

ORIGINAL STUDY: A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT OF THE PROPOSED CONSTRUCTION OF AN AIRSTRIP AND FAMILY LODGE ON PORTION 3 (KODOOS RUN) (A PORTION OF PORTION 2) OF THE FARM NOOITGEDAGT NO. 92 AND PORTION 2 (THE FORT) OF THE FARM KOESTERS DRIFT NO. 129, KWANDWE PRIVATE GAME RESERVE IN THE ALBANY DISTRICT, EASTERN CAPE PROVINCE

AMENDED STUDY: A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT OF TWO PROPOSED SITES FOR THE CONSTRUCTION OF A FAMILY LODGE ON THE ABOVE PROPERTY



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A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT OF THE PROPOSED CONSTRUCTION OF AN AIRSTRIP AND FAMILY LODGE ON PORTION 3 (KODOOS RUN) (A PORTION OF PORTION 2) OF THE FARM NOOITGEDAGT NO. 92 AND PORTION 2 (THE FORT) OF THE FARM KOESTERS DRIFT NO. 129, KWANDWE PRIVATE GAME RESERVE IN THE ALBANY DISTRICT, EASTERN CAPE PROVINCE

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Note: This report follows the minimum standard guidelines required by the South African Heritage Resources Agency for compiling Archaeological Phase 1 Impact Assessment (AIA) reports and is part of an Environmental Impact Assessment.

EXECUTIVE SUMMARY

Eastern Cape Heritage Consultants cc was appointed by CEN Integrated Environmental Management Unit on behalf of the proponent C-SA Properties Pty Ltd to conduct a Phase 1 Archaeological Impact Assessment (AIA) for the proposed construction of an airstrip and family lodge in the Kwandwe Private Game Reserve in the Albany District, Eastern Cape Province.

Purpose of the study

The purpose of the study was to conduct a survey of possible archaeological sites for the proposed construction of an airstrip and family lodge in the Kwandwe Private Game Reserve in the Albany District, Eastern Cape Province; to establish the range and importance of the archaeological sites/remains, the potential impact of the development and to make recommendations to minimize possible damage to these sites.

The investigation

The archaeological visibility was good at both sites due to the relatively open terrain, which made it fairly easy to locate archaeological material. Mainly Later Stone Age stone tools were observed on the proposed lodge site, but few stone tools were observed at the proposed airstrip site. These stone tools were in secondary context and not associated with any other archaeological material. However, other significant sites/materials may be covered by soil and vegetation

Cultural sensitivity

The stone tools are considered to be of low cultural significance because they are in secondary context and not associated with any other archaeological remains. The development is close to the Great Fish River and freshwater shell middens may be exposed during the development. The development may proceed as planned (see recommendations).

Recommendations

1. It is suggested that an archaeologist makes a representative collection (type collection for the area) of the stone tools at the proposed lodge site before construction starts. These tools can be displayed at the lodge/reserve as a sample of the pre-colonial archaeological history of the area.
2. If freshwater mussel middens or any concentrations of other archaeological materials are uncovered during the development, it should be reported immediately to the Albany Museum and/or the Eastern Cape Provincial Heritage Resources Authority.
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

PROJECT INFORMATION

The type of development

The proposed development in the Kwandwe Private Game Reserve includes the proposed construction of an airstrip and family lodge. The runway will be two kilometres in length and 25 metres wide (disturbed zone will be approximately 75 metres). An area of approximately 1000 square metres will be disturbed for the construction of the lodge.

The Developer

C-SA Properties Pty Ltd

The Consultant

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Purpose of the study

The purpose of the study was to conduct a survey of possible archaeological sites for the proposed construction of an airstrip and family lodge on Portion 3 (Koodoos Run) (a Portion of Portion 2) of the Farm Nooitgedagt No. 92 and Portion 2 (the Fort) of the Farm Koesters Drift No. 129, Kwandwe Private Game Reserve in the Albany District, Eastern Cape Province; to establish the range and importance of the archaeological sites/remains, the potential impact of the development and to make recommendations to minimize possible damage to these sites. The survey was conducted to establish;

- the range and importance of possible exposed and *in situ* archaeological sites, features and materials,
- the potential impact of the development on these resources and,
- to make recommendations to minimize possible damage to these resources.

Site and location

The development is located within the 1:50 000 topographic reference map 3326BA Fort Brown (Map 1). The proposed development is situated approximately 15 kilometres north of Grahamstown between the R344 to Adelaide and the R67 to Fort Beaufort (Map 3). Both sites are close to the Great Fish River (Maps 1-4).

The proposed site for the lodge is situated on a high hill on Portion 2 (the Fort) of the Farm Koesters Drift No. 129 (general GPS reading: 33.07.46,84S; 26.28.57,13E) with a scenic view of the surrounding landscape some 8 kilometres west of the airstrip (Maps 2 & 4). The area has been used in the past, probably as a stock enclosure and is well-trampled and striped of vegetation. The site is sparsely covered by dry low bushes and grass with low thorny trees and bushes along the periphery (Figs. 1-4).

The area proposed for the airstrip is situated about 4 kilometres west of Fort Brown on Portion 3 (Koodoos Run) (a Portion of Portion 2) of the Farm Nooitgedagt No. 92 (general GPS reading: 33.08.04,13S; 26.34.43,65E) between the gravel road connecting the R67 with the R344 and a small drainage line (Maps 1 & 4). The area is covered by dense thicket vegetation along the drainage line, but quickly opens-up to low shrubs and *Euphorbia* spp as one move further from the dry stream bed.

Relevant impact assessments

There are no relevant archaeological impact assessments for the immediate area, but the Albany Museum in Grahamstown houses collections and information from the wider region.

BRIEF ARCHAEOLOGICAL BACKGROUND

Brief archaeological background

The area has a rich documented historical past of conflict, change, adaptation and interaction between different groups and individuals (Mostert 1992). The pre-colonial archaeological history of the Kwandwe Game Reserve area is less clear, mainly because little scientific field research has been conducted here. The wider region is rich in archaeological remains and sites and includes many caves, rock shelters and rock paintings. There are also a large number of reports, references and accessioned material in museums of the region and nationally which provide us with a general background on the pre-colonial archaeology. From the archival information and limited field work, it is evident that the area has an interesting and complex archaeological past. The oldest evidence of early inhabitants in the region are large stone tools, called hand axes and cleavers from the Earlier Stone Age (ESA) dating to approximately between 1,5 million and 250 000 years old. Many of these tools were found in the Grahamstown area.

Middle Stone Age (MSA) stone artefacts dating between 250 000 and 30 000 years old are found throughout the region, but carry little information because they are not associated with any other archaeological material. Excavations at MSA sites adjacent to the study area include the well-known type site for the Howieson's Poort Industry (rock shelter with the same name) near Grahamstown (Stapleton & Hewitt 1927).

Later Stone Age open sites, dating to the past 20 000 years are also widely scattered throughout the area. The bulk of information for the wider region comes from the Cape Fold Mountains to the south of the study area where several sites were excavated. Among these are Wilton Large Rock Shelter (Deacon 1972), Melkhoutboom Cave (Deacon 1976) and Uniondale Rock Shelter

(Leslie-Brooker 1987). Two rock shelters, Edgehill and Welgeluk excavated by Hall (1990) in the Koonap River Valley close to the study area, provide an excellent archaeological record of exclusive subsistence and cultural risk management strategies during the past 5 500 years for Eastern Cape Midlands. These sites also provided an excellent record of the utilization of riverine food resources such as freshwater mussels and fish. Another small shelter at Adam's Kranz in the Great Fish River valley has also been excavated. A hafted arrowhead was recovered from the site (Binneman 1994). The Eastern Cape Midland, Koonap River valley and the adjacent Winterberg Mountains to the north and Cape Fold Belt to the south are also rich in San and KhoiSan rock art.

Some 50 kilometres north-east of the study area, Derricourt (1977) excavated several mounds at Middledrift and Ann Shaw where he found a stone tool tradition in the bottom layers which he called the Middledrift Tradition, dating to some 5 000 years old. The origins of the upper deposits of these mounds are not clear, but it would appear that they were associated with pastoralist groups. Thin, fine, mainly undecorated pot shards, a KhoiSan burial and complete cow burials found in these mounds, would strongly suggest Khoi occupation. Early European travellers such as Beutler (Theal 1896) also found the Gonaqua Khoi in 1752 living here and along the Keiskamma River towards the nearby coast.

Although there are no records of Early Iron Age (first farming communities) sites or material from this area, it is possible that such settlements may be present in the region (Maggs 1973). Evidence in the form of thick walled well-decorated pot shards is present along the coast (Rudner 1968) and the nearest settlement was excavated just west of East London (Nongwaza 1994). Research in the Great Kei River Valley indicates that the first mixed farmers were already settled in the Eastern Cape A.D. 600 - 700 (Binneman 1996). At Ann Shaw, Derricourt also excavated a Late/Historical Iron Age settlement with grain pits and ash heaps. The grain pits were of typical Nguni type jar-shaped vessels with a small opening.

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ARCHAEOLOGICAL INVESTIGATION

Methodology

The surveys at both sites proposed for development were conducted with members of CEN Integrated Environmental Management Unit accompanied by armed game guards because of dangerous animals in the game reserve. The investigations were conducted on foot and GPS readings were taken with a Garmin and all important features were digitally recorded.

Limitations and assumptions

Due to the relatively open terrain the archaeological visibility was good at both the areas surveyed and made it fairly easy to locate archaeological materials (Figs 1-12). The experiences and knowledge gained from other investigations in the wider Cape Midland region provided an information base to make assumption and predictions on the incidences and the significance of possible pre-colonial archaeological sites/material which may be located in the area, or which may be covered by the soil and vegetation.

Findings

Only stone stools were observed during the survey of the proposed lodge site and comprised a wide variety of mainly Later Stone Age tools dating within the past 6 000 years. These included cores, upper and lower grindstones, hammer stones and flakes manufactured on local available hornfels and quartzite (Figs 5 & 6). The relatively large number of 'processing' stone tools at the site, which also provides a good view of the surrounding landscape, indicates that the area must have been a preferred camp site for long periods of time. Apart from the stone tools no other archaeological remains such as bone, ostrich eggshell or pottery were observed during the reconnaissance survey. However, it is possible that these materials are buried or destroyed by trampling when the area was used for stock keeping, but a more detailed survey may locate such materials. Although these stone tools are in secondary context and not associated with any other archaeological material, it would be worthwhile to make a small representative collection of the stone tools. These can either be housed at the Albany Museum or displayed at the lodge/reserve as a sample of the pre-colonial archaeological history of the area. Other materials may also be located during the project.

Occasional Later Stone Age silcrete stone tools and a large lower grinding stone were observed close to the drainage line during the survey of the proposed airstrip site (Figs 8 & 11). Apart from two weathered hornfels Middle Stone Age stone tools (MSA) (dating between 250 000 and 30 000 years old) (Fig.12), no archaeological materials were observed the further one moved away from the drainage line. The MSA stone tools were in secondary context and not associated with any other archaeological material, and therefore of low significance.

There are no graves or buildings older than 60 years on the sites. In general it would appear that the area is of low cultural sensitivity and that it is unlikely that any sensitive archaeological remains will be exposed during the development.



Figs 1-8. General views of the proposed site for the lodge (top two rows), a sample of the Later Stone Age stone tools observed at the site (third row) and general views of the dense vegetation along the drainage line at the propose airstrip site (bottom row).



Figs 9-12. General views of the landscape at the proposed airstrip site (top row) and a Later Stone Age lower grindstone and Middle Stone Age stone tools located near the drainage line (bottom row).

ASSESSMENT OF THE IMPACTS

Pre-colonial archaeology

Nature of the impacts

The main impact on archaeological sites/remains at the proposed lodge site will be the physical disturbance of the material and its context. However, from the investigation it would appear that the stone tools were disturbed, in secondary context and not associated with any other archaeological material, and therefore of low significance. Notwithstanding, important materials may be covered by soil and vegetation and will only be exposed during the development. The airstrip site appears to be of low cultural significance and it is highly unlikely that any important materials will be exposed during the development.

Extent of the impacts

The clearing, levelling and other construction activities at the proposed lodge and airstrip sites may impact on remains which are buried (such as burials), but these impacts will be limited and restricted to the local area. Although the development may disturb a large area, the negative impact on possible archaeological sites/materials may be relatively small, but nevertheless permanent. In general further disturbances of sites/materials can be limited by mitigation if reported immediately to the archaeologist at the Albany Museum/Eastern Cape Heritage Provincial Resources Authority.

Table 1. Impacts on the pre-colonial archaeology.

Nature: The potential impact of the construction of a lodge and airstrip on the above and below ground archaeology.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (4)	Permanent (4)
Magnitude	Minor (2)	Minor (2)
Probability	Unlikely (2)	Unlikely (2)
Significance	Low < 20	Low < 20
Status (positive or negative)	Negative	Neutral
Reversibility	No	No
Irreplaceable loss of resources?	No, but in some cases, yes	No
Can impacts be mitigated?	Yes	
Mitigation		
No mitigation is proposed for the airstrip area before construction starts because the archaeological remains (if any) are of low significance (excluding human remains).		
It is suggested that a representative collection is made of the stone tools at the proposed lodge site before construction starts.		
If concentrations of archaeological materials and/or human remains are exposed then all work must stop for an archaeologist to investigate (see below).		
If any human remains or any other concentrations of archaeological material, such as freshwater mussel middens or historical materials are exposed during construction, all work must cease and it must be reported immediately to archaeologist at the Albany Museum and/or to the Eastern Cape Provincial Heritage Resources Authority so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to investigate and to remove/collect such material. Recommendations will follow from the investigation.		
Cumulative impacts: The cumulative impacts on above and below ground archaeology will only increase if further developments are planned for adjoining areas.		
Residual impacts: Permanent		

Pre-colonial archaeological cultural landscape*Nature of the impact*

The archaeological significance of the area is low and there are also no historical buildings, graves or other features of importance on the site that will be impacted by the development. Therefore the visual impact of the developments on the pre-colonial cultural landscape will be low as well. The area has been exposed to agricultural activities before and other developments in the immediate vicinity such as the construction of a runway and gravel roads in the past. The new proposed developments will be an extension of similar activities and have little impact on the 'sense of place' (the visual impact on the existing cultural landscape is subject to a specialist study).

Extent of impact

The visual impact of the lodge development is well hidden from the gravel road and will be restricted to the immediate area and will have little negative effect on the cultural landscape

and ‘significance/sense of place’. The airstrip development on the other hand will be next to the main access gravel road and will have a negative visual impact on the immediate cultural landscape and ‘significance/sense of place’. This development will be long term to permanent and will be difficult to fully rehabilitate. Certain negative impacts can be mitigated.

Table 2. Impacts on the pre-colonial cultural landscape.

Nature: The potential impact of the construction of a lodge and airstrip on the cultural landscape and ‘sense of place’.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Long term/permanent (4)	Long term/permanent(4)
Magnitude	Minor (2)	Minor (2)
Probability	Unlikely (2)	Unlikely (2)
Significance	Low < 20	Low < 20
Status (positive or negative)	Negative	Negative
Reversibility	Reversible	Reversible
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	yes
Mitigation		
No mitigation is proposed because the archaeological remains are of low significance.		
Cumulative impacts: The cumulative impacts will only increase if further expansions of the of the current proposed activities are planned for adjoining areas, which may bring changes to the pre-colonial cultural landscape in terms of visual impacts and changes to ‘sense of place’.		
Residual impacts: The damage/changes caused by the clearing of the vegetation and preparations of the land for the developments, will be long term to permanent and will be difficult to fully rehabilitate.		

DISCUSSION AND MITIGATION

The main impact on archaeological sites/remains at both sites will be the physical disturbance of the material and its context. The clearing of the vegetation, levelling and other construction activities will expose, disturb and displace archaeological sites/material. However, from the investigation, it would appear that the proposed areas earmarked for development is of low archaeological sensitivity and the visual impact on the surrounding cultural landscape will also be low. Middle and Later Stone Age stone artefacts were observed, but they are considered to be of low cultural significance, because they are in secondary context and not associated with any other archaeological remains. Notwithstanding, important materials may be covered by soil and vegetation. The developments are close the Great Fish River and freshwater mussel middens may be exposed during the development. Although it is unlikely that any sensitive archaeological remains will be exposed during the development, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered. It is recommended/suggested that;

1. An archaeologist makes a representative collection (type collection for the area) of the stone tools at the proposed lodge site before construction starts. During this project the area can be scanned in more detail for other archaeological materials such as bone remains, ostrich eggshell beads and pottery. It is suggested that these tools can be displayed (on long loan

from the Albany Museum in Grahamstown) at the lodge/reserve as a sample of the pre-colonial archaeological history of the area.

2. The proposed development will take place close to the Great Fish River, in an area where one would expect to find freshwater mussel middens. If such features or any other concentrations of archaeological material are exposed, work must stop immediately and reported to the archaeologist at the Albany Museum (046 6222312) or to the Eastern Cape Provincial Heritage Resources Authority (043 6422811).
3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. It is suggested that a person be trained to be on site to report to the site manager if sites are found.

GENERAL REMARKS AND CONDITIONS

Note: This report is a phase 1 archaeological impact assessment/investigation only and does not include or exempt other required heritage impact assessments (see below).

The National Heritage Resources Act (Act No. 25 of 1999, section 35) (see Appendix A) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual linguistic or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasised that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, reflect the true state of affairs. Many sites/features may be covered by soil and vegetation and will only be located once this has been removed. In the event of such finds being uncovered, (such as during any phase of construction work), archaeologists must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.

It must also be clear that Archaeological Specialist Reports (AIA's) will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should grant a permit or a formal letter of permission for the destruction of any cultural sites.

APPENDIX A: brief legislative requirements

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

Archaeology, palaeontology and meteorites

35 (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;*
- (d) *bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.*

Burial grounds and graves

36. (3) (a) *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.*

Heritage resources management

38. (1) *Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –*

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50m in length;*
- (c) *any development or other activity which will change the character of the site –*
 - (i) *exceeding 5000m² in extent, or*
 - (ii) *involving three or more erven or subdivisions thereof; or*
 - (iii) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) *the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;*
- (d) *the re-zoning of a site exceeding 10 000m² in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as 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.*

APPENDIX A: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM INLAND AREAS: guidelines and procedures for developers

Human Skeletal material

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general human remains are buried in a flexed position on their side, but are also found buried in a sitting position with a flat stone capping. Developers are requested to be on alert for the possibility of uncovering such remains.

Freshwater mussel middens

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m² in extent, should be reported to an archaeologist.

Large stone cairns

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.

Stone artefacts

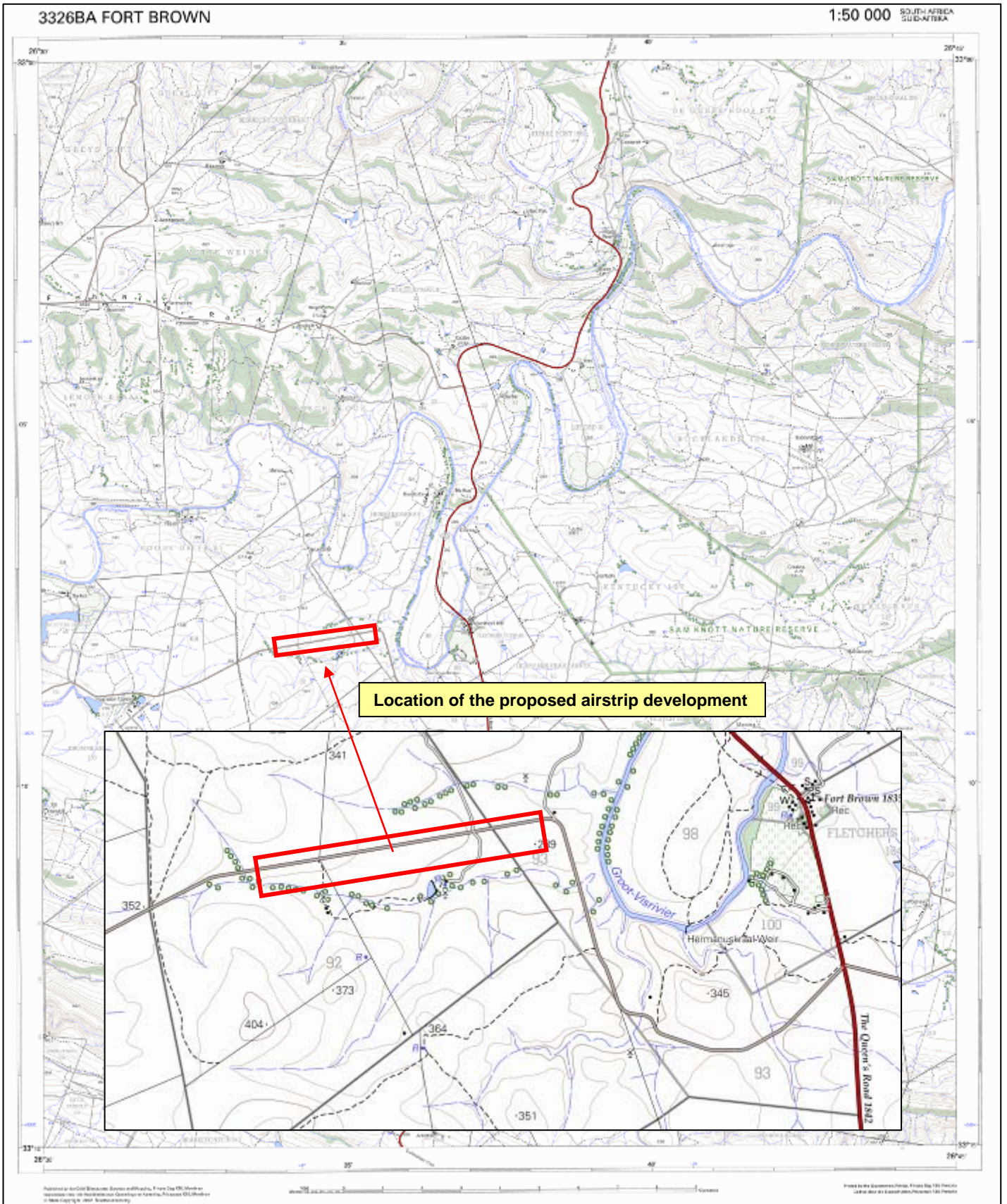
These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.

Fossil bone

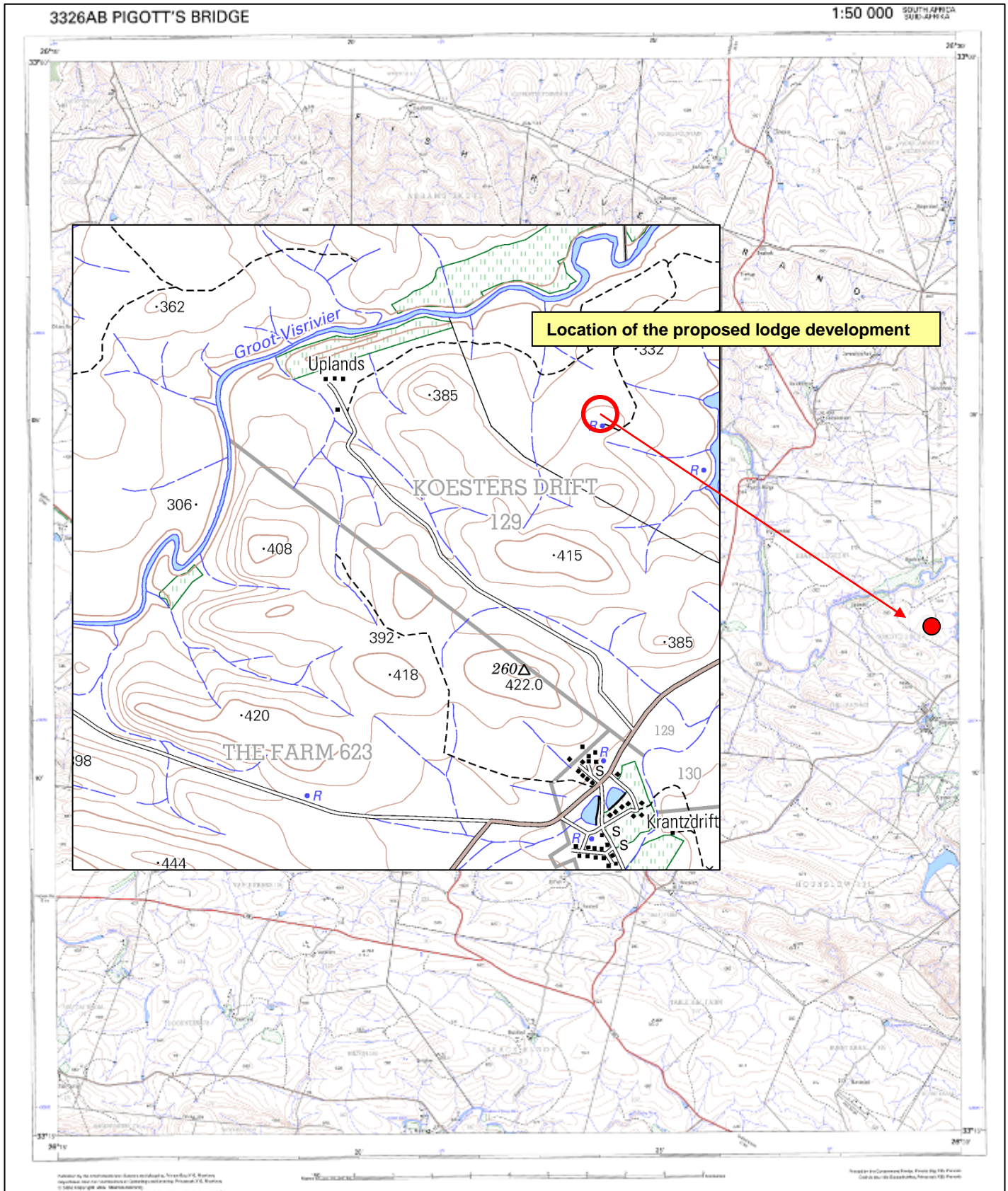
Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

Historical artefacts or features

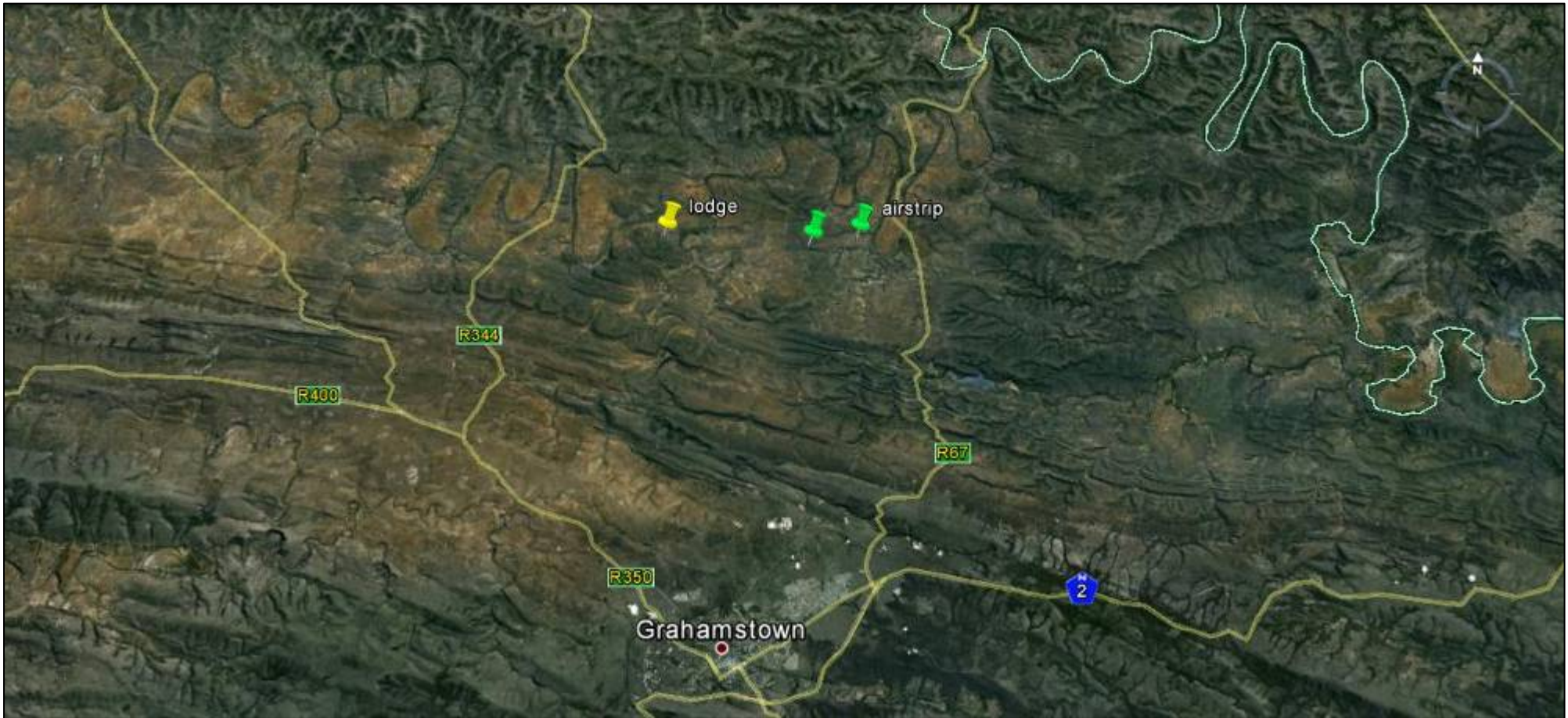
These are easy to identify and include foundations of buildings or other construction features and items from domestic and military activities.



Map 1. 1:50 000 Maps indicating the location of the proposed airstrip site. The red lines outline the approximate size of the development.



Map 2. 1:50 000 Maps indicating the location of the proposed lodge site. The red circles outline the approximate size of the development.



Map 3. Aerial image indicating the locations of the proposed developments. The yellow peg marks the proposed lodge site and the green pegs mark the proposed airstrip site.



Map 4. Aerial images indicating the locations of the proposed developments. The yellow peg marks the proposed lodge site and the green pegs mark the proposed airstrip site.

AMENDED STUDY

A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT OF TWO PROPOSED SITES FOR THE CONSTRUCTION OF A FAMILY LODGE ON PORTION 3 (KODOOS RUN) (A PORTION OF PORTION 2) OF THE FARM NOOITGEDAGT NO. 92 AND PORTION 2 (THE FORT) OF THE FARM KOESTERS DRIFT NO. 129, KWANDWE PRIVATE GAME RESERVE IN THE ALBANY DISTRICT, EASTERN CAPE PROVINCE

SUMMARY

Apart from a few stone tools observed in secondary context at Site 1 no other archaeological sites materials were located. Both proposed sites for the construction of the lodge are of low archaeological sensitivity and either site can be used.

Location of the proposed sites

Site 1: This site is situated approximately 400 metres south of the Great Fish River and about the same distance west of the Botha's River Dam (general GPS reading: 33.07.36,54S; 26.29.41,20E) (Maps 5 and 6). It is located on a relatively flat orange alluvial sand plain with a gentle slope towards the dam (Figures 13 and 14). The area is well covered mainly with short bushes and shrubs. The archaeological visibility was good and a few stone tools were observed outside the perimeter of the area demarcated for the construction of the lodge. These included two Earlier Stone Age hand axes (dating between 1,4 million and 250 000 years old), a Middle Stone Age core (dating between 250 000 and 30 000 years old) and two Later Stone Age flakes dating younger than 30 000 years old (Figure 14, right insert). Earlier and Middle Stone Age stone tools are found throughout the region and the Albany Museum houses a large collection from the Grahamstown area. The stone tools were in secondary context and not associated with any other archaeological material and are therefore of low cultural significance. No further action is required.

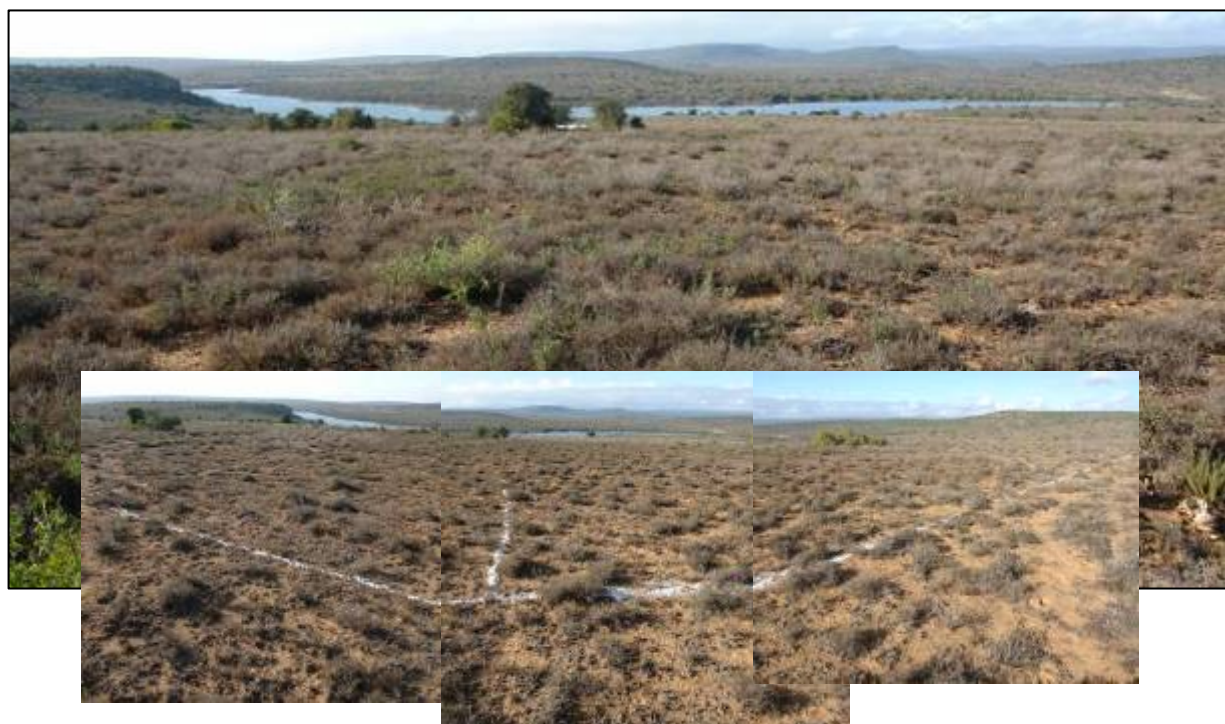


Figure 13. General views of the proposed location of site 1 overlooking the Dam.

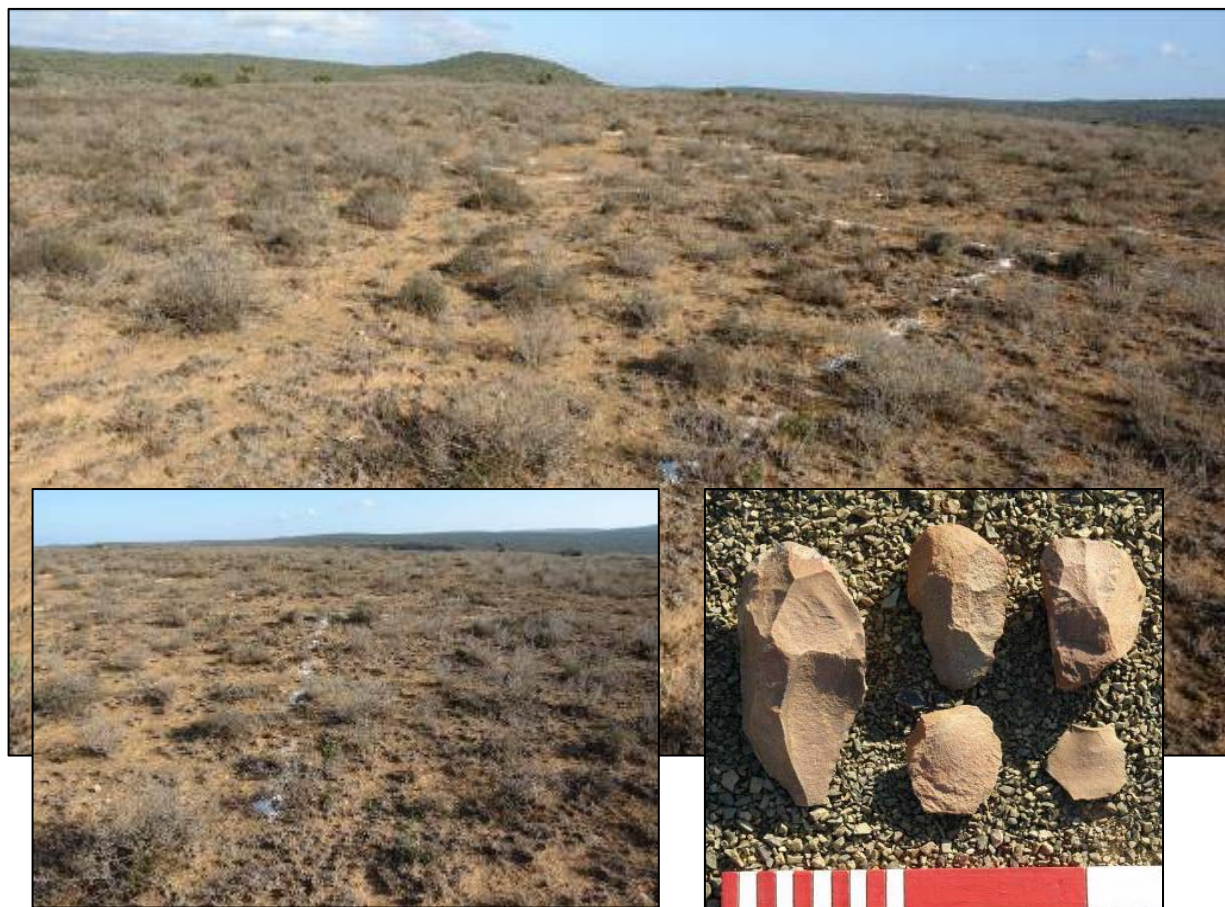


Figure 14. General views of Site 1 and the Earlier, Middle and Late Stone Age stone tools observed outside the demarcated area for the construction of the lodge.

Site 2: This site is situated approximately 400 metres south-west of Site 1 and approximately 500 metres west of the Botha's River Dam (general GPS reading: 33.07.51,59S; 26.29.36,71E) (Maps 5 and 6). It is located on the side of a small east facing hill with a gentle slope towards the dam (Figures 15 and 16). The rocky hill area is well covered mainly with large and short bushes and *Euphorbia* spp., but the slope is sparsely covered by small bushes. The archaeological visibility was good but no archaeological remains were observed.

DISCUSSION AND MITIGATION

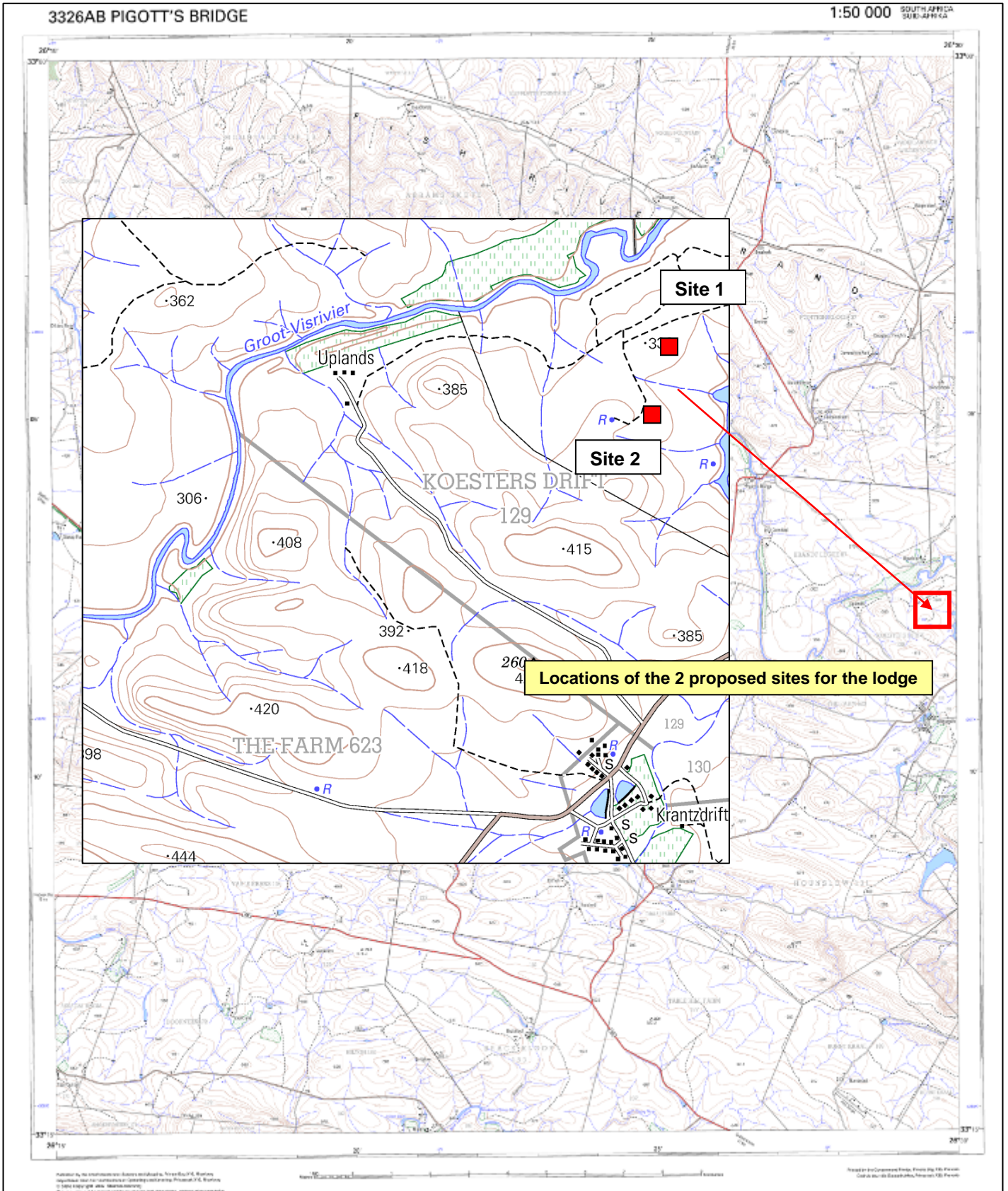
The two proposed sites for the construction of the lodge are of low archaeological sensitivity and either site can be used. A few Earlier, Middle and Later Stone Age stone artefacts were observed at Site 1, but they are considered to be of low cultural significance, because they were in secondary context and not associated with any other archaeological remains. Although it is unlikely that any sensitive archaeological remains will be exposed during the development, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered. The proposed development will take place close the Great Fish River and it is possible that riverine archaeological features such as freshwater mussel middens may be exposed during the development. If such features or any other concentrations of archaeological material are exposed, work must stop immediately and reported to the archaeologist at the Albany Museum (046 6222312) or to the Eastern Cape Provincial Heritage Resources Authority (043 6422811).



Figure 15. General views of the proposed location of site 2 overlooking the dam.



Figure 16. General views of the proposed location of site 2 towards the small hill.



Map. 5. 1:50 000 Maps indicating the locations of the two proposed sites for the construction of the lodge. The red squares mark the approximate positions of the sites.



Map 6. Aerial images indicating the locations of the two proposed sites for the construction of the lodge.