

**A PHASE 1 ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT OF THE
PROPOSED DEVELOPMENT ON PORTION 78 OF THE FARM ONGEGUNDE
VRYHEID NO. 746 (ROCKY COAST FARM), CAPE ST FRANCIS, KOUGA
MUNICIPALITY, HUMANSDORP 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 Heritage Phase 1 Impact Assessment (AHIA) reports.

SUMMARY

Purpose of the study

To conduct a Phase 1 Archaeological Heritage Impact Assessment of the proposed development on Portion 78 of the Farm Ongegunde Vryheid No. 746 (Rocky Coast Farm), Cape St Francis, Kouga Municipality; to evaluate the importance of the archaeological heritage sites, the potential impact of the development and to make recommendations to minimize possible damage to these sites.

The investigation

Two hundred and thirty (230) visible archaeological heritage sites, mainly open-air shellfish accumulations were found during the investigation. This number of sites represents only a small number of sites because most of the property proposed for development is comprised dunes covered by dense vegetation, rendering it difficult/virtually impossible to locate more sites.

Cultural sensitivity

Research and surveys conducted in the past and this current investigation indicate that the coastal foreland of Cape St Francis and especially the Rocky Coast Farm region are extremely rich in archaeological heritage sites and material. The low density estate development will have a direct and indirect influence on these heritage sites and proper management of these resources is necessary.

Recommendations

1. A cluster type development would be recommended rather than a rectangular unit type to avoid large scale damage to possible archaeological heritage sites.
2. No development should take place within 100 metres from the edge of the calcrete ridge.

3. A management plan should be compiled for the remaining open space that will be rezoned to Open Space III, required by the National Heritage Resources Act (Act No. 25 of 1999, section 35).
4. All roads with exposed archaeological sites in or next to it should be closed to vehicles or diverted to avoid further damage to sites.
5. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites which may be encountered during construction.
7. All construction work must be monitored. A person must be trained as a site monitor to report to the foreman when archaeological sites are found.
8. If any concentrations of archaeological material are exposed during construction, all work in that area should cease and it should be reported immediately to the nearest museum/archaeologist or to the South African Heritage Resources Agency.
9. The proposed development next to the township (erf 33), is a very sensitive area and must be closely monitored before and during development.
10. Every landowner and visitors to the proposed development must be alerted to the importance, sensitivity, conservation and protection of the cultural heritage of the region to avoid possible damage to heritage features or removal of material from heritage sites anywhere in the region.

Community consultation

Consultation with the Gamkwa KhoiSan Council was conducted as required by the National Heritage Resources Act No. 25 of 1999, Section 38(3e). They will communicate their recommendations to HillLand Associates Environmental Management Consultants.

PROJECT INFORMATION

The type of development

Re-zoning from an Agriculture Zone 1 and subdivision for a low density coastal residential development.

The Developer

Rocky Coast Farm (Pty) Ltd
Contact person: Mr J. Riegaard
Cell: 0835140433

Terms of reference

To conduct a Phase 1 Archaeological Heritage Impact Assessment of the proposed development on Portion 78 of the Farm Ongegunde Vryheid No. 746 (Rocky Coast Farm), Cape St Francis, Kouga Municipality; to describe and evaluate the importance of the archaeological heritage sites, the potential impact of the development and to make recommendations to minimize possible damage to these sites.

BRIEF ARCHAEOLOGICAL BACKGROUND

Literature review

The oldest evidence of the early inhabitants in the region are large stone tools, called handaxes and cleavers which can be found in the river gravels which capped the hill slopes in the region, and on the calcrete floors exposed in the dune by-pass system between Oyster Bay and St Francis Bay (Laidler 1947; Butzer 1978; Deacon & Geleijnse 1988; Binneman 1996, 2001, 2005). The time period is known as the Earlier Stone Age and the stone tools belong to the Acheulian Industry, dating between approximately 1 million and 250 000 years old.

After this period, the Acheulian handaxes and cleavers were replaced by a totally different looking stone tool industry, the so-called flake and blade industries of the Middle Stone Age (MSA). The time period, between 120 000 - 30 000 years ago, also witness the emergence of the first modern humans (*Homo sapiens sapiens*). The oldest remains of anatomically modern humans in the world (some 110 000 years old) comes from the Klasies River complex of caves some ** kilometres east of the proposed development (Singer & Wymer 1982; Rightmire & Deacon 1991; Deacon 1992, 1993, 2001; Henderson 1992; Deacon, H. J & Shuurman, R. 1992; Henderson, Z. & Binneman, J.N.F. 1997; Deacon & Deacon 1999). The archaeological deposits at the Klasies River Caves (1-5) date to 120 000 years old and also yielded some of the oldest evidence in the world for the exploitation of marine food resources by people. Many Middle Stone Age sites and fossil bone remains of similar age are present in the by-pass dune system (Binneman 1996, 2001; Carrion *et al.* 2000)

Although humans were already anatomically modern by 110 000 years ago, they were not yet exhibiting 'modern behaviour' and only developed into culturally modern behaving humans between 80 000 and 70 000 years ago. This occurred during cultural phases known as the Still Bay and Howieson's Poort time periods/stone tool traditions/industries. The Howieson's Poort Industry is well represented at Klasies River Cave 2 (Deacon & Wurz 1996; Wurz 1999) and also in the dunes near Oyster Bay (Carrion *et al.* 2000).

Unfortunately, no caves and shelters in the region have been excavated yet with deposits dating between 25 000 and 5 000 years ago. Nevertheless, from sites farther along the coast and adjacent Cape Mountains, we know that the past 20 000 years, called the Later Stone Age (LSA), introduced several 'new' technological innovations. Others became more common, such as rock art, burials associated with grave goods, painted stones, new microlithic stone tool types, some fixed to handles with mastic, bow and arrow, containers, such as tortoise shell bowls and ostrich eggshell flasks (sometimes decorated), decorative items, bone tools and many more (Deacon & Deacon 1999).

The period between 20 000 and 14 000 years ago experienced extremely cold climatic conditions and had a great influence on the environment, the people and animals. During the Last Glacial Maximum (the last ice age) vast areas were exposed along the coast which created favourable conditions for grassland and grazing animals (also inland). The remains from archaeological sites indicated that there were several large grazing animal species which are now extinct, for example the giant buffalo, the giant hartebeest and the Cape horse. After 14 000 years ago the climate started to warm up again and the sea level rose rapidly. By 12 000 years ago the sea was close to modern conditions and the previously exposed grassland also disappeared due to the rising sea level, causing the extinction of many grassland species including the giant buffalo, hartebeest and the Cape horse (Deacon & Deacon 1999).

Between 10 000 and 8 000 years ago the environment became bushier and gave rise to territorial smaller type browsing animals that lived in small groups or pairs. Most of the large Last Glacial grazing animals disappeared from the archaeological deposits during this time period from sites in the region. A characteristic of the past 8 000 years, also known as the Wilton time period, was the large number of small (microlithic) stone tools in the shelters and open-air middens of the region. However, by 4 500 years ago these stone tools were replaced at the the Klasies River Caves by large quartzite stone tools, labelled the Kabeljous Industry (Binneman 1996, 2001, 2005, 2007). The first real change in the socio-economic landscape came some 2 000 years ago when Khoi pastoralists settled in

the region. They were the first food producers and introduced domesticated animals (sheep, goats and cattle) and ceramic vessels to the region (Binneman, 2001, 2005).

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Museum/University databases and collections

The Albany Museum in Grahamstown houses collections and information from the region. Other institutions also having collections and information from the region include the University of Cape Town and Iziko Museums.

Relevant impact assessments:

None available

DESCRIPTION OF THE PROPERTY

Area surveyed

Location data

Portion 78 of the Farm Ongegunde Vryheid No. 746 (Rocky Coast Farm), Kouga Municipality, Humansdorp District, Cacadu District Municipality, Eastern Cape.

The area investigated is immediately west of the Cape St Francis Township and is known as Rocky Coast Farm (RCF) (Maps 1 & 2). The property composed a very narrow coastal strip, wedged between flat bench-like rocky coast and a calcrete ridge (fossilised dunes probably of a Plio-Pleistocene age). This ridge slope gently upwards towards the west and reaches a height of some 30-40 metres above sea-level at the western boundary of the property. In turn, the ridge is covered by more recent shifting sand dunes of Late Pleistocene/Early Holocene age. These dunes are covered by dense coastal shrubs and alien vegetation.

There are two development proposals (see Maps 3 & 4).

1. The first proposal is to subdivide 21 portions of 5ha each from the site, and to demarcate a development footprint of maximum 2000 square metres on each 5ha portion. The total footprint area to be transformed to rural residential units will be 4.2ha. The remaining open space will be rezoned to Open Space III. An alternative of a small residential development limited to the border of Cape St Francis might be considered as well.
2. The second and preferred alternative is the development of a resort, which will be rezoned to Resort II and the remainder of the property to Open Space III. The layout includes the development of 32 x erven (each erf will be 910 square metres). The resort units will be clustered towards the western part of Rocky Coast Farm which will allow for larger ecological corridors. A 33rd erf is proposed adjacent to the existing Cape St Francis town. For the moment, this property will remain vacant, although a possibility of a retirement village is considered for future.

Map

1:50 000 3424 BB Humansdorp

METHODOLOGY

All the GPS readings were taken with a Garmin Plus II

The investigation was conducted by two people on foot. Virtually the entire property is covered by low dens coastal shrubs and bushes and impenetrable alien vegetation (Figs 1 & 2). This made it very difficult and to find sites (see Map 5). All the sites were open-air shell middens, midden/shell scatters and stone features dated from the Holocene Later Stone Age. Although a large number of sites were recorded, it may represent only a fraction of the sites present on the property. The area was divided in smaller units to assist with the discussion of the sites (Map 6).



Fig. 1 (left). View towards the east of the dense dune vegetation on top of the ridge. Cape St Francis lighthouse in the far background.



Fig. 2 (right). View towards the north of the dense dune and alien vegetation (back) on top of the Calcrete Ridge and Dune West Area.

Classification and approach

The following rating system was used for shell occurrences/accumulations (Figs 3-6):

1. Shell middens: Accumulations/concentrations of shell at least two shells deep and usually larger than 50 x 50 cm.
2. Midden scatter: A concentration of whole and fragmented shell spread over a restricted or large area.
3. Shell scatter: A random spread of mainly shell fragments with occasional whole shells over a restricted or large area with no evident depth.
4. Stone features: Accumulations of roughly circular fire cracked stones of varying sizes, usually tightly spaced and filled in with charcoal and occasionally with marine shell fragments.

Note: Rating of sites is conducted on visibility and visual impression and may not reflect the real situation. In the case of midden and shell scatters, accurate ratings can only be established with testing.

The majority of the shell accumulations were small in size and relatively thin, exposed/eroding from under vegetation and dune sand. This made it very difficult to rate in size and depth. Furthermore, although small and thin, the shell concentrations, especially where exposed on the calcrete ridge, covered large areas and it was not always possible to identify individual sites. In these cases, obvious 'concentrations/core areas' were recorded by GPS readings. Although a large number of sites were recorded, the majority were of low to medium significance and only the sites found in the proposed footprint and other larger more important sites were discussed. The rest were listed with limited descriptions and GPS readings.



Fig. 3. Shell midden.



Fig. 5. Shell scatter.



Fig. 4. Shell midden scatter.



Fig. 6. Stone feature.

DESCRIPTION OF THE SITES

ROCKY COAST FARM: COASTAL WEST (CW)

These sites were outside the footprint area (Map 7).

This is the western side of the property, a narrow strip of land between the steep dune covered calcrete ridge and the high water mark (Fig. 7). It stretches roughly from the boundary fence to the stone house on the wide flat terrace before the start of the coastal dunes, which also mark the end of the high energy coast (see Appendix 1 and Map 5 for terms used).



Fig. 7. West and east views of the Coastal West Area. Note the rocky benches, high energy coast and the dense low vegetation cover. Photograph was taken from the top of the Calcrete Ridge West area.

1. RCF/CW shell midden scatter (RCF/sms1) (Fig. 8) - 34.11.790S; 24.47.673E

- Current observation is a shell midden scatter, but is most probably part of a larger accumulation which may be covered by vegetation.
- Appears to be a Generally Protected IVA site, but may become a site of local importance - Grade IIIB site.
- Significance must first be established by testing before any recommendations/higher grading can be made (currently low significance).
- The site falls outside the footprint and is not directly under threat from the proposed development, but is indirectly under threat from the public as is evident from the fact that it has been damaged by a motorbike.

This shell midden scatter covered an area of some 10 x 10 metres and was disturbed by skid marks of a motorbike. The site is situated a few metres from the sea (approximately 8 metres above high water mark) on a sandy patch next to a flat rocky bench. A foot path passes next to the scatter.

There are many beach cobble associated with the shell remains and may represent a previously *in situ* stone platform/hearth. The site is situated opposite a high energy coast with heavy wave action and wide deep gullies which made the collection of shell fish a risky undertaking. *Scuterllastra cochlear* was the dominant shellfish species collected followed by *Scuterllastra argenvillei*, *Scuterllastra tabularis*, *Scuterllastra longicosta*, some *Perna perna* and occasional *Turbo sarmaticus* and *Burnupena* spp. All of these shellfish species are abundant along the coast, but some of the limpets such as *S. argenvillei*, *S. cochlear* and *S. tabularis* can only be collected during extreme low tides, for example during low-water springs (Branch *et al.* 2005). No bone or pottery was found. Only a few quartzite stone tools were observed. In the absence of pottery and microlithic stone tools, the site(s) may be classified as a Kabejous type shell midden(s) (see Appendix 1 for a list of terminology).



Fig. 8. Location of RCF/sms1 and a close-up of the shell midden scatter.

2. RCF/CW shell scatter (RCF/ss2) - 34.11.808S; 24.47.712E

Both sites 2 & 3, were situated on the nose of a sand dune next to a flat rock bench a few metres from the high water mark. The shell scatter and scattered fire cracked quartzite cobble fragments were exposed over a 20 metre distance in a foot path and the shell middens was a few metres lower down the dune slope. It could be part of a larger accumulation of shell and possible stone feature(s) covered by dune sand and vegetation. The shellfish species were similar to site 1 and only a few quartzite stone tools were found. No other food or cultural remains were found.

3. RCF/CW shell midden (RCF/sm3) (Fig. 9) - 34.11.816S; 24.47.715E

- Shell midden
- Current observation is a shell midden, but the exact size is not known. A large part of the accumulation may be covered by vegetation.
- Shell midden is a Local Grade IIIA/B site and of medium to high significance.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is indirectly under threat from the public.

The shell midden was about 20 x 10 metres in size and some 5 cm deep, mostly covered by sand and vegetation. The site also displayed a fair number of fire cracked stone which may be the remains of a collapsed stone features. The shellfish species are similar to the other sites above, but *S. argenvillei* was more prominent and *Cymbula oculus* was also found occasionally. No pottery or bone was found, but a number of quartzite stone flakes and flaked cobbles suggested that this midden could be of Kabeljous origin. No other food or cultural remains were found.

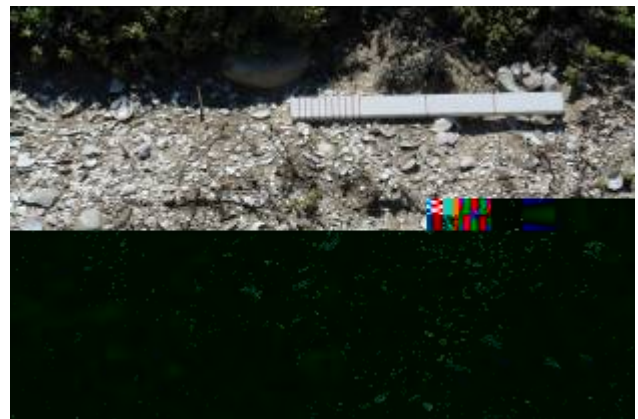


Fig. 9. Location of RCF/sm3 and a close-up of the shell midden.

4. RCF/CW shell midden (RCF/sm4) (Fig. 10) - 34.11.870S; 24.47.822E

- Shell midden
- Current observation is a shell midden, but the exact size is not known. A large part of the accumulation may be covered by the overlying dune.
- Shell midden is a Local Grade IIIA/B site and of medium to high significance.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public. There were motorbike tracks.

The shell midden is eroding from a sand dune and a large amount of material accumulated at the bottom of the dune. The wind carved a path through the dune (which is also used as a footpath by hikers and bikers) and exposed a 10-15 cm shell midden lens over a distance of 20 metres. The shellfish again is similar to the other sites, but *Haliotis midae* and *Oxystele sinensis* were also occasionally found. The later species occurs in shallow intertidal pools and was possibly collected from the nearby bench coast a few hundred metres to the east. No other food or cultural remains were found.



Fig. 10. View of RCF/sm4 and a close-up of the shell midden.

5. RCF/CW shell midden scatter (RCF/sms5a) - 34.11.865S; 24.47.826E

- Current observation is a shell midden scatter, but is most probably part of a larger accumulation which may be covered by vegetation.
- Appears to be a Generally Protected IVA site, but may become a site of local importance - Grade IIIB site.
- Significance must first be established by testing before any recommendations/higher grading can be made (currently low significance).
- The site falls outside the footprint and is not directly under threat from the proposed development, but is indirectly under threat from the public.

The relatively flat area above site 3 and the demolished shack is an area where one would expect to find shell middens. The area, however, is covered with dense low shrubs which may cover sites. Immediately above site 4, next to the track to the shack, is a relatively large area of some 20 x 20 metres with fragmented shell. The shellfish content is similar to site **RCF/sm4**. No other food or cultural remains were found.

5b. - 34.11.841S; 24.47.827E

There were also shell fragments in the footpath leading west from the shack, which may suggest that there maybe sites covered by dune sand and vegetation.

ROCKY COAST FARM: CALCRETE RIDGE AND DUNES WEST (CDW)

These sites were inside the footprint (Map 7).

This part of the property was located on top of the ridge and stretches roughly from the boundary fence and the demolished shack and also include the hinterland dunes (Fig. 11).

6. RCF/CDW shell midden (RCF/sm6) - 34.11.785S; 24.47.749E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium to high significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This was a small shell midden exposed in the side of the sand dunes which slope steeply from the calcrete ridge down to the coast. A lens, some 2 metres long and 5 cm thick was visible, but the main accumulation may be covered by dune sand and vegetation. This was the only *Oxystelesp.* dominated midden found in the coast west area. Other shellfish species included *Turbo sarmaticus* and *C. oculus*. Usually such middens carry pottery and are classified as a 'ceremic' (Khoi origin) midden (Binneman 2001). Apart from a few quartzite stone tools, no ceramics were found. It is strange that an *Oxystelesp.* dominated shell midden was found among limped dominated middens opposite a high energy coast. This would imply that the occupants walked a few kilometres to and back from the nearest bench coast to collect their 'favorite/preferred' shellfish species.



Fig. 11. A view of the Calcrete Ridge (west) and Dunes West Area (east) .

7. RCF/CDW shell midden (RCF/sm7) - 34.11.783S; 24.47.802E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium to high significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

The size and depth of this midden is not known because a large part appears to be covered by vegetation and dune sand. Only a metre long lens is exposed. Most of the midden is exposed as slope run. The shellfish and stone tool found were similar to all the other sites along the coast discussed thus far. No other food or cultural remains were found.

8. RCF/CDW shell midden (RCF/sm8) (Fig. 12) - 34.11.761S; 24.47.869E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIA site and of medium to high significance. It should be retained. No mitigation, no destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This was the thickest accumulation of shellfish found in the Coastal West/Calcrete Ridge Area. Only a small part of the midden was exposed by wind erosion in the side of a high sand dune. The metre long lens, some 25-30 cm thick was situated a metre from the top and some 8-10 metres higher-up against the sand dune. The shellfish species were similar to other middens in the vicinity,

but there was a larger frequency of *Haliotis* spp. One bone from a Cape Fur Seal was noticed among the shell and a few quartzite stone flakes on the slope which eroded from the midden higher up. This is a typical Kabeljous shell midden and is estimated to date between 1 800 and 4 000 bp.

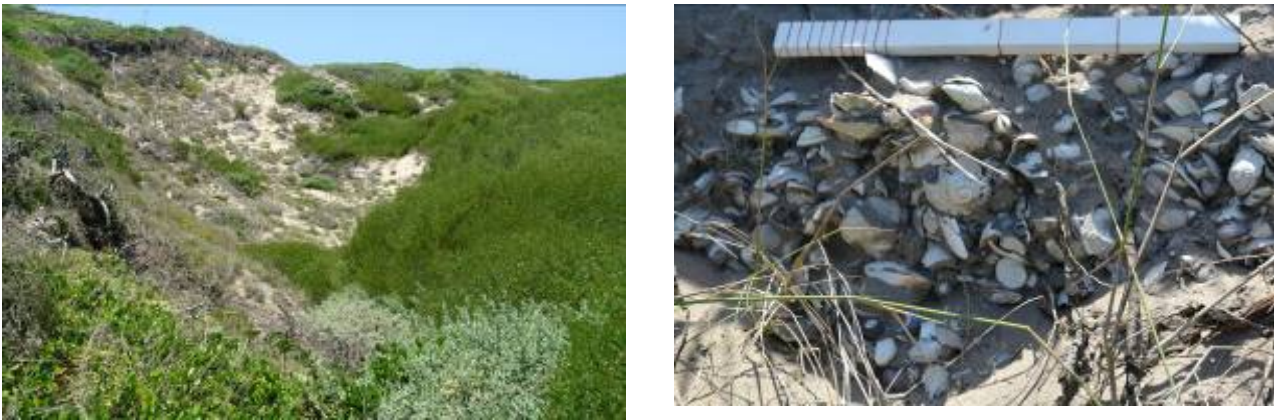


Fig. 12. Location of RCF/sm8 and a close-up of the shell midden.

9. RCF/CDW shell midden (RCF/sm9) (Fig. 13) - 34.11.796S; 24.47.859E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium to high significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

A three metre long lens, some five cm thick was exposed by wind erosion in the side of a dune at the top of dunes at the back of the demolished shack. The shellfish species are similar to sites discussed so far and no other food remains were found. Apart from the few quartzite stone flakes observed, which suggest a Kabeljous type sites, no other cultural remains were found.



Fig. 13. Location of RCF/sm9 and a close-up of the shell midden. The ‘demolished’ shack area is at the bottom of the dune and the Calcrete Ridge West is visible at the top of the left photograph.

10. RCF/CDW stone feature (RCF/sf10) - 34.11.796S; 24.47.859E

- Collapsed stone feature
- Low sensitivity, a general IVB/C site and should be recorded before destruction.

- The site falls inside the footprint and may be directly under threat from the proposed development.

Next to Site 8 were the remains of a collapsed quartzite stone feature (probably a fire place as suggested by the spalls and cracked stones) streaming down slope towards the demolished shack. Mixed with the stones were shell fragments and occasional whole shell, two tiny fragments of pottery, and a small fragment of ochre. It is not clear whether these are associated with the stones. The stone feature may have been associated with 'ceramic' Khoi groups and would therefore date younger than 1 800 bp.

11. RCF/CDW shell midden scatter (RCF/sms11) - 34.11.809S; 24.47.813E

- Current observation is a shell midden scatter, but is most probably part of a larger accumulation which may be covered by dune sand and vegetation.
- Appears to be a Generally Protected IVA or B site, but may become a site of local importance - Grade IIIB site.
- Significance must first be established by testing before any recommendations/higher grading can be made (currently low significance).
- The site falls inside the footprint and may be directly under threat from the proposed development.

This shell midden scatter was located on the calcrete ridge above the demolished shack to the west. It has been exposed by the tracks of a 4 x4 vehicle which drove down/up the steep slope of the calcrete ridge. Shell and occasional stone tools were found over some five square metres.

12. RCF/CDW shell midden (RCF/sm12) (Fig. 14) - 34.11.793S; 24.47.810E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

A two metre long lens, some five cm thick was visible eroding from underneath dense vegetation. A larger area may still be covered by sand and shrubs. The shellfish species are similar to sites in the vicinity and a few quartzite stone flakes were noticed, which may suggest a Kabeljous type midden.

13. RCF/CDW shell midden scatter (RCF/sms13) (Fig. 14) - 34.11.821S; 24.47.813E

- Shell midden scatter/eroded shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- Site is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

The shell midden scatter/eroded shell midden was exposed on the calcrete ridge and covered an area of approximately 5 square meters, but a larger area maybe covered by vegetation and dune sand. No cultural material was found.



Fig. 14. Location of RCF/sms 12 and 13 and a close-up of the shell scatters on the ridge. The Calcrete Ridge West is visible at the top of the left photograph and 'demolished' shack area directly below.

14. RCF/CDW shell scatter (RCF/sms14) - 33.11.610S; 24.47.739E

15. RCF/CDW shell scatter (RCF/sms15) - 33.11.614S; 24.47.718E

16. RCF/CDW shell scatter (RCF/sms16) - 33.11.637S; 24.47.707E

These three shell scatters were found a few hundred metres inland from the edge of the calcrete ridge in a dune area which has been cleaned recently of alien vegetation (Fig. 15). The shellfish remains were mainly *P. perna* and *T. sarmaticus*. A few small pottery sherds were found at site **RCF/sms16**. Although the sites were only thin shell scatters, it indicates very clearly that there are sites in the inland dunes covered by dune sand and vegetation and that the chances to expose these sites during construct are high.



Fig. 15. An example of a thin shell scatter found in the inland dunes exposed recently when alien vegetation was removed.

ROCKY COAST FARM: CALCRETE RIDGE WEST (CRW)

This area stretches from the demolished shack along the calcrete ridge to the end/start of the grassy platform of the Coastal Dune Area. There were large numbers/concentrations of relative large and small sites present on the ridge and it was not always possible to distinguish where sites started or ended (Fig. 16) (Map 7). Many of the sites were also covered by sand and vegetation which made it difficult to establish sizes. Most sites are of low to medium significance and were only described briefly with a GPS reading. However all the sites still need to be mitigated before destruction. Only the more important sites are described in more detail.



Fig. 16. View of Calcrete Ridge West towards the east and close-up of the ridge with shell scatters.

17. RCF/CRW Shell midden (RCFsm/17) (Fig. 17) - 34.11.821S; 24.47.861E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This was a small shell midden exposed in the side of the sand dunes behind the demolished shack. A lens, some 2 metres long and 10 cm thick was visible, but the main accumulation may be covered by dune sand and vegetation. *Oxystele sp.* and *Turbo sarmaticus* were the dominate shellfish species. Other shellfish species included *S. longicosta*, *S. argenvillei*, *P. perna* and occasional *H. spadicea*. A few small pottery fragments which include one possible lug, were found. No other cultural material was noticed. The site can be classified as a 'ceremic' (Khoi origin) midden, dating younger than approximately 1800 bp.



Fig. 17. Shell midden RCFsm/17 and close-up of the pot sherds.

18. RCF/CRW shell scatter and collapsed stone feature (RCFss/18) - 34.11.810S; 24.47.859E

- Collapsed stone feature and eroded shell midden.
 - Low sensitivity, a general IVB/C site and should be recorded before destruction.
 - The site falls inside the footprint and may be directly under threat from the proposed development.
- Scattered *S. argenvillei*, *S. cochlear* and occasional *S. longicosta*, *T. sarmaticus* and *C. oculus* marked an eroded shell midden at the bottom of a windblown dune behind the demolished shack.

Many fire cracked stones are also scattered among the shell. A few quartzite flaked cobbles and flakes were the only cultural material observed.

19. RCR/CRW shell scatter (RCFss/19) - 34.11.830S; 24.47.856E

A small shell scatter, some 2x2 metres against a windblown dune behind the demolished shack. The site has been damaged by a motorbike. Low sensitivity, a general IVB/C site and should be recorded before destruction.

20. RCR/CRW shell scatter (RCFss/20) - 34.11.842S; 24.47.855E

A small shell scatter situated on the calcrete ridge. It covered approximately 1 square metre and housed a few quartzite stone flakes. Low sensitivity, a general IVB/C site and should be recorded before destruction.

21. RCR/CRW shell midden (RCFsm/21) (Fig. 18) - 34.11.844S; 24.47.850E

- Shell midden.
- Local Grade IIIA/B site and of medium significance. It should be not be demolished.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This shell midden was situated on the calcrete ridge some 20 metres above the beach. It covered some 8 x 8 metres and was between 15-20 cm thick. The shellfish content was dominated by *Scuterllastra* spp. and occasional *H. spadicea* from the lower balaniod zone. Other species from the intertidal zone were also present and included occasional *T. sarmaticus* and *O. sinensis*. No other food remains were observed. Apart from a few flaked quartzite cobbles and flakes, no other cultural material was found. The site is a typical kabeljous type.



Fig. 18. View of the shell midden scatters and close-up of the shell midden RCFsm/21. Note the dense and wide distribution of shell remains.

22. RCR/CRW shell midden scatter (RCFsms/22) - 34.11.842S; 24.47.855E

- Shell midden scatter. Site is a Local Grade IIIB/IVA site and of low to medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This shell midden scatter was approximately 5 x 2 metres in size and situated some five metres east of 21. The shell fish species were similar to described above. No other food remains or cultural remains were found.

23. RCR/CRW shell midden scatter (RCFsms/23) - 34.11.839S; 24.47.857E

- Shell midden scatter/eroded shell midden.
- Low sensitivity, a general IVB/C site and should be recorded before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

A one square metre scatter of shell and a few cobbles at the bottom of a blown out dune. No other food remains or cultural remains were found.

24. RCR/CRW shell scatter (RCFss/24) – no reading

- Shell scatter.
- Low sensitivity, a general IVB/C site and should be recorded before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

Small shell scatter a few metres south of 21 located on the edge of the calcrete ride. No other food remains or cultural remains were found.

25. RCR/CRW shell midden (RCFsm25) - 34.11.850S; 24.47.852E

This midden probably consisted of two parts, separated by vegetation and dune sand. In total the shell lens covered a distance of some 8 metres. The main accumulation covered approximately 4 square metres and was some 10 cm deep.

26. RCR/CRW shell midden (RCFss/26) - 34.11.852S; 24.47.854E

This midden was located three metres east of 25 and covered some 2 square metres.

27. RCR/CRW shell midden (RCFss/27) - 34.11.854S; 24.47.857E

This midden was located some three metres from 26. Several patches of shell were exposed between the vegetation and dune sand over a distance of 13 metres and some 10 cm thick. It was not clear whether these were individual middens or one large accumulation.

28. RCR/CRW shell midden (RCFss/28) (Fig. 19) - 34.11.855S; 24.47.860E

This midden was situated some 5 metres north-east of 27 and covered an area of 3 x 2 metres some 10 cm deep.

29. RCR/CRW shell midden (RCFss/29) (Fig. 19) - 34.11.858S; 24.47.861E

This midden was situated some 5 metres south-east of 28 and covered an area of 3 x 3 metres some 10 cm deep.

- Shell middens, but the exact sizes are not known. Large parts of the accumulations may be covered by dune sand and vegetation.
- Shell middens are Local Grade IIIB/IVA sites and of medium significance. They should be mitigated before destruction.
- The sites fall inside the footprint and may be directly under threat from the proposed development.

These five middens were located a few metres apart along the slope of the southern side of the calcrete ridge. The shell fish content was dominated by *Scuterllastra* spp. and occasional *H. spadicea* from the lower balaniod zone. Other species from the intertidal zone were also present and included occasional *T. sarmaticus* and *O. sinensis*. No other food remains were observed. Apart from a few flaked quartzite cobbles and flakes, no other cultural material was found. The sites can be classified as typical kabeljous types.



Fig. 19. View of the shell middens RCFss/28 (left) and RCFsm/29 (right).

30. RCR/CRW fossil bone (RCFfb/30) (Fig. 20) - 34.11.861S; 24.47.857E

- Isolated fossil bone fragment.
- May indicate that there are bone accumulations on the calcrete ridge covered by sand and vegetation.
- The bone fragment was found inside the footprint and larger accumulations may be directly under threat from the proposed development.

A large red-brown stained fossil bone fragment was found a few metres below the middens. This was the only fragment found and is not clear how this isolated fragment landed. Fossil bone remains were found in other parts of the Oyster Bay/Cape St Francis bypass dune system (Carrion *et al.* 2000). Usually accumulations of fossil bone occur on the calcrete floors covered by recent shifting dune sand. It is possible that the bone fragment eroded from the calcrete ridge just above the shell middens.

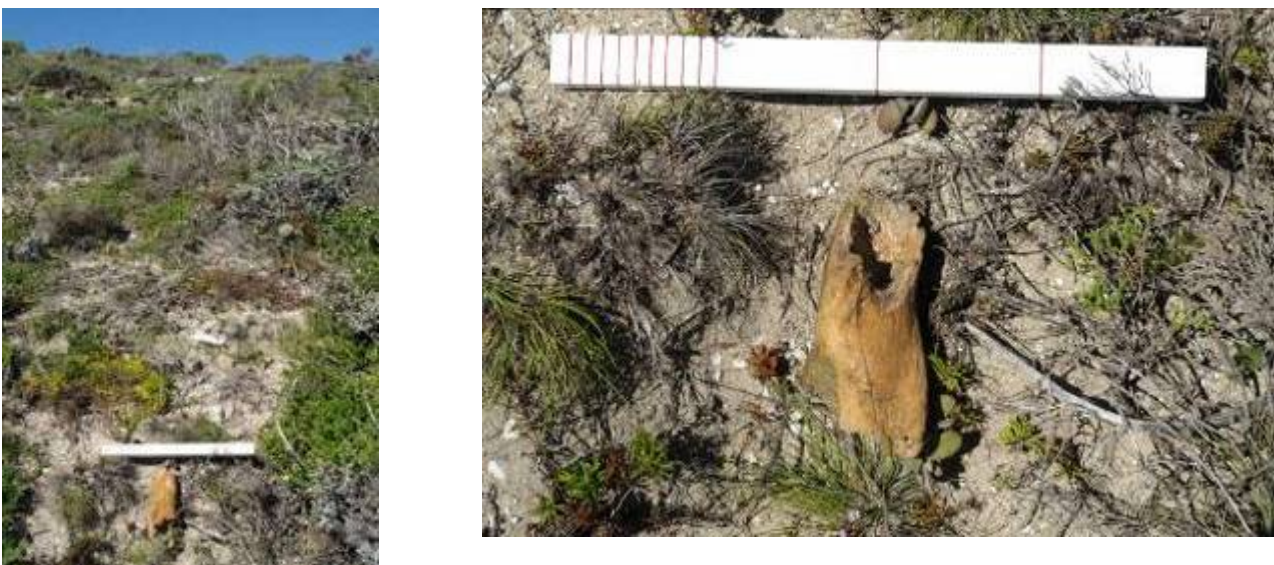


Fig. 20. View of the fossil bone RCFfb/30.

- 31. RCR/CRW shell midden scatter (RCFsms/31)** - 34.11.862S; 24.47.878E
32. RCR/CRW shell midden scatter (RCFsms/32) - 34.11.868S; 24.47.899E
33. RCR/CRW shell midden scatter (RCFsms/33) - 34.11.867S; 24.47.905E

A shell midden scatter(s)/eroded midden(s) some 10 metres long with three 'core' areas where shell was more concentrated.

- 34. RCR/CRW shell scatter (RCFss/34)** - 34.11.865S; 24.47.913E
35. RCR/CRW shell scatter (RCFss/35) - 34.11.871S; 24.47.824E
36. RCR/CRW shell scatter (RCFss/36) - 34.11.871S; 24.47.913E
37. RCR/CRW shell scatter (RCFss/37) - 34.11.878S; 24.47.968E

These readings represent the locations of thin shell fragments pushed to the surface by moles or other ground burrowing animals on top of the ridge among the dense shrub vegetation.

- 38. RCR/CRW shell scatter (RCFss/38)** - 34.11.813S; 24.47.919E

Shell and a few quartzite flakes were eroded from a dune over a distance of some 15 metres.

- 39. RCR/CRW shell midden scatter (RCFsms/39)** - 34.11.893S; 24.47.943E

Shell midden scatter on the edge of the calcrete ridge. The shell was scatter over a large area and a part may still be covered by sand and vegetation. Shell fish content was similar to other sites in the area. A few quartzite stone tools were found on the scatter.

- 40. RCR/CRW shell midden scatter (RCFsms/40)** - 34.11.900S; 24.47.948E
41. RCR/CRW shell midden scatter/eroded midden (RCFsms/41) - 34.11.901S; 24.47.950E
42. RCR/CRW shell midden lens (RCFsm/42) - 34.11.900S; 24.47.953E
43. RCR/CRW shell midden scatter (RCFsms/43) - 34.11.899S; 24.47.959E
44. RCR/CRW shell midden scatter (RCFsms/44) - 34.11.893S; 24.47.973E
45. RCR/CRW shell midden scatter (RCFsms/45) - 34.11.894S; 24.47.978E
46. RCR/CRW shell midden scatter (RCFsms/46) - 34.11.894S; 24.47.993E

Readings all represent shell midden scatters similar as described for the area. No food remains other than shell fish have been noticed. No cultural material other than occasional quartzite stone flakes and flaked cobbles were found.

- 47. RCR/CRW shell midden (RCFsm/47)** (Fig. 21)- 34.11.893S; 24.47.999E

- Shell midden, but the exact size is not known. A part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

This small midden covered about 2 square metres and was 10 cm deep. The most general shell fish species were *Oxystelesp.*, *T. sarmaticus*, and *perna perna*. Occasional *S. Tabularis*, *S. cochlear* and *S. argenvillei* were also recorded. Two small pottery fragments suggested that the midden was of Khoi origin and therefore date within the past 1800 years.

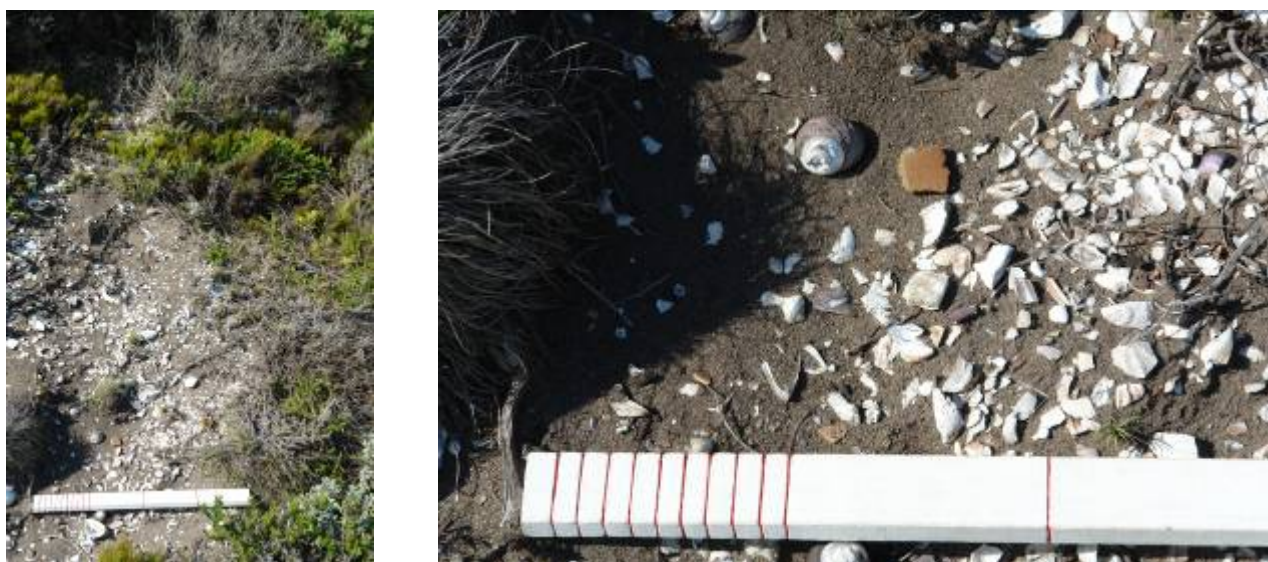


Fig. 21. Shell midden RCFsm/47 and close-up of a pot sherd.

48. RCR/CRW shell midden scatter (RCFsms/48) - 34.11.898S; 24.48.003E

- Shell midden, but the exact size is not known. A part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls inside the footprint and may be directly under threat from the proposed development.

The shell midden was about 8 metres long, but most of the shell accumulation has collapsed due to wind erosion. The shell fish species were similar to sites discussed previously, but there was also a small frequency of *Donax serra* (white mussel) shell present. The nearest sandy beach is between Seal and Cape St Francis Point, some four kilometres away. Apart from a Middle Stone Age flake embedded among the shell, no other cultural material was found.

49. RCR/CRW shell midden scatter (RCFsms/49) - 34.11.896S; 24.48.012E

50. RCR/CRW shell midden scatter (RCFsms/50) - 34.11.896S; 24.48.011E

51. RCR/CRW shell midden scatter (RCFsms/51) - 34.11.895S; 24.48.014E

52. RCR/CRW shell midden scatter (RCFsms/52) - 34.11.896S; 24.48.015E

53. RCR/CRW shell midden scatter (RCFsms/53) - 34.11.894S; 24.48.017E

54. RCR/CRW shell midden scatter (RCFsms/54) - 34.11.896S; 24.48.023E

55. RCR/CRW shell midden scatter (RCFsms/55) - 34.11.896S; 24.48.024E

56. RCR/CRW shell midden scatter (RCFsms/56) - 34.11.896S; 24.48.026E

57. RCR/CRW shell midden scatter (RCFsms/57) - 34.11.895S; 24.48.030E

58. RCR/CRW shell midden scatter (RCFsms/58) - 34.11.896S; 24.48.031E

59. RCR/CRW shell midden scatter (RCFsms/59) - 34.11.896S; 24.48.029E

60. RCR/CRW shell scatter (RCFss/60) - 34.11.898S; 24.48.035E

61. RCR/CRW shell midden scatter (RCFsms/61) - 34.11.899S; 24.48.041E

62. RCR/CRW shell scatter (RCFss/62) - 34.11.899S; 24.48.047E

63. RCR/CRW shell midden scatter (RCFsms/63) - 34.11.900S; 24.48.050E

64. RCR/CRW shell midden scatter (RCFsms/64) - 34.11.899S; 24.48.051E

65. RCR/CRW shell midden scatter (RCFsms/65) - 34.11.899S; 24.48.052E

66. RCR/CRW shell midden scatter (RCFsms/66) - 34.11.902S; 24.48.053E

67. RCR/CRW shell midden scatter (RCFsms/67) - 34.11.901S; 24.48.054E

68. RCR/CRW shell midden scatter (RCFsms/68) - 34.11.904S; 24.48.057E

69. RCR/CRW shell midden scatter (RCFsms/69) - 34.11.902S; 24.48.059E
 70. RCR/CRW shell midden scatter (RCFsms/70) - 34.11.905S; 24.48.060E
 71. RCR/CRW shell scatter (RCFss/71) - 34.11.906S; 24.48.064E
 72. RCR/CRW shell midden scatter (RCFsms/72) - 34.11.904S; 24.48.065E
 73. RCR/CRW shell midden scatter (RCFsms/73) - 34.11.903S; 24.48.065E
 74. RCR/CRW shell midden scatter (RCFsms/74) - 34.11.903S; 24.48.067E
 75. RCR/CRW shell midden scatter (RCFsms/75) - 34.11.902S; 24.48.067E
 76. RCR/CRW shell midden scatter (RCFsms/76) - 34.11.904S; 24.48.071E
 77. RCR/CRW shell midden scatter (RCFsms/77) - 34.11.905S; 24.48.076E
 78. RCR/CRW shell midden scatter (RCFsms/78) - 34.11.904S; 24.48.080E
 79. RCR/CRW shell scatter (RCFss/79) - 34.11.901S; 24.48.090E
 80. RCR/CRW shell scatter (RCFss/80) - 34.11.882S; 24.48.084E
 81. RCR/CRW shell scatter (RCFss/81) - 34.11.882S; 24.48.086E
 82. RCR/CRW shell scatter (RCFss/82) - 34.11.882S; 24.48.089E
 83. RCR/CRW shell scatter (RCFss/83) - 34.11.900S; 24.48.094E
 84. RCR/CRW shell scatter (RCFss/84) - 34.11.903S; 24.48.094E
 85. RCR/CRW shell scatter (RCFss/85) - 34.11.912S; 24.48.104E
 86. RCR/CRW shell midden scatter (RCFsms/86) - 34.11.838S; 24.48.132E
 87. RCR/CRW shell scatter (RCFss/87) - 34.11.880S; 24.48.127E
 88. RCR/CRW shell scatter (RCFss/88) - 34.11.875S; 24.48.143E
 89. RCR/CRW shell scatter (RCFss/89) - 34.11.892S; 24.48.145E
 90. RCR/CRW shell scatter (RCFss/90) - 34.11.930S; 24.48.234E

ROCKY COAST FARM: COASTAL FORELAND AND DUNES WEST (CDW)

This area stretched from the start of the western grassy plateaux west of the stone house to the eastern grassy plateau east of the coastal dune area (Fig 22 & 25) (Map 7).



Fig. 22. View of the Coastal Foreland and Dunes West

91. RCR/CDW shell midden (RCFss/91) (Fig. 23) - 34.11.909S; 24.48.922E

- Shell midden, but the exact size is not known. A part of the accumulation may be covered by dune sand and vegetation.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public (vehicles).

This shell midden was exposed in the side of the vehicle track between the foot of the calcrete ridge and the rock coast. A 5-10 cm lens was exposed over a distance of 11 metres. The shell fish content is similar to those middens discussed nearby, for example **RCW/sm4**. Apart from a few quartzite stone flakes, no other cultural material was found.



Fig. 23. Shell midden RCFsm/91 exposed in the side of a vehicle track west of the stone house.

92. RCR/CDW shell scatter (RCFss/92) - 34.11.928S; 24.48.075E

93. RCR/CDW stone feature (RCFsf/93) (Fig. 24) - 34.11.926S; 24.48.058E



Fig. 24. Stone feature RCFsf/93 exposed in vehicle track east the stone house.

94. RCR/CDW shell scatter (RCFss/94) - 34.11.926S; 24.48.051E

95. RCR/CDW shell scatter (RCFss/95) - 34.11.927S; 24.48.048E

These sites were situated on the eastern side of the grassy plateau, but may represent only a small number of sites present in this area. Many more sites maybe covered by sand and grass.

96. RCR/CDW stone feature (RCFsf/96) (Fig.24) - 34.11.938S; 24.48.068E

A small stone feature of fire cracked cobbles and occasional complete cobbles situated next to an old track that use to run through the dune area. Fragmented shell, mainly from the upper balanoid zone, such as *T. sarmaticus*, *Oxysteles* sp., *S. longicosta*, *C. oculus* and occasional *S. cochlear* and *H. spadicea* were scattered between the stones. This is the remains of a typical small stone platform and small pottery fragments found among the stones may support the assumption. This features is windblown and the stones dispersed. It is of low significance.



Fig. 25. Stone feature RCFsf/96 east of the stone house and start of the Costal Dunes West Area.

97. RCR/CDW shell midden (RCFss/97) - 34.11.940S; 24.48.072E

- Shell midden.
- Shell midden is a Local Grade IIIB/IVA site and of low to medium significance. It should be mitigated before destruction.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

A small *T. sarmaticus* dominated shell midden. It covered some 2x2 metres and was two shells deep. Other shell fish species included *S. longicosta*, *C. oculus* and *Oxysteles* spp. No cultural material was found.

98. RCR/CDW stone features and shell scatters (RCFssf/98) - 34.11.942S; 24.48.072E, 34.11.942S; 24.48.076E and 34.11.944S; 24.48.077E

An area of some 20x20 metres housed three small dispersed stone features and two shell scatter 'cores'. *T. sarmaticus* was the main shell fish species. A few small pottery fragments were found among the stone features. Features are of low significance, but should be mitigated before destruction. The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

99. RCR/CDW shell scatter (RCFss/99) - 34.11.934S; 24.48.080E

100. RCR/DRW shell scatter (RCFss/100) - 34.11.935S; 24.48.091E

101. RCR/DRW stone feature (RCFsf/101) - 34.11.933S; 24.48.103E

102. RCR/DRW stone feature (RCFsf/102) - 34.11.939S; 24.48.098E

103. RCR/DRW stone feature (RCFss/103) - 34.11.939S; 24.48.102E

104. RCR/DRW stone feature (RCFss/104) - 34.11.941S; 24.48.104E

105. RCR/DRW shell scatter (RCFss/105) - 34.11.942S; 24.48.108E

106. RCR/DRW stone feature (RCFsf/106) (Fig. 26) - 34.11.935S; 24.48.091E

- Stone feature, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- The site is Local Grade IIIA site and of high significance. It should be retained. No mitigation, no destruction.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

This one of the few remaining *in situ* stone features left along this part of the coast. It was situated

high-up against a dune and is exposed to wind erosion. The size is unknown because a large part appears to be covered by sand and vegetation. It is estimated to cover about 10 square metres and was 10-20 cm thick. The fire cracked stones were filled in by charcoal and fragments of shell which included mainly *T. sarmaticus*, but *C. oculus* and *S. argenvillei* were also present. Usually pottery is associated with these stone platforms, none were found with this feature.



Fig. 26. Stone feature RCFsf/106

107. RCR/DRW shell midden and stone feature (RCFsmsf/107) (Fig.27) - 34.11.943S; 24.48.128E

- Stone feature, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- The site is Local Grade II site and of high significance. It should be retained. No mitigation, no destruction.
- **This site should be declared a provincial site.**
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

This is the thickest shell midden along this part of the coast and the only one capped by a stone platform. The shell accumulation was some 8 metres long and 30-40 cm thick, separated from the stone platform by a 10 cm sandy lens with charcoal. The stone platform was 20 cm thick. In general, the shell remains were mainly from the upper balaniod zone, with *T. sarmaticus* as the dominated species. Species from the lower balaniod were also present in small numbers and included *S. argenvillei*, *S. cochlear* and *S. tabularis*. Apart from a few quartzite stone flakes no other cultural material was found, but a few fragments of ochre were present.



Fig. 27. Shell midden and stone feature RCFsmsf/107.

108. RCR/DRW stone feature (RCFss/108) (Fig. 28) - 34.11.940S; 24.48.142E

Of what must have been a large stone platform, has collapsed due to wind erosion to a carpet of thousands of fire cracked stones covering the dune slope over an area of some 20x10 metres. Only a small section was still *in situ*, capping the high dune. Fragmented *T. sarmaticus* shell was the dominant shell fish species. Apart from a fair amount of ochre, no other cultural material was found between the stones. Although an impressive feature, it is of low significance.



Fig. 28. Stone feature RCFsf/108.

109. RCR/DRW stone feature (RCFsf/109) - 34.11.937S; 24.48.145E

110. RCR/DRW stone feature (RCFsf/110) - 34.11.945S; 24.48.144E

111. RCR/DRW shell midden (RCFsm/111) (Fig. 29) - 34.11.947S; 24.48.139E

- Shell midden.
- Shell midden is a Local Grade IIIB/IVA site and of low to medium significance. It should be mitigated before destruction.
- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

A small *Oxysteles* spp. dominated midden some 2 square metres in size and 5-8 cm thick. Other shell fish species included occasional *T. sarmaticus* and *S. longicosta*. No cultural material was found.



Fig. 29. Shell midden RCFsf/111.

112. RCR/DRW shell midden scatter (RCFsms/112) - 34.11.946S; 24.48.139E

113. RCR/DRW shell midden scatter (RCFsms/113) - 34.11.948S; 24.48.142E

114. RCR/DRW shell midden scatter (RCFsms/114) - 34.11.947S; 24.48.146E

115. RCR/DRW shell midden (RCFsm/115) - 34.11.949S; 24.48.147E

This was a thin shell midden lens, the only remains of what must have been a substantial feature, possibly associated with a stone platform as well. It was exposed near the crest of a high wind eroded dune and was approximately 1 metre long and 10 cm thick. The slope of the dune was littered with shell and fire cracked stone of collapsed stone platforms. Overlying top soil and plant roots were the only aspects that are prolonging the total collapse of the thin shell lens. The shell fish remains were mainly from the lower balaniod zone and included *Oxysteles* spp., *T. sarmaticus*, *P. perna* and *S. longicosta*. A few pot sherds were located at the bottom of the shell lens. The feature is of low to medium significance, but under threat of the public.

116. RCR/DRW shell midden (RCFsm/116) (Fig. 30) - 34.11.955S; 24.48.150E

This was a small *Oxysteles* spp. and *T. sarmaticus* dominated shell midden of approximately 1 square metre and 10 cm thick. Surprisingly it was situated half-way up the steep eroded dune slope. No cultural material was found at the midden. The feature is of medium significance, but under threat of the public.



Fig. 30. Shell midden RCFsf/116.

117. RCR/DRW shell scatter (RCFss/117) - 34.11.954S; 24.48.175E

118. RCR/DRW shell midden (RCFsm/118) - 34.11.960S; 24.48.191E

119. RCR/DRW stone feature (RCFsf/119) - 34.11.962S; 24.48.195E

120. RCR/DRW shell midden (RCFsf/120) - 34.11.962S; 24.48.195E

Small 2 metres lens of mainly *T. sarmaticus* and occasional *Oxysteles* spp. and *P. Perna* shell approximately 10 cm deep. The only other remains were tortoise bone.

121. RCR/DRW shell middens and stone features (RCFsmsf/121) (Fig. 31) - 34.11.963S; 24.48.200E

- Shell midden and stone feature lens
- Shell midden is a Local Grade IIIA site and of medium significance. No mitigation, no destruction.

- The site falls outside the footprint and is not directly under threat from the proposed development, but is directly under threat from the public.

The small shell midden was similar to 121, but after 3 metres became part of a continuous lens of shell and fire cracked stone of approximately 30 cm thick. Different inter-locking concentrations of shell and stone stretched over 32 metres, and it was not possible to isolate different features. This lens is exposed high-up a dune and large parts have collapsed due to wind erosion. The dune slope is littered with shell and fire cracked stone. It is not possible to estimate the size of the lens because it is covered by dune sand and vegetation. *T. sarmaticus*, *Oxysteles* spp. and *P. Perna* were the dominant shell fish species. Several pot sherds were noticed on the slope, which suggest Khoi origin and an age of younger than 1800 years old.



Fig. 31. Shell midden and stone feature RCFsmsf/121.

122. RCR/DRW shell midden (RCFsm/122) - 34.11.979S; 24.48.249E
 123. RCR/DRW shell midden (RCFsm/123) - 34.11.979S; 24.48.253E
 124. RCR/DRW stone feature (RCFsf/124) - 34.11.981S; 24.48.253E
 125. RCR/DRW shell midden (RCFsm/125) - 34.11.981S; 24.48.260E
 126. RCR/DRW shell midden (RCFsm/126) - 34.11.984S; 24.48.266E
 127. RCR/DRW shell midden (RCFsm/127) - 34.11.984S; 24.48.270E
 128. RCR/DRW stone feature (RCFsf/128) - 34.11.982S; 24.48.273E
 129. RCR/DRW stone feature (RCFsf/129) - 34.11.983S; 24.48.276E
 130. RCR/DRW shell midden (RCFsf/130) - 34.11.985S; 24.48.277E
 131. RCR/DRW shell midden scatter (RCFsms/131) - 34.11.991S; 24.48.274E
 132. RCR/DRW shell midden scatter (RCFsms/132) - 34.11.993S; 24.48.231E
 133. RCR/DRW stone feature (RCFsf/133) - 34.11.983S; 24.48.286E
 134. RCR/DRW stone feature (RCFsf/134) - 34.11.985S; 24.48.287E
 135. RCR/DRW stone feature (RCFsf/135) - 34.11.987S; 24.48.288E
 136. RCR/DRW stone feature (RCFsf/136) - 34.11.988S; 24.48.290E
 137. RCR/DRW stone feature (RCFsf/137) - 34.11.990S; 24.48.292E
 138. RCR/DRW shell midden scatter (RCFsms/138) - 34.11.989S; 24.48.302E
 139. RCR/DRW shell midden scatter (RCFsms/139) - 34.11.992S; 24.48.305E
 140. RCR/DRW stone feature (RCFsf/140) - 34.11.993S; 24.48.306E
 141. RCR/DRW stone feature (RCFsf/141) - 34.11.991S; 24.48.307E
 142. RCR/DRW shell midden (RCFsm/142) - 34.11.990S; 24.48.309E

The eastern side of the Coastal Dunes Area house a large number of small shell middens, scatters and stone features as recorded above (Fig. 32).



Fig. 32. Shell accumulations and stone features towards the eastern end of the Dune West Area.

THE OLD ERODED TRACKS LEADING EAST (ET) (Map 8).



Fig. 33. View of the old eroded tracks.

Far left track

143. RCR/ET shell midden scatter (RCFsms/143) - 34.12.029S; 24.48.357E

144. RCR/ET shell midden scatter (RCFsms/144) - 34.12.018S; 24.48.373E

Left track

145. RCR/ET shell midden scatter (RCFsms/145) - 34.12.015S; 24.48.393E

146. RCR/ET shell scatter (RCFss/146) - 34.12.018S; 24.48.402E

Middle track

147. RCR/ET shell midden scatter (RCFsms/147) - 34.12.024S; 24.48.378E

148. RCR/ET shell midden scatter (RCFsms/148) - 34.12.023S; 24.48.383E

149. RCR/ET shell midden scatter (RCFsms/149) - 34.12.023S; 24.48.392E

150. RCR/ET shell midden scatter (RCFsms/150) - 34.12.024S; 24.48.397E

Right track

151. RCR/ET shell scatter (RCFss/151) - 34.12.028S; 24.48.377E

152. RCR/ET shell midden (RCFsm/152) - 34.12.029S; 24.48.379E

153. RCR/ET shell midden (RCFsm/153) (Fig. 34) - 34.12.029S; 24.48.388



Fig. 34. Shell midden RCFsf/153 exposed in the side of the right vehicle track.

154. RCR/ET shell midden (RCFsm/154) - 34.12.029S; 24.48.397E

155. RCR/ET shell midden (RCFsm/155) - 34.12.034S; 24.48.407E

156. RCR/ET shell midden (RCFsm/156) - 34.12.039S; 24.48.385E

ROCKY COAST FARM: CENTRAL CALCRETE RIDGE AREA (CCR)

This area stretched from the top of the ridge above the grassy bench to where the track passes through the neck down to the coast (Map 8). Thirty eight (38) sites were recorded along the edge of the calcrete ridge. Usually shell was scattered over wide areas and was not always clear where individual sites started or ended. GPS readings were taken at spots which appeared to be 'cores' in the scatters. This area is also situated opposite a high energy coast and therefore the shell content was similar to sites already discussed. The lack of cultural material was also evident here.



Fig. 35. Views of the Central Calcrete Ridge Area.

157. RCF/CCR shell midden scatter (RCFsms/157) - . 34.12.046S; 24.48.408E

158. RCF/CCR shell midden scatter (RCFsms/150) - 34.12.045S; 24.48.409E

159. RCF/CCR shell midden scatter (RCFsms/150) - 34.12.046S; 24.48.408E

160. RCF/CCR shell midden scatter (RCFsms/150) - 34.12.045S; 24.48.413E

161. RCF/CCR shell midden scatter (RCFsms/150) - 34.12.071S; 24.48.463E

162. RCF/CCR shell scatter (RCFss/162) - 34.12.081S; 24.48.473E

163. RCF/CCR shell scatter (RCFss/163) - 34.12.086S; 24.48.475E

164. RCF/CCR shell scatter (RCFss/164) - 34.12.086S; 24.48.479E

165. RCF/CCR shell scatter (RCFss/165) - 34.12.092S; 24.48.433E

166. RCF/CCR shell scatter (RCFss/166) - 34.12.092S; 24.48.495E

167. RCF/CCR Shell scatter (RCFss/167) - 34.12.098S; 24.48.509E

168. RCF/CCR shell scatter (RCFss/168) - 34.12.098S; 24.48.523E
 169. RCF/CCR shell scatter (RCFss/169) - 34.12.100S; 24.48.527E
 170. RCF/CCR shell scatter (RCFss/170) - 34.12.102S; 24.48.528E
 171. RCF/CCR shell scatter (RCFss/171) - 34.12.105S; 24.48.530E
 172. RCF/CCR shell scatter (RCFss/172) - 34.12.106S; 24.48.531E
 173. RCF/CCR shell scatter (RCFss/173) - 34.12.108S; 24.48.535E
 174. RCF/CCR shell scatter (RCFss/174) - 34.12.109S; 24.48.538E
 175. RCF/CCR shell scatter (RCFss/175) - 34.12.107S; 24.48.557E
 176. RCF/CCR shell scatter (RCFss/176) - 34.12.109S; 24.48.560E
 177. RCF/CCR shell scatter (RCFss/177) - 34.12.113S; 24.48.571E
 178. RCF/CCR shell midden (RCFsm/178) - 34.12.118S; 24.48.566E
 179. RCF/CCR shell midden (RCFsm/179) - 34.12.122S; 24.48.566E
 180. RCF/CCR shell midden (RCFsm/180) - 34.12.127S; 24.48.567E
 181. RCF/CCR shell midden scatter (RCFsms/181) - 34.12.124S; 24.48.571E
 182. RCF/CCR shell scatter (RCFss/182) - 34.12.127S; 24.48.578E
 183. RCF/CCR shell midden scatter (RCFsms/183) - 34.12.130S; 24.48.578E
 184. RCF/CCR shell scatter (RCFss/184) - 34.12.132S; 24.48.581E
 185. RCF/CCR shell midden (RCFsm/185) (Fig. 36) - 34.12.131S; 24.48.584E



Fig. 36. Shell midden RCFsm/185.

186. RCF/CCR shell midden scatter (RCFsms/186) - 34.12.132S; 24.48.588E
 187. RCF/CCR shell scatter (RCFss/187) - 34.12.130S; 24.48.595E
 188. RCF/CCR shell scatter (RCFss/188) - 34.12.133S; 24.48.599E
 189. RCF/CCR shell midden (RCFsm/189) (Fig. 37) - 34.12.136S; 24.48.619E



Fig. 37. Shell midden RCFsm/189 and RCFsm/190 in the background.

- 190. RCF/CCR shell midden (RCFsm/190)** (Fig. 37) - 34.12.136S; 24.48.621E
191. RCF/CCR shell midden scatter (RCFsms/191) - 34.12.140S; 24.48.632E
192. RCF/CCR shell midden scatter (RCFsms/192) - 34.12.140S; 24.48.642E
193. RCF/CCR shell midden scatter (RCFsms/193) - 34.12.141S; 24.48.645E
194. RCF/CCR shell midden scatter (RCFsms/194) - 34.12.140S; 24.48.648E
195. RCF/CCR shell midden scatter (RCFsms/195) - 34.12.140S; 24.48.652E
196. RCF/CCR shell midden scatter (RCFsms/196) - 34.12.141S; 24.48.655E
197. RCF/CCR shell midden scatter (RCFsms/197) - 34.12.144S; 24.48.652E
198. RCF/CCR shell scatter (RCFss/198) - 34.12.154S; 24.48.600E
199. RCF/CCR shell scatter (RCFss/199) - 34.12.152S; 24.48.590E
200. RCF/CCR shell scatter (RCFss/200) - 34.12.151S; 24.48.584E

201. RCF/CRE shell midden (RCFss/201) (Fig. 38) - 34.12.030S; 24.48.509E

- Shell midden, but the exact size is not known. A large part of the accumulation may be covered by dune sand and vegetation.
- The shell midden was exposed in a vehicle track regularly used.
- Shell midden is a Local Grade IIIB/IVA site and of medium significance. It should be mitigated before destruction.
- The site may fall outside the footprint but is being damaged every time a vehicle passes over it. The track must be closed or diverted.

This shell midden was previously covered by dune sand and vegetation, but the track exposed it and eventually cut a deep section through it. The main concentration of shell was some 10-15 cm thick and some two metres long. *Oxysteles* spp. and *T. sarmaticus* were the most abundant shell fish species, but *S. cochlear* and *S. argenvillei* were also present in fair numbers. No other food remains were found, Apart from a few quartzite stone flakes no other cultural material was present. The shell fish component would suggest that the site is of Khoi origin, but there are not pot sherds to support this assumption.



Fig. 38. Shell midden RCFsm/201 exposed in the side of a vehicle track.

202. RCF/CRE shell midden (RCFss/202) (Fig. 39)- 34.12.122S; 24.48.671E

Another small shell midden in the same track.

203. RCF/CRE shell scatter (RCFss/203) - 34.12.191S; 24.48.E



Fig. 39. Shell midden RCFsm/202 exposed in the side of a vehicle track.

ROCKY COAST FARM: CALCRETE RIDGE EAST (CRE) (Map 8).

This area stretched from the neck towards the entrance gate at Cape St Francis.

- 204. RCF/CCR shell midden scatter (RCFsms/204) - 34.12.159S; 24.48.727E**
- 205. RCF/CRE shell midden scatter (RCFsms/205) - 34.12.186S; 24.48.678E**
- 206. RCF/CRE shell midden scatter (RCFsms/206) - 34.12.188S; 24.48.690E**
- 207. RCF/CRE shell midden scatter (RCFsms/207) - 34.12.191S; 24.48.698E**
- 208. RCF/CRE shell scatter (RCFss/208) - 34.12.203S; 24.48.631E**
- 209. RCF/CRE shell scatter (RCFss/209) - 34.12.214S; 24.48.733E**
- 210. RCF/CRE shell scatter (RCFss/210) - 34.12.219S; 24.48.735E**
- 211. RCF/CRE shell midden scatter (RCFsms/211) - 34.12.219S; 24.48.739E**
- 212. RCF/CRE shell scatter (RCFss/212) - 34.12.231S; 24.48.752E**
- 213. RCF/CRE shell scatter (RCFss/213) - 34.12.235S; 24.48.758E**
- 214. RCF/CRE shell scatter (RCFss/214) - 34.12.234S; 24.48.763E**
- 215. RCF/CRE shell midden scatter (RCFsms/215) - 34.12.237S; 24.48.765E**
- 216. RCF/CRE stone feature (RCFsf/216) - 34.12.172S; 24.48.619E**
- 217. RCF/CRE shell midden scatter (RCFsms/217) - 34.12.250S; 24.48.858E**
- 218. RCF/CRE shell midden scatter (RCFsms/218) - 34.12.261S; 24.48.778E**
- 219. RCF/CRE shell midden (RCFsm/219) - 34.12.258S; 24.48.757E**

- 220. RCF/CRE shell midden (RCFsm/220) (Fig. 40) - 34.12.241S; 24.48.735E**



Fig. 40. Shell midden RCFsm/220 exposed in the side of a vehicle track.

- 221. RCF/CRE shell midden and stone feature (RCFsmsf/221) - 34.12.235S; 24.48.727E**

222. RCF/CRE stone feature (RCFssf222) - 34.12.217S; 24.48.638E

223. RCF/CRE shell scatter (RCFss/223) - 34.12.191S; 24.48.634E

224. RCF/CRE shell scatter (RCFss/224) - 34.12.330S; 24.48.986E

225. RCF/CRE shell midden scatter (RCFsms/225) - 34.12.335S; 24.48.922E

226. RCF/CRE shell midden (RCFsm/226) (Figs 41 & 42) - 34.12.433S; 24.49.208E

- A large shell midden
- The exact size is not known. A large part has been destroyed by vehicles, but part of the original accumulation may still be covered by vegetation.
- Shell midden is a Local Grade II site and of high significance.
- **This site should be declared a provincial site.**
- The site falls close/inside the footprint and is not directly under threat from the proposed development, but is directly expose to damage and under threat from the public.
- The track must be closed or diverted to avoid further damage to the site.

This shell midden is the largest found during the survey. It was some 26 metres long and 10-20 cm deep. *S. argenvillei* and *S. cochlear* were the dominate shell fish species. Occasional *T. sarmaticus*, *S. tabularis* and *C. oculus* *T. sarmaticus* were also present. No other food remains were found. Apart from a few quartzite stone flakes no other cultural material was present.



Figs 41. Eastern view of shell midden RCFsm/226 exposed in a vehicle track.



Figs 42. Western view of shell midden RCFsm/226 exposed in a vehicle track.

227. RCF/CRE shell midden (RCFssm227) - 34.12.432S; 24.49.221E

228. RCF/CRE shell midden (RCFsm/228) - 34.12.433S; 24.49.240E

229. RCF/CRE shell midden (RCFsm/229) (Fig. 43) - 34.12.455S; 24.49.261E

- A large shell midden
- The exact size is not known. A large part has been destroyed by vehicles, but part of the original accumulation may still be covered by vegetation.
- Shell midden is a Local Grade IIIA site and of high significance.
- The site falls close/inside the footprint and is not directly under threat from the proposed development, but is directly exposed to damage and under threat from the public.
- The track must be closed or diverted immediately.

This large shell midden was some 17 metres long and 10-20 cm deep. The shell fish species are similar to those described at **RCFsm/226**. No other food remains were found. Apart from a few quartzite stone flakes no other cultural material was present.



Figs 43. Shell midden RCFsm/229 exposed in a vehicle track.

230. RCF/CRE shell midden (RCFsm/230) - 34.12.435S; 24.49.271E

BRIEF DISCUSSION

A large number of archaeological sites were found during the survey, which indicates that the Rocky Farm Coast Area was an important area for prehistoric groups to live in the past. Among these were a few large sites, but the majority of the sites was small accumulations of shell and fire cracked stones. At least two sites should be declared provincial archaeological heritage sites as important examples of shell middens and stone features in the region. The general lack of other food waste (apart from shellfish) and cultural material was a surprising aspect of the survey.

In comparison, further inland, for example in the Sand River area, are large middens with abundant bone, fish remains and cultural material. The explanation for this 'unusual' pattern may be based on the fact that the largest part of the shore is a high energy coast (Map 5). The dominant shellfish species found in the shell middens are from the lower balanoid zone which is only exposed during extreme low tidal cycles, i.e., spring tide low which occurs only once a month. During this period the lower balanoid zone is exposed only for a few days. The larger shellfish species such as *Haliotis midae* (perlemoen), *H. spadicea* (siffie), *Scutellastra* spp. (limpits) *cochlear*, *argenvillei*, *tabularis* and *barbara*) and *Turbo sarmaticus* occur in this zone. Furthermore, it may be assumed that these small sites represent the campsites of small groups who stayed along the coast for a few days at a time, to make use of the availability of abundant shellfish during spring low tides. They may have stayed here briefly to collect large numbers of shellfish to transport to inland sites, some as far as 5 kilometres from the coast. This may also explain the general absence of other food remains and cultural material.

The groups that lived along this part of the coast the past 5000 years in general collected shellfish close to the type of coast they stayed. This fact was discussed earlier that sites opposite high energy coasts mainly composed of shellfish from the lower balaniod zone and other shellfish species found at other type of coasts nearby were absent. One such example is that the sites opposite the small bench coast opposite the Dune West Area. (Map 5), were in general composed of shellfish found in the upper balaniod zone. Bench coasts are flat rocky areas with several pools and gullies which are expose during low tide. A wide variety of shellfish can easily be collected during all low tides and include *Oxystele sinenses*, *Perna perna*, *Turbo sarmaticus*, *Burnupena* spp., *Scuterllastra longicosta* and *Cymbula oculus* and *C. miniata*. These species were abundant at the Dune west shell middens, but rarely found in sites further away from the bench coast,

Due to the general absence of cultural material, it was difficult to classify the sites and to relatively date them. There were only a few Khoi sites identify by the few pot sherds, but no sites with Wilton microlithic stone tools were found. The majority of sites displayed quartzite stone tools, which in general suggest that they were most probably of Kabeljous origin (see Appendix 1 for a list of terms used).

As mentioned earlier, research conducted in the dune by-pass system between Oyster Bay and St Francis Bay, revealed that the calcrete ridges (fossil dunes), now covered by recent shifting dune sand, carry Earlier Stone Age stone tools (400 000 to 1 million years old) and many unique Middle Stone Age sites with associated fossil bone dating between 30 000 and 70 000 years old. These calcrete ridges are exposed in the footprint areas and carry many recent shell middens (past 8 000 years). Although no fossil bone accumulations were found, the single large fossil bone fragment reported may indicate that such occurrences may be present in the area.

CONCLUSIONS

Although a large number of visible open-air archaeological sites were found during the survey, it is believed that these only represent a small number of sites present on the property. Many more are buried by dune sand and covered by vegetation and will be exposed during development.

It is evident from the survey that Rocky Coast Farm is a very rich and sensitive area for archaeological heritage sites and that all future development on the property must be carefully planned and managed. Although single shell middens hold great potential for research, it is not the individual open-air sites that provide us with the archaeological record of the past, but a large number of different observations. Therefore it is important that **all** archaeological sites, even the smallest shell scatters, are protected because they are all contextually unique.

The survey and research conducted along the Cape St Francis coast revealed that approximately 80% of shell middens were located within 300 metres from the coast, but are found as far as 5 kilometres inland from the coast. There are also a number of sites exposed in or next to vehicle tracks. A manage plan to prevent further damage to these highly threatened sites should/must be implemented as soon as possible. Furthermore, a long term manage plan should also be implemented, aimed at preventing damage to visible archaeological heritage sites by the public.

A large number of archaeological heritage sites are located along the immediate coastline and there are many other important sites in the surrounding region. Development will impact on these resources via recreational and tourism activities. It is the responsibility of the developers to inform landowners and visitors to the estate that these resources are sensitive and non-renewable and that there are regulations protecting and conserving them. This information should be displayed on sign boards placed at public places in the development. Hopefully this 'educational approach' will make a positive contribution towards the protection and conservation of important archaeological heritage resources.

RECOMMENDATIONS

Due to the archaeological sensitivity of the property, the following recommendations are made:

1. A cluster development would be the preferred option. The reason is that this option will concentrate the development in a relatively small area, and will limit damage to possible archaeological heritage sites within a restricted area. It will also limit the number of access roads and construction of other facilities, which will also limit the possible damage to sites.

Rectangular unit development will need a more elaborate infrastructure which will increase the possibility that archaeological sites will be damaged. Furthermore, the erven along the coast are placed in an area where numerous and sensitive sites are concentrated.

2. No development of any kind must take place within 100 metres from the edge of the calcrete ridge, or between the high water level mark and the calcrete ridge or first dunes (no go area).
3. The development will comprise only a small part of the property. The remaining open space will be rezoned to Open Space III. This Open Space is rich in archaeological heritage sites and a management plan must be compiled for these sites as required by the National Heritage Resources Act (Act No. 25 of 1999, section 35). At the moment there is limited control of vehicles entering the property and no control as far as people and animals are concerned. Appendix 3 (Fig. 41) illustrate the pressure archaeological sites are exposed to by the public and why a management plan is needed.
4. In the absence of a proper management plan, it is recommended in the interim that all roads with exposed archaeological sites in or next to it must be closed to vehicles, especially the one that enters the property from St Francis Bay Township (see Map 5).

The track outside (just north) Cape St Francis Township on the road to Humansdorp should be used to reach the far western side of the property. However, there are shell middens in the track at the junction with the old existing tracks and further along. The track must be diverted here to avoid any further damage to the shell middens. Alternatively, the Rebelsrust road entrance should be used to gain access to the western side.

5. When the final plan for the development is available (positions of all construction units are known), the footprint must be investigated by an archaeologist for any evidence of visible sites, before construction start. It is suggested that the vegetation be removed by hand (not bulldozed or any other mechanical method) before the inspection. Recommendations will follow from the investigation.
6. 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.
7. All construction work must be monitored. A person must be trained as a site monitor to report to the foreman when archaeological sites are found. This person must monitor all levelling and trenching activities during the construction phase.
8. If any concentrations of archaeological material (especially human remains) are exposed during construction, all work in that area should cease and it should be reported immediately to the nearest museum/archaeologist or to the South African Heritage Resources Agency, so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix 4 for a list of possible archaeological sites that

maybe found in the area). Recommendations will follow after the investigation and may include:

- A Phase 2 Mitigation process to systematically excavate and remove the archaeological deposits before construction of the development continues.
9. The proposed development next to the township (erf 33), is a very sensitive area and if this area is developed the following measures should be taken:
- All vegetation must be carefully removed (cut by hand and not bulldozed or any other mechanical method). After removal of the vegetation the area must be investigated again by an archaeologist and all construction work afterwards must be monitored. Should any archaeological sites or material be exposed during or after the initial removing of the vegetation, then further recommendations will follow for a Phase 2 (see below).
10. Each landowner and visitor to the proposed development must be made aware of the importance, sensitivity, conservation and protection of the cultural heritage of the region to avoid possible damage to heritage features or removal of material from heritage sites anywhere in the region. This should include:
- 10.1. Terms of Conditions, in the form of a ‘management strategy’ should be included in the constitution of the Home Owners Association or into any other relevant legal organisation. The purpose of this ‘management strategy’ would be to inform the house owners and visitors to the development of possible heritage resources on the property and surrounds, and to prevent, or at best minimize possible damage of sites or prevent the collecting of material by residents and/or visitors. This ‘management strategy’ document (Terms of Conditions) can be compiled by the South Africa Heritage Resources Agency in cooperation with the Home Owners Association. The information must also be displayed on information boards in public places and along paths to the coast.
- The developers should consider a small display/information centre at a central place in the development where relevant information can be displayed regarding the archaeological heritage resources of the area. This should include a ‘management strategy’ which inform the visitors/tourists about the protection, conservation and protocol of visiting these heritage resources. Such a facility will be a constructive contribution towards the potential protection and conservation of the heritage resources of the region and may prove to be a valuable ‘investment’ to the development.

Motivation for 10.1.

There is no doubt that the development will have an impact and ripple effect on the archaeological heritage resources of the region. The impact will be indirect, but will increase over time. It is therefore the responsibility of the developers to inform potential homeowners and visitors to the development of the importance of the archaeological heritage of the area. In this way, the developers will make a contribution to the potential protection and preservation of these archaeological resources of the region.

The immediate and adjacent areas to the proposed development are rich in archaeological heritage sites, i.e. open-air sites, caves and shelters with extremely valuable and important rock art and unique archaeological deposits. There are sites within walking distance from the development and many others also within a short driving distance, for example the Klasies River Cave Complex. These

sites and others will be 'discovered' by landowners and visitors during their stay/visit to the estate and region. It is suggested that information boards be placed at strategic public locations in the development area, such as at the entrance to the property and hiking paths to inform landowners and visitors to the estate about the importance and protection of archaeological heritage in the area. The development will also provide private business opportunities such as eco-tourism and other recreational activities which may include visits to archaeological heritage sites. Archaeological heritage resources are non-renewable and also protected by the South African National Heritage Resources (NHRA) Act 1999, and therefore there are rules and regulations which regulate visits to these sites. The main concern is to protect and conserve the sites and their contents.

It is suggested that information regarding the Minimum Standards and Regulations for opening heritage sites to the public, visits and tours to these sites also be displayed on notice boards (as above). Minimum Standards and Regulations regarding archaeological sites can be obtained from the South African National Heritage Resources Agency (SAHRA), but visitors/tourists must first establish the following before they visit or participate in an archaeological tour, for example:

- Only archaeological sites registered to SAHRA, with an approved management plan may be opened to public visiting.
- Only registered and accredited archaeological and/or rock art tour guides may conduct archaeological tours.
- Only registered tour guides (registered to the Eastern Cape Tourism Board) may conduct tours.

Note: Maps 5-8. Google Earth Image © 2008 Digital Globe.

GENERAL REMARKS AND CONDITION

Note: This report is a phase 1 archaeological heritage 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) 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 (AIAs) 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 1: SHORT LIST OF TERMINOLOGY

High Energy /Wave coasts

Rough stepped rocky outcrops in sheltered bays usually rise from a few metres of deep water to a few metres above the spring high level. Waves constantly break over the rocks, gullies and pools during high tide. *Perna perna* is often found here in large quantities along the high water level. The *cochlear* zone is exposed during spring tide low, but it is dangerous to collect shellfish from this zone because one can be washed from the rocks.

Bench/Boulder coasts

Flat rocky areas (occasionally with round boulders) exposed extensively during low tides. A wide variety of shellfish species are abundant in the numerous rock pools and can easily be collected from the intertidal pools at low tide and include, *Oxystele sinenses*, *Perna perna*, *Turbo sarmaticus*, *Burnupena* spp., and several *Scuterllastra* spp.

Classification of shell middens as identified from research along the Cape St Francis coast.

Shell middens with pottery and domesticated fauna and those with pottery only.

Both types of sites usually yielded few stone tools and apart from pottery, contained little other cultural material. The Khoi pastoralist middens contained, or were dominated by, shellfish species that yielded relatively high meat mass per individual species, for example, *Solen capensis*, *Perna Perna* and *Donax Serra*. 'Ceramic' middens on the other hand, contained high frequencies, or were dominated by shellfish species from the upper balanoid zone, notably *Oxystele* spp. and *P. perna*. Species from the lower balanoid zone were as a rule not well represented. The oldest radiocarbon date for pottery in the south-eastern Cape was 1770 ± 50 BP (Pta-9311), and the oldest date directly associated with sheep and cattle remains was 1560 ± 40 BP (Pta-5982).

Shell middens, without pottery, associated with a quartzite stone industry

This quartzite industry is referred to as the Kabeljous. This industry contains a number of quartzite cobble stone tools, for example, hammer stones, bored stones, grindstones, rubbers, cores, cobble adzes and scrapers, flakes and large segments. Sites with this industry date from 4700 BP. The larger segments seem to be restricted geographically. They have only been found along the coast from Klasies River Mouth in the west to the Fish River Mouth in the east, but they may extend further east. These date between approximately 3000 and 1800 years BP. In general, these sites were also dominated by *P. perna* (it is the most abundant shellfish species in the research area) and *Scuterllastra* spp. Species of the lower balanoid zone were usually also well represented. The people responsible for this industry are referred to as hunter- collector-fishers (HCF) or Kabeljous groups. These were mobile groups, who lived permanently on the coastal foreland.

Shell middens, without pottery, associated with a silcrete or quartz microlithic Wilton Industry.

The people responsible for this Wilton Industry are referred to as hunter-gatherers (HG) or Wilton groups. These were mobile groups presumably from the adjacent Cape Fold Belt mountains (CFB) who visited the coast occasionally. Wilton deposits in caves and open-air shell middens contained high frequencies of quartz or silcrete microlithic stone tools similar to those found in the adjacent mountains. Segments, however, were absent from the open-air middens that also contained silcrete. The open-air silcrete sites date between 5180 BP and 1900 BP. The shellfish species in these sites are similar to those represented at sites of the Kabeljous Industry.

APPENDIX 2: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM COASTAL AREAS: guidelines and procedures for developers

1. Shell middens

Shell middens can be defined as an accumulation of marine shell deposited by human agents rather than the result of marine activity. The shells are concentrated in a specific locality above the high-water mark and frequently contain stone tools, pottery, bone and occasionally also 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.

2. 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 the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.

3. Fossil bone

Fossil bones may be found embedded in calcrete deposits at the site. Any concentrations of bones, whether fossilized or not, should be reported.

4. 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.

5. Stone features and platforms

These occur in different forms and sizes, but easily identifiable. The most common are an accumulation of roughly circular fire cracked stones tightly spaced and filled in with charcoal and marine shell. They are usually 1-2 metres in diameter and may represent cooking platforms for shell fish. Others may resemble circular single row cobble stone markers. These occur in different sizes and may be the remains of wind breaks or cooking shelters.

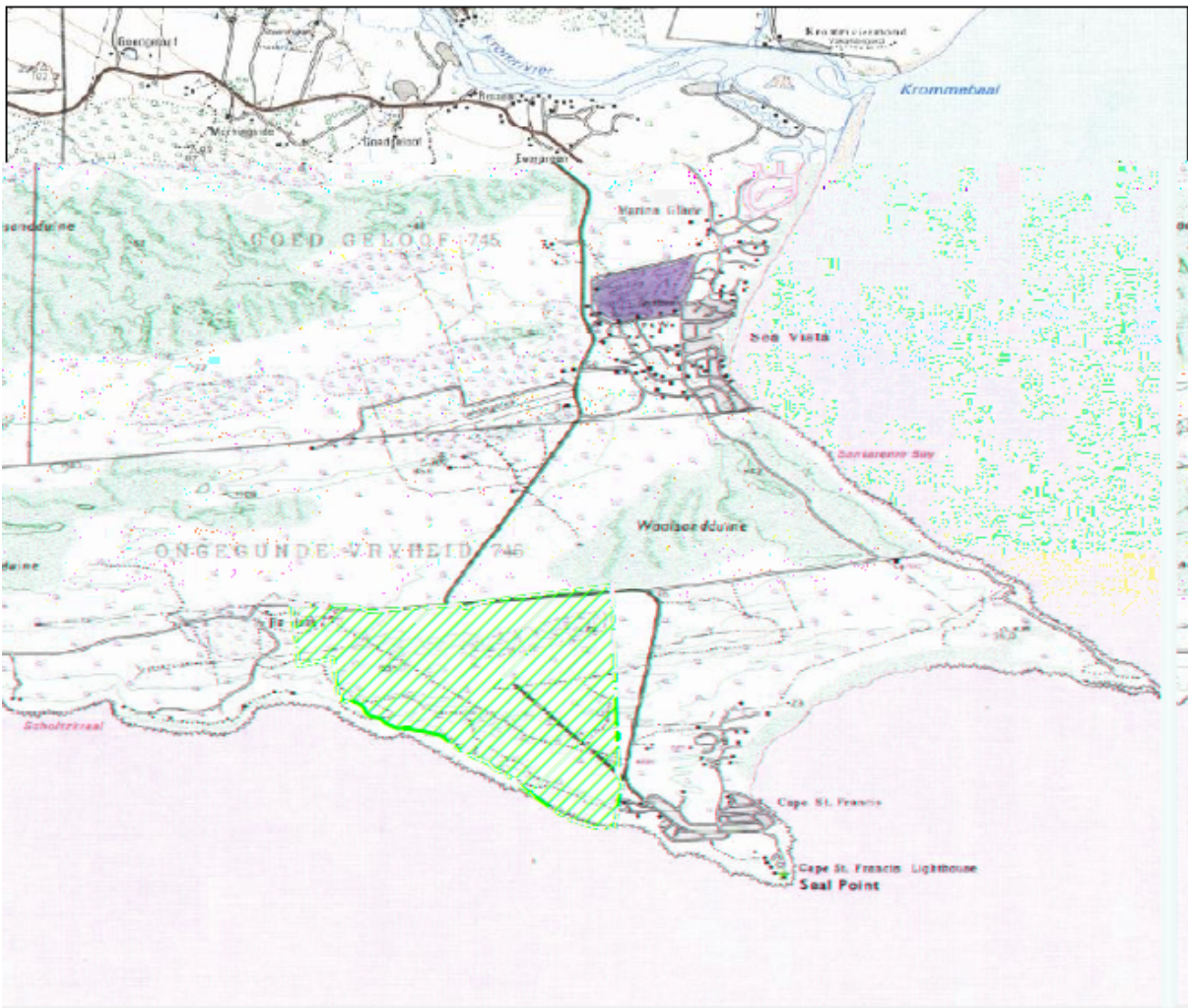
6. Historical artefacts or features

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

APPENDIX 3: PUBLIC HIGHWAY PASS ARCHAEOLOGICAL SITES AT THE DUNES WEST AREA.



Fig. 41. A view of the feet moving past a large number of archaeological sites at the Dunes West Area.



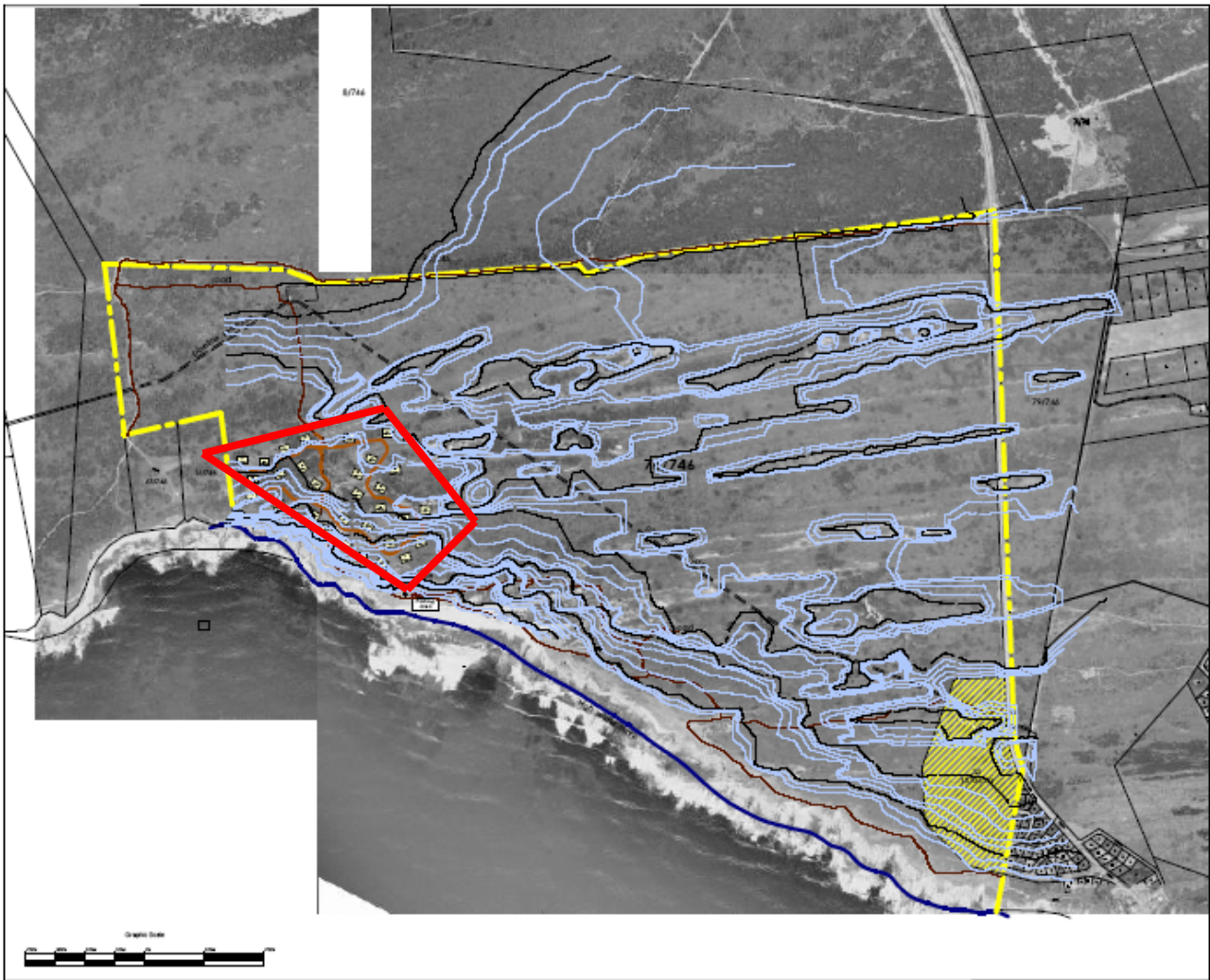
Map. 1. Location of the development. 1:50 000 3424BB Humansdorp (HilLand Associates Environmental Management Consultants).



Map. 2. Aerial photograph of the location of the development (HilLand Associates Environmental Management Consultants).



Map. 3. Plan of the rectangular unit development (HilLand Associates Environmental Management Consultants).



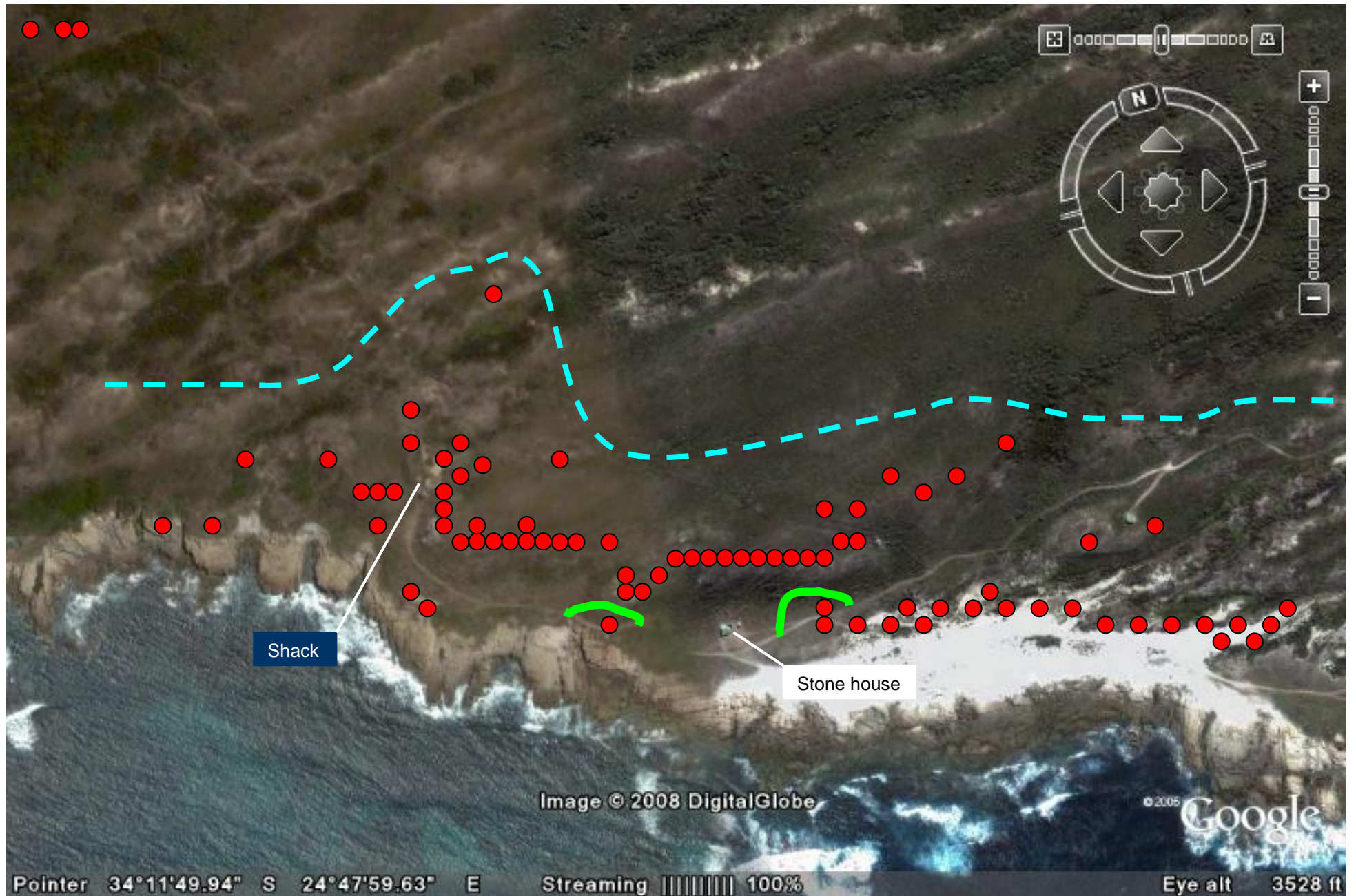
Map. 4. Plan of the cluster development in the western corner of the property (HilLand Associates Environmental Management Consultants).



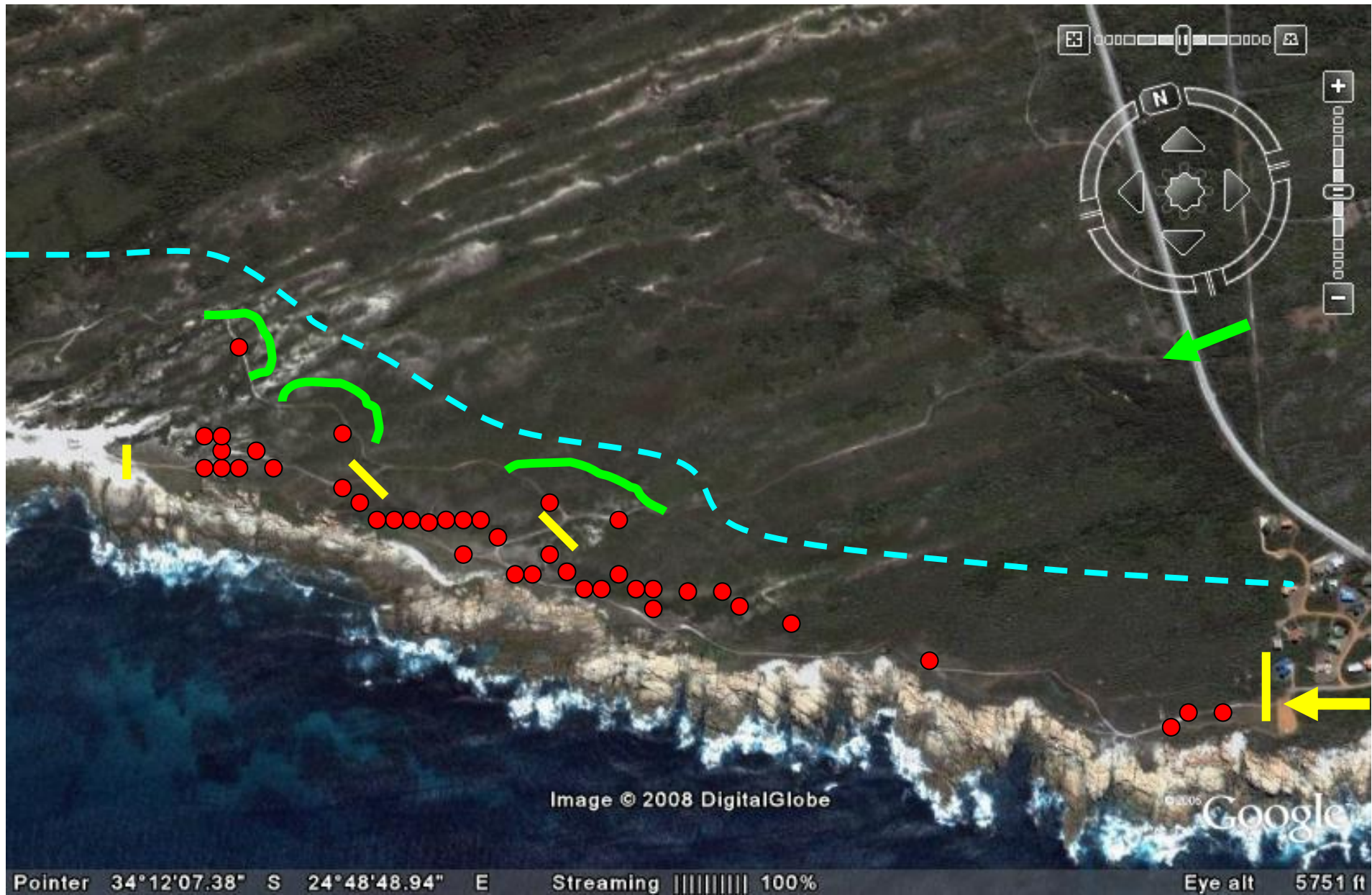
Map 5. Area inside the pink lines was investigated. The vegetation was too dense outside the lines to find sites. Green arrows indicate possible entrance tracks. Yellow arrow indicates track to be closed. Light blue stippled line indicates the sensitive zone. Solid red line indicate high energy coast; stippled red, wave coast; solid/stippled orange line, bench/boulder coast.



Map. 6. The different areas surveyed.



Map 7. Approximate locations of sites in the Old Tracks, Calcrete Ridge and Coastal Dunes West Areas Note: a red dot may represent more than one site. Green lines indicate where tracks should be closed or diverted to avoid further damage to sites. Light blue stippled line indicates the sensitive zone.



Map 8. Approximate locations of sites in the Old Tracks, Calcrete Ridge Central and East Areas. Note: a red dot may represent more than one site. Green lines indicate where tracks should be closed or diverted to avoid further damage to site. Yellow arrow indicate which tracks should be closed and green which to use. Light blue stippled line indicates the sensitive zone.