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PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

**UTILIZATION OF EXISTING GRAVEL BORROW PITS,  
CACADU DISTRICT, EASTERN CAPE, SOUTH AFRICA**

**DATE:** 2012-04-06

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**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT  
UTILIZATION OF EXISTING GRAVEL BORROW PITS,  
CACADU DISTRICT, EASTERN CAPE, SOUTH AFRICA**

**EXECUTIVE SUMMARY**

**TERMS OF REFERENCE:**

BKS has been appointed as independent environmental consultant by the project proponent, the Department of Roads and Public Works, to prepare the EMP's for the proposed *Utilization of Existing Gravel Borrow Pits – Cacadu District* project. The project entails the preparation of EMP's for 11 borrow pits situated within the Cacadu District and Nelson Mandela Bay Municipalities. Borrow pit study sites will comprise of approximate 1.5ha areas. Material from the borrow pits will be used for routine road maintenance of various roads between Port Elizabeth, Graaff Reinet and Willowmore.

ArchaeoMaps was appointed by BKS to conduct the Phase 1 AIA for the proposed project.

**THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT:**

**PROJECT AREA:** Cacadu District (CDM) and Nelson Mandela Bay (NMBM) Municipalities, Eastern Cape.

**GAP ANALYSIS:** Phase 1 AIA field assessment included 10 of the 11 borrow pits. Borrow Pit TR42/3 was not assessed.

**METHODOLOGY:** Three day field assessment; GPS co-ordinates – Garmin Oregon 550; Photographic documentation – Pentax K20D. Archaeological and cultural heritage site significance assessment and mitigation recommendations – SAHRA 2007 system.

**SUMMARY:**

Code	Name	Co-ordinate	Recommendations
TR43/1	Borrow Pit TR43/1	S33°14'14.2"; E23°45'54.4"	<i>Colonial Period – Site TR43/1.1: In situ Conservation – Sign posting Stone Age – MSA: Destruction – SAHRA Site Destruction Permit</i>
TR43/2	Borrow Pit TR43/2	S33°13'37.1"; E24°34'15.4"	<i>Colonial Period – Site TR43/2.1: In situ Conservation – Sign posting</i>
BP42/2	Borrow Pit TR42/2	S33°09'18.5"; E24°51'13.2"	N/A
DR1976	Borrow Pit DR1976	S33°32'57.7"; E25°27'01.6"	N/A
MR370	Borrow Pit MR370	S33°17'40.0"; E23°28'55.8"	N/A
MR407	Borrow Pit MR407	S33°20'57.5"; E24°20'36.5"	<i>Contemporary – Site MR407.1: Conservation (no development within 5-7m) Stone Age – MSA &amp; LSA: Destruction – SAHRA Site Destruction Permit</i>
TR42/3	Borrow Pit TR42/3	S32°53'57.4"; E24°41'29.8"	<i>Assessment after consent by landowner, OR Identification of new study site</i>
TR42/1	Borrow Pit TR42/1	S33°35'06.4"; E25°25'54.1"	N/A
MR453	Borrow Pit MR453	S33°49'26.1"; E25°20'40.2"	N/A
DR1937	Borrow Pit DR1937	S33°40'08.9"; E25°40'52.6"	N/A
DR2006	Borrow Pit DR2006	S33°26'11.1"; E25°39'06.4"	<i>Stone Age – MSA: Destruction without SAHRA permit</i>

**RECOMMENDATIONS:**

With reference to cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed development, the *Utilization of Existing Gravel Borrow Pits – Cacadu District* project, Eastern Cape, South Africa, proceeds as applied for provided the developer complies with the abovementioned recommendations.

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## 1) TERMS OF REFERENCE

BKS (Pty) Ltd has been appointed as independent environmental consultant by the project proponent, the Department of Roads and Public Works (DRPW), to prepare the Environmental Management Programs (EMP's) for the proposed *Utilization of Existing Gravel Borrow Pits – Cacadu District* project. The project entails the preparation of EMP's for 11 borrow pits situated within the Cacadu District (CDM) and Nelson Mandela Bay (NMBM) Municipalities. Borrow pit study sites will comprise of approximate 1.5ha areas. Material from the borrow pits will be used for routine road maintenance of various roads between Port Elizabeth, Graaff Reinet and Willowmore.

ArchaeoMaps Archaeological Consultancy was appointed by BKS (Pty) Ltd to conduct the Phase 1 Archaeological Impact Assessment (AIA) for the proposed project.

### 1.1) *Development Location, Details & Impact*

The *Utilization of Existing Gravel Borrow Pits – Cacadu District* project is based on the legalization or permitting of 11 borrow pits situated in the Cacadu District (CDM) and Nelson Mandela Bay (NMBM) Municipalities, concentrated east of the N9, west of the N10 and north of the N2, in the Eastern Cape province, South Africa.

Proposed borrow pit study sites are briefly summarized as:

- 1) Borrow Pit TR43/1 – S33°14'14.2"; E23°45'54.4";
- 2) Borrow Pit TR43/2 – S33°13'37.1"; E24°34'15.4";
- 3) Borrow Pit TR42/2 – S33°09'18.5"; E24°51'13.2";
- 4) Borrow Pit DR1976 – S33°32'57.7"; E25°27'01.6";
- 5) Borrow Pit MR370 – S33°17'40.0"; E23°28'55.8";
- 6) Borrow Pit MR407 – S33°20'57.5"; E24°20'36.5";
- 7) Borrow Pit TR42/3 – S32°53'57.4"; E24°41'29.8";
- 8) Borrow Pit TR42/1 – S33°35'06.4"; E25°25'54.1";
- 9) Borrow Pit MR453 – S33°49'26.1"; E25°20'40.2";
- 10) Borrow Pit DR1937 – S33°40'08.9"; E25°40'52.6"; and
- 11) Borrow Pit DR2006 – S33°26'11.1"; E25°39'06.4".

Each borrow pit study site will be approximately 1.5ha in size. Borrow pits will be formally fenced with access gates – demarcating development areas, minimizing development impact spill-over and channeling traffic during the implementation and operational phases. Material obtained from the borrow pits will be used during routine road maintenance activities of various roads between Port Elizabeth, Graaff Reinet and Willowmore.

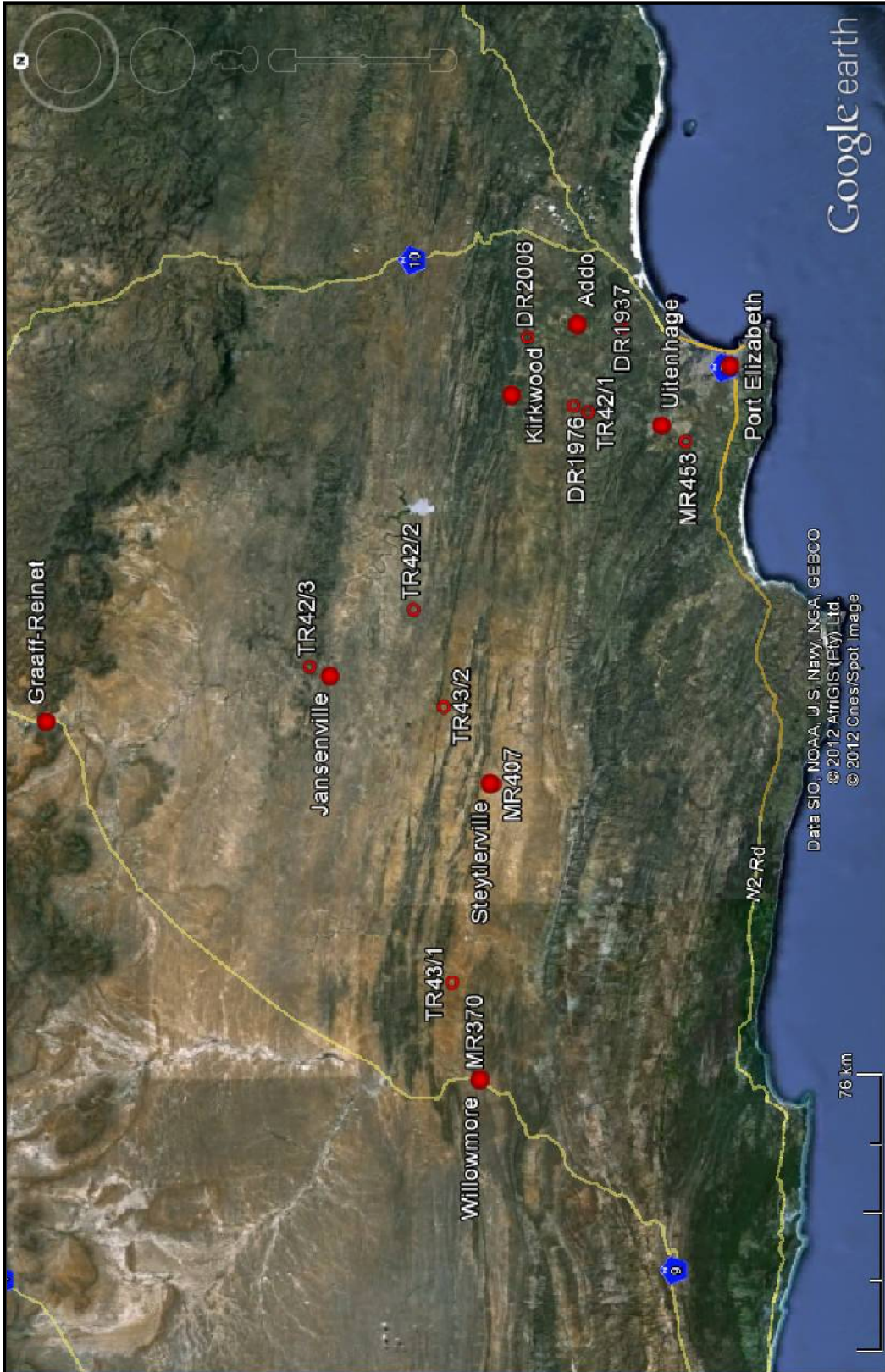


Figure 1: General locality of the proposed Utilization of Existing Gravel Borrow Pits – Cacadu District project

## 2) THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

### 2.1) *Archaeological Legislative Compliance*

The Phase 1 Archaeological Impact Assessment (AIA) was done for purposes of compliance to the South African Heritage Resources Agency's (SAHRA) requirements in terms of the National Heritage Resources Act, No 25 of 1999 (NHRA 1999), with specific reference to Section 38.

The Phase 1 AIA was requested as specialist sub-section with findings and recommendations thereto to be included in the Environmental Management Programs (EMP's) of the proposed borrow pits in compliance with requirements of the Minerals and Petroleum Resources Development Act, No 28 of 2002 (MPRDA 2002), the National Environmental Management Act, No 107 of 1998 (NEMA 1998) and NEMA Regulations (2006 & 2010), and the NHRA 1999.

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 basic cultural landscapes or views as defined and protected by the NHRA 1999, that may be affected by the proposed development.

This report comprises of a basic Phase 1 AIA, including summarized pre-feasibility and Phase 1 AIA field assessments only. The report does not include any specialist cultural heritage components inclusive of socio-cultural consultation, historical architecture or cultural landscapes.

### 2.2) *Methodology & Assessor Accreditation*

The Phase 1 AIA was conducted over a 3 day period (2012-03-28 to 03-29 and 2012-04-03) by one archaeologist. The assessment was done by vehicle and foot, and limited to a Phase 1 surface survey; no excavation or sub-surface testing was done. GPS co-ordinates were taken with a Garmin Oregon 550 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.

<b>SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT</b>			
<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

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

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.

### *2.3) Coverage and Gap Analysis*

Phase 1 AIA field assessment included 10 of the 11 borrow pits. Borrow Pit TR42/3 was not assessed.

### *2.4) Phase 1 AIA Assessment Findings*

- 1) Of the 11 proposed borrow pit study sites 10 were assessed. Borrow Pit TR42/3 was not assessed based on landowner consent concerns;
- 2) Assessment of 6 study sites, including TR42/2, DR1976, MR370, TR42/1, MR453 and DR1937, yielded no archaeological or cultural heritage resources. It is recommended that development at these sites proceed without the developer having to comply with any additional cultural heritage compliance requirements;
- 3) Colonial Period resources were found in proximity to study sites TR43/1 (Site TR43/1.1) and TR43/2 (Site TR43/2.1). Resources will not be impacted on by development. In both cases current conservation measures comply with SAHRA Minimum Site Conservation Standards. No additional conservation measures are recommended. Both sites should be permanently sign posted.
- 4) Stone Age resources were found in association with study sites TR43/1, MR407 and DR2006. At study sites TR43/1 and MR407 low densities of MSA (and LSA) artefacts don't warrant formal Phase 2 mitigation, collection or monitoring. It is recommended that these low density occurrences be destroyed under SAHRA Site Destruction Permits. At DR2006 the particularly low density of MSA artefacts does not warrant destruction under a SAHRA Site Destruction Permit. It is recommended that the DR2006 occurrence be destroyed without the developer having to apply for a SAHRA Site Destruction Permit.
- 5) A contemporary memorial structure is situated in close proximity to the MR407 study site. The memorial structure is not formally protected by the NHRA 1999, but the structure (Site MR407.1) is classed as culturally sensitive. No development should take place within 5-7m from the structure.



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2.4.1) Borrow Pit TR43/1 - S33°14'14.2"; E23°45'54.4"

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**Figure 2:** Locality of Borrow Pit TR43/1

❖ **LOCALITY:**

Borrow Pit TR43/1 is situated at S33°14'14.2"; E23°45'54.4", on the property Farm 111, approximately 27km east north-east of Willowmore along the R329 [1:50,000 Map Ref – 3323BB].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit TR43/1:

- None.

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

- *Colonial Period:*

Site TR43/1.1, a Colonial Period residence, is situated at S33°14'12.6"; E23°45'46.7", on a farm portion immediately east of the borrow pit. The residence pre-dates 60 years of age and is formally protected under the NHRA 1999. The site receives automatic SAHRA protection as a site of *High Significance* with a *Provincial Grade 2 Field Rating* (the site is however architecturally of low significance). The farm portion on which the site is situated is at present fenced with an access gate; existing conservation measures comply with SAHRA Minimum Site Conservation Standards. The site will not be impacted on by development. It is recommended that the site be permanently sign-posted.

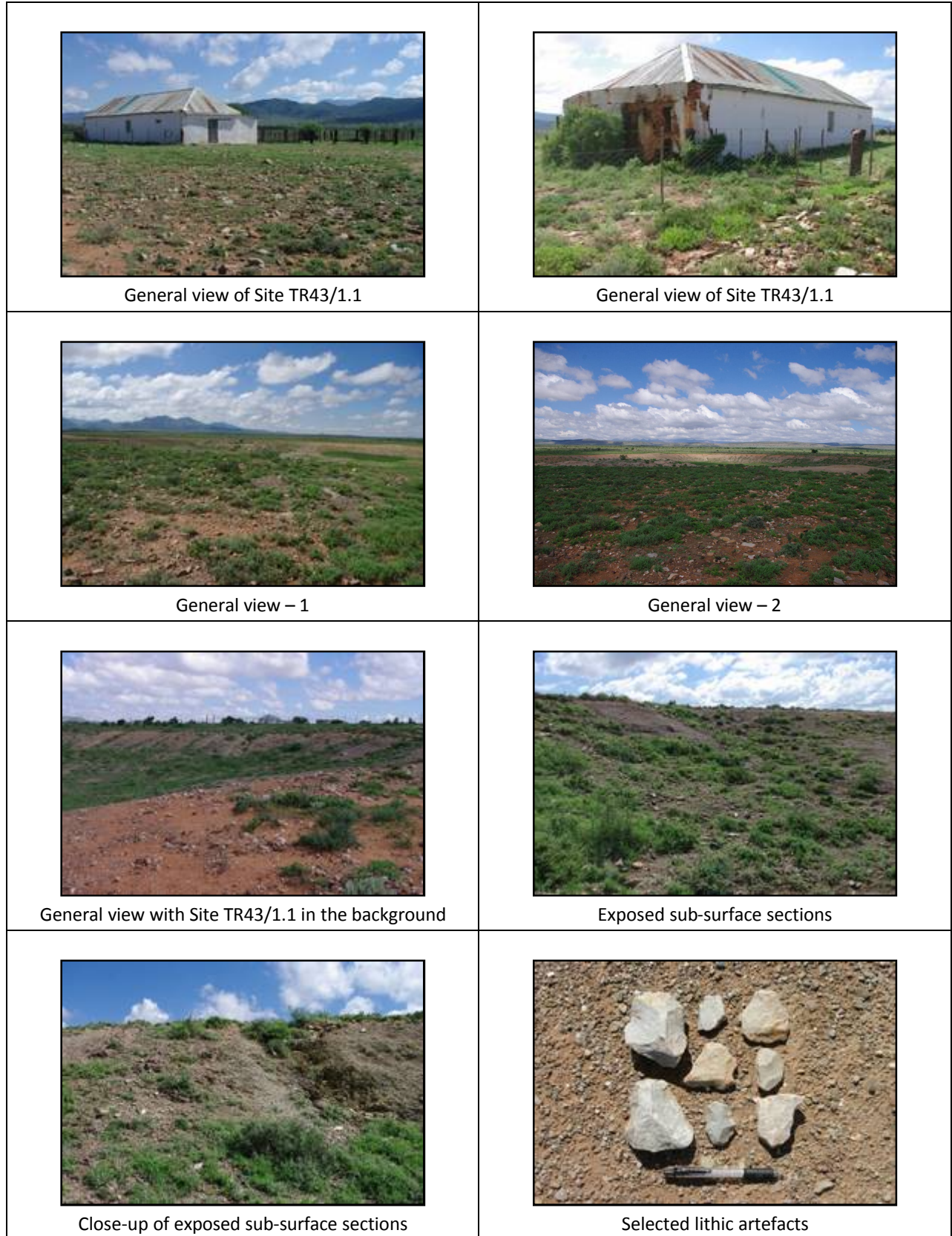
- *Stone Age:*

The general Borrow Pit TR43/1 area is characterized by a low density of Middle Stone Age (MSA) artefacts. It seems as though, from the mixed gravels at the site, quartz was selected as the preferred raw material to produce lithics from. An average artefact ratio (artefacts: m<sup>2</sup>) is estimated at 2:1, but with varying densities across the surface of the site. Artefacts are inferred to be in a secondary lag surface context. Sub-surface inspection indicated that the artefact member is limited to the surface of the site. No artefact member was present in exposed sections below the approximate 10cm surface gravel member. The low density MSA occurrence is ascribed a SAHRA *Low Significance* and a *Generally Protected C Field Rating*. It is recommended that the occurrence be destroyed under a SAHRA Site Destruction Permit.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit TR43/1 proceeds as applied for provided the developer complies with the following recommendations:

- *Colonial Period:* Current conservation measures at Site TR43/1.1 comply with SAHRA Minimum Site Conservation Standards. No additional conservation measures are recommended. The site should be permanently sign-posted.
- *Stone Age:* The low density MSA occurrence should be destroyed under a SAHRA Site Destruction Permit.



**Figure 3:** Image gallery – Borrow Pit TR43/1

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2.4.2) Borrow Pit TR43/2 - S33°13'37.1"; E24°34'15.4"

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**Figure 4:** Locality of Borrow Pit TR43/2

❖ **LOCALITY:**

Borrow Pit TR43/2 is situated at S33°13'37.1"; E24°34'15.4", on the property Baroe Kraal 28, approximately 23km north-east of Steytlerville along the R338 [1:50,000 Map Ref – 3324BA].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit TR43/2:

- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460).

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified within the proposed Borrow Pit TR43/2 study site. The Colonial Period Baroe railway station with related railway and village structures are situated to the north of the R338, structures will not be impacted on by development. Situated on the farm portion immediately east of the borrow pit is a farm school, the structure post-dates 60 years of age and is not formally protected by the NHRA 1999.

- *Colonial Period:*

Site TR43/2.1, situated at S33°13'26.4"; E24°34'00.4", represents the locality of the Baroe railway station and just to the east thereof is the railway village. The structures, situated on the opposite side of the Borrow Pit TR43/2 study site will not be impacted on by development. Farm portions on which these structures are situated are at present formerly fenced with access gates – access to the structures could not be obtained for purposes of a site inspection. Current conservation measures comply with SAHRA Minimum Site Conservation Standards.

It is not known exactly when the Baroe railway station was built, an estimated 1875-1879 date is deduced from a single internet source: *'In 1875 work began on the railway line from Port Elizabeth to Graaff-Reinet. The main aim of this line was to provide better transport for agricultural products and to encourage the use of Port Elizabeth harbor. This line was opened in 1879 but it would be more than 20 years before it was extended over the Lootsberg to connect with the Midland Line at Middelburg Road (later renamed Rosmead)'* ([http://en.wikipedia.org/wiki/User:Firefishy/SA\\_Rail/History](http://en.wikipedia.org/wiki/User:Firefishy/SA_Rail/History)). The farm Baroe Kraal 28 was registered in 1870 (CSG Record Number – 395/1870); some structures may in fact represent early farmstead structures, not directly associated with the Baroe railway station and village. From the R338 it is evident that some of the structures, still in use, have been renovated and maintained, whilst others no longer in use are in varying stages of decay. Structures older than 60 years receive automatic SAHRA protection as heritage resources of *High Significance* with *Generally Protected Grade 2 Field Ratings*.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit TR43/2 proceeds as applied for provided the developer complies with the following recommendations:

- *Colonial Period:* Current conservation measures at Site TR43/2.1 comply with SAHRA Minimum Site Conservation Standards. No additional conservation measures are recommended. The Baroe railway station locality should be permanently sign-posted.

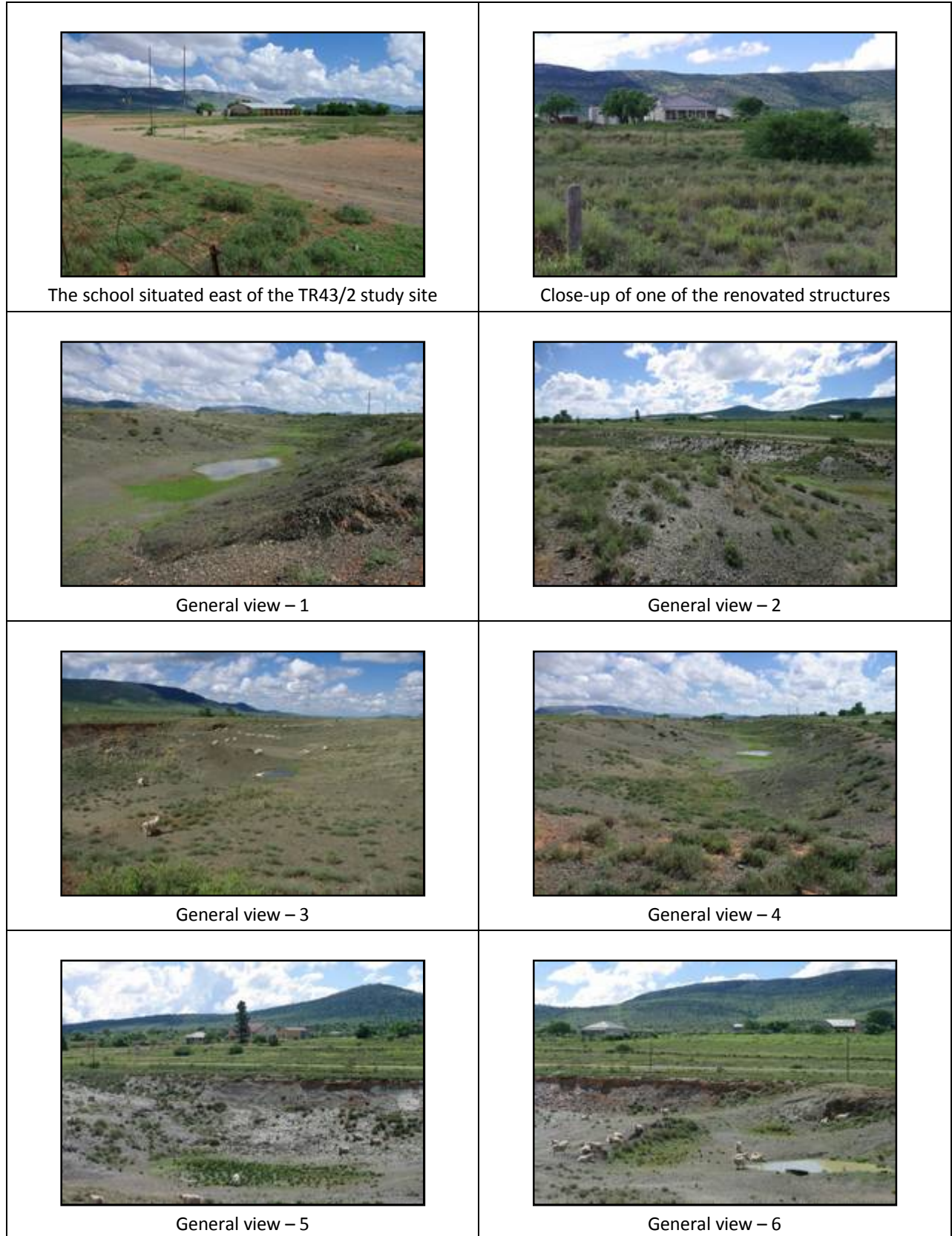


Figure 5: Image gallery – Borrow Pit TR43/2

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2.4.3) Borrow Pit TR42/2 - S33°09'18.5"; E24°51'13.2"

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**Figure 6:** Locality of Borrow Pit TR42/2

❖ **LOCALITY:**

Borrow Pit TR42/2 is situated at S33°09'18.5"; E24°51'13.2", approximately 28km south-east of Jansenville, immediately adjacent to the R75, on the property Vaalbank 240 [1:50,000 Map Ref – 3324BB].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit TR42/2:

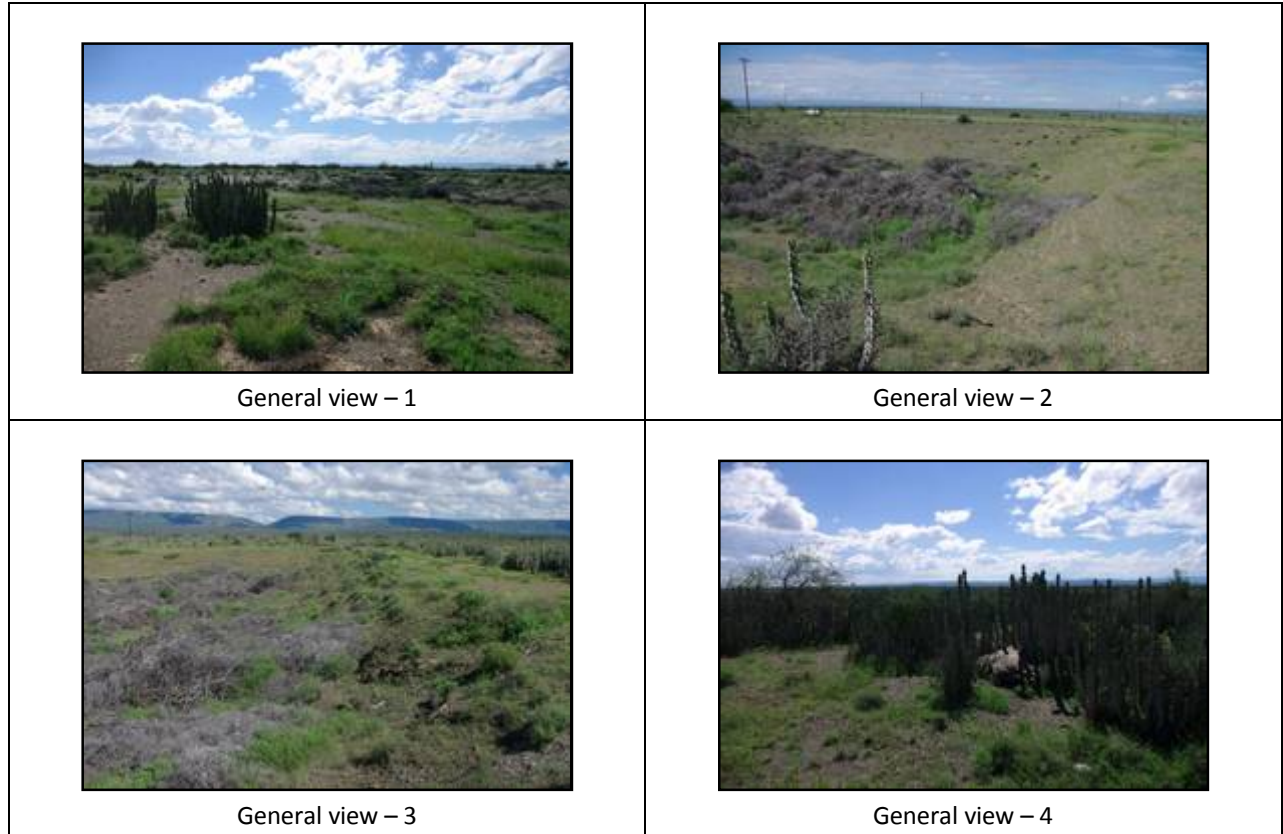
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460).

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit TR42/2.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit TR42/2 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 7:** Image gallery – Borrow Pit TR42/2



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2.4.4) Borrow Pit DR1976 - S33°32'57.7"; E25°27'01.6"

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**Figure 8:** Locality of Borrow Pit DR1976

❖ **LOCALITY:**

Borrow Pit DR1976 is situated at S33°32'57.7"; E25°27'01.6", roughly 17km south of Kirkwood and 24km north of Uitenhage, on the property Braklaagte 135 to the south-east of the gravel access road [1:50,000 Map Ref – 3325CB].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit DR1976:

- Bennie, J. (Private). 2007. *Heritage Impact Assessment – Sand and Bulk River Dam Pipes Upgrade, Elands River Valley, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0498);
- Binneman, J. (Albany Museum). 2000. *Eskom Poseidon (Cookhouse) – Grass-Ridge (Port Elizabeth) proposed Powerline: First Phase Desktop Data Survey of Cultural Heritage Resources* (SAHRA Reference: 2000-SAHRA-0060);
- Binneman, J. (Albany Museum). 2008. *A Phase 1 Archaeological Heritage Impact Assessment of the proposed Amanzi Country Estate, Uitenhage District, Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0375);
- Kaplan, J.M. (Agency for CRM). 2007. *Draft Feasibility Report for the Proposed Regional, General and Hazardous Waste Disposal Facility (Addo, Eastern Cape): Heritage Assessment* (SAHRA Reference: 2007-SAHRA-0447);

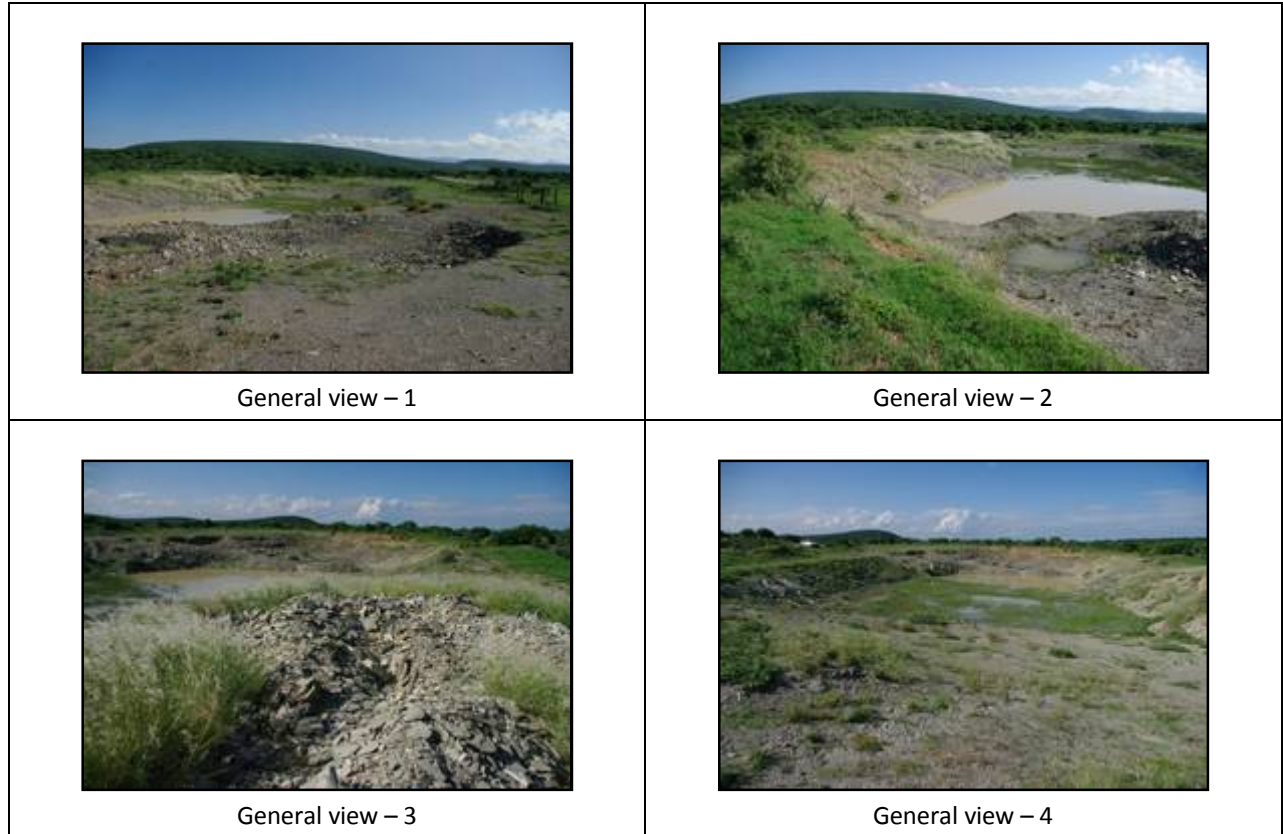
- Kaplan, J.M. (Agency for CRM). 2008. *Proposed Exxaro Alloystream Manganese Project in the Coega Industrial Development Zone: Heritage Impact Assessment* (SAHRA Reference: 2008-SAHRA-0557);
- Nel, J. (Archaic Heritage Project Management). 2008. *Final Report – Heritage Resources Scoping Survey and Preliminary Assessment: Transnet Freight Line EIA, Eastern Cape and Northern Cape* (SAHRA Reference: 2008-SAHRA-0632);
- Van Ryneveld, K. (ArchaeoMaps). 2007. *Phase 1 Archaeological Impact Assessment: The Hopewell Conservation Project, Greenbushes, Port Elizabeth, Eastern Cape, South Africa* (SAHRA Reference: 2007-SAHRA-0475);
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460);
- Webley, L.E. (Albany Museum). 2003. *Addo Elephant National Park: Upgrading of Existing Tourist Road Network and Construction of Southern Access Road near Colchester – Phase 1 Archaeological Impact Assessment* (SAHRA Reference: 2003-SAHRA-0092);
- Webley, L.E. (Albany Museum). 2006a. *Heritage Impact Assessment for proposed Housing Development at Winterhoek Park, Uitenhage* (SAHRA Reference: 2006-SAHRA-0382);
- Webley, L.E. (Albany Museum). 2006b. *Phase 1 Heritage Impact Assessment of the proposed Biomass Plant in Zone 3, Coega, Port Elizabeth* (SAHRA Reference: 2006-SAHRA-0146);
- Webley, L.E. (Albany Museum). 2007a. *Phase 1 Heritage Impact Assessment of the proposed Asia Steel Recycling Facility at the Coega Industrial Development Area, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0463);
- Webley, L.E. (Albany Museum). 2007b. *Phase 1 Archaeological Impact Assessment on the Construction of 50km of Loop Roads on the Farms Addo Heights [209], Lisware [208], Zoute Fontein [210], Nieu Jaars Kop [300] and Oliphants Plaat [214] within the Southern Section of the Addo Elephant National Park* (SAHRA Reference: 2007-SAHRA-0547).
- Webley, L.E. (Albany Museum). 2007c. *Phase 1 Heritage Impact Assessment: Proposed Rezoning of the Farm 655 Portion 196, 197, 199 and 275 of Farm 113 (Stellenhof), Addo, Eastern Cape* (SAHRA Reference: 2007-SAHRA-0537);
- Webley, L.E. (ACO-UCT). 2008a. *Phase 1 Heritage Impact Assessment: Portion 6 of the Farm Florida 321, Despatch, Nelson Mandela Metropole, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0418);
- Webley, L.E. (ACO-UCT). 2008b. *Heritage Impact Assessment for the Farm 294 Amanzi Estate, Portion 4 of the Farm 296 Amanzi Mooi Water Erf 296, Portion 3 of Rietheuvel and Erf 296 Rietheuvel, in the Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0419);

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit DR1976.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit DR1976 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 9:** Image gallery – Borrow Pit DR1976

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2.4.5) Borrow Pit MR370 - S33°17'40.0"; E23°28'55.8"

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**Figure 10:** Locality of Borrow Pit MR370

❖ **LOCALITY:**

Borrow Pit MR370 is situated at S33°17'40.0"; E23°28'55.8", immediately east of Willowmore at the junction of the N9 and Road 407 [1:50,000 Map Ref – 3323AD].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit MR370:

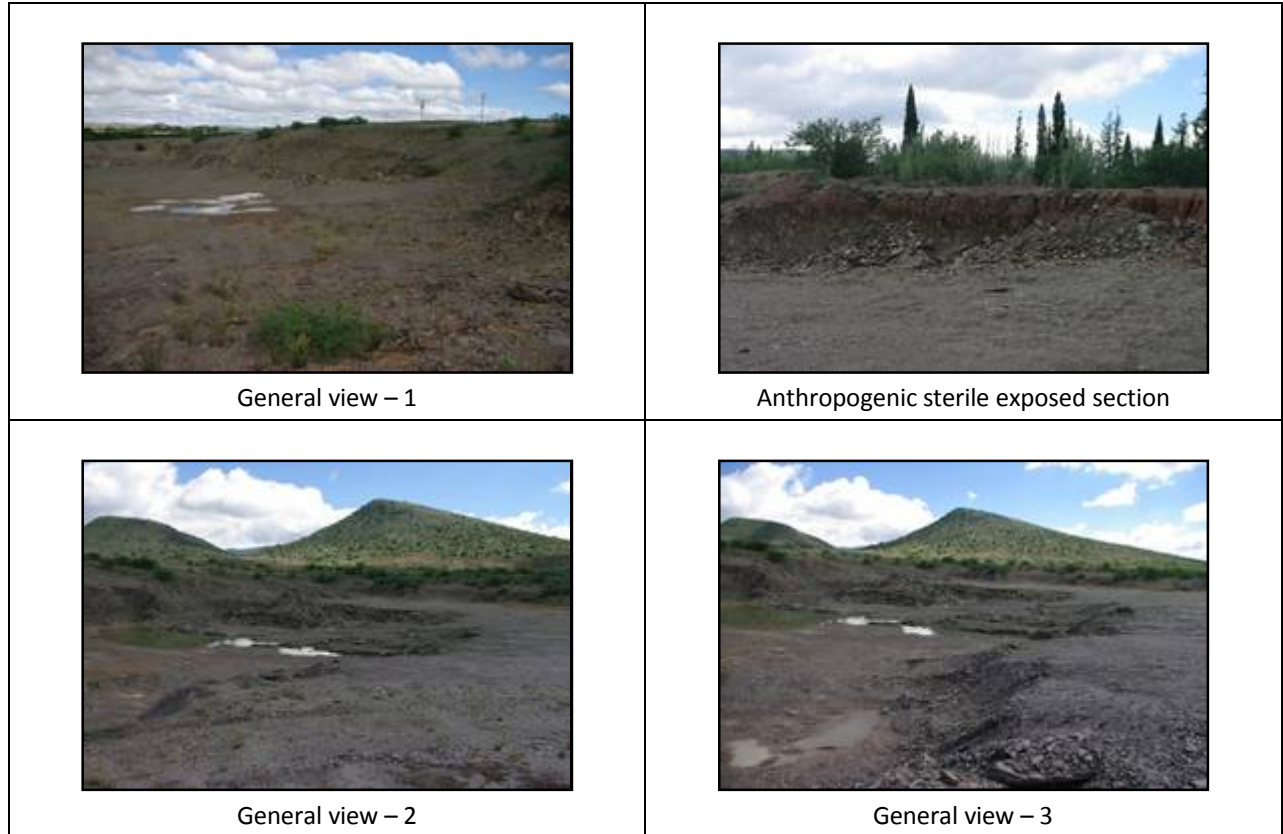
- None.

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit MR370.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit MR370 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 11:** Image gallery – Borrow Pit MR370

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2.4.6) Borrow Pit MR407 - S33°20'57.5"; E24°20'36.5"

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**Figure 12:** Locality of Borrow Pit MR407

❖ **LOCALITY:**

Borrow Pit MR407 is situated at S33°20'57.5"; E24°20'36.5", on un-alienated state land just south of Steytleville, approximately 1.5km north of the confluence of the Groot and Grootvlei rivers and immediately east of the R329 [1:50,000 Map Ref – 3324AD].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit MR407:

- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460).

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

- *Contemporary Period:*

Site MR407.1, a Contemporary Period memorial structure, is situated at S33°20'56.1"; E24°20'35.6", immediately north of the proposed borrow pit study site. The memorial structure comprises of a wooden cross with a piled stone base, without any inscription or date. The structure does not constitute an archaeological or cultural heritage site, as defined and protected by the NHRA 1999. A SAHRA site significance assignment is thus irrelevant. The

structure is however described as a culturally sensitive site and it is preferable that the structure be conserved. It is recommended that the borrow pit fence be constructed at least 5-7m from the memorial structure.

○ *Stone Age:*

The general Borrow Pit MR407 area, situated on the Groot and Grootvlei palaeoriverbank, is characterized by a low density of Middle (MSA) and Later Stone Age (LSA) artefacts. Scattered gravels were used to produce artefacts from, with quartz seemingly the preferred raw material during MSA times, while LSA artefacts were produced from a mixture of quartz and fine grained granite. Artefact densities across the site remain fairly low, with an average recorded artefact ratio (artefacts: m<sup>2</sup>) of approximately 3-5:1. The lagged MSA and LSA deposit seem to be restricted to the approximate 10cm surface member. The low density MSA and LSA occurrence is ascribed a SAHRA *Low Significance* and a *Generally Protected C Field Rating*. It is recommended that the occurrence be destroyed under a SAHRA Site Destruction Permit.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit MR407 proceeds as applied for, provided the developer complies with the following recommendations:

- *Contemporary Period:* The borrow pit fence should be constructed at least 5-7m from the memorial structure. No additional conservation measures are recommended.
- *Stone Age:* The low density MSA and LSA occurrence should be destroyed under a SAHRA Site Destruction Permit.

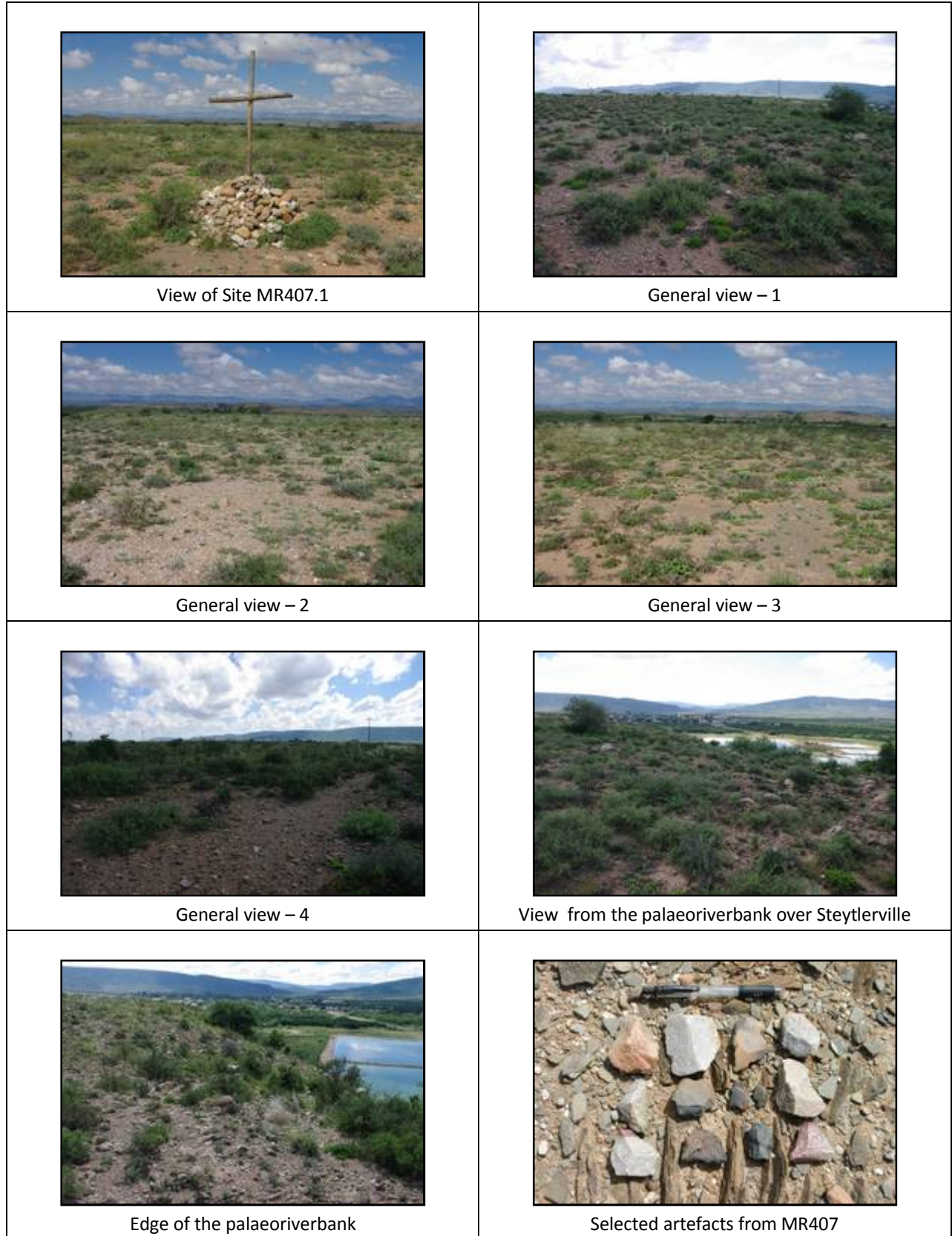


Figure 13: Image gallery – Borrow Pit MR407



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2.4.7) Borrow Pit TR42/3 - S32°53'57.4"; E24°41'29.8"

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**Figure 14:** Locality of Borrow Pit TR42/3 [The Borrow Pit TR42/3 study site was not assessed]

❖ **LOCALITY:**

Borrow Pit TR42/3 is situated at S32°53'57.4"; E24°41'29.8", on the property Granville 74, approximately 6km north north-east of Jansenville along the R75 [1:50,000 Map Ref – 3224DC].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit TR42/3:

- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460).

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

The Borrow Pit TR42/3 study site was not assessed: Mr. Rudi Backeberg, landowner of the property, has to date not given consent for use of the borrow pit, based on a number of reasons with long term implications including, but not limited to:

- 1) The borrow pit has been privately rehabilitated over the past 8 years;
- 2) The borrow pit is situated in a fairly small game camp, use of the borrow pit will not allow continued game farming on the portion of the property west of the R75; and

- 3) A farmstall, one of the owners secondary sources of income is situated less than 300m east of the borrow pit (to the east of the R75): Dust, noise and traffic are all aspects associated with development of the borrow pit that will have a permanent negative impact on operations of the farmstall.

❖ **RECOMMENDATIONS:**

The Borrow Pit TR42/3 study site should be assessed after a formal agreement between the developer and the landowner has been reached or upon identification of an alternative study site for inclusion in the project proposal.

[No photographic documentation].

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2.4.8) Borrow Pit TR42/1 - S33°35'06.4"; E25°25'54.1"

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**Figure 15:** Locality of Borrow Pit TR42/1

❖ **LOCALITY:**

Borrow Pit TR42/1 is situated at S33°35'06.4"; E25°25'54.1", on the property Elands Horn 185, approximately 20km south of Kirkwood and 20km north of Uitenhage, immediately adjacent to the R75 [1:50,000 Map Ref – 3325CB].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit TR42/1:

- Bennie, J. (Private). 2007. *Heritage Impact Assessment – Sand and Bulk River Dam Pipes Upgrade, Elands River Valley, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0498);
- Binneman, J. (Albany Museum). 2000. *Eskom Poseidon (Cookhouse) – Grass-Ridge (Port Elizabeth) proposed Powerline: First Phase Desktop Data Survey of Cultural Heritage Resources* (SAHRA Reference: 2000-SAHRA-0060);
- Binneman, J. (Albany Museum). 2008. *A Phase 1 Archaeological Heritage Impact Assessment of the proposed Amanzi Country Estate, Uitenhage District, Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0375);
- Kaplan, J.M. (Agency for CRM). 2007. *Draft Feasibility Report for the Proposed Regional, General and Hazardous Waste Disposal Facility (Addo, Eastern Cape): Heritage Assessment* (SAHRA Reference: 2007-SAHRA-0447);

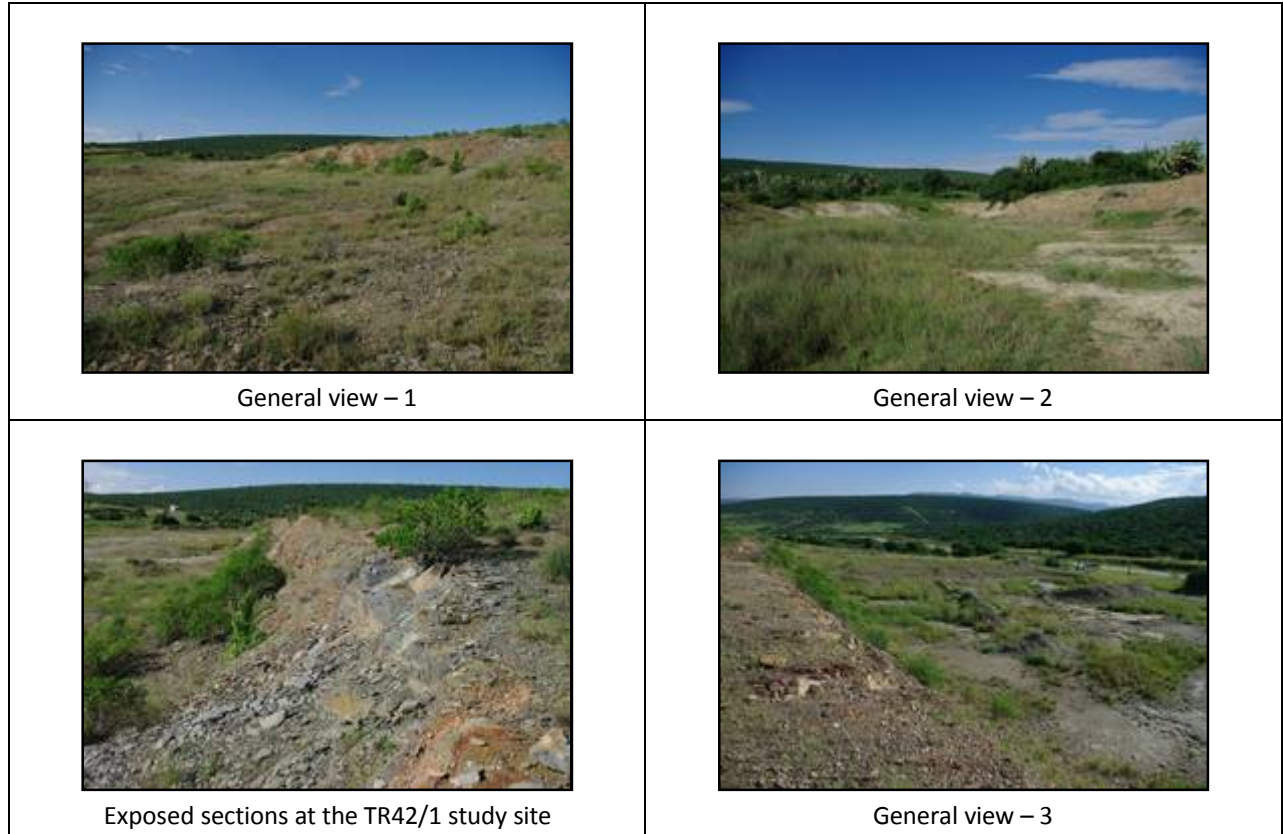
- Kaplan, J.M. (Agency for CRM). 2008. *Proposed Exxaro Alloystream Manganese Project in the Coega Industrial Development Zone: Heritage Impact Assessment* (SAHRA Reference: 2008-SAHRA-0557);
- Nel, J. (Archaic Heritage Project Management). 2008. *Final Report – Heritage Resources Scoping Survey and Preliminary Assessment: Transnet Freight Line EIA, Eastern Cape and Northern Cape* (SAHRA Reference: 2008-SAHRA-0632);
- Van Ryneveld, K. (ArchaeoMaps). 2007. *Phase 1 Archaeological Impact Assessment: The Hopewell Conservation Project, Greenbushes, Port Elizabeth, Eastern Cape, South Africa* (SAHRA Reference: 2007-SAHRA-0475);
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460);
- Webley, L.E. (Albany Museum). 2003. *Addo Elephant National Park: Upgrading of Existing Tourist Road Network and Construction of Southern Access Road near Colchester – Phase 1 Archaeological Impact Assessment* (SAHRA Reference: 2003-SAHRA-0092);
- Webley, L.E. (Albany Museum). 2006a. *Heritage Impact Assessment for proposed Housing Development at Winterhoek Park, Uitenhage* (SAHRA Reference: 2006-SAHRA-0382);
- Webley, L.E. (Albany Museum). 2006b. *Phase 1 Heritage Impact Assessment of the proposed Biomass Plant in Zone 3, Coega, Port Elizabeth* (SAHRA Reference: 2006-SAHRA-0146);
- Webley, L.E. (Albany Museum). 2007a. *Phase 1 Heritage Impact Assessment of the proposed Asia Steel Recycling Facility at the Coega Industrial Development Area, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0463);
- Webley, L.E. (Albany Museum). 2007b. *Phase 1 Archaeological Impact Assessment on the Construction of 50km of Loop Roads on the Farms Addo Heights [209], Lisware [208], Zoute Fontein [210], Nieu Jaars Kop [300] and Oliphants Plaat [214] within the Southern Section of the Addo Elephant National Park* (SAHRA Reference: 2007-SAHRA-0547).
- Webley, L.E. (Albany Museum). 2007c. *Phase 1 Heritage Impact Assessment: Proposed Rezoning of the Farm 655 Portion 196, 197, 199 and 275 of Farm 113 (Stellenhof), Addo, Eastern Cape* (SAHRA Reference: 2007-SAHRA-0537);
- Webley, L.E. (ACO-UCT). 2008a. *Phase 1 Heritage Impact Assessment: Portion 6 of the Farm Florida 321, Despatch, Nelson Mandela Metropole, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0418);
- Webley, L.E. (ACO-UCT). 2008b. *Heritage Impact Assessment for the Farm 294 Amanzi Estate, Portion 4 of the Farm 296 Amanzi Mooi Water Erf 296, Portion 3 of Rietheuvel and Erf 296 Rietheuvel, in the Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0419);

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit TR42/1.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit TR42/1 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 16:** Image gallery – Borrow Pit TR42/1

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2.4.9) Borrow Pit MR453 - S33°49'26.1"; E25°20'40.2"

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**Figure 17:** Locality of Borrow Pit MR453

❖ **LOCALITY:**

Borrow Pit MR453 is situated at S33°49'26.1"; E25°20'40.2", just south-west of the KwaNobuhle township, south of Uitenhage, immediately adjacent to the R334 [1:50,000 Map Ref – 3325CD].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit MR453:

- Bennie, J. (Private). 2007. *Heritage Impact Assessment – Sand and Bulk River Dam Pipes Upgrade, Elands River Valley, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0498);
- Bennie, J. (Private). 2008. *Heritage Impact Assessment: Portion 87 of the Farm Cragga kamma No 23, Port Elizabeth* (SAHRA Reference: 2008-SAHRA-0527);
- Binneman, J. (Albany Museum). 2006. *Archaeological Heritage Impact Assessment for the Proposed Development of Portion 5 of the Farm Die Woud No 500 in the Thornhill District* (SAHRA Reference: 2006-SAHRA-0177);
- Binneman, J. (Albany Museum). 2008a. *A Phase 1 Archaeological Heritage Impact Assessment of the proposed Amanzi Country Estate, Uitenhage District, Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0375);
- Binneman, J. (Albany Museum). 2008b. *A Letter of Recommendation (with Conditions) for the Exemption of a Full Phase 1 Archaeological and Historical Heritage Impact Assessment for the Proposed Residential*

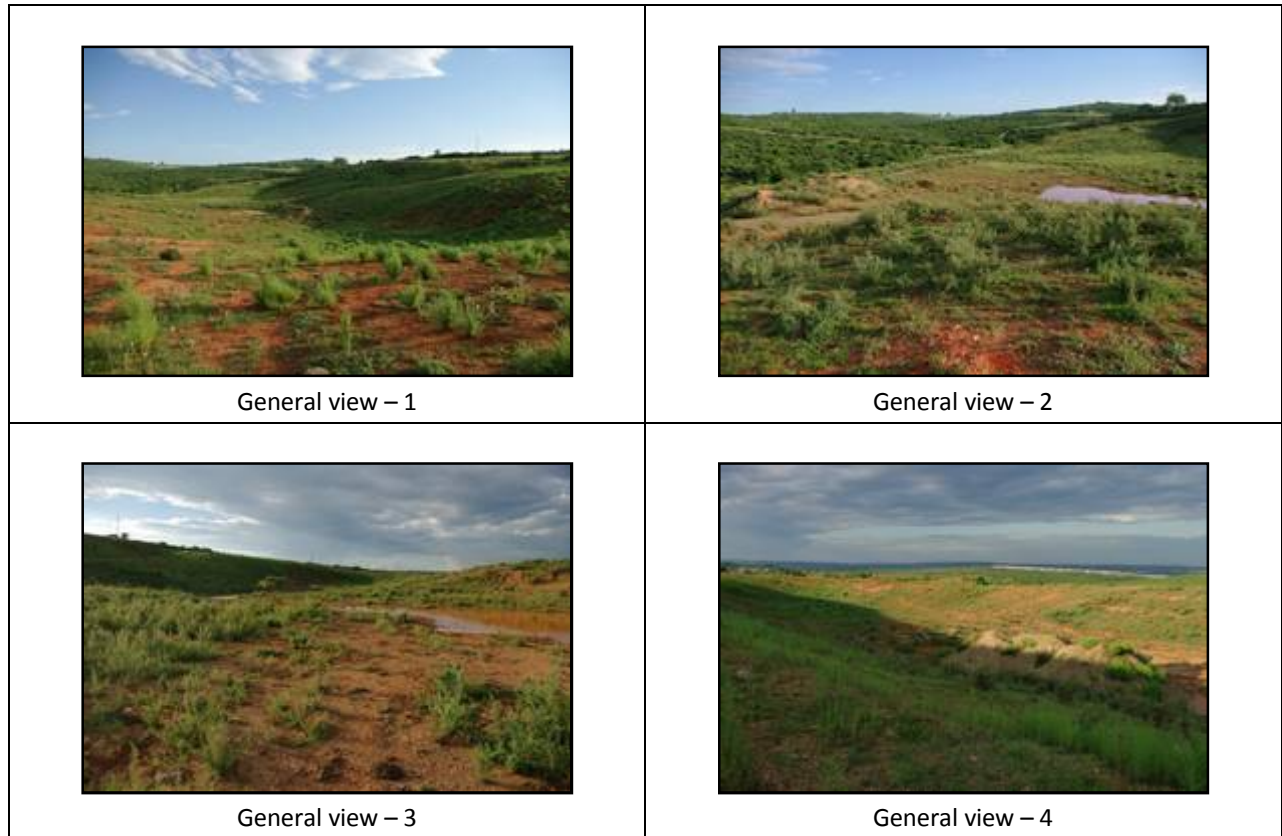
- Development on Erven 18 and 20, Parson's Vlei, Port Elizabeth, Nelson Mandela Bay Municipality (SAHRA Reference: 2008-SAHRA-0137);*
- Binneman, J. (Albany Museum). 2008c. *Phase 1 Archaeological Heritage Impact Assessment of the Proposed Development of a Sand Quarry on Erf 429, Theescombe, Port Elizabeth, Nelson Mandela Bay Metropolitan (SAHRA Reference: 2008-SAHRA-0251);*
  - Binneman, J. (Albany Museum) 2008d. *A Phase 1 Archaeological Heritage Impact Assessment for the Proposed Agricultural Village on Portion 22 and 40 of the Farm Witteklip No 466, Port Elizabeth District, Eastern Cape (SAHRA Reference: 2008-SAHRA-0307);*
  - Binneman, J. (Albany Museum). 2008e. *Phase 1 Archaeological Heritage Impact Assessment for the proposed 'St. Francis Coastal Reserve' on Portions of the Remainder of the Farm New Papiersfontein No 320, Kouga Municipality, District of Humansdorp, Eastern Cape (SAHRA Reference: 2008-SAHRA-0474);*
  - Binneman, J. & Booth, C. (Albany Museum). 2008. *A Phase 1 Archaeological Impact Assessment: South African Police Services (SAPS) 10111 Call Centre, Erven 530 and 4162, Central Hill, Port Elizabeth, Eastern Cape Province (SAHRA Reference: 2008-SAHRA-0648);*
  - Kaplan, J.M. (Agency for CRM). 2007. *Draft Feasibility Report for the Proposed Regional, General and Hazardous Waste Disposal Facility (Addo, Eastern Cape): Heritage Assessment (SAHRA Reference: 2007-SAHRA-0447);*
  - Kaplan, J.M. (Agency for CRM). 2008a. *Proposed Exxaro Alloystream Manganese Project in the Coega Industrial Development Zone: Heritage Impact Assessment (SAHRA Reference: 2008-SAHRA-0557);*
  - Kaplan, J.M. (Agency for CRM). 2008b. *Phase 1 Archaeological Impact Assessment: Proposed Development at Hunter's Retreat – Utopia Estate, Port Elizabeth, Eastern Cape Province (SAHRA Reference: 2008-SAHRA-0042);*
  - Nel, J. (Archaic Heritage Project Management). 2008. *Final Report – Heritage Resources Scoping Survey and Preliminary Assessment: Transnet Freight Line EIA, Eastern Cape and Northern Cape (SAHRA Reference: 2008-SAHRA-0632);*
  - Van Ryneveld, K. (ArchaeoMaps). 2007. *Phase 1 Archaeological Impact Assessment: The Hopewell Conservation Project, Greenbushes, Port Elizabeth, Eastern Cape, South Africa (SAHRA Reference: 2007-SAHRA-0475);*
  - Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa (SAHRA Reference: 2007-SAHRA-0460);*
  - Webley, L.E. (Albany Museum). 2003. *Maitland River Mouth Strategic Environmental Assessment – Phase 1 Heritage Impact Assessment (SAHRA Reference: 2003-SAHRA-0044);*
  - Webley, L.E. (Albany Museum). 2006a. *Heritage Impact Assessment for proposed Housing Development at Winterhoek Park, Uitenhage (SAHRA Reference: 2006-SAHRA-0382);*
  - Webley, L.E. (Albany Museum). 2006b. *Phase 1 Heritage Impact Assessment of the proposed Biomass Plant in Zone 3, Coega, Port Elizabeth (SAHRA Reference: 2006-SAHRA-0146);*
  - Webley, L.E. (Albany Museum). 2007a. *Phase 1 Heritage Impact Assessment of the proposed Asia Steel Recycling Facility at the Coega Industrial Development Area, Port Elizabeth (SAHRA Reference: 2007-SAHRA-0463);*
  - Webley, L.E. (Albany Museum). 2007b. *Phase 1 Heritage Impact Assessment of the Sardinia Bay Golf Estate (Erf 378 Theescombe), Port Elizabeth (SAHRA Reference: 2007-SAHRA-0230)*
  - Webley, L.E. (ACO-UCT). 2008a. *Phase 1 Heritage Impact Assessment: Portion 6 of the Farm Florida 321, Despatch, Nelson Mandela Metropole, Eastern Cape (SAHRA Reference: 2008-SAHRA-0418);*
  - Webley, L.E. (ACO-UCT). 2008b. *Heritage Impact Assessment for the Farm 294 Amanzi Estate, Portion 4 of the Farm 296 Amanzi Mooi Water Erf 296, Portion 3 of Rietheuvel and Erf 296 Rietheuvel, in the Nelson Mandela Bay Municipality, Eastern Cape (SAHRA Reference: 2008-SAHRA-0419);*

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit MR453.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit MR453 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 18:** Image gallery – Borrow Pit MR453



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2.4.10) Borrow Pit DR1937 - S33°40'08.9"; E25°40'52.6"

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**Figure 19:** Locality of Borrow Pit DR1937

❖ **LOCALITY:**

Borrow Pit DR1937 is situated at S33°40'08.9"; E25°40'52.6", on the property Steyns Valley 202, roughly 12km south of Addo, 31km north north-east of Port Elizabeth and 28km north-east of Uitenhage, immediately east of the R335 [1:50,000 Map Ref – 3325DA].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit DR1937:

- Binneman, J. (Albany Museum). 2000. *Eskom Poseidon (Cookhouse) – Grass-Ridge (Port Elizabeth) proposed Powerline: First Phase Desktop Data Survey of Cultural Heritage Resources* (SAHRA Reference: 2000-SAHRA-0060);
- Binneman, J. (Albany Museum). 2008. *A Phase 1 Archaeological Heritage Impact Assessment of the proposed Amanzi Country Estate, Uitenhage District, Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0375);
- Kaplan, J.M. (Agency for CRM). 2007. *Draft Feasibility Report for the Proposed Regional, General and Hazardous Waste Disposal Facility (Addo, Eastern Cape): Heritage Assessment* (SAHRA Reference: 2007-SAHRA-0447);
- Kaplan, J.M. (Agency for CRM). 2008. *Proposed Exxaro Alloystream Manganese Project in the Coega Industrial Development Zone: Heritage Impact Assessment* (SAHRA Reference: 2008-SAHRA-0557);

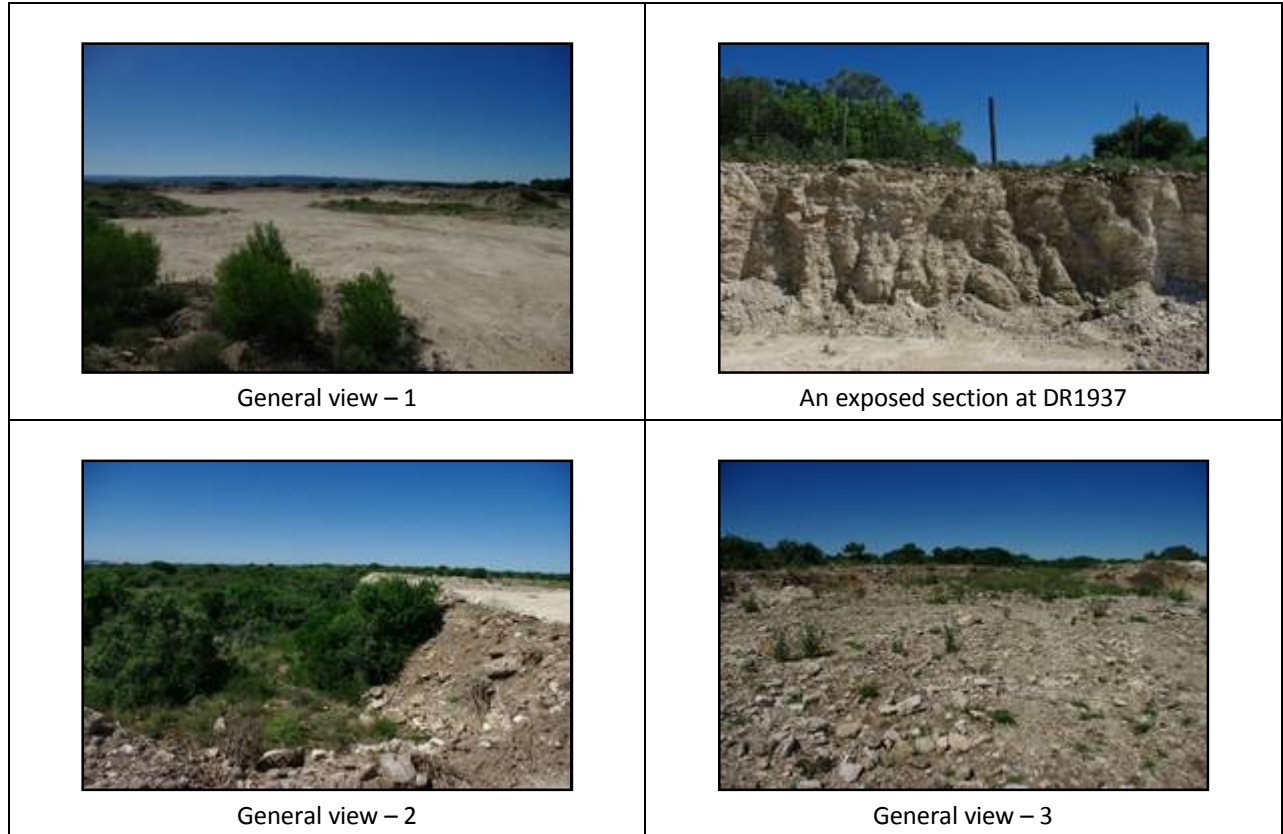
- Nel, J. (Archaic Heritage Project Management). 2008. *Final Report – Heritage Resources Scoping Survey and Preliminary Assessment: Transnet Freight Line EIA, Eastern Cape and Northern Cape* (SAHRA Reference: 2008-SAHRA-0632);
- Van Ryneveld, K. (ArcheoMaps). 2007. *Phase 1 Archaeological Impact Assessment: The Hopewell Conservation Project, Greenbushes, Port Elizabeth, Eastern Cape, South Africa* (SAHRA Reference: 2007-SAHRA-0475);
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460);
- Webley, L.E. (Albany Museum). 2003. *Addo Elephant National Park: Upgrading of Existing Tourist Road Network and Construction of Southern Access Road near Colchester – Phase 1 Archaeological Impact Assessment* (SAHRA Reference: 2003-SAHRA-0092);
- Webley, L.E. (Albany Museum). 2006a. *Heritage Impact Assessment for proposed Housing Development at Winterhoek Park, Uitenhage* (SAHRA Reference: 2006-SAHRA-0382);
- Webley, L.E. (Albany Museum). 2006b. *Phase 1 Heritage Impact Assessment of the proposed Biomass Plant in Zone 3, Coega, Port Elizabeth* (SAHRA Reference: 2006-SAHRA-0146);
- Webley, L.E. (Albany Museum). 2007a. *Phase 1 Heritage Impact Assessment of the proposed Asia Steel Recycling Facility at the Coega Industrial Development Area, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0463);
- Webley, L.E. (Albany Museum). 2007b. *Phase 1 Archaeological Impact Assessment on the Construction of 50km of Loop Roads on the Farms Addo Heights [209], Lisware [208], Zoute Fontein [210], Nieu Jaars Kop [300] and Oliphants Plaats [214] within the Southern Section of the Addo Elephant National Park* (SAHRA Reference: 2007-SAHRA-0547).
- Webley, L.E. (Albany Museum). 2007c. *Phase 1 Heritage Impact Assessment: Proposed Rezoning of the Farm 655 Portion 196, 197, 199 and 275 of Farm 113 (Stellenhof), Addo, Eastern Cape* (SAHRA Reference: 2007-SAHRA-0537);
- Webley, L.E. (ACO-UCT). 2008a. *Phase 1 Heritage Impact Assessment: Portion 6 of the Farm Florida 321, Despatch, Nelson Mandela Metropole, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0418);
- Webley, L.E. (ACO-UCT). 2008b. *Heritage Impact Assessment for the Farm 294 Amanzi Estate, Portion 4 of the Farm 296 Amanzi Mooi Water Erf 296, Portion 3 of Rietheuvel and Erf 296 Rietheuvel, in the Nelson Mandela Bay Municipality, Eastern Cape* (SAHRA Reference: 2008-SAHRA-0419);

❖ **PHASE 1 AIA ASSESSMENT FINDINGS:**

No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during the Phase 1 AIA of Borrow Pit DR1937.

❖ **RECOMMENDATIONS:**

It is recommended that development of Borrow Pit DR1937 proceeds as applied for without the developer having to comply with any additional cultural heritage compliance requirements.



**Figure 20:** Image gallery – Borrow Pit DR1937

2.4.11) Borrow Pit DR2006 - S33°26'11.1"; E25°39'06.4"



**Figure 21:** Locality of Borrow Pit DR2006

❖ **LOCALITY:**

Borrow Pit DR2006 is situated at S33°26'11.1"; E25°39'06.4", on the property Disco 99, approximately 1.3km south of the gravel access road. The study site is located more or less 16km south-east of Kirkwood and 1.5km north-west of the Coerney River [1:50,000 Map Ref – 3325BC].

❖ **BASIC PRE-FEASIBILITY FINDINGS:**

Recorded CRM projects [SAHRA mapping database – 2009] within a 30km radius from Borrow Pit DR2006:

- Binneman, J. (Albany Museum). 2000. *Eskom Poseidon (Cookhouse) – Grass-Ridge (Port Elizabeth) proposed Powerline: First Phase Desktop Data Survey of Cultural Heritage Resources* (SAHRA Reference: 2000-SAHRA-0060);
- Kaplan, J.M. (Agency for CRM). 2007. *Draft Feasibility Report for the Proposed Regional, General and Hazardous Waste Disposal Facility (Addo, Eastern Cape): Heritage Assessment* (SAHRA Reference: 2007-SAHRA-0447);
- Kaplan, J.M. (Agency for CRM). 2008a. *Proposed Exxaro Alloystream Manganese Project in the Coega Industrial Development Zone: Heritage Impact Assessment* (SAHRA Reference: 2008-SAHRA-0557);
- Kaplan, J.M. (Agency for CRM). 2008b. *Archaeological Impact Assessment: Proposed Lodge and Game Viewing Development on the Farm Melkhoutboom No 6, Division of Alexandria, Sundays River Municipality, Eastern Cape Province* (SAHRA Reference: 2008-SAHRA-0191);

- Nel, J. (Archaic Heritage Project Management). 2008. *Final Report – Heritage Resources Scoping Survey and Preliminary Assessment: Transnet Freight Line EIA, Eastern Cape and Northern Cape* (SAHRA Reference: 2008-SAHRA-0632);
- Van Schalkwyk, L.O. & Wahl, B. (eThembeni). 2007. *Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa* (SAHRA Reference: 2007-SAHRA-0460);
- Webley, L.E. (Albany Museum). 2002. *Proposed Kaboega Dam – Phase 1 Heritage Impact Assessment* (SAHRA Reference: 2002-SAHRA-0177);
- Webley, L.E. (Albany Museum). 2003. *Addo Elephant National Park: Upgrading of Existing Tourist Road Network and Construction of Southern Access Road near Colchester – Phase 1 Archaeological Impact Assessment* (SAHRA Reference: 2003-SAHRA-0092);
- Webley, L.E. (Albany Museum). 2006. *Phase 1 Heritage Impact Assessment of the proposed Biomass Plant in Zone 3, Coega, Port Elizabeth* (SAHRA Reference: 2006-SAHRA-0146);
- Webley, L.E. (Albany Museum). 2007a. *Phase 1 Heritage Impact Assessment of the proposed Asia Steel Recycling Facility at the Coega Industrial Development Area, Port Elizabeth* (SAHRA Reference: 2007-SAHRA-0463);
- Webley, L.E. (Albany Museum). 2007b. *Phase 1 Archaeological Impact Assessment on the Construction of 50km of Loop Roads on the Farms Addo Heights [209], Lisware [208], Zoute Fontein [210], Nieu Jaars Kop [300] and Oliphants Plaats [214] within the Southern Section of the Addo Elephant National Park* (SAHRA Reference: 2007-SAHRA-0547).
- Webley, L.E. (Albany Museum). 2007c. *Phase 1 Heritage Impact Assessment: Proposed Rezoning of the Farm 655 Portion 196, 197, 199 and 275 of Farm 113 (Stellenhof), Addo, Eastern Cape* (SAHRA Reference: 2007-SAHRA-0537);

#### ❖ PHASE 1 AIA ASSESSMENT FINDINGS:

A portion of the Borrow Pit DR2006 study site has been completely rehabilitated, while new continued use will focus on the area immediately adjacent to the rehabilitated area; the general area is thus characterized by backfilled lime debris, current exposures and virgin land. No archaeological or cultural heritage resources, as defined and protected by the NHRA 1999, were identified during surface survey of limited portions still in-tact. Towards the southern portion of the formerly utilized borrow pit, Stone Age artefacts were identified in a scraped wall section. Similar low densities can be expected in places in the area proposed for continued use.

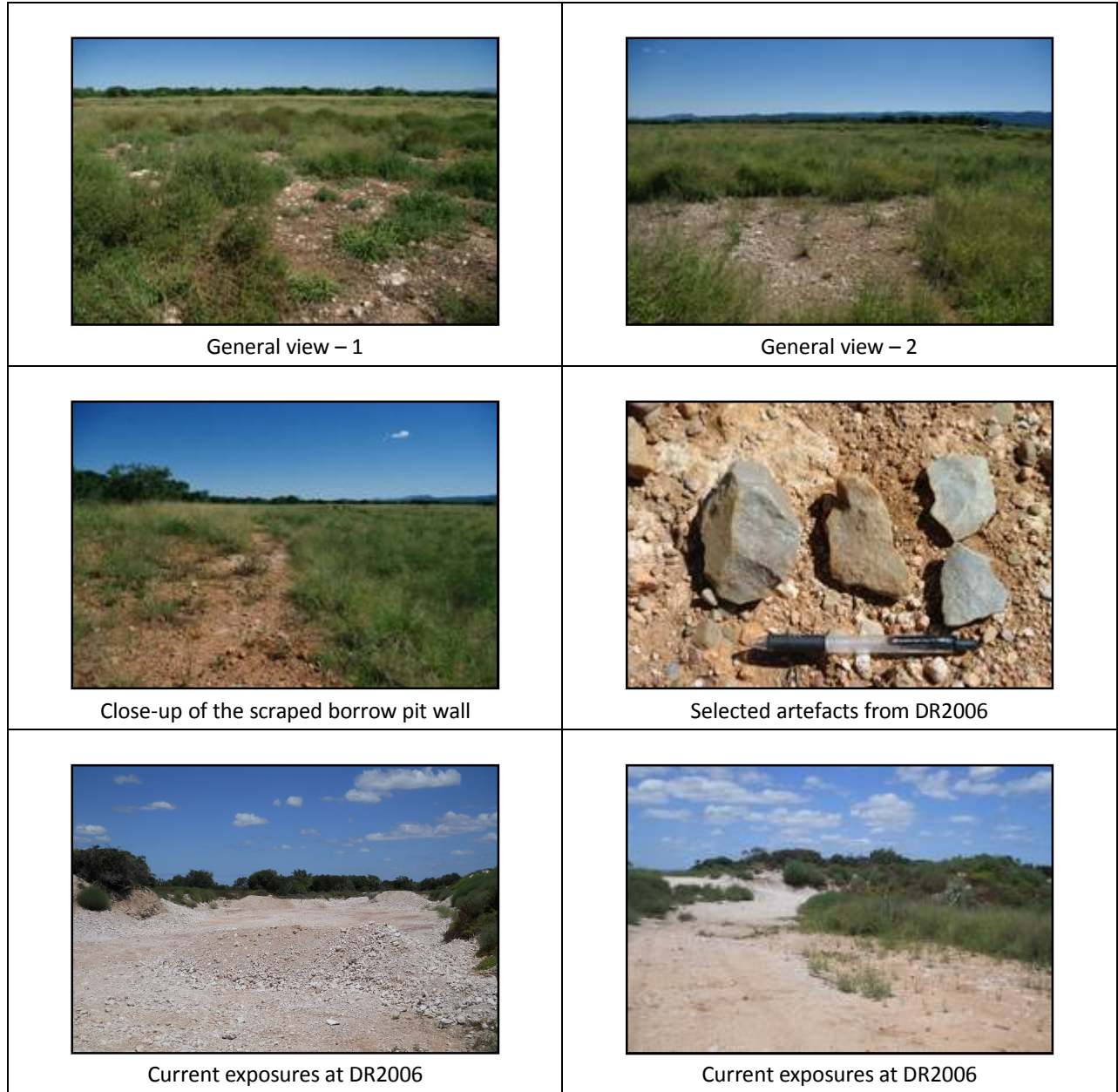
#### ○ Stone Age:

A low density of Middle Stone Age (MSA) artefacts were identified on a scraped portion of the former borrow pit wall. Artefact quantities were however too low to attempt an artefact ratio (artefacts: m<sup>2</sup>). The few artefacts collected were all made from quartz-like material. It can reasonably be expected that similar low quantities of artefacts will be present in undisturbed areas: Development may thus well impact on a particularly low density MSA occurrence. The MSA occurrence is ascribed a SAHRA *Low Significance* and a *Generally Protected C Field Rating*. It is recommended that development proceeds without the developer having to apply for a SAHRA Site Destruction Permit.

#### ❖ RECOMMENDATIONS:

It is recommended that development of Borrow Pit DR2006 proceeds as applied for provided the developer complies with the following recommendations:

- *Stone Age*: Development to proceed without the developer having to apply for a SAHRA Site Destruction Permit prior to impact on the low density MSA occurrence.



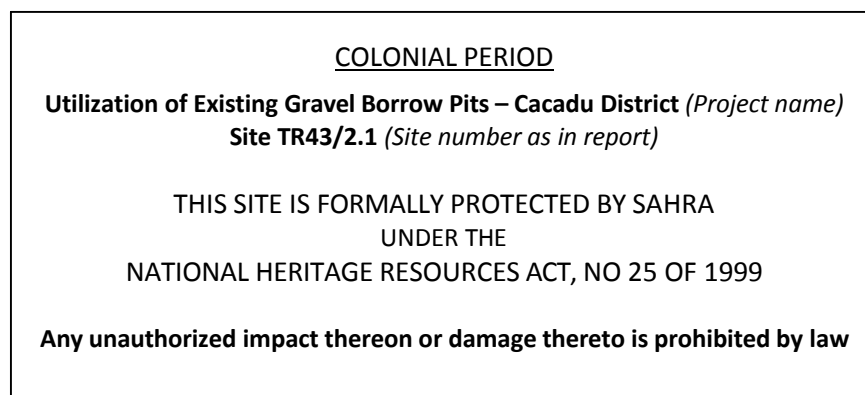
**Figure 22:** Image gallery – Borrow Pit DR2006

### 3) CONCLUSION AND RECOMMENDATIONS

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed project, the *Utilization of Existing Gravel Borrow Pits – Cacadu District* project, proceeds as applied for provided the developer complies with recommendations pertaining to identified archaeological and cultural heritage resources:

- 1) Of the 11 proposed borrow pit study sites 10 were assessed. Borrow Pit TR42/3 was not assessed based on landowner consent concerns;
- 2) Assessment of 6 study sites, including TR42/2, DR1976, MR370, TR42/1, MR453 and DR1937, yielded no archaeological or cultural heritage resources. It is recommended that development at these sites proceed without the developer having to comply with any additional cultural heritage compliance requirements;
- 3) Colonial Period resources were found in proximity to study sites TR43/1 (Site TR43/1.1) and TR43/2 (Site TR43/2.1). Resources will not be impacted on by development. In both cases current conservation measures comply with SAHRA Minimum Site Conservation Standards. No additional conservation measures are recommended. Both sites should be permanently sign posted.
- 4) Stone Age resources were found in association with study sites TR43/1, MR407 and DR2006. At study sites TR43/1 and MR407 low densities of MSA (and LSA) artefacts don't warrant formal Phase 2 mitigation, collection or monitoring. It is recommended that these low density occurrences be destroyed under SAHRA Site Destruction Permits. At DR2006 the particularly low density of MSA artefacts does not warrant destruction under a SAHRA Site Destruction Permit. It is recommended that the DR2006 occurrence be destroyed without the developer having to apply for a SAHRA Site Destruction Permit.
- 5) A contemporary memorial structure is situated in close proximity to the MR407 study site. The memorial structure is not formally protected by the NHRA 1999, but the structure (Site MR407.1) is classed as culturally sensitive. No development should take place within 5-7m from the structure.

- ❖ **Sign Posting:** Sign posting is not at present defined by SAHRA and the following can be used as guideline: Signs should indicate that the sites are formally protected under the NHRA 1999 and that any damage thereto or impact thereon is prohibited by law. In addition the signs should indicate a reference for purposes of future identification. Sign boards can be in the region of approximately 60-70cm x 40cm in size which will provide for a reasonable size sign with clear legible lettering. Sign boards are usually done by professional sign writers (durability) on a metal board and fixed to a treated wooden or metal pole. Sign boards can be in a basic color (black / white/ green / blue) with any font type (lettering in black / white). It is recommended that sign posts be done in English.



**Figure 23:** Recommended heritage sign posting

UTILIZATION OF EXISTING GRAVEL BORROW PITS – CACADU DISTRICT					
EASTERN CAPE					
CODE	BORROW PIT	TYPE / PERIOD	DESCRIPTION	CO-ORDINATES	PRELIMINARY RECOMMENDATIONS
TR43/1	<b>BP TR43/1</b>	-	-	S33°14'14.2"; E23°45'54.4"	-
TR43/1.1	-	Colonial	Structure	S33°14'12.6"; E23°45'46.7"	<i>In situ Conservation – Sign posting</i>
-	-	Stone Age	MSA	-	<i>Destruction – SAHRA Site Destruction Permit</i>
TR43/2	<b>BP TR43/2</b>	-	-	S33°13'37.1"; E24°34'15.4"	-
TR43/2.1	-	Colonial	Baroe railway station / village	S33°13'26.4"; E24°34'00.4"	<i>In situ Conservation – Sign posting</i>
TR42/2	<b>BP TR42/2</b>	-	-	S33°09'18.5"; E24°51'13.2"	N/A
DR1976	<b>BP DR1976</b>	-	-	S33°32'57.7"; E25°27'01.6"	N/A
MR370	<b>BP MR370</b>	-	-	S33°17'40.0"; E23°28'55.8"	N/A
MR407	<b>BP MR407</b>	-	-	S33°20'57.5"; E24°20'36.5"	-
MR407.1	-	Contemporary	Memorial	S33°20'56.1"; E24°20'35.6"	<i>Conservation (no development within 5-7m)</i>
-	-	Stone Age	MSA & LSA	-	<i>Destruction - SAHRA Site Destruction Permit</i>
TR42/3	<b>BP TR42/3</b>	-	-	S32°53'57.4"; E24°41'29.8"	<i>Assessment after consent by landowner</i> <i>OR</i> <i>Identification of new study site</i>
TR42/1	<b>BP TR42/1</b>	-	-	S33°35'06.4"; E25°25'54.1"	N/A
MR453	<b>BP MR453</b>	-	-	S33°49'26.1"; E25°20'40.2"	N/A
DR1937	<b>BP DR1937</b>	-	-	S33°40'08.9"; E25°40'52.6"	N/A
DR2006	<b>BP 2006</b>	-	-	S33°26'11.1"; E25°39'06.4"	-
-	-	Stone Age	MSA	-	<i>Destruction without SAHRA permit</i>

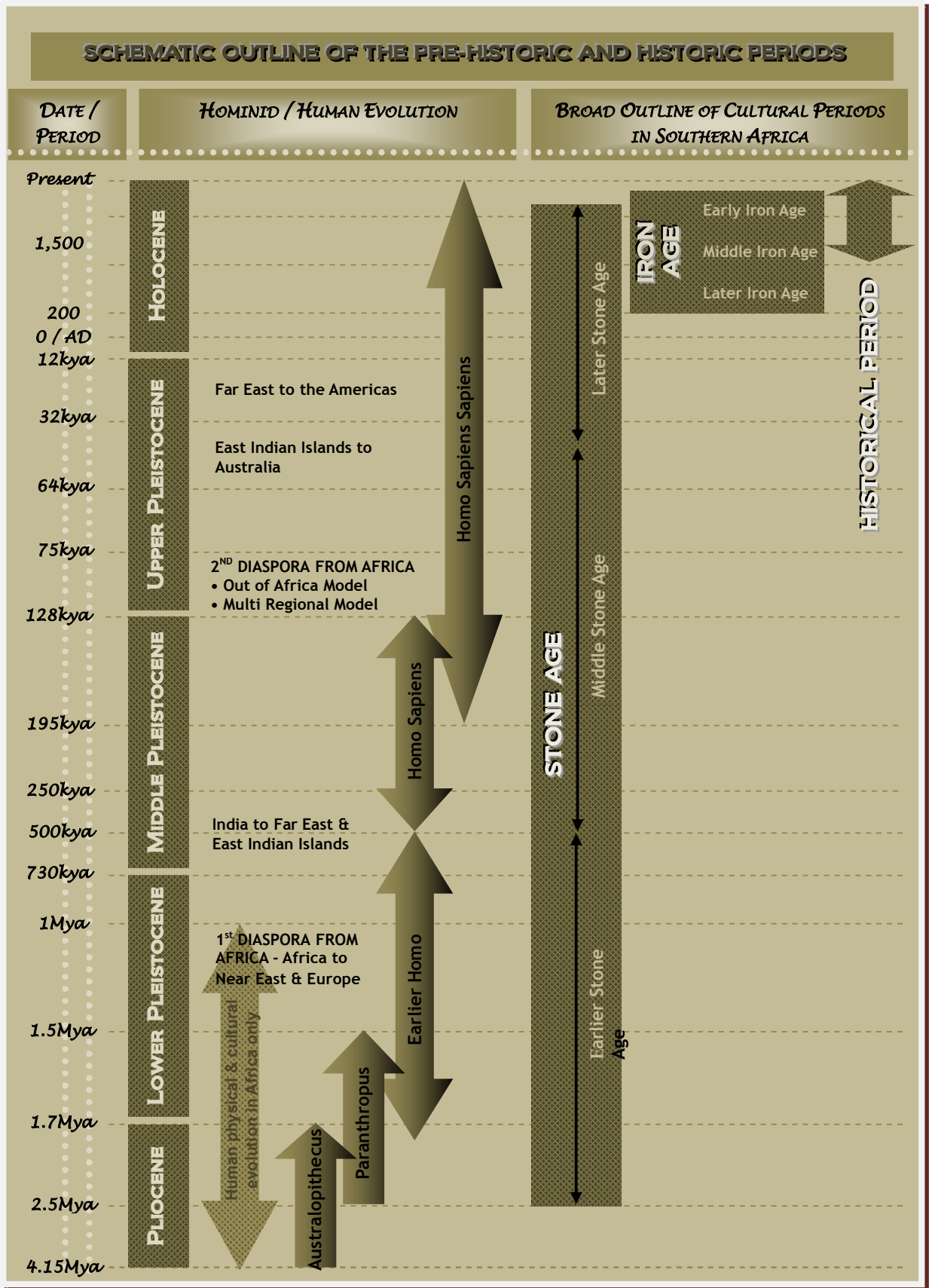
**Table 2:** Development and Phase 1 AIA assessment findings – co-ordinate details

**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.



#### 4) REFERENCES

1. BKS. 2012. *Basic Information Document: Proposed Use of Existing Gravel Borrow Pits for Routine Road Maintenance within the Cacadu District Municipality*. (Public Document).
2. South African Government. (No. 107) of 1998. *National Environmental Management Act*.
3. South African Government. (No. 28) of 2002. *Minerals and Petroleum Resources Development Act*.
4. South African Government. (No. 25) of 1999. *National Heritage Resources Act*.
5. South African Heritage Resources Agency. 2007. *SAHRA APM Guidelines. Minimum standards for the archaeological and heritage components of impact assessments (SG2.2)*. 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.
- xiii. *"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 trances;
- 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, PALAEOLOGY 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 m<sup>2</sup> 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 m<sup>2</sup> 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.