

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED HOUSING DEVELOPMENT**

**KHOISAN BAY
DE KELDERS
GANSBAAI**

Prepared for

EFG ENGINEERS (PTY) LTD

By

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Executive Summary

EFG Engineers (Pty) Ltd requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment of a proposed township housing development on the Remainder of Portion 2 of the Farm Strandfontein No. 712 in De Kelders, near Gansbaai, in the Bredasdorp District, Western Cape Province.

To be called Khoisan Bay, the proposed rezoning (from Agriculture) and subdivision of the affected property provides for the development of between 1500 and 1800 residential units, including associated infrastructure such as roads and services. Some public open space is also envisaged. In effect, the development comprises an extension of the existing De Kelders Township.

The extent of the proposed development (about 113 ha) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

The subject property is located immediately alongside the R43, on the right hand side as one enters De Kelders from Stanford. The western boundary of the site runs alongside the Walker Bay Nature Reserve. Currently, the affected property is vacant, but the western half of the site has been severely burnt as a result of the recent fires in the Overberg. The remainder of the property (i.e. the eastern portion) is infested with a mix of alien and indigenous vegetation, resulting in low archaeological visibility. Some basic infrastructure is already in place on the site, comprising a gravel service road with underground bulk water supply pipeline that services De Kelders Township.

Archaeological heritage remains are highly visible in the (burnt) western portion of the affected property. Most of the remains comprise very thin, sometimes fairly extensive, surface scatters of mainly fragmented shellfish, with a few stone tools, and occasional pieces of pottery and ostrich eggshell. Several scatters, however, appear to comprise thicker surface deposits of shell, suggesting that more substantial archaeological deposits may occur below the wind-blown sands.

The archaeological heritage remains have been graded high-medium-low local significance, subject to shovel testing in order to determine the significance of possible below ground archaeological deposits.

With regard to the proposed housing development on Portion 2 of the Farm Strandfontein No. 712 in De Kelders, the following recommendations are made.

- Shovel testing of archaeological heritage remains in order to determine the significance of below ground deposits. If some of the surface scatters are found to have depth and undisturbed deposits, they will have to be sampled by way of controlled archaeological excavation.
- Vegetation clearing operations in the eastern portion of the proposed site must be monitored by a professional archaeologist. Subject to training, these activities could also be undertaken by an Environmental Control Officer. Should any archaeological remains be uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.
- Bulk earthworks and excavations must also be monitored by a professional archaeologist. Subject to training, these activities could also be undertaken by an Environmental Control Officer. Should any archaeological remains be uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.
- The above recommendations must be included in the Construction Environment Management Plan for the proposed project, to be developed by Johan Neethling Environmental Services.

- to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed site.
- to assess the status and significance of any impacts resulting from the proposed development, and
- to indicate the sensitivity and conservation significance of archaeological sites potentially affected by the proposed development;
- to identify and map any sites of archaeological significance within the proposed site;
- to determine whether there are likely to be any archaeological sites of significance within the proposed site;

The terms of reference for the baseline study were:

2. TERMS OF REFERENCE

The aim of the study is to locate and map archaeological heritage remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

The extent of the proposed development (about 25 ha) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

To be called Khoisan Bay, the proposed rezoning (from Agriculture) and subdivision of the affected property provides for the development of between 1500 and 1800 residential units, including associated infrastructure such as roads and services. Some public open space is also envisaged. In effect, the development comprises an extension of the existing De Kelders Township.

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1.1 Background and brief

1. INTRODUCTION

3. THE STUDY SITE AND DESCRIPTION OF THE AFFECTED ENVIRONMENT

A locality map is illustrated in Figure 1.

An aerial photograph of the site indicating the study area is illustrated in Figure 2.

The subject property is located immediately alongside the R43, on the right hand side as one enters De Kelders from Stanford. The western boundary of the site runs alongside the Walker Bay Nature Reserve. Currently, the affected property is vacant. The western half of the site has been severely burnt as a result of the recent fires in the Overberg (Figures 3-7). The remainder of the property (i.e. the eastern portion) is infested with a mix of alien and indigenous vegetation, resulting in low archaeological visibility (Figures 8-11). Fire-breaks have been cut alongside the southern boundary (i.e. the current urban edge) and along a portion of the north eastern boundary. Some basic infrastructure is already in place. This comprises a service road with underground bulk water supply pipeline that services De Kelders Township. A number of smaller informal tracks and footpaths cut across the site from north to south. No buildings or structures occur on the property, other than a small pump station near a gate alongside the south eastern boundary.

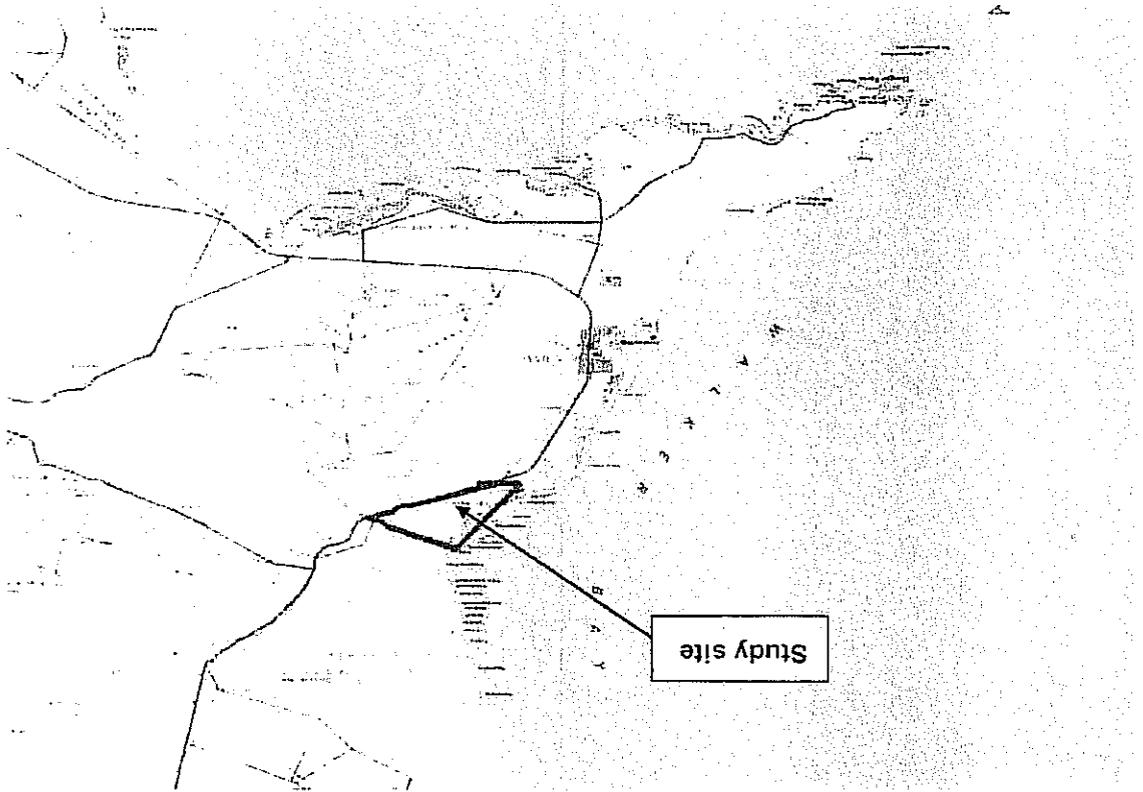


Figure 1. Locality Map. (3419 CB Gansbaai)

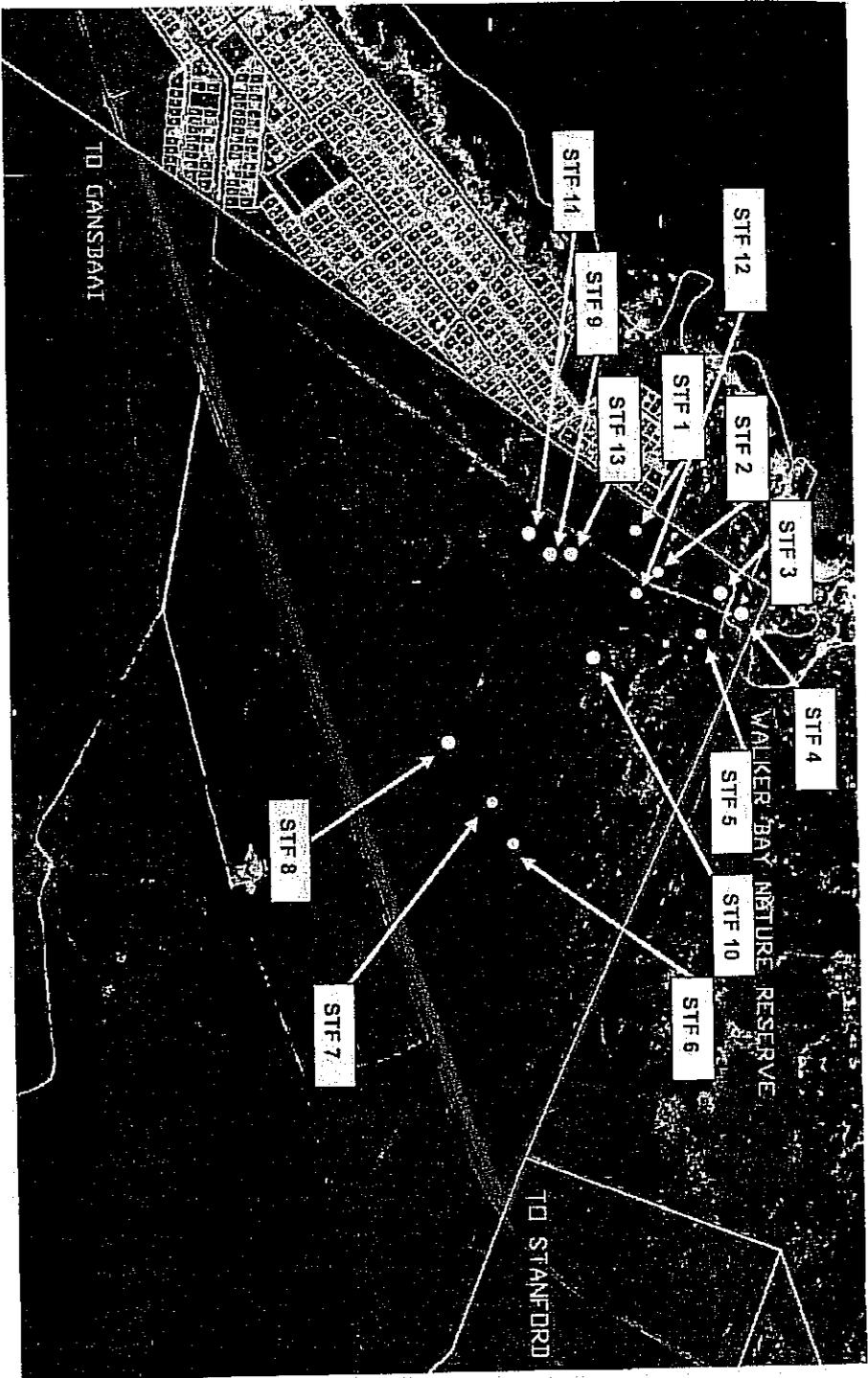


Figure 2. Aerial photograph of the study area.

Figure 3. View of the western portion of the site facing east. The southern boundary (i.e. the current urban edge) of the subject property is located alongside the tar road to the right of the plate

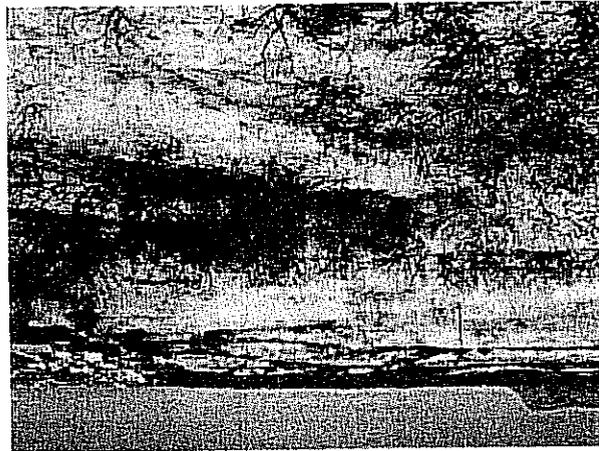


Figure 4. View of the site facing south east. Arrow indicates the R43.

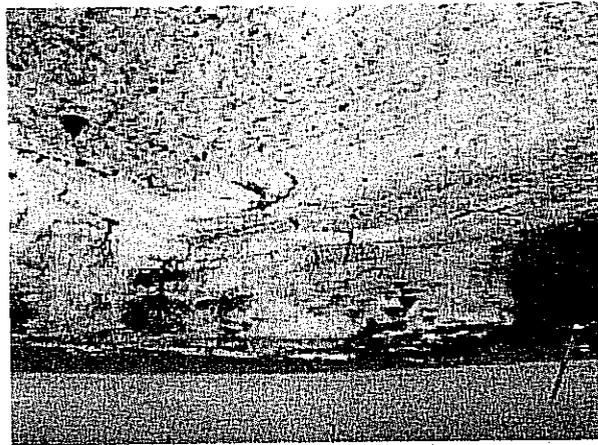


Figure 5. The site facing directly south. The photograph was taken from the R43.

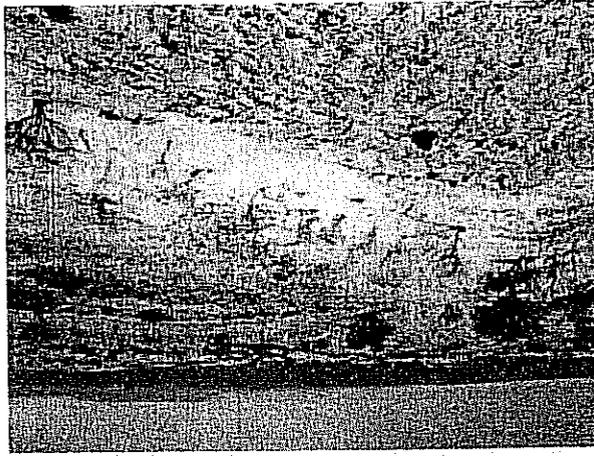


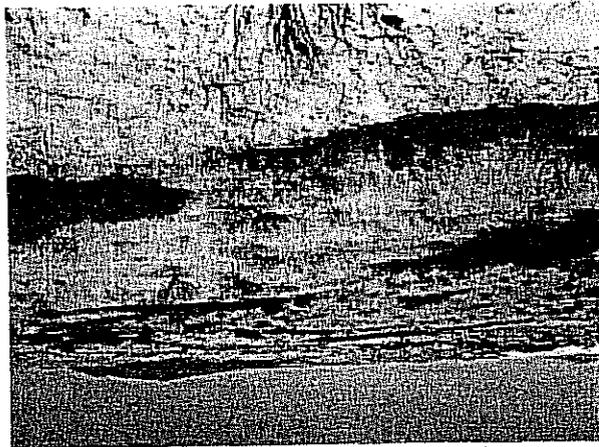
Figure 8. View of the site facing south east. The photograph was taken from the R43. Die Kelders Township is in the distance



Figure 7. View of the site facing south west.



Figure 6. View of the site facing west. Walker Bay Nature Reserve sand dunes can be seen in the top left hand corner of the plate.



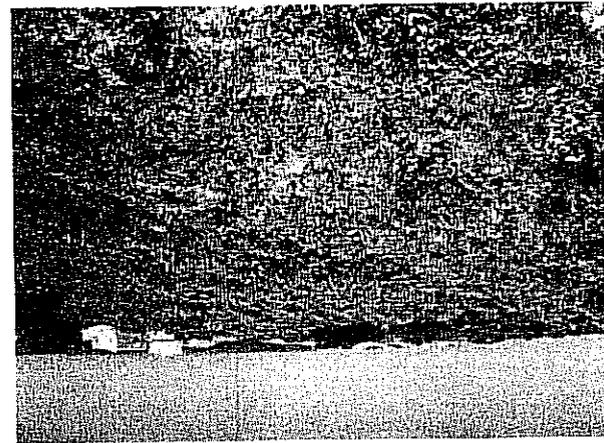


Figure 9. View of the site facing south east. Die Kelders Township is in the distance



Figure 10. View of the site facing west. Die Kelders Township is in the distance.



Figure 11. View of the site facing west. The heavily burnt, western portion of the property can be seen in the distance

4. STUDY APPROACH AND DOCUMENTATION OF ARCHAEOLOGICAL SITES

4.1 Assumptions

- Since the receiving environment is located within a known archaeologically sensitive area (see for example Hart 2003; Kaplan 2005, 1993), the assessment assumes that: Damage to heritage resources potentially will occur in the proposed development.

4.2 Limitations

The eastern portion of the subject property is infested with a mix of both alien and indigenous vegetation, resulting in extremely poor archaeological visibility.

4.3 Method

The approach used in the archaeological study entailed a foot survey of the proposed site.

The archaeological assessment took place over two days, on the 13th and 14th March 2006.

Archaeological occurrences were recorded and given a co-ordinate using a Garmin Gecko 201 GPS set on map datum WGS 84.

A desktop study was also undertaken.

4.4 Results of the desk-top study

Large numbers of coastal archaeological sites occur in the Gansbaai/De Kelders region (Kaplan 1993), the most famous probably being the well-known De Kelders Cave (Schwitzer 1979) located in the Walker Bay Nature Reserve, close to the affected property. With its rocky shoreline, the region acted as foci that attracted Later Stone Age (LSA) people as it offered greater opportunities for the exploitation of marine foods, particularly shellfish.

Shell middens (ancient rubbish dumps), ancient tidal fishtraps (*viswywers*) and burials (both indigenous and colonial) have been recorded along the regions shoreline, at Pearly Beach (Avery 1974; Kaplan 2000, Rudner 1968), Buffelsjachtbaai (Hart & Haikett 1991), Quoin Point, Die Dam, Duinbaai, Soetfontein, Sandy Point, Kleinbaai, Danger Point (Kaplan 1993, 1996, Rudner 1968) and Gansbaai (Hart 2003; Kaplan 2005). The archaeological sensitivity of the region has also been highlighted in the Gansbaai Spatial Development Plan (Steyn Larsen 2003).

Archaeological excavations and shovel testing of deposits in Gansbaai and Danger Point have also been undertaken (Kaplan 2000b, 2006 in prep.; Nilsen 2004). Unfortunately, no radiocarbon dates have been obtained for these sites, but excavations of Perlemoen-rich shell middens deposits at Danger Point suggest dates older than 2000 years ago (Kaplan 2006 in prep.).

¹ A term referring to the last 20 000 of pre-colonial history in southern Africa.

5.1 The National Heritage Resources Act (Act No. 25 of 1999)

... any development or other activity which will change the character of a site exceeding 5 000m², or the rezoning or change of land use of a site exceeding 10 000 m², requires an archaeological impact assessment in terms of the National Heritage Resources Act (No. 25 of 1999).

5.1.1 Structures (Section 34 (1))

No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by Heritage Western Cape (HWC), the responsible provincial resources authority.

5.1.2 Archaeology (Section 35 (4))

No person may, without a permit issued by HWC, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

5.1.3 Burial grounds and graves (Section 36 (3))

No person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

6. IDENTIFICATION OF RISK SOURCES

The following project actions may impact negatively on archaeological sites. The actions are most likely to occur during the Construction Phase of the proposed project.

- Vegetation clearing operations in the eastern sector of the property may expose hidden shell middens and hunter-gatherer camp sites.
- Bulk earthworks and excavations may expose or uncover buried shell middens and human burials.

7. LIMITATIONS

The western sector of the study site has recently been badly burnt, resulting in high visibility. However, the eastern sector of the property is infested with a mix of alien and indigenous vegetation, resulting in very low archaeological visibility.

8. FINDINGS

Thirteen archaeological occurrences were recorded during the baseline study (refer to Figure 2).

STF 1 (GPS reading S° 34 33 025 E° 19 22 529)

A thin, yet fairly extensive, surface scatter of fragmented shellfish occurs on a low, fairly-flat, south-facing dune slope, less than 100m from the southern boundary of the subject property (Figure 12). The shellfish remains are dominated by Black Mussel (*Choromytilus meridionalis*), with a few *Turbo samartica* and fragments of *Cymbula* *oculus* occurring. One large quartz chunk, one quartzite flake, and three pieces of Cape coastal pottery were also found. The site and surrounding area has been fairly heavily trampled. A modern dump of white sand mussel, glass, rusted metal and plastic, is located on a dune alongside the scattered pre-colonial shellfish remains.

The archaeological heritage remains have been rated medium local significance.

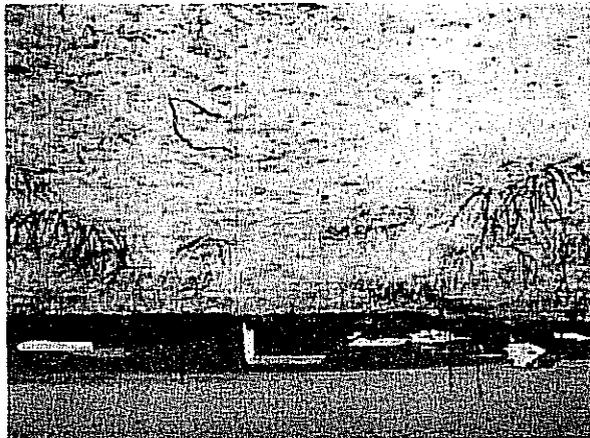


Figure 12. STF 1. View of the site facing south.

STF 2 (GPS reading S° 34 32 941 E° 19 22 649)

A relatively well-contained, fairly substantial, scatter of highly fragmented shellfish remains occurs alongside the service road that cuts across the subject property, about 100 m north of the southern boundary. The archaeological occurrence is set among burnt out tree stumps, on a flat dune surface, either side of several raised outcroppings of calcareate at the base of a high sand dune (Figures 13 & 14). Several thicker patches (or clusters) of slightly raised, (burnt) shellfish deposits, suggests that some below ground archaeological deposits possibly occur over this site. Shellfish remains have also spilled into the service road, and occur as a thin scatter north of the road as well. At least 10 small charred pieces of pottery (possibly from one vessel) were found clustered around a blackened mound of shell, while at least eight more pieces of pottery were found scattered over the site, including one thick body sherd about 4 cm thick. Six quartzite stone flakes were also found. A lower grindstone was also found on a slightly raised outcropping of calcareate and sand about 25 m south of the main shellfish concentration, and about 75 m west of STF 1.

The shellfish in STF 2 is dominated by Black Mussel, with much smaller counts of *Turbo samarica*, *Scutellastra argenvillei*, *S. granulata*, some Sand Mussel (*Donax Serra*) and whelk occurring.

The archaeological heritage remains have been rated high local significance.



Figure 13. STF 2. View of the site facing south.

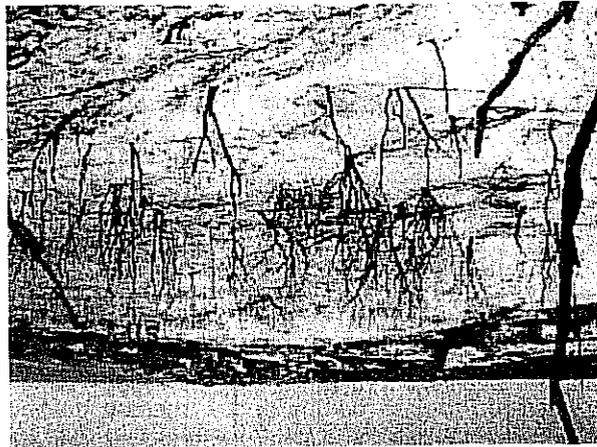


Figure 14. Arrows indicates location of STF 1 and STF 2

STF 3 (GPS reading S° 34 32 852 E° 19 22 654)

A thin, very small scatter of fragmented shellfish remains, dominated by Black Mussel, occurs on a low dune immediately alongside the tar road near the southern western boundary of the affected property. A thin scatter of shell (Black Mussel) occurs in a narrow deflated basin about 15 m north of the road. No cultural remains were located.

The archaeological heritage remains have been graded low local significance.

STF 4 (GPS reading S° 34 32 838 E° 19 22 717)

A very thin (small) scatter of fragmented shellfish, dominated by Black Mussel, was found on an artificially raised sand bank, set back behind some burnt tree stumps, alongside the tar road near the entrance to the Walker Bay Nature Reserve. No cultural remains were located.

The archaeological heritage remains have been graded low local significance.

STF 5 (GPS reading S° 34 32 890 E° 19 22 727)

A thin scatter of fragmented shellfish and five large quartzite flakes, occur among a fairly large, flat outcropping of calcareous, about 20 m north of the main service road at the bottom of a high sand dune, and about 150 m north-east of the entrance to the Walker Bay Nature Reserve. Relatively large numbers of heat spall flakes are scattered about. The shellfish is dominated by Black Mussel, with some *Turbo samartica* and *S. argenvillei* also present.

The archaeological heritage remains have been graded low local significance.

STF 6 (GPS reading S° 34 33 060 E° 19 22 934)

A thin surface scatter of fragmented shellfish, measuring about 20 m in extent, was found in the north western (central) portion of the affected property, on a high, flat dune top. The shellfish is dominated by Black Mussel, while a few fragments of *Turbo samartica* and *C. oculus* were also noted. Three very small pieces of burnt pottery were found.

The archaeological heritage remains have been graded low local significance.

STF 7 (GPS reading S° 34 33 124 E° 19 22 879)

A very thin surface scatter, or strip, of fragmented shellfish, dominated by Black Mussel with some *C. oculus* and *S. argenvillei*, occurs among some burnt out trees on a north-west facing dune slope, about 100 m east of STF 6. No cultural items were located.

The archaeological heritage remains have been graded low local significance.

STF 8 (GPS reading S° 34 33 090 E° 19 22 722)

The site comprises a relatively large, but thin, surface scatter of fragmented shellfish remains on a west-facing dune slope, about 120 m east of STF 7. The site looks onto an extensive deflated dune basin (or dune slack) extending southwards. The shellfish is dominated by Black Mussel, with some larger fragments and pieces of *Turbo samartica* and *C. oculus* and *S. argenvillei* occurring. Several limestone and quartzite flakes and chunks were also counted.

The archaeological heritage remains have been graded medium local significance.

STF 9 (GPS reading S° 34 33 044 E° 19 22 662)

A thin, fairly extensive, surface scatter of fragmented shellfish remains occurs on a flat dune top about 50-60 m north of the service road running across the property, almost directly in line with a hatch roofed building on the southern boundary of the subject property. The shellfish remains are dominated by Black Mussel, with fragments and several larger pieces of *C. oculus* and *Turbo samartica* occurring. A few whole (larger) *S. argenvillei* and *Turbo samartica* were also counted. Three pieces of weathered (or burnt) ostrich eggshell, and two larger quartzite flakes were also counted.

The archaeological heritage remains have been graded medium local significance.

STF 10 (GPS reading S° 34 33 028 E° 19 22 799)

A fairly extensive, but very thin, surface scatter of fragmented shellfish remains occurs on a east-facing dune slope overlooking a wind deflated basin, about 200 m north of STF 2. The shellfish is dominated by Black Mussel, with some *C. oculus*, *S. argenvillei*, and *Turbo samartica* occurring. One limestone flake, one quartzite flake, one quartzite chunk, one small piece of blackened pottery and one very small piece of burnt ostrich eggshell were also counted.

The archaeological heritage remains have been graded medium local significance.

STF 11 (GPS reading S° 34 33 083 E° 19 22 624)

The site, comprising a thin surface scatter of fragmented shellfish, about 15 m in extent, is located about 40 m east of STF 9, and about 45 m north of the existing service road that cuts across the site. The shellfish is dominated by Black Mussel, with some *C. oculus*, whelk and *Turbo samartica* occurring. No cultural remains were found on the site.

The archaeological heritage remains have been graded low local significance.

STF 12 (GPS reading S° 34 33 001 E° 19 22 648)

The site comprises a very thin, small, surface scatter of Black Mussel, about 20-30 m north of STF 2. No cultural remains were found. The site may well represent the northernmost edge of STF 2, where shellfish remains were also found in the service road.

The archaeological heritage remains have been graded low local significance.

STF 13 (GPS reading S° 34 33 001 E° 19 22 648)

A small, thin, surface scatter of fragmented shellfish, dominated by Black Mussel, occurs about 15 m north of the gravel access road and about 30 m west of STF 9. No cultural remains were located.

The archaeological heritage remains have been graded low local significance.

8.1 Other Finds

About a dozen Early Stone Age² (ESA) and Middle Stone Age³ (MSA) tools were found in the main access road that cuts across the subject property (refer to Figure 2), as well as several smaller minor roads, in the heavily vegetated eastern sector of the proposed site. The tools, in coarse-grained (ESA) and finer-grained (MSA) quartzite, comprise mainly large chunks and flakes. One larger core was also counted. No formal tools such as handaxes, points, or scrapers were found. A few fragments and pieces of shellfish were also noted in the sandy road reserve, but these comprise mainly scattered and isolated bits.

The archaeological heritage remains have been graded low local significance.

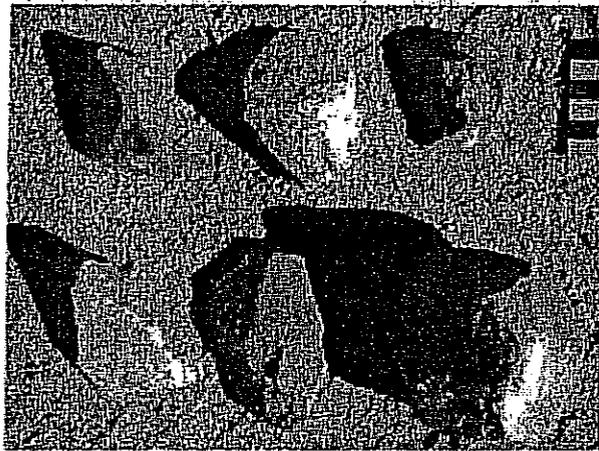


Figure 15. Collection of ESA and smaller MSA stones tools from the site. Scale is in cm.

² A term referring to the period between 2 million and 20 000 years ago.
³ A term referring to the period between 200 000 and 20 000 years ago.

9. IMPACT STATEMENT

Shell midden remains with pottery, stone tools and ostrich eggshell will be negatively impacted by the proposed housing development and associated activities.

Vegetation clearing operations (in the eastern sector of the property) and bulk earthworks and excavations may also impact negatively on hidden or buried shell middens and human burials.

10. RECOMMENDATIONS

With regard to the proposed housing development on Portion 2 of the Farm Strandfontein No. 712 in De Kelders, the following recommendations are made.

- Shovel testing of archaeological heritage remains in STF 1, 2, 8, 9 & 10 are required in order to determine the significance of below ground deposits. If some of the surface scatters are found to have depth and undisturbed deposits, they will have to be sampled by way of controlled archaeological excavation.

- Vegetation clearing operations in the eastern sector of the site must be monitored by a professional archaeologist. Subject to training, these activities could also be undertaken by an Environmental Control Officer. Should any archaeological remains be uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.

- Bulk earthworks and excavations must also be monitored by a professional archaeologist. Subject to training, these activities could also be undertaken by an Environmental Control Officer. Should any archaeological remains be uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.

- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.

- The above recommendations must be included in the Construction Environment Management Plan for the proposed project, to be developed by Johan Neethling Environmental Services.

11. REFERENCES

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