07.9"	N/A
140	-	-	-	S31°50'38.7"; E27°25'00.0"	N/A
141	-	-	-	S31°50'39.5"; E27°24'57.3"	N/A
142	-	-	-	S31°50'31.0"; E27°24'41.7"	N/A
143	-	-	-	S31°50'17.0"; E27°25'09.8"	N/A

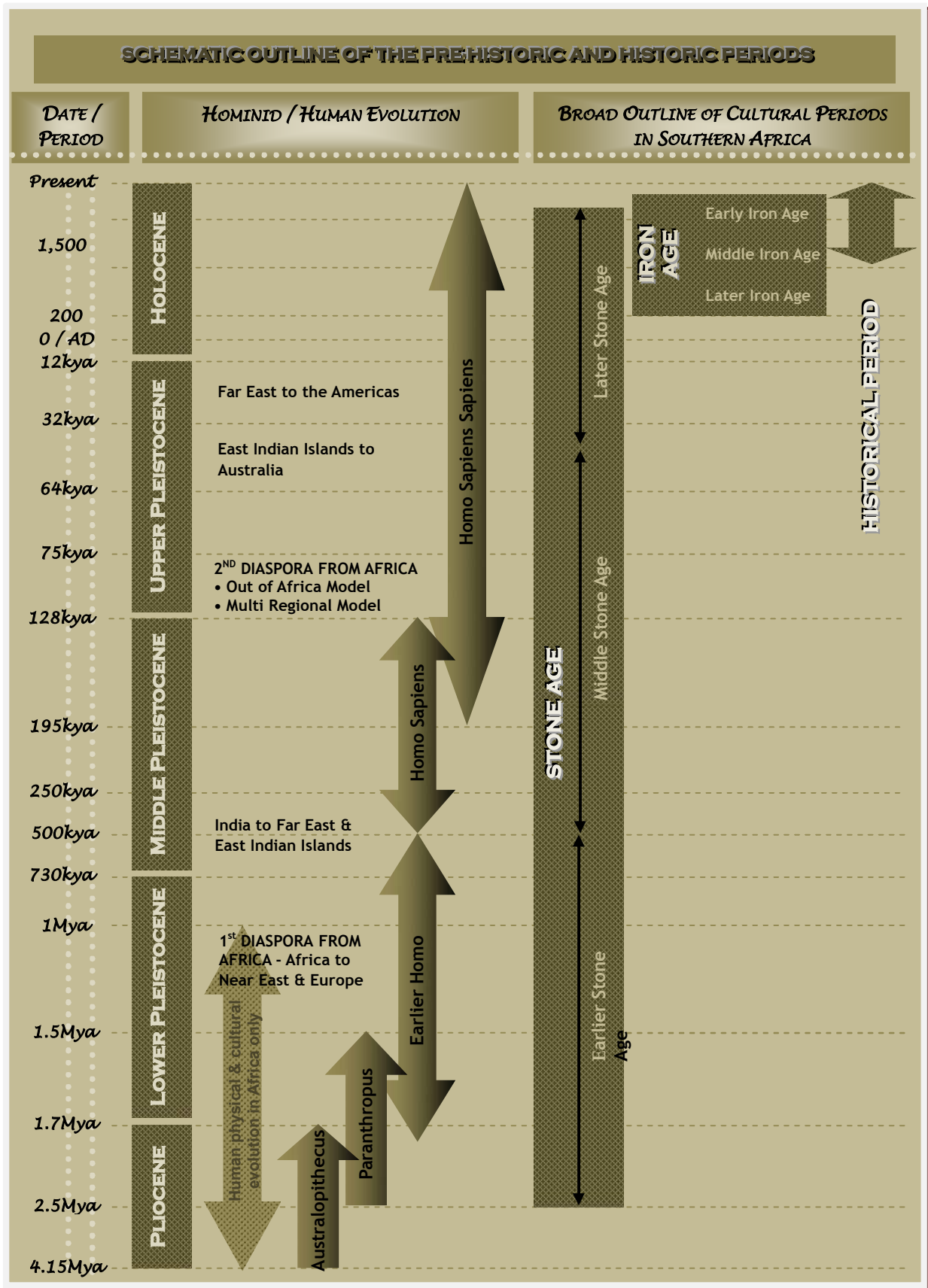
144	-	-	-	S31°50'02.5"; E27°25'00.2"	N/A
145	-	-	-	S31°49'54.3"; E27°24'48.3"	N/A
146	-	-	-	S31°51'50.7"; E27°21'13.4"	N/A
147	-	-	-	S31°51'34.9"; E27°21'36.4"	N/A
148	-	-	-	S31°51'25.8"; E27°21'47.3"	N/A
149	-	-	-	S31°51'26.4"; E27°22'12.0"	N/A
150	-	-	-	S31°51'39.2"; E27°22'34.0"	N/A
HERITAGE SITES					
C1	Site C1	Contemporary	Cemetery	S31°50'45.8"; E27°25'06.4"	Temporary conservation,
C2	Site C2	Contemporary	Cemetery	S31°52'12.0"; E27°24'05.9"	Temporary / Formal conservation
C3	Site C3	Contemporary	Cemetery	S31°52'06.4"; E27°24'01.3"	Temporary / Formal conservation
C4	Site C4	Contemporary	Cemetery	S31°52'27.9"; E27°23'40.3"	In situ conservation (No additional conservation measures required)
C5	Site C5	Contemporary	Cemetery	S31°52'24.6"; E27°23'35.1"	Temporary conservation
C6	Site C6	Contemporary	Cemetery	S31°50'34.0"; E27°20'06.6"	Formal conservation
C7	Site C7	Contemporary	Cemetery	S31°49'31.0"; E27°21'08.0"	In situ conservation (No additional conservation measures required)
C8	Site C8	Contemporary	Cemetery	S31°49'52.3"; E27°21'11.5"	In situ conservation (No additional conservation measures required)
C9	Site C9	Contemporary	Cemetery	S31°49'54.8"; E27°21'11.2"	Formal conservation
C10	Site C10	Contemporary	Cemetery	S31°47'06.2"; E27°21'38.9"	Formal conservation
C11	Site C11	Contemporary	Cemetery	S31°47'36.7"; E27°21'31.3"	Formal conservation
C12	Site C12	Contemporary	Cemetery	S31°46'15.4"; E27°23'01.1"	Formal conservation
C13	Site C13	Contemporary	Cemetery	S31°45'51.5"; E27°23'34.5"	Temporary conservation
C14	Site C14	Contemporary	Cemetery	S31°48'05.6"; E27°22'46.7"	In situ conservation (No additional conservation measures required)
C15	Site C15	Contemporary	Cemetery	S31°48'38.7"; E27°23'12.8"	Temporary conservation
C16	Site C16	Contemporary	Cemetery	S31°48'39.6"; E27°23'19.5"	In situ conservation (No additional conservation measures required)
C17	Site C17	Contemporary	Cemetery	S31°48'39.6"; E27°23'22.0"	Formal conservation
C18	Site C18	Contemporary	Cemetery	S31°48'30.0"; E27°23'40.0"	In situ conservation (No additional conservation measures required)
C19	Site C19	Contemporary	Cemetery	S31°48'47.7"; E27°23'44.9"	Temporary conservation
C20	Site C20	Contemporary	Cemetery	S31°48'43.9"; E27°24'43.7"	Temporary conservation
H1	Site H1	Historic Period	Structure	S31°52'39.4"; E27°24'00.2"	In situ conservation (No additional conservation measures required)
I1	Site I1	Iron Age	Homestead	S31°52'31.4"; E27°23'43.9"	In situ conservation
I2	Site I2	Iron Age	Homestead	S31°52'23.0"; E27°23'35.7"	In situ conservation
I3	Site I3	Iron Age	Homestead	S31°52'26.6"; E27°22'56.1"	In situ conservation
I4	Site I4	Iron Age	Homestead	S31°51'37.4"; E27°22'45.1"	In situ conservation
I5	Site I5	Iron Age	Homestead	S31°52'18.1"; E27°22'17.9"	In situ conservation
I6	Site I6	Iron Age	Homestead	S31°50'49.9"; E27°20'37.7"	In situ conservation
I7	Site I7	Iron Age	Homestead	S31°50'39.1"; E27°20'27.2"	In situ conservation
I8	Site I8	Iron Age	Homestead	S31°51'07.1"; E27°18'48.6"	In situ conservation
I9	Site I9	Iron Age	Homestead	S31°49'27.2"; E27°20'04.4"	In situ conservation
I10	Site I10	Iron Age	Homestead	S31°46'45.0"; E27°21'55.5"	In situ conservation (Development will impact on the site but not on individual site features / components)
I11	Site I11	Iron Age	Homestead	S31°46'41.8"; E27°23'07.8"	In situ conservation
I12	Site I12	Iron Age	Homestead	S31°46'34.5"; E27°23'12.2"	In situ conservation
I13	Site I13	Iron Age	Homestead	S31°46'09.7"; E27°23'12.3"	In situ conservation
I14	Site I14	Iron Age	Homestead	S31°48'15.7"; E27°22'18.6"	In situ conservation
I15	Site I15	Iron Age	Homestead	S31°48'16.0"; E27°22'33.0"	In situ conservation
I16	Site I16	Iron Age	Homestead	S31°48'16.2"; E27°22'39.5"	In situ conservation
I17	Site I17	Iron Age	Homestead	S31°48'09.0"; E27°22'40.1"	In situ conservation
I18	Site I18	Iron Age	Homestead	S31°48'04.8"; E27°22'41.1"	In situ conservation
I19	Site I19	Iron Age	Homestead	S31°48'01.1"; E27°22'42.4"	In situ conservation
I20	Site I20	Iron Age	Homestead	S31°48'06.3"; E27°22'48.5"	In situ conservation

I21	Site I21	Iron Age	Homestead	S31°48'10.4"; E27°22'48.1"	<i>In situ conservation</i>
I22	Site I22	Iron Age	Homestead	S31°48'22.9"; E27°22'54.6"	<i>In situ conservation</i>
I23	Site I23	Iron Age	Agricultural fields	S31°47'54.4"; E27°23'50.5"	<i>In situ conservation</i>
I24	Site I24	Iron Age	Homestead	S31°48'05.0"; E27°24'37.6"	<i>In situ conservation</i>
I25	Site I25	Iron Age	Homestead	S31°48'38.1"; E27°23'55.8"	<i>In situ conservation (Development will impact on the site but not on individual site features / components)</i>
I26	Site I26	Iron Age	Homestead	S31°48'37.4"; E27°24'51.0"	<i>In situ conservation</i>
High Density MSA Deposits					
Red	Area 1	Stone Age	MSA	Co-ordinates 79; 89,90, 91, 92, 93, 94, 95, 96, 97, 98 & 99	<i>Phase 2 Archaeological Mitigation (test excavation & test pitting) to precede development</i>
Red	Area 2	Stone Age	MSA	Co-ordinates 55, 56, 57, 58, 59, 64, 65 & 66	<i>OR No development in vicinity of recorded High Density MSA deposits</i>
Red	Area 3	Stone Age	MSA	Co-ordinates 129, 130, 131 & 132	
Medium Density MSA & LSA Deposits					
Blue	Area 4	Stone Age	MSA	Co-ordinates 14, 15 & 16	<i>Phase 2 Archaeological Mitigation (test pitting) to precede development</i>
Blue	Area 5	Stone Age	MSA & LSA	Co-ordinates 80, 81, 82 & 83	<i>OR</i>
Blue	Area 6	Stone Age	MSA	Co-ordinates 32, 33, 34, 35, 36, 37 & 38	<i>No development in vicinity of recorded Medium Density MSA and LSA deposits</i>
Blue	Area 7	Stone Age	MSA	Co-ordinates 105, 106 & 107	
Low density Stone Age Deposits					
		Stone Age		General development area	<i>Destruction without a SAHRA Site Destruction Permit</i>

Table 2: Development and Phase 1 AIA assessment findings – co-ordinate details

4) REFERENCES CITED

1. BESC. 2010. *Background Information Document. Water Supply backlog in the CHDM: Cluster 2, Phase 2, Regional, Scheme 3 (Chris Hani District Municipality)*. Unpublished report.
2. South African Government. (No. 107) of 1998. *National Environmental Management Act*.
3. South African Government. (No. 62) of 2008. *National Environmental Management Second Amendment Act*.
4. South African Government. (No. 25) of 1999. *National Heritage Resources Act*.
5. South African Heritage Resources Agency. 2007. *Minimum standards for the archaeological and heritage components of impact assessments*. Unpublished guidelines.



EXTRACTS FROM THE
NATIONAL HERITAGE RESOURCES ACT (No 25 OF 1999)

DEFINITIONS**Section 2**

In this Act, unless the context requires otherwise:

- ii. *"Archaeological"* means –
 - a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
 - b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10 m of such representation;
 - c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic,... and any cargo, debris, or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.
- viii. *"Development"* means any physical intervention, excavation or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –
 - a) construction, alteration, demolition, removal or change of use of a place or structure at a place;
 - b) carrying out any works on or over or under a place;
 - c) subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
 - d) constructing or putting up for display signs or hoardings;
 - e) any change to the natural or existing condition or topography of land; and
 - f) any removal or destruction of trees, or removal of vegetation or topsoil;
- xiii. *"Grave"* means a place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;
- xxi. *"Living heritage"* means the intangible aspects of inherited culture, and may include –
 - a) cultural tradition;
 - b) oral history;
 - c) performance;
 - d) ritual;
 - e) popular memory;
 - f) skills and techniques;
 - g) indigenous knowledge systems; and
 - h) the holistic approach to nature, society and social relationships.
- xxxi. *"Palaeontological"* means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace;
- xli. *"Site"* means any area of land, including land covered by water, and including any structures or objects thereon;
- xliv. *"Structure"* means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

NATIONAL ESTATE**Section 3**

- 1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
- 2) Without limiting the generality of subsection 1), the national estate may include –
 - a) places, buildings, structures and equipment of cultural significance;
 - b) places to which oral traditions are attached or which are associated with living heritage;
 - c) historical settlements and townscapes;
 - d) landscapes and natural features of cultural significance;
 - e) geological sites of scientific or cultural importance;
 - f) archaeological and palaeontological sites;
 - g) graves and burial grounds, including –
 - i. ancestral graves;
 - ii. royal graves and graves of traditional leaders;
 - iii. graves of victims of conflict
 - iv. graves of individuals designated by the Minister by notice in the Gazette;
 - v. historical graves and cemeteries; and
 - vi. other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
 - h) sites of significance relating to the history of slavery in South Africa;
 - i) movable objects, including –
 - i. objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - ii. objects to which oral traditions are attached or which are associated with living heritage;
 - iii. ethnographic art and objects;
 - iv. military objects;
 - v. objects of decorative or fine art;
 - vi. objects of scientific or technological interest; and
 - vii. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

STRUCTURES**Section 34**

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

ARCHAEOLOGY, PALAEOONTOLOGY AND METEORITES**Section 35**

- 3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- 4) 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 assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- 5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may –
 - a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph a) to apply for a permit as required in subsection 4); and
 - d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- 6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

BURIAL GROUNDS AND GRAVES**Section 36**

- 3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority –
 - 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; or
 - c) bring onto or use at a burial ground or grave referred to in paragraph a) or b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- 4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction of any burial ground or grave referred to in subsection 3a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- 5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection 3b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- 6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
 - a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

HERITAGE RESOURCES MANAGEMENT

Section 38

- 1) Subject to the provisions of subsections 7), 8) and 9), any person who intends to undertake a development categorised as –
 - a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
 - b) the construction of a bridge or similar structure exceeding 50 m in length;
 - c) any development or other activity which will change the character of a site –
 - i. exceeding 5 000 m² 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 10 000 m² in extent; or
 - 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.
- 2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection 1) –
 - a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - b) notify the person concerned that this section does not apply.
- 3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection 2a) ...
- 4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development decide –
 - a) whether or not the development may proceed;
 - b) any limitations or conditions to be applied to the development;
 - c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - e) whether the appointment of specialists is required as a condition of approval of the proposal.

APPOINTMENT AND POWERS OF HERITAGE INSPECTORS

Section 50

- 7) Subject to the provision of any other law, a heritage inspector or any other person authorised by a heritage resources authority in writing, may at all reasonable times enter upon any land or premises for the purpose of inspecting any heritage resource protected in terms of the provisions of this Act, or any other property in respect of which the heritage resources authority is exercising its functions and powers in terms of this Act, and may take photographs, make measurements and sketches and use any other means of recording information necessary for the purposes of this Act.
- 8) A heritage inspector may at any time inspect work being done under a permit issued in terms of this Act and may for that purpose at all reasonable times enter any place protected in terms of this Act.
- 9) Where a heritage inspector has reasonable grounds to suspect that an offence in terms of this Act has been, is being, or is about to be committed, the heritage inspector may with such assistance as he or she thinks necessary –
 - a) enter and search any place, premises, vehicle, vessel or craft, and for that purpose stop and detain any vehicle, vessel or craft, in or on which the heritage inspector believes, on reasonable grounds, there is evidence related to that offence;
 - b) confiscate and detain any heritage resource or evidence concerned with the commission of the offence pending any further order from the responsible heritage resources authority; and
 - c) take such action as is reasonably necessary to prevent the commission of an offence in terms of this Act.
- 10) A heritage inspector may, if there is reason to believe that any work is being done or any action is being taken in contravention of this Act or the conditions of a permit issued in terms of this Act, order the immediate cessation of such work or action pending any further order from the responsible heritage resources authority.