

**HERITAGE IMPACT ASSESSMENT
PROPOSED MIXED USE DEVELOPMENT ON PORTION 5 OF THE
REMAINDER FARM ZANDHOOGTE 139 AND ERF 998 TERGNIET,
NEAR MOSSEL BAY, WESTERN CAPE**

Assessment conducted under Section 38 (3) of the National Heritage Resource Act
(No. 25 of 1999)

Prepared for:

SHARPLES ENVIRONMENTAL SERVICES

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Executive Summary

1. Site name

Proposed Mixed Use Development on Portion 5 of the Remainder Farm Zandhoogte No. 139 & Erf 998 Tergniet, near Mossel Bay

2. Location

South of the N2, near Mossel Bay (Figures 1 & 2).

3. GPS Co-ordinates

S 34° 3'48.90" E 22°11'22.87"

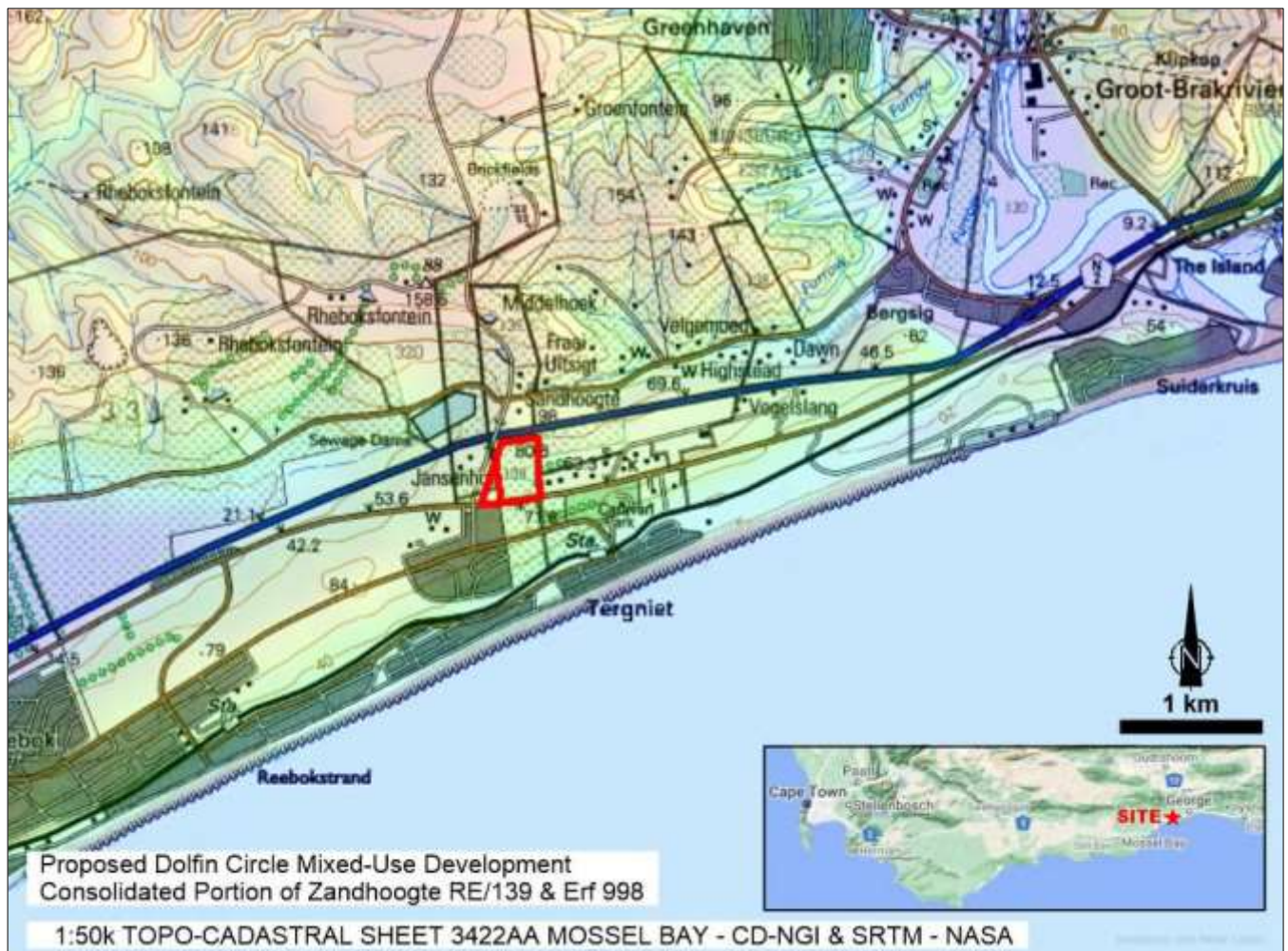


Figure 1. Locality Map (3422AA Mossel Bay) indicating the location of the proposed development site (red polygon) in Tergniet, near Mossel Bay



Figure 2. Google Earth satellite map indicating the location of the study site (yellow pin), near Mossel Bay

2. The development proposal

The application entails the construction of a mixed-use development on the proposed consolidated Erf - a Portion of the Remainder Farm Zandhoogte No. 139, and Erf 998, Tergniet, near Mossel Bay in the southern Cape.

The proposed development includes the following components:

- A Business Zone
- A Community Zone
- A Mixed Use Zone
- A General Residential Zone
- An Open Space Zone, and
- A Transport Zone

Engineering services including internal streets water, sewerage, and electricity will also be provided.

The combined extent of the development is about 10.35ha.

A proposed Sub-Division Plan is illustrated in Figure 3.

Sharples Environmental Services cc is the appointed independent Environmental Assessment Practitioner responsible for facilitating environmental authorisation for the project.

An Environmental Basic Assessment (BA) process will be followed in the application.



Figure 4. Sub-Division Plan of the proposed Dolfin Circle Development

5. Heritage resources identified

5.1 Archaeology

A small number of Middle Stone Age flakes, blades and chunks were recorded on Re Farm 139/5 during a field assessment conducted in May 2023. The archaeological heritage resources, in locally available quartz and quartzite, were found associated with dune mole rat dumps which are widespread across the property, suggesting that Stone Age resources lie buried beneath the surficial sands. No Later Stone Age (LSA) remains such as pottery, ostrich eggshell or surface scatters of marine shellfish were found. No evidence of any occupation site or activity areas was identified, either. Indications therefore are that the archaeological resources encountered most likely represent discarded flakes and flake debris.

A single quartzite chunk was found on Erf 998.

The small number and isolated context in which they were found means that the remains have been graded as having Low archaeological significance / Not Conservation Worthy (NCW).

5.2 Palaeontology

According to consulting palaeontologist John Pether, the main affected formation across the study area, are surficial, loose quartzose coversands. Exposures in the surrounding area indicate that the coversand is not a veneer, but is underlain by older, weathered yellow aeolian sands of a few metres thickness. It is possible that the calcreted Waenuiskrans Formation aeolianite extends beneath the project area and could possibly be intersected but would seem

unlikely in most of the construction excavations. The De Hoopvlei and potentially fossiliferous Kirkwood formations are unlikely to be affected.

The shallow depths of most of the construction excavations will primarily affect the thick coversands of LOW sensitivity, due to the scarcity of fossil bones. The presumed underlying Waenhuiskrans Formation calcrete, if at all present, could be intersected in places in deeper excavations, but the volume of disturbance is unlikely to be substantial, reducing the possibility of fossil bone finds and reducing the potential palaeontological impact of the proposed development on the Waenhuiskrans Formation, to a LOW level.

5.3 Built Environment

Erf 998

A large modern face brick residential home, coffee shop, nursery, landscaped garden, gravel parking area at the entrance to the property, and a small dam, are present on Erf 998.

Re Farm 139/5

Apart from a concrete drinking trough in the northwestern corner of the property alongside the, R103 there are no buildings, foundations, or structures on the property.

5.4 Cultural landscape

Increasing residential, ribbon and infill development characterize the cultural landscape of Tergniet and surrounding suburbs.

A mix of rural agriculture, gated security estates, wastewater treatment works, sand and stone quarries characterize the cultural landscape north and alongside the N2.

5.5 Visual Statement

A proposed mixed use development on Re Farm 139/5 and Erf 998 in Tergniet will ultimately complement the surrounding land use, which is increasingly residential, with associated commercial (e. g. filling station) and retail components (shops).

5.6 Graves

No graves or grave features were, encountered during the field assessment.

6. Comments

Comments from the Mossel Bay Municipality, Interested and Affected Parties and registered conservation bodies will be included in the Final HIA report to be submitted to HWC.

7. Conclusion

The results of the study indicate that a proposed mixed use development on Re Farm 139/5 and Erf 998 Tergniet does not pose a significant threat to local archaeological and palaeontological heritage resources.

Middle Stone Age and Later Stone Age resources may be, exposed during site clearing operations, and in shallow excavations for building foundations on Re Farm 139/5, but the anticipated impact on important archaeological resources is, rated as being Low.

According to Pether (2023), any fossil heritage resources encountered will most likely occur in an archaeological context.

Therefore, there are no objections to the authorization of the proposed project.

8. Recommendations:

8.1 Archaeology

1. No mitigation is required prior to construction excavations commencing.
2. No monitoring is required during the Construction Phase.
3. If any unmarked human remains are uncovered during construction excavations these must be immediately reported to the archaeologist (J. Kaplan 082 321 0172) who will inform Heritage Western Cape. Burials must not be disturbed or removed until inspected by a professional archaeologist.

8.2 Palaeontology

1. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. For successful mitigation, it is crucial that earth works personnel must be involved in mitigation by watching for fossils as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.

The Fossil Finds Procedure provides guidelines to be followed in the event of fossil finds in the excavations.

The above recommendations must be included in the EMP for the proposed development.

9. Author notes

Kaplan, J. 2023. Heritage Impact Assessment, Proposed Mixed Use Development on Portion 5 of Remainder Farm Zandhoogte 139 and Erf 998 Tergniet, Mossel Bay Municipality, Western Cape. Report prepared for Sharples Environmental Services. ACRM, Cape Town

Pether, J. 2023. Palaeontological Assessment, Proposed Dolfin Circle Mixed-Use Development on the Consolidated Erf – A Portion of the Remainder Farm Zandhoogte Re/139 and Erf 998 Tergniet, Mossel Bay Municipality, Mossel Bay Magisterial District, Western Cape. Report prepared for ACRM. John Pether, Kommetjie

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1. INTRODUCTION

ACRM was, appointed by Sharples Environmental Services, on behalf of the applicant, Mr K Pozyn, to conduct a Heritage Impact Assessment (HIA) for a proposed mixed-use development on Portion 5 of Re Farm Zandhoogte No. 139 and Erf 998 Tergniet, near Mossel Bay in the southern Cape (Figures 1 & 2).

A HIA comprising an archaeological field assessment, a palaeontological desktop study, and a Visual Statement was requested by Heritage Western Cape (HWC) following the submission of a Notice of Intent to Develop (HWC Case 23062803).

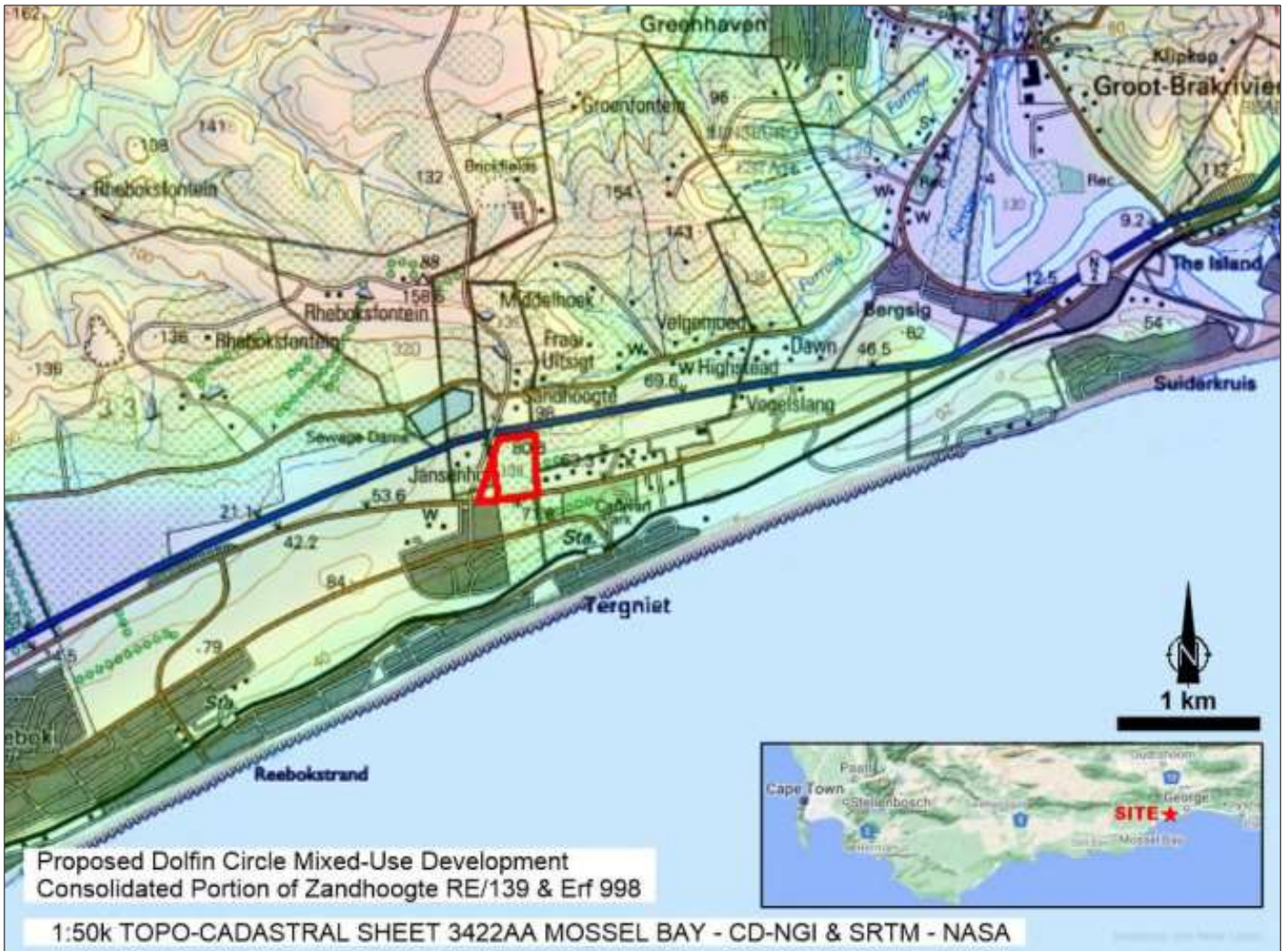


Figure 1. 1:50 000 Locality Map (3422AA Mossel Bay) indicating the location of the proposed development site (red polygon)



Figure 2. Google Earth Satellite Map indicating the location of the proposed development site (yellow pin), near Mossel Bay in the Southern Cape

2. THE DEVELOPMENT PROPOSAL

The application entails the construction of a mixed-use residential and business precinct development on the proposed consolidated Erf - a Portion of Remainder Farm Zandhoogte 139, and Erf 998 Tergniet, near Mossel Bay in the Southern Cape.

The combined extent of the development is about 10.35ha.

The properties, currently zone Agriculture, will need to be rezoned and subdivided in order for the development to proceed.

Sharples Environmental Services is the appointed independent Environmental Assessment Practitioner responsible for facilitating environmental authorisation for the project.

An Environmental Basic Assessment (BA) process will be followed in the application.

The proposed development includes the following components:

- Business Zone erven (\pm 3.78ha)
- Community Zone (\pm 0.5ha)
- Mixed Use Zone (\pm 1.0ha)
- General Residential Zone (\pm 2.36ha)
- Open Space Zone (\pm 0.37ha)
- Transport Zone (\pm 1.25ha)
- Split Business & Open Space Zone (\pm 1.94ha)

Engineering services such as internal streets water, sewerage, and electricity will also be provided.

A Sub-Division Plan of the proposed development is illustrated in Figure 3.

Note: A previous mixed use development proposal on Erf 998 was approved by HWC in July 2021 (HWC Case 21062910).



Figure 3. Subdivision Plan for the proposed Dolphin Circle Development near Mossel Bay

3. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA No. 25 of 1999) protects archaeological and palaeontological sites and materials, as well as graves/cemeteries, battlefield sites and buildings, structures and features over 60 years old. It is an offence to destroy, damage, excavate, alter or remove from its original place, or collect, any archaeological, palaeontological and historical material or object, without a permit issued by the SAHRA or applicable Provincial Heritage Resources Agency, viz. Heritage Western Cape (HWC).

Notification of HWC is required for proposed developments exceeding certain dimensions (Sect. 38), upon which they will decide whether or not the development must be assessed for heritage impacts (an HIA) that may include an assessment of archaeological (a AIA) or palaeontological heritage (a PIA).

4. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The proposed development site is located south of the N2, in the residential suburb of Tergniet, just a few kilometers north of Klein Brak River. Access to the site is via the R102, off the N2 (Figure 4). Both properties are located inside the urban edge and are currently earmarked for development.

At ± 8.5ha in extent, Re Farm 139/5 is a slightly sloping, vacant piece of undeveloped land covered in thick grass, and large patches of Restio, on a substrate of deep, loose sand (Figures 5-8). A few sporadic trees occur in places. Dune mole rat activity is extensive across the property. There is very little surface stone covering the proposed development site. There are no significant landscape features such as rocky outcrops on the site, and no streams or springs or any other natural source of water. Surrounding land use is residential with increasing infill development. The National Road/N2 is a hard boundary in the north, with a Wastewater Treatment Works (WWTW), and agriculture (grazing, dairy, center pivot irrigation) north of the N2.



Figure 4. The proposed development site (red polygon) and the surrounding land use.



Figure 5. Re Farm 139/5. View facing northeast from the, R102 (May 2023).



Figure 6. Re Farm 139/5. View facing southeast (May 2023)



Figure 7. Re Farm 139/5. View facing southwest (May 2023)



Figure 8. Re Farm 139/5. View facing northwest (May 2023)

Erf 998 (\pm 2.5ha in extent) has already been developed, and includes a large modern face brick residential home, a small coffee shop/restaurant, landscaped garden, nursery, dam, and large gravel parking area at the entrance. A thin strip of land in the north, bordering Sorgfontein Road and the western boundary of Re Farm 139/1 is undeveloped and covered in grass and weeds, with some dumping and digging present (Figure 9-13).



Figure 9. Entrance to Droombos Coffee shop (Erf 998), from Sorgfontein Road



Figure 10. Residential home on Erf 998.



Figure 11. Erf 998. View facing south.



Figure 12. Erf 998. View facing northwest



Figure 13. Erf 998. View facing directly south. All the existing infrastructure is in the south. Sorgfontein Road is to the right of the plate.

5. STUDY APPROACH

The overall purpose of the study is to assess the sensitivity of archaeological, and palaeontological heritage resources across the proposed development site, to determine the potential impacts of the development on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

A field assessment was conducted by ACRM on 17 May 2023.

A desktop study was carried out to assess the heritage context surrounding the proposed site.

The desktop Palaeontological Impact Assessment (PIA) is to inform about the palaeontological sensitivities of the proposed development site and the probability of fossils being uncovered in the subsurface and being disturbed or destroyed during the Construction Phase of the development.

The PIA is based on the following:

1. A review of the relevant scientific literature, as well as satellite images,
2. Published geological maps, and
3. Background information and maps supplied for the project

5.1 Constraints and limitations

Access to the study site was easy, but Re Farm 139/5 was covered in thick grass, and large patches of Restio resulting in low archaeological visibility.

5.2 Identification of potential risks

Middle Stone Age and Later Stone Age heritage resources may be exposed during site clearing operations and in shallow excavations for building foundations on Re Farm 139/5.

6. ARCHAEOLOGICAL CONTEXT

Later Stone Age (LSA) shell middens have been recorded near the mouths of the Klein Brak, Groot Brak and Hartenbos Rivers (Kaplan 1993). The absence of a rocky shoreline along this sandy stretch of coastline, (fringe reefs occur) however, may account for the small traces where shellfish (possibly oysters) would have been harvested by LSA hunter-gatherer-fishers. In comparison, large numbers of shell middens, scatters of stone tools, pottery and ostrich eggshell have all been recorded south of Mossel Bay, which is characterised by a high-energy shoreline, with steep coastal cliffs, rocky shoreline, and a mobile back dune area (Kaplan 1993, 1994, 1997, 1998a, b, 2004, 2005a).

Surrounding the study area, Early Stone Age (ESA) and Middle Stone Age (MSA) tools have been recorded at Outeniquasbosch and Monte Christo (Kaplan 2007), while large numbers of ESA resources, including cores, Large Cutting Tools, and handaxes have been recorded at Kleingeluk Quarry (Kaplan 2022, 2009) near Hartenbos. ESA and MSA tools were also recorded by Nilssen (2005b, c) at Hartenbos Heuwels and Kwanonqaba, while ESA resources were recorded by Kaplan (2021) inside the urban edge at Hartenbos. Nilssen (2005d) also recorded relatively large numbers of ESA, and MSA resources, as well as LSA pastoralist pottery on the undulating dunes behind the railway line between the Hartenbos and Klein Brak Rivers. Historical ruins, features and graves were also recorded by Nilssen (2005d).

7. RESULTS

7.1 Archaeology

A small number of Middle Stone Age resources, including flakes, blades, and chunks were recorded on Re Farm 139/5 (Figure 14 & Table 1). The remains, all in locally available quartzite and quartz were found associated with dune mole rat dumps which are widespread across the property suggesting that Stone Age resources lie buried beneath the surficial sands.

No Later Stone Age (LSA) remains such as pottery, ostrich eggshell or surface scatters of marine shellfish were found. No evidence of any occupation site or activity areas was identified, either. Indications therefore are that the archaeological resources encountered during the study most likely represent discarded flakes and flake debris.

A single quartzite chunk was found on Erf 998.

The small numbers and isolated context in which they found mean that the remains have been graded as having low archaeological significance, and Not Conservation Worthy (NCW).

A collection of tools recorded during the study is illustrated in Figure 15.



Figure 14. Track paths in blue and waypoints of archaeological finds

Point	Name of Farm	GPS co-ordinates	Description of finds	Grading	Mitigation
	Erf 998 & Re Farm 139/5				
016		S34° 03.767' E22° 11.326'	Quartzite chunk	NCW	None required
017		S34° 03.697' E22° 11.428'	Quartz chunk	NCW	None required
018		S34° 03.822' E22° 11.399'	MSA snapped quartzite flake	NCW	None required
019		S34° 03'437' E 22°11.223"	MSA quartzite flake	NCW	None required
020		S34° 03.870' E22° 11.374'	Quartz flake	NCW	None required
021		S34° 03.799' E22° 11.343'	Broken quartzite flake	NCW	None required
022		S34° 03.805' E22° 11.346'	Quartzite chunk	NCW	None required
023		S34° 03.881' E22° 11.356'	Concrete drinking trough	NCW	None required
024		S34° 03.802' E22° 11.334'	Quartzite chunk	NCW	None required

Table 1. Spreadsheet of waypoints & description of archaeological resources.



Figure 15. Collection of tools, mostly flake debris, encountered during the study. Ruler scale is in cm.

7.2 Palaeontology

According to the consulting palaeontologist John Pether (2023), the main affected formation across the study area, are surficial, loose quartzose Qg coversands. Exposures in the surrounding area indicate that the coversand is not a thin veneer, but is underlain by older, weathered yellow aeolian sands of a few metres in thickness.

It is also possible, according to Pether (2023) that the calcreted Waenhuiskrans Formation aeolianite extends beneath the Project Area and could possibly be intersected but would seem unlikely in most of the construction excavations. The De Hoopvlei and potentially fossiliferous Kirkwood formations are (also) unlikely to be affected.

Pether (2023) notes that the shallow depths of most of the development excavations for construction and infrastructure will 'primarily affect the thick Qg coversands of LOW sensitivity', due to the scarcity of fossil bones. The presumed underlying Waenhuiskrans Fm. calcrete, if at all present, could be intersected in places in deeper excavations, but 'the volume of disturbance is unlikely to be substantial, reducing the possibility of fossil bone finds and

reducing the potential palaeontological impact of the proposed development on the Waenhuiskrans Fm. to a LOW level’.

According to Pether (2023) the SAHRIS Palaeontological Sensitivity map shows the Project Area with a VERY HIGH sensitivity (Figure 16). However, the map is based on the outdated 1979 Oudtshoorn 1:250 000 geological map, which is superseded in part by the 1993 1:50 000 Mossel Bay geological map (Figure 17). The revised geology shows the Project Area and surrounds covered by a thick mantle of non-shelly, quartzose coversands Qg. The Qg coversands in general have low potential for fossil bones and are usually rated as LOW/BBLUE, but fossil bone finds, and archaeological material are more common close to the coast and in the vicinity of water sources inland.

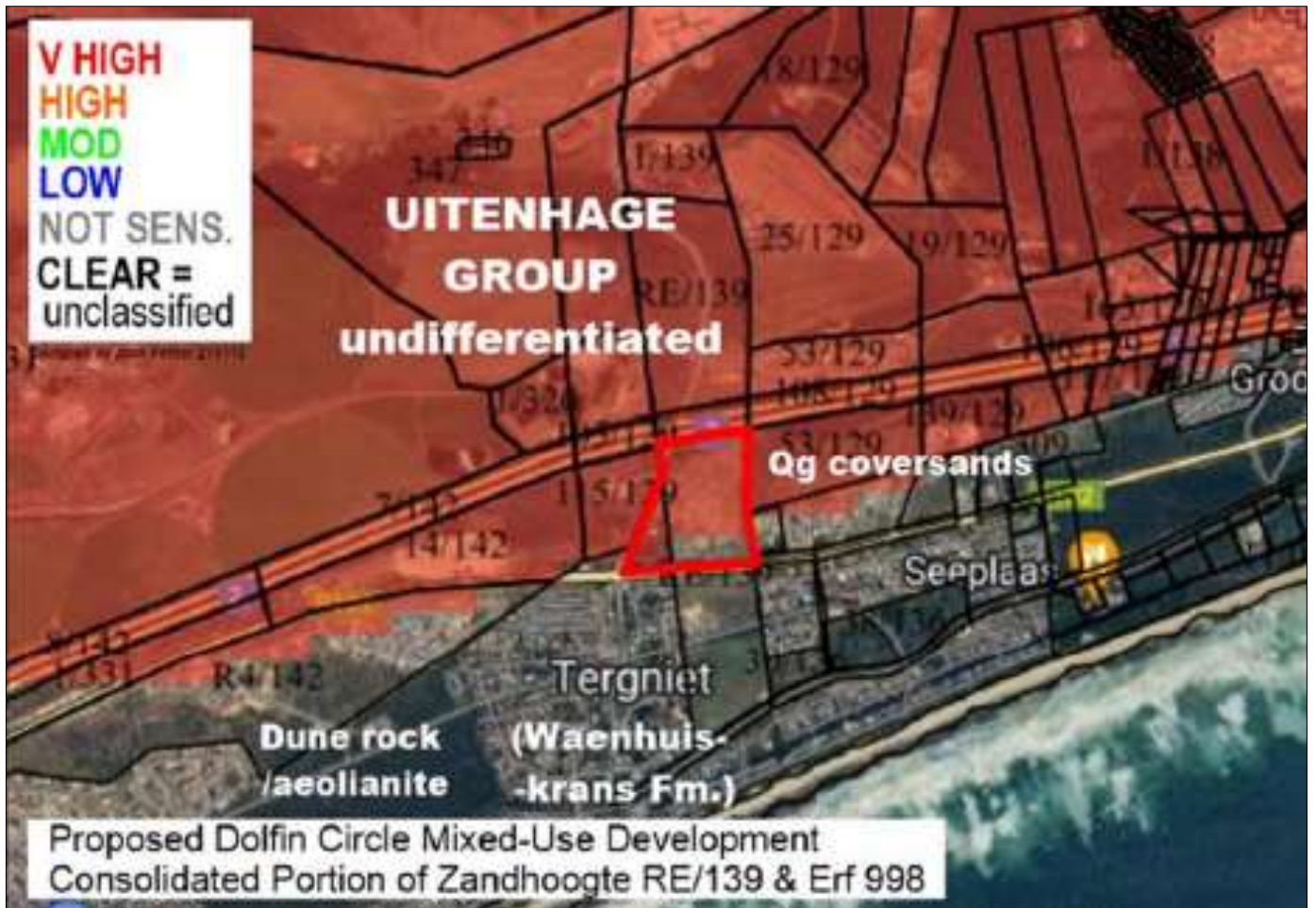


Figure 16. SAHRIS palaeo-sensitivity map (Pether 2023)

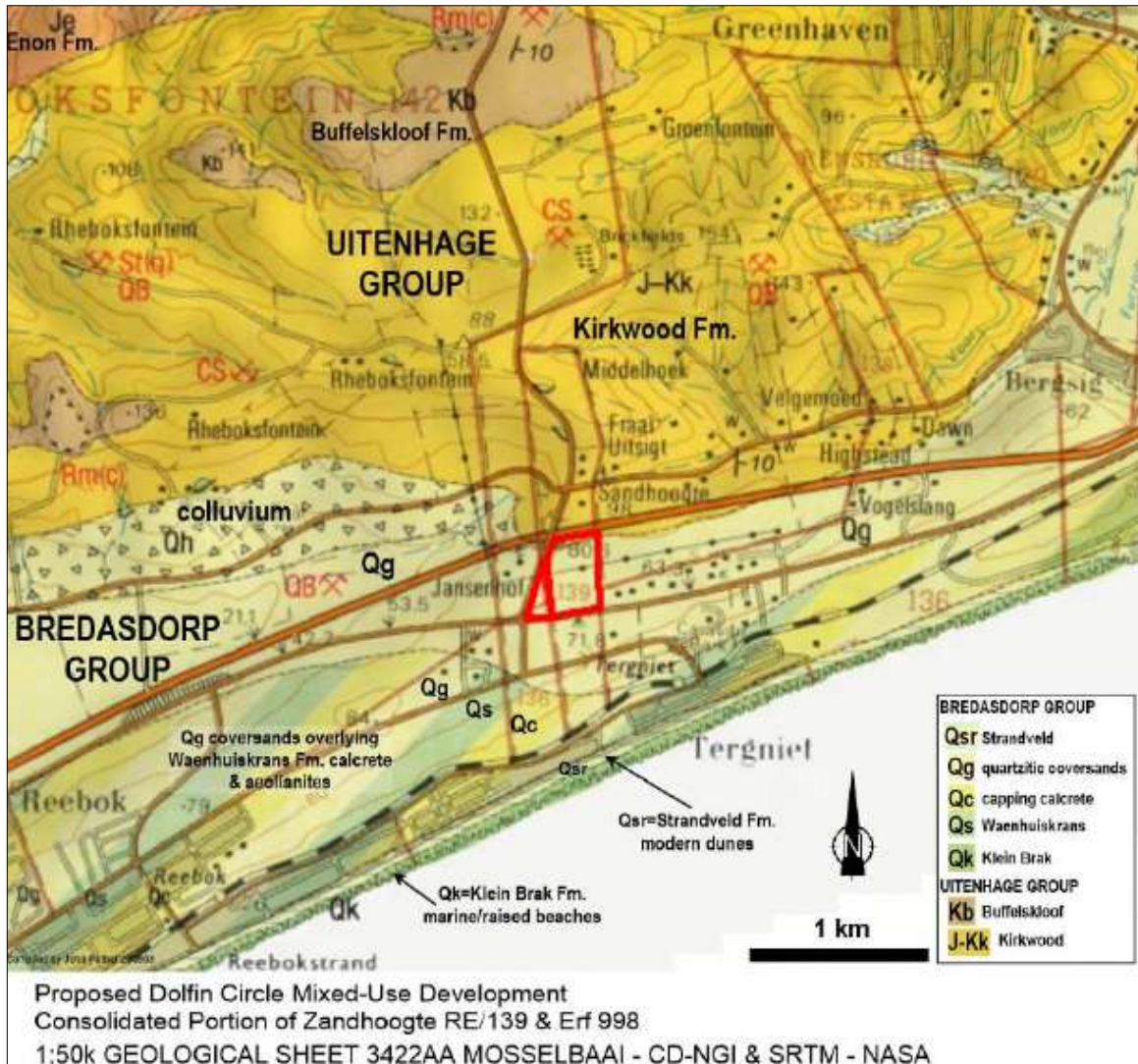


Figure 17. Surface geology of the project area and surrounds (Pether 2023)

7.3 Graves

No graves or typical grave features were encountered during the field assessment.

7.4 Built Environment

Erf 998

A large modern face brick residential home, coffee shop, nursery, landscaped garden, gravel parking area, and a small dam, are present on Erf 998.

Re Farm 139/5

Apart from a concrete drinking trough in the northwestern corner of the property alongside the R103 there are no buildings, old foundations, or structures on the proposed site.

7.5 Cultural landscape

Increasing residential, ribbon and infill development characterize the cultural landscape of Tergniet and surrounding residential suburbs.

A mix of rural agriculture, gated security estates, wastewater treatment works, sand and stone quarries characterize the cultural landscape north and alongside the N2.

7.6 Visual Statement

A proposed mixed use development on Re Farm 139/5 and Erf 998 in Tergniet, near Mossel Bay will ultimately complement the surrounding land use, which is increasingly residential, with associated commercial (e. g. filling station) and retail components (shops).

8. COMMENTS

Comments from the Mossel Bay Municipality, Interested and Affected Parties and registered conservation bodies will be included in the Final HIA report to be submitted to HWC.

9. IMPACT STATEMENT

Indications are that the proposed Dolfin Beach Mixed Use development on Re Farm 139/5 and Erf 998 will not impact on important archaeological heritage resources.

The impact of the proposed development on paleontological heritage is also rated as being Low (Pether 2023).

10. CONCLUSION

The results of the study indicate that a proposed mixed use development on Re Farm 139/5 and Erf 998 Tergniet, does not pose a significant threat to local archaeological and palaeontological heritage resources.

Middle Stone Age and Later Stone Age resources may be, exposed during site clearing operations, and in shallow excavations for building foundations on Re Farm 139/5, but the anticipated impact on important pre-colonial archaeological resources is, rated as being Low.

According to Pether (2023), any fossil heritage resources encountered will most likely occur in an archaeological context.

Therefore, there are no objections to the authorization of the project.

11. RECOMMENDATIONS

Regarding a proposed mixed use development on Rem Farm 139/5 and Erf 998 Tergniet, the following recommendations are, made:

11.1 Archaeology

1. No archaeological mitigation is required prior to construction excavations commencing.
2. No archaeological monitoring is required during the Construction Phase.
3. In the unlikely that any human remains are uncovered during construction activities; these must be immediately reported to the archaeologist (J Kaplan 082 3210172) who will inform

Heritage Western Cape. Burials must not be disturbed or removed until inspected by a professional archaeologist.

11.2 Palaeontology

1. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. For successful mitigation, it is crucial that earth works personnel must be involved in mitigation by watching for fossils as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.

The Fossil Finds Procedure included as Appendix A provides guidelines to be followed in the event of fossil finds in the excavations.

The above recommendations must be included in the Environmental Management Plan (EMP) for the proposed development.

12. REFERENCES

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Heritage Impact Assessment, Proposed Mixed Use Development in Tergniet, near Mossel Bay

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