

Phase 1 Heritage Impact Assessment Report

*Heritage Impact Assessment for the Proposed Vista
Park Extension 3 Development*

*Prepared By:
G&A Heritage*



CREDIT SHEET

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Statement of Independence

As the duly appointed representative of G&A Heritage, I Stephan Gaigher, hereby confirm my independence as a specialist and declare that neither I nor G&A Heritage have any interests, be it business or otherwise, in any proposed activity, application or appeal in respect of which the Environmental Consultant was appointed as Environmental Assessment Practitioner, other than fair remuneration for work performed on this project.

SIGNED OFF BY: STEPHAN GAIGHER



EXECUTIVE SUMMARY

Site name and location: Vista Park Ext 3, Bloemfontein, Free State.

Municipal Area: Mangaung Metropolitan Municipality.

Developer: Calgro M3 Developments (Pty) Ltd

Consultant: G&A Heritage, PO Box 522, Louis Trichardt, 0920, South Africa. 38A Voster Str. Louis Trichardt, 0920

Date of Report: 17 July 2013

The purpose of the management summary is to distil the information contained in the report into a format that can be used to give specific results quickly and facilitate management decisions. It is not the purpose of the management summary to repeat in shortened format all the information contained in the report, but rather to give a statement of results for decision making purposes.

This study focuses on the planned development of the Vista Park Extension 3 Development proposed for the Remainder of the farm Bloemfontein 645 IQ.

The purpose of this heritage impact assessment is to outline the cultural heritage sensitivity of the proposed development area and to advise on mitigation should any heritage sites or landscapes be affected.

Findings

The 1913 British Military Map of the area showed the possible location of a rifle range (possibly military) within the study area. The feature does however not have any tangible components and as such cannot be described as a discrete site.

No culturally sensitive landscape types could be identified within any of the study areas.

Recommendations

The location of the rifle range should be noted, however since there is no tangible remains on the ground any mitigation will be impossible and as a result no further work is necessary.

Fatal Flaws

No fatal flaws were identified.

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List of Abbreviations

Bp.....	Before Present
EIA	Early Iron Age
ESA.....	Early Stone Age
Fm.....	Femtometre (10^{-15} m)
GPS	Geographic Positioning System
HIA.....	Heritage Impact Assessment
LIA.....	Late Iron Age
LSA	Late Stone Age
MYA	Million Years Ago
MSA	Middle Stone Age
NHRA	National Heritage Resources Act no 22 of 1999
SAHRA	South African Heritage Resource Agency
S&EIR.....	Scoping & Environmental Impact Reporting
Um	Micrometre (10^{-6} m)
WGS 84.....	World Geodetic System for 1984

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Heritage Impact Report

Heritage Impact Assessment Report for the Proposed Vista Park Extension 3 Development

Introduction

Legislation and methodology

G&A Heritage was appointed by Prism Environmental Management Services to undertake a heritage impact assessment for the proposed Vista Park Ext. 3 development. Section 38(1) and parts of Section 3 (2) of the South African Heritage Resources Act (25 of 1999) requires that a heritage impact assessment is undertaken for:

- (a) construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- (b) construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development, or other activity which will change the character of an area of land, or water –
 - (1) exceeding 10 000 m² in extent;
 - (2) involving three or more existing erven or subdivisions thereof; or
 - (3) involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
- (d) the costs of which will exceed a sum set in terms of regulations; or
- (e) any other category of development provided for in regulations.

A heritage impact assessment is not limited to archaeological artefacts, historical buildings and graves. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals. A heritage resource is defined as any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes the following:

- (a) places, buildings, structures and equipment;
- (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;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including –
 - (1) ancestral graves,
 - (2) royal graves and graves of traditional leaders,
 - (3) graves of victims of conflict (iv) graves of important individuals,
 - (4) historical graves and cemeteries older than 60 years, and
 - (5) other human remains which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);
- (h) movable objects, including ;
 - (1) objects recovered from the soil or waters of South Africa including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (2) ethnographic art and objects;
 - (3) military objects;
 - (4) objects of decorative art;
 - (5) objects of fine art;
 - (6) objects of scientific or technological interest;

- (7) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
 - (8) any other prescribed categories, but excluding any object made by a living person;
- (i) battlefields;
 - (j) traditional building techniques.

A **'place'** is defined as:

- (a) A site, area or region;
- (b) A building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);
- (c) a group of buildings or other structures (which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures); and (d) an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.

'Structures' means any building, works, device, or other facility made by people and which is fixed to land and any fixtures, fittings and equipment associated therewith older than 60 years.

'Archaeological' means:

- (a) material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
- (b) rock art, being a 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 is older than 100 years including any area within 10 m of such representation; and
- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

'Paleontological' 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.

'Grave' means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. The South African Heritage Resources Agency (SAHRA) will only issue a permit for the alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned.

The removal of graves is subject to the following procedures as outlined by the SAHRA:

- Notification of the impending removals (using English, Afrikaans and local language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from the SAHRA;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and re-interment (sometimes by a registered undertaker, in a formally proclaimed cemetery);
- Observation of rituals or ceremonies required by the families.

The limitations and assumptions associated with this heritage impact assessment are as follows;

- Limited field investigations were performed on foot and by vehicle where access was readily available.
- Sites were evaluated by means of description of the cultural landscape, direct observations and analysis of written sources and available databases.
- It was assumed that the site layout as provided by Prism Environmental is accurate.
- We assumed that the public participation process performed as part of the Scoping and Environmental Impact Reporting (S&EIR) process was sufficiently encompassing not to be repeated in the Heritage Assessment Phase.

Table 1. Impacts on the NHRA Sections

Act	Section	Description	Possible Impact	Action
National Heritage Resources Act (NHRA)	34	Preservation of buildings older than 60 years	None	None
	35	Archaeological, paleontological and meteor sites	None	None
	36	Graves and burial sites	None	None
	37	Protection of public monuments	None	None
	38	Does activity trigger a HIA?	Yes	HIA

Table 2. NHRA Triggers

Action Trigger	Yes/No	Description
Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length.	Yes	Access roads, service pipelines
Construction of a bridge or similar structure exceeding 50m in length.	No	N/A
Development exceeding 5000 m ²	Yes	Vista Park Ext. 3
Development involving more than 3 erven or sub divisions	No	N/A
Development involving more than 3 erven or sub divisions that have been consolidated in the past 5 years	No	N/A
Re-zoning of site exceeding 10 000 m ²	Yes	Rezoning to <i>residential</i>
Any other development category, public open space, squares, parks or recreational grounds	No	N/A

Background Information

Vista Park Ext. 3

Project Description

Calgro M3 Developments (Pty) Ltd is proposing the development of an integrated residential township on a Portion of the Remainder of the Farm Bloemfontein 645 IQ. The site is situated between Church street and Ferreira road and south and adjacent to Vereeniging drive (M10). The site falls within the jurisdiction of the Mangaung Metropolitan Municipality (MMM).

The proposed development site measures approximately 131ha. The route alignment proposed for the services installation will extend beyond the development site. The upgrade of George Lubbe Street is also outside the development site.

Site Location

This Portion of the Remainder of the Farm Bloemfontein 645 IQ is earmarked to be developed as Vista Park Ext 3. The route alignment proposed for the bulk services as well as George Lubbe Street upgrade will extend beyond this site to Bloemfontein Ext 1656. The site itself is located approximately 6km south of the Bloemfontein CBD.



Figure 1. Aerial photograph of site and regional location

Alternatives Considered

One alternative was considered

- No-go option where no development takes place.

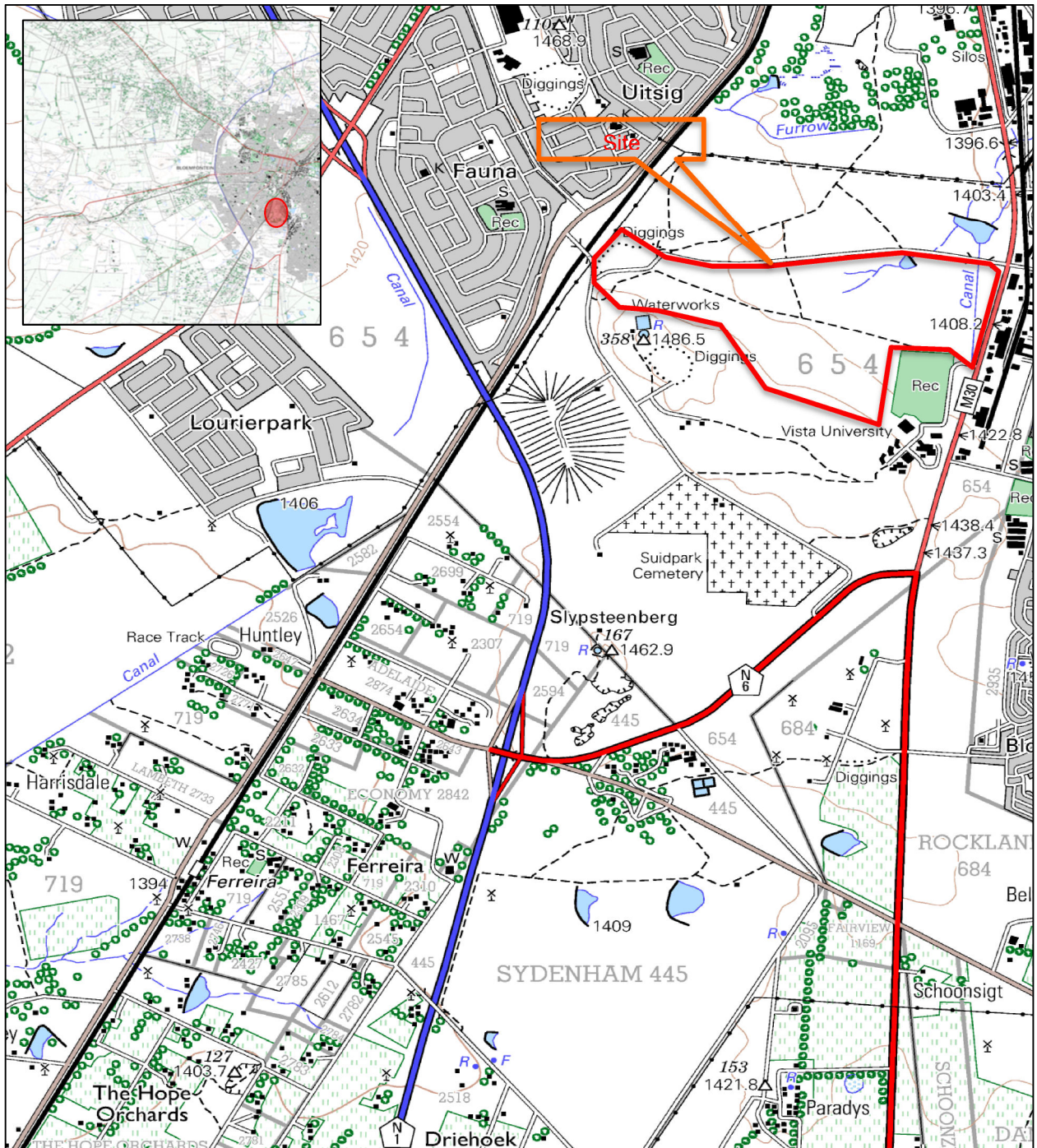


Figure 2. Location Map

Methodology

This study defines the heritage component of the EIA process being undertaken for the proposed Vista Park Ext 3 development. It is described as a first phase (HIA). This report attempts to evaluate both the accumulated heritage knowledge of the area as well as information derived from direct physical observations.

Evaluating Heritage Impacts

A combination of document research as well as the determination of the geographic suitability of areas and the evaluation of aerial photographs determined which areas could and should be accessed.

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After plotting of the site on a GPS the areas were accessed using suitable combinations of vehicle access and access by foot.



Figure 3. View to the southeast of site

The field investigations were performed on the 5th of July 2013. The area was found to be open and easily accessible with the only exception being the rocky ridge to the south. Only a small part of this ridge was however included in the study area and this could be easily accessed on foot approaching from the reservoir construction site. The survey day was windy with continuous rain as well as very cold conditions. Although this made surveying on foot a challenge it did result in wetting the large boulders on the ridge making it much easier to distinguish possible rock engravings. The wet soil also made colour variations more distinct.



Figure 4. Rubble heaps on hill

The area was initially accessed by vehicle from Vereeniging Drive as no fence was present here. The low laying area was found to be homogeneous and was used mainly for dumping of building debris. Two

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areas with clumps of wattle and aloes were investigated for possible gravesites. Hereafter the rocky ridge was accessed by an old track. The area that would fall within the proposed development was investigated on foot. Several stone heaps were found to be the result of recent construction activities and were of no historic value.

From here the access road for the reservoir construction was followed down to the South Park Cemetery and then again around the hill back to Vereeniging drive. Here the small section of the study area located within a eucalyptus grove was investigated. This was also found to have been severely altered.

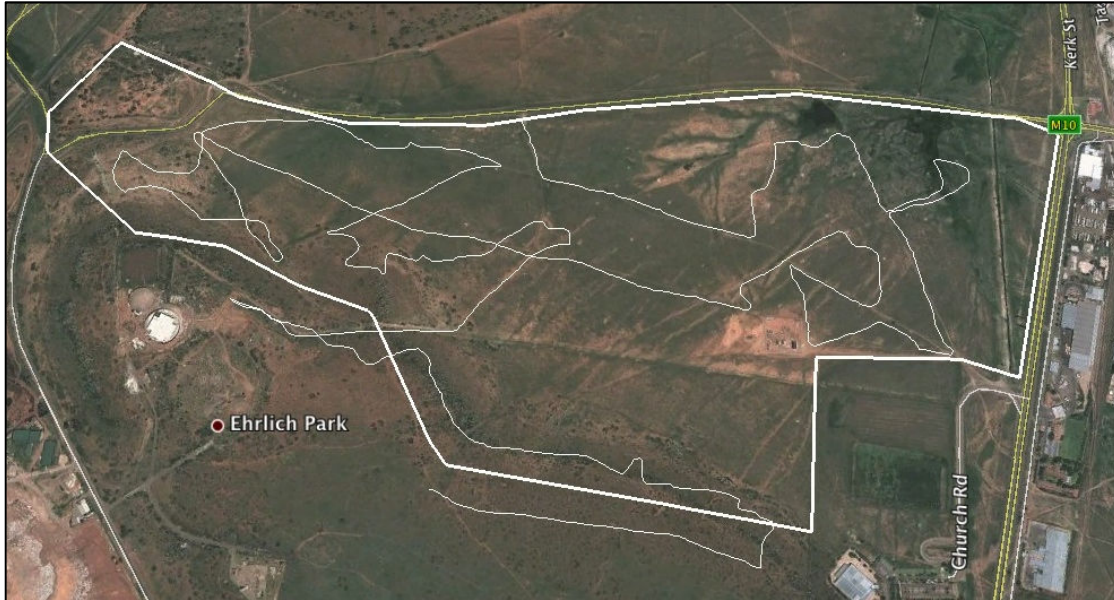


Figure 5. GPX Track Paths followed

Sites were documented by digital photography and geo-located with GPS readings using the WGS 84 datum.



Figure 6. Possible location of rifle range

Further techniques (where possible) included interviews with local inhabitants, visiting local museums (such as the War Museum) and information centres and discussions with local experts. All this information was combined with information from an extensive literature study as well as the result of archival studies based on the SAHRA provincial databases and the SAHRIS website.

Assessing Visual Impact

Visual impacts of developments result when sites that are culturally celebrated are visually affected by a development. The exact parameters for the determination of visual impacts have not yet been rigidly defined and are still mostly open to interpretation. CNdV Architects and The Department of Environmental Affairs and Development Planning (2006) have developed some guidelines for the management of the visual impacts of wind turbines in the Western Cape, although these have not yet been formalised. In these guidelines they recommend a buffer zone of 1km around significant heritage sites to minimise the visual impact. Most of the development will be low lying within an area that has already suffered extensive damage due to urbanisation. Visual impacts are therefor expected to be limited.

Assumptions and Restrictions

- It is assumed that the SAHRIS database is correct
- It is assumed that the social impact assessment and public participation process of the S&EIR will result in the identification of any intangible sites of heritage potential.
- It is assumed that the information supplied by Prism Environmental Management Services is correct.

Heritage Indicators within the receiving Environment

Regional Cultural Context

Paleontology

The underlying sedimentary rocks in the region belong to the Beaufort Group of fossil – bearing strata within the Karoo Supergroup. An important feature of the Beaufort Group of rocks is its abundance of Permian-Triassic vertebrate fossil remains, which forms an almost complete record detailing millions of years of vertebrate evolution roughly between 280 and 200 million years ago. The Karoo geological strata within the affected area are generally accepted to be Late Permian in age and are assigned to the Dicynodon Assemblage Zone. This biozone is characterized by the presence of a distinctive and fairly common dicynodont genus. Therapsids and other vertebrate fossils from this biozone are usually found as dispersed and isolated specimens in mudrock horizons, associated with an abundance of calcareous nodules. Plant fossils (*Dadoxylon*, *Glossopteris*) and trace fossils (arthropod trails, worm burrows) are also present. The sediments assigned to the Dicynodon AZ are associated with stream deposits consisting of floodplain mudstones and subordinate, lenticular channel sandstones. Quaternary-age vertebrate fossils, assigned to the Pleistocene Period, have been recorded from various localities along the Honingspruit, Renosterspruit and Modder River near Bloemfontein and include the extinct species *Equus capensis*, *Megalotragus priscus*, *Pelorovis antiquus*, *Antidorcas bondi* and *Equus lylei* (Rossouw, 2005).

The fossil discoveries made in 2009 at Ingula's upper site, date back to 250 million years BP. Indications pointed to the possibility of the discovery of some of the largest gorgonopsians ever found. Gorgonopsians lived prior to the dinosaurs and resembled both mammals and reptiles. They ranged between 1 m and 3 m in length (Groenewald, 2009).

About 150 fossils have been removed thus far. Dr Jennifer Botha-Brink of the National Museum's palaeontology department says they have not recovered complete skeletons, with most of the 150 fossils in fragments. These have been moved to the National Museum in Bloemfontein for further processing.

Stone Age

This area is home to all three of the known phases of the Stone Age, namely: the Early- (2.5 million – 250 000 years ago), Middle- (250 000 – 22 000 years ago) and Late Stone Age (22 000 – 200 years ago) (Thackeray, 1992). The Late Stone Age in this area also contains sites with rock art from the San and Khoekhoen cultural groups. Many Stone Age Industries also lend their names from places in the Free State, such as Fauresmith and Smithfield to name but a few.

During the Middle Stone Age, 200 000 years ago, modern man or *Homo sapiens* emerged, manufacturing a wider range of tools, with technologies more advanced than those from earlier periods. This enabled skilled hunter-gatherer bands to adapt to different environments. From this time onwards, rock shelters and caves were used for occupation and reoccupation over very long periods of time.

The Late Stone Age, considered to have started some 20 000 years ago, is associated with the predecessors of the San and Khoekhoen. Stone Age sites may occur all over the area where an unknown number may have been obliterated by urbanisation, industrialisation, agriculture and other development activities during the past decades. Rock art sites are also found locally.

Bloemfontein area is well known for the Middle Stone Age site at the Florisbad hot springs. Mineralised soil around the eye of the spring has preserved fauna and stone artefacts dating from about 280 000 to 120 000 years ago. The skull of an archaic human of about 260 000 years old and

various specimens of extinct fauna such as the giant buffalo are remarkably well preserved (Scott & Rossouw, 2005). Examples of the fauna and stone tools are on display at the State Museum in Bloemfontein.

Iron Age

Literally, thousands of similar stonewalled settlements lie scattered across the highveld of the Free State. The oldest type of walling stands near the hill known as Ntsuanatsatsi, the legendary place of origin of BaFokeng (Walton, 1953). Although Tswana-speaking now, new archaeological research indicates that the Fokeng moved up from northern KwaZulu-Natal and were originally Nguni speaking (Michell, Whitelaw, 2005). Type N walling, as it is known, emphasises the centre/side axis expressed through concentric circles: the inner circle encompasses cattle byres and the men's court, while the female residential zone of beehive houses and grain bins constitutes the outer circle. An outer wall sometimes incorporates small stock enclosures because these animals are associated with women. This type of walling first dates to the 15th century (Boeyens, 2003).

According to oral traditions, Tswana people from the west moved across the Vaal River, found BaFokeng at Ntsuanatsatsi, and assimilated them. Archaeologically, this interaction created another type of walling, called Type V, named after Vegkop near Heilbron. Among other things, this type of settlement includes the famous 'corbelled huts' that captured the imagination of early travellers. Located on the edge of the central cattle area, these low stone huts served mostly as huts for herd boys. In a few places, adults may have lived in larger examples (Walton, 1951).

The Sand River Nature Reserve contains several stonewalled settlements accessible to the public.

The Historic Era

The origin of South Africa's judicial capital goes back to the mid 19th century when Major H.D. Warden established a British outpost in the then Transorangia. Among other reasons for the outpost was the danger posed by armed Khoe (Korana) and groups of mixed ancestry (Griqua). According to one interpretation, the city takes its name from Jan Bloem II, the leader of a Griqua group.



Figure 7. Bloemfontein 1851 - Thomas Baines

In about 1823, the missionary Rev Burchell hired armed Griqua to protect BaThlaping living at Dithakong, about 300 km northwest of Bloemfontein. These BaThlaping were some of the first Sotho-Tswana people to have been met by Europeans from the Cape (about 1801). The word 'Dithakong' means 'place of walls'

and refers to a large concentration of stonewalling on a hill above the 19th century settlement (www.nasmus.co.za).

Previous Studies

- Phase 1 Heritage Impact Assessment of a new borrow pit on the farm Sydenham 445/RE, near Bloemfontein, FS Province. L, Rossouw. 2011
- Phase 1 Heritage Impact Assessment of the National Route 5 Section 1 between Harrismith and Kestell, FS Province. L, Rossouw, 2012
- PHASE I IMPACT ASSESSMENT OF THE DORMANT JAGERSFONTEIN MINE (FREE STATE) IN TERMS OF ARCHAEOLOGICAL AND OTHER HERITAGE SITES. National Museum, Bloemfontein, 2009.
- Phase 1 HIA study for the proposed PV solar energy facilities in Sannaspos, near Bloemfontein, Free State. N, Tomose, 2012
- Heritage impact assessment for the PROPOSED UPGRADE OF NATIONAL ROAD N8, BLOEMFONTEIN TO THABA NCHU, FREE STATE PROVINCE. J van Schalkwyk, 2013
- Archaeological and Historical Investigation of the Proposed Township Establishment on Portions of the Farms Cecilia 2352, Kwaggafontein 2300 and Bloemfontein 654, Bloemfontein, Free State. C Dreyer, 2007
- First Phase Archaeological and Cultural Heritage Assessment of the Proposed Developments at the Bloemfontein Turf Club, Bloemfontein. C, Dreyer, 2008.
- Archaeological and Historical Investigation of the Proposed Township Establishment on a Portion of the Farm Bloemfontein 654, Bloemfontein, Free State. C, Dreyer, 2008.
- First Phase Archaeological and Cultural Heritage Assessment of the Proposed Developments at the Bloemfontein Airport Access Road, Bloemfontein. C, Dreyer, 2008.
- Archaeological and Historical Investigation of the Proposed Residential Developments at Maselspoort, Bloemfontein. C, Dreyer, 2004.
- First Phase Archaeological and Heritage Assessment for the proposed installation of the Naval Hill Reservoir & Water Pipeline. C, Dreyer, 2010.
- First Phase Archaeological & Heritage Investigation of the proposed Sorghum Malt Production Facilities on Portion 1 of St. Elmo 2138, Bainsvley, Bloemfontein. C, Dreyer, 2012.
- First Phase Archaeological and Cultural Heritage Assessment of the Proposed Residential Developments at the Farm Donkerhoek 392, Bloemfontein, Free State. C, Dreyer, 2007.
- Phase 1 Archaeological Impact Assessment: Subdivision of Erf 4621, Hamilton, Bloemfontein, Free State, South Africa. K van Ryneveld. 2009.

Results of the Survey

Only one site of possible historic value was identified. No archaeological sites or culturally significant landscapes could be identified. Paleontological impact will be evaluated in a specialist report and does not form part of the scope of this study.

Historic Era

Bloemfontein has a long and rich history and much of the areas within and surrounding the city contain remnants of this past. For this reasons the most likely sites to be encountered in the study area would be of a historic (post-contact) nature.

The 1913 British Military Map of Bloemfontein indicates a rifle range that existed on the property at one stage. No signs of this could however be found on the ground. The setting does makes practical sense since the site is very flat with a ridge at the back that could act as an impact berm for bullets. It is therefore still possible that there might be spent cartridges or bullets found in the area. No further reference to this range could be found and no indications of its presence are still left in the study area. As this was a pre 1913 range and possibly of military origin. *English Heritage* describes pre-1910 military rifle ranges as consisting of an area cleared of vegetation with a line along one side indicating distances (English Heritage 2008). This implies that there were never any structures associated with the shooting range and that as a result no such evidence is still available on the ground.

The only other historically significant features in the direct vicinity of the study area are the blockhouse on Mal Kop to the east of the site and the Sydenham Leper Hospital to the south. Both these features are however well outside of the development parameters.



Figure 8. Rifleman as would have used the rifle range

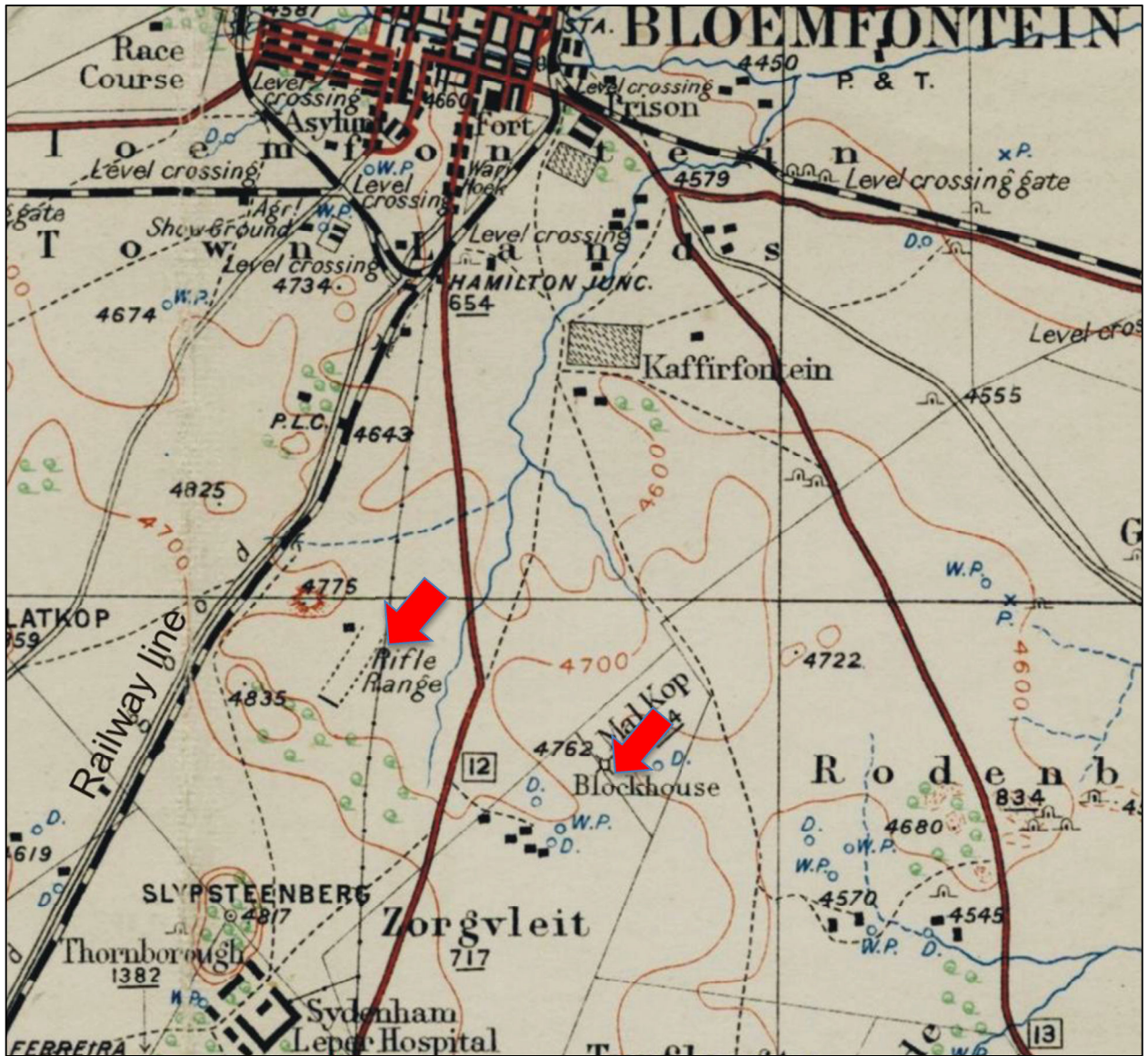


Figure 9. 1913 British Military Map of Bloemfontein (arrows indicate rifle range and blockhouse)

Evaluating Impacts

In 2003 the SAHRA compiled the following guidelines to evaluate the cultural significance of individual heritage resources:

TYPE OF RESOURCE

- Place
- Archaeological Site
- Structure
- Grave
- Paleontological Feature
- Geological Feature

TYPE OF SIGNIFICANCE

1. HISTORIC VALUE

It is important in the community, or pattern of history

- o Important in the evolution of cultural landscapes and settlement patterns
- o Important in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, province, region or locality.
- o Important for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation, province, region or community.
- o Important as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period.

It has strong or special association with the life or work of a person, group or organisation of importance in history

- o Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, province, region or community.

It has significance relating to the history of slavery

- o Importance for a direct link to the history of slavery in South Africa.

2. AESTHETIC VALUE

It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

- o Important to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
- o Importance for its creative, design or artistic excellence, innovation or achievement.
- o Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
- o In the case of an historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. SCIENTIFIC VALUE

It has potential to yield information that will contribute to an understanding of natural or cultural heritage

- o Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
- o Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
- o Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
- o Importance for its potential to yield information contributing to a wider understanding of

- o the history of human occupation of the nation, Province, region or locality.
- o It is important in demonstrating a high degree of creative or technical achievement at a particular period
- o Importance for its technical innovation or achievement.

4. SOCIAL VALUE

- o It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- o Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
- o Importance in contributing to a community’s sense of place.

DEGREES OF SIGNIFICANCE

1. RARITY

It possesses uncommon, rare or endangered aspects of natural or cultural heritage.

- Importance for rare, endangered or uncommon structures, landscapes or phenomena.

2. REPRESENTIVITY

- It is important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects.
- Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class.
- Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.

The table below illustrates how a site’s heritage significance is determined

Spheres of Significance	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific Community			

Impact Statement

Assessment of Impacts

Direct, indirect and cumulative impacts of the issues identified through the EIA phase are assessed in terms of the following criteria:

- The nature, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The extent, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- The duration, wherein it will be indicated whether:
 - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
 - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
 - medium-term (5–15 years) – assigned a score of 3;
 - long term (> 15 years) - assigned a score of 4; or
 - permanent - assigned a score of 5;
- The magnitude, quantified on a scale from 0-10, where 0 is small and will have no effect on the

environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.

- The probability of occurrence, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- The significance, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- The status, which will be described as either positive, negative or neutral.
- The degree to which the impact can be reversed.
- The degree to which the impact may cause irreplaceable loss of resources.
- The degree to which the impact can be mitigated.

The significance is calculated by combining the criteria in the following formula:

$$S=(E+D+M)P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The significance weightings for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

Assessment of Impacts

Heritage Environments that will be affected

Impact Statement

Paleontological sites

Vista Park Ext 2

Paleontological investigations will be the subject of a specialist report.

Archaeological Sites

Vista Park Ext 2

No sites of archaeological importance were identified during the study.

Historic Sites

Vista Park Ext 2

Nature of Impacts: Possible impact on a historic rifle range.

Extent of Impacts: Total loss of site (see *Impact Statement* section for application).

Nature of Impact: A possible rifle range could be affected by the development		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (2)	Low (2)
Probability	Probable (3)	Probable (3)
Significance	Low (24)	Low (24)
Status	Neutral	Neutral
Reversibility	Irreversible	Irreversible
Irreplaceable loss of resource	Yes	Yes
Can impacts be mitigated	Yes	Yes
Mitigation	Due to the total absence of any tangible remains, no mitigation is necessary. The location of the range should be noted.	
Cumulative impacts	None	
Residual impacts	None	

Mitigation

The rifle range was merely a demarcated area of land with no tangible remains. As such its location is the only important aspect of this feature. For this reason no mitigation is recommended for this site.

Cultural Landscape

The following landscape types were identified during the study.

Landscape Type	Description	Occurrence still possible?	Identified on site?
1 Paleontological	Mostly fossil remains. Remains include microbial fossils such as found in Baberton Greenstones	Yes, sub-surface	No
2 Archaeological	Evidence of human occupation associated with the following phases – Early-, Middle-, Late Stone Age, Early-, Late Iron Age, Pre-Contact Sites, Post-Contact Sites	No	No
3 Historic Built Environment	<ul style="list-style-type: none"> - Historical townscapes/streetscapes - Historical structures; i.e. older than 60 years - Formal public spaces - Formally declared urban conservation areas - Places associated with social identity/displacement 	No	No
4 Historic Farmland	These possess distinctive patterns of settlement and historical features such as: <ul style="list-style-type: none"> - Historical farm yards - Historical farm workers villages/settlements - Irrigation furrows - Tree alignments and groupings - Historical routes and pathways - Distinctive types of planting 	Yes	Yes, furrows, pathways.

	<ul style="list-style-type: none"> - Distinctive architecture of cultivation e.g. planting blocks, trellising, terracing, ornamental planting. 		
5 Historic rural town	<ul style="list-style-type: none"> - Historic mission settlements - Historic townscapes 	No	No
6 Pristine natural landscape	<ul style="list-style-type: none"> - Historical patterns of access to a natural amenity - Formally proclaimed nature reserves - Evidence of pre-colonial occupation - Scenic resources, e.g. view corridors, viewing sites, visual edges, visual linkages - Pre-colonial or historical burial sites - Geological sites of cultural significance. 	No	No
7 Relic Landscape	<ul style="list-style-type: none"> - Past farming settlements - Past industrial sites - Places of isolation related to attitudes to medical treatment - Battle sites - Sites of displacement, 	No	No
8 Burial grounds and grave sites	<ul style="list-style-type: none"> - Pre-colonial burials (marked or unmarked, known or unknown) - Historical graves (marked or unmarked, known or unknown) - Graves of victims of conflict - Human remains (older than 100 years) - Associated burial goods (older than 100 years) - Burial architecture (older than 60 years) 	Yes	No
9 Associated Landscapes	<ul style="list-style-type: none"> - Sites associated with living heritage e.g. initiation sites, harvesting of natural resources for traditional medicinal purposes - Sites associated with displacement & contestation - Sites of political conflict/struggle - Sites associated with an historic event/person - Sites associated with public memory 	No	No
10 Historical Farmyard	<ul style="list-style-type: none"> - Setting of the yard and its context - Composition of structures - Historical/architectural value of individual structures - Tree alignments - Views to and from - Axial relationships - System of enclosure, e.g. defining walls - Systems of water reticulation and irrigation, e.g. furrows - Sites associated with slavery and farm labour - Colonial period archaeology 	Yes	Rifle range
11 Historic institutions	<ul style="list-style-type: none"> - Historical prisons - Hospital sites - Historical school/reformatory sites - Military bases 	No	No
12 Scenic visual	<ul style="list-style-type: none"> - Historic scenic routes 	No	No
13 Amenity landscape	<ul style="list-style-type: none"> - View sheds - View points - Views to and from - Gateway conditions - Distinctive representative landscape conditions - Scenic corridors 	Yes	Yes, N3 corridor

Mitigation

It is recommended that the development designs take into account the positive and negative characteristics of the existing cultural landscape types and that they endeavour to promote the positive aspects while at the same time mitigating the negative aspects.

The section of the proposed development that is located on the ridge to the south should take into account the scenic value of and visibility of this ridge from many vantage point in the vicinity.

Resource Management Recommendations

The documented rifle range's location is noted in this report. No further mitigation work is necessary.

Although unlikely, sub-surface remains of heritage sites could still be encountered during the construction activities associated with the project. Such sites would offer no surface indication of their presence due to the high state of alterations in some areas as well as heavy plant cover in other areas. The following indicators of unmarked sub-surface sites could be encountered:

- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate);
- Bone concentrations, either animal or human;
- Ceramic fragments such as pottery shards either historic or pre-contact;
- Stone concentrations of any formal nature.

The following recommendations are given should any sub-surface remains of heritage sites be identified as indicated above:

- All operators of excavation equipment should be made aware of the possibility of the occurrence of sub-surface heritage features and the following procedures should they be encountered.
- All construction in the immediate vicinity (50m radius of the site) should cease.
- The heritage practitioner should be informed as soon as possible.
- In the event of obvious human remains the South African Police Services (SAPS) should be notified.
- Mitigation measures (such as refilling etc.) should not be attempted.
- The area in a 50m radius of the find should be cordoned off with hazard tape.
- Public access should be limited.
- The area should be placed under guard.
- No media statements should be released until such time as the heritage practitioner has had sufficient time to analyse the finds.

Conclusion

The location of the rifle range should be noted, however since there is no tangible remains on the ground any mitigation will be impossible and as a result no further work is necessary.

Although no gravesites were visible on the surface of the study area it is still possible that they might occur sub-surface. Cognisance should be taken of the recommendations regarding such finds.

References Cited

- Arts and Culture Task Group, (1995), Draft report for the Ministry of Arts, Culture, Science and Technology. Pretoria: ACTAG.
- Boeyens, J.C.A. (2003). The Late Iron Age Sequence in the Marico and Early Tswana History. *South African Archaeological Bulletin* 58 (178): 63 – 78.
- Cultural Institutions Act, No 119 of 1998.
- De Jong, R.C., (1992). Draft policy guidelines for cultural resource management in nature conservation and forestry areas in South Africa. Pretoria: National Cultural History Museum (unpublished)
- Department of Arts, Culture, Science and Technology, (1996). White Paper on Arts, Culture and Heritage. Pretoria: SA Communication Service.
- DEAT, (1998). A national strategy for Integrated Environmental Management in South Africa. Discussion document. Pretoria: The Department.
- DEAT, (1998). White Paper on environmental management policy for South Africa. Government Gazette, Vol 395, No 18894, 15 May 1998.
- Department of Public Works, (1998), White Paper 1997. Public Works towards the 21st century. Government Gazette, Vol 391, No 18616, 14 January 1998.
- English Heritage (2008). Historic Landscape Type Description: Type 10 Military. *AONB Historic Landscape Characterisation Project, p350 – 431 (2008)*.
- Entries on towns in the *Standard Encyclopaedia of Southern Africa*, published by Nasou, 1970-1976 (11 volumes).
- Galla, A, (1996), Shifting the paradigm. A plan to diversify heritage practice in South Africa. Cape Town: South African Museums Association.
- Groenewald, G, (2009). Progress Report on Fossil Finds at Bedford Dam. *Unpublished Report*
- Harrison, R, (1994). Manual of heritage management. Oxford: Butterworth Heinemann.
- Jote, K, (1994). International legal protection of cultural heritage. Stockholm: Juristförlaget.
- Mason, R. (1986). Origins of Black People of Johannesburg and the Southern Western Central Transvaal AD350-1880. Occasional Paper No. 16 of the Archaeological Research Unit.
- Mitchell, P. & Whitelaw, G. (2005). The Archaeology of Southernmost Africa from c. 2000 BP to the Early 1800's: A review of Recent Research. *Journal of African History*, 46 (2008) p 209 – 241.
- National Heritage Council Act, No 11 of 1999.
- National Heritage Resources Act, No 25 of 1999.
- National Cultural History Museum, www.nasmus.co.za
- Republic of South Africa, (1996). Constitution of the Republic of South Africa, Act 108 of 1996. Government Gazette, Vol 378, No 17678, 18 December 1996.
- Ross, M. (1996). Planning and the heritage. Policy and procedures. Second edition. London: E & FN Spon.
- SAHRA website <http://www.sahra.org.za>
- Scott, L. Rossouw, L. 2005. Reassessment of Botanical Evidence for Paleoenvironments at Florisbad, South Africa. *South African Archaeological Bulletin* 60 (182): 96 – 102.
- Thackeray, A.J. (1992). The MSA South of the Limpopo River. *Journal of World Prehistory*, Vol6,

17/07/2013

No 4, 1992.

- UNESCO, (1983). Conventions and recommendations concerning the protection of the cultural heritage. Paris: UNESCO.
- Walton, J. (1953). An Early Fokeng-Hlakoana Settlement at Metloang, Basutoland. *South African Archaeological Bulletin* 1953, 3 – 11.
- Walton, J. (1951). Corbelled Stone Huts in Southern Africa. *MAN Vol 51. April 1951.*