HERITAGE IMPACT ASSESSMENT

PROPOSED HOUSING DEVELOPMENT ON REMAINDER ERF 299 JACOBSBAAI WESTERN CAPE

HWC Case No. 130807GT09

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

Prepared for

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Executive summary

ACRM was commissioned to conduct a Heritage Impact Assessment (HIA) for a proposed housing development on Remainder Erf 299 in Jacobsbaai on the Cape West coast. The total area of the property to be developed is 4.8 ha. The development envisages the construction of 56 residential erven, including infrastructure such as internal streets and services.

Heritage Western Cape (HWC Case No. 130807GT09) has requested that a HIA, consisting of an archaeological and a palaeontological study, must be done.

Numerous surveys have shown that Jacobsbaai is a sensitive archaeological landscape.

The region is also known to be potentially fossiliferous.

ACRM was instructed to undertake the archaeological study, while Dr John Pether was commissioned to do the specialist palaeontological, desktop study.

Archaeology

A survey of the proposed development site was undertaken in August 2013, in which the following observations were made:

- A few isolated, Later Stone Age lithics were recovered.
- Diffuse scatters of marine shellfish were encountered over the subject property.

The very small numbers of lithics and the low density scatters of shellfish mean that the archaeological occurrences have been rated as having low (Grade 3C) significance.

The results of the study indicate that a proposed housing development on Remainder Erf 299 will not have a negative impact on the archaeological heritage.

It is should be noted that test excavations done on the property immediately adjacent the proposed site did not recover any significant sub-surface archaeological deposits and that the low density of cultural material indicated a very limited hunter-gatherer occupation of the back dune area.

There is no visible surface calcrete on the proposed site, but it is possible that some Pleistocene archaeology may be exposed if buried limestone and associated deposits are intercepted during excavations for services and foundations.

Palaeontology

According to Dr Pether, excavation trenches for foundations and services will penetrate into the Langebaan Formation aeolianites, below the surface windblown sands, and will also likely intersect fossil beach deposits of the older part of the Velddrif Formation. It is, however, expected that any shells and bones in the windblown sands and on top of any hard calcretes, will likely occur in an archaeological context.

The underlying aeolianites of the Langebaan Formation have a generally sparse, but important fossil content. Common fossils include shells of land snails, tortoises, ostrich including egg fragments, scattered bones etc. Bone concentrations accumulated by hyenas are not uncommon in these formations as well.

The pre-Last Interglacial (LIG) marine deposits of the Velddrif Formation are poorly known and require systematic sampling for fossil content. Some fossil finds suggest that, as during the LIG, warm-water extra-limitals and extinct species are present, but the data are few. In addition to shells, scattered bones may occur in these older deposits as well.

Recommendations

Archaeology

1. Bulk earthworks must be monitored during the construction phase. Most of the monitoring can be done by the ECO (Environmental Control Officer) in consultation with the archaeologist, but the archaeologist must visit the site at least once a week during construction.

   An archaeological monitoring plan must be presented to Heritage Western Cape for approval.

2. Should any buried human remains, or ostrich eggshell caches, for example, be exposed during construction activities, these must immediately be reported to Heritage Western Cape (Att: Mr Guy Thomas 483 9685), or the archaeologist (Jonathan Kaplan 082 321 0172).

Palaeontology

1. Bulk earthworks and the excavated material must be monitored for the occurrence of archaeological material and possible fossils, particularly fossil bones. During the excavation of the trenches, the on-site personnel must be alert to the occurrence of fossil bones and shells. The ECO and construction supervisor must inform staff of the need to watch for potential fossil occurrences.

   In the event of possible fossil and/or archaeological finds, the contracted archaeologist or palaeontologist must be contacted.

   For possible fossil finds, the palaeontologist will assess the information and liaise with the developer and the ECO and a suitable response will be established.

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1. INTRODUCTION

Conradie Goodwin & Associates, on behalf of Forellendam (Pty) Ltd requested that the Agency for Cultural Resource Management (ACRM) conduct a Heritage Impact Assessment (HIA) for a proposed housing development on Remainder Erf 299 in Jacobsbaai in the Western Cape (Figures 1 & 2).

The total area of the property to be developed is 4.8 ha.

The development envisages the construction of 56 residential erven (of between 500 & 600m²), and associated infrastructure such as internal roads and services (Figure 3).

As required, a Notification of Intent to Develop was submitted to Heritage Western Cape (HWC) for comment. In a letter dated 21 August, 2013 (Case No. 130807G09) HWC requested that a HIA, consisting of an archaeological and a palaeontological study, must be done.

ACRM was instructed to undertake the archaeological study and to facilitate the HIA, while Dr John Pether was commissioned to do a specialist palaeontological study, desktop study.

Figure 1. Locality map. The location site for the proposed development is indicated by the red dot

Figure 2. Aerial photograph indicating the location site of Erf 299

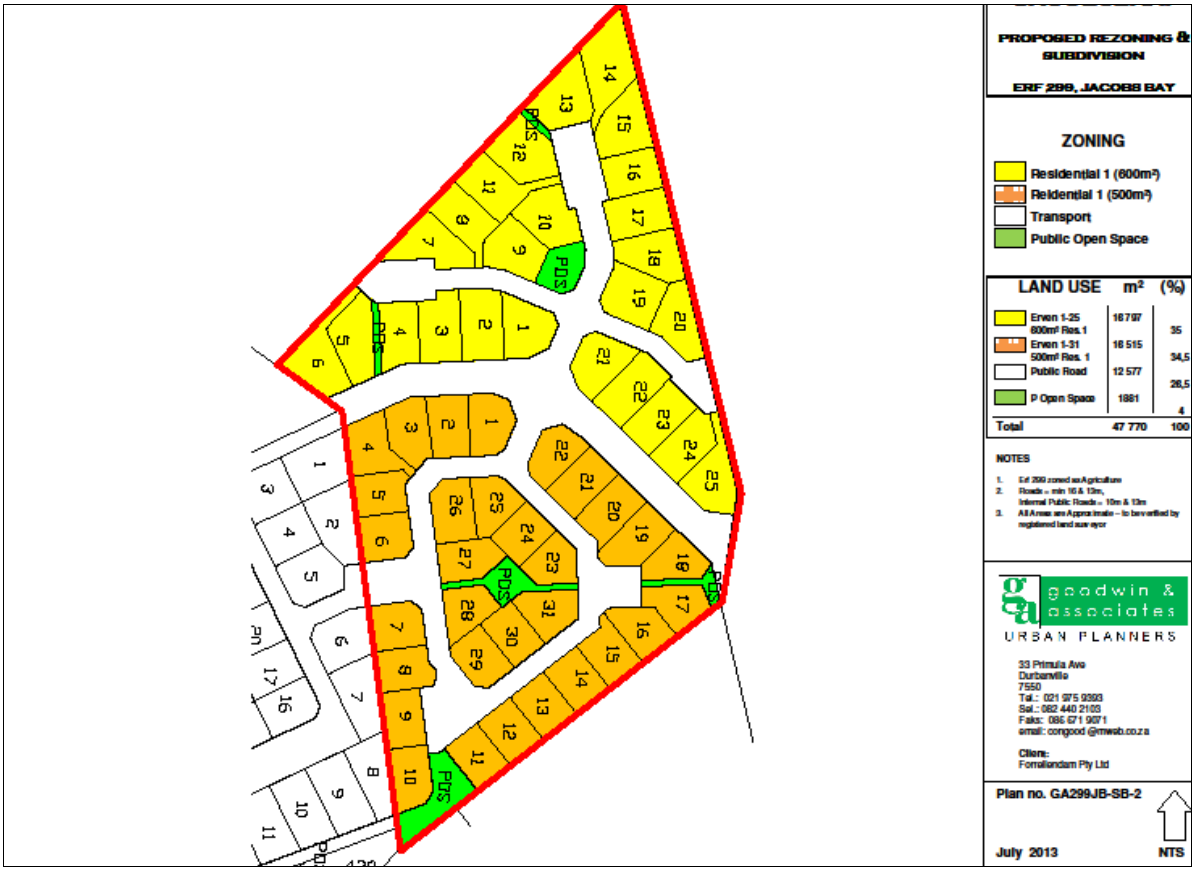

Figure 3. Proposed site development plan for Remainder Erf 299, Jacobsbaai

2. DESCRIPTION OF THE RECEIVING ENVIRONMENT

Erf 299 is situated on the right hand side of the road as one enters Jacobsbaai from Vredenburg/Saldanha Bay, and about 200m inland from the small harbour at the end of the road (Figure 4).

Comprising old agricultural lands, the proposed development site is fairly flat and covered in dense vegetation (Figures 5-9). Large stands of Manitoka trees occur in the south east of the back dune area, while several other trees occur sporadically over the remainder of the property. A gravel road intersects the site and extensive diggings are visible alongside the main road. Dune mole rat and burrowing is quite widespread. The surface sands are gritty and compact. There are no significant landscape features on the affected property, although there is a wetland area further to the east, some distance from the proposed development area. Apart from the gravel road, the only other infrastructure on the proposed site, are a few wooden fence poles.

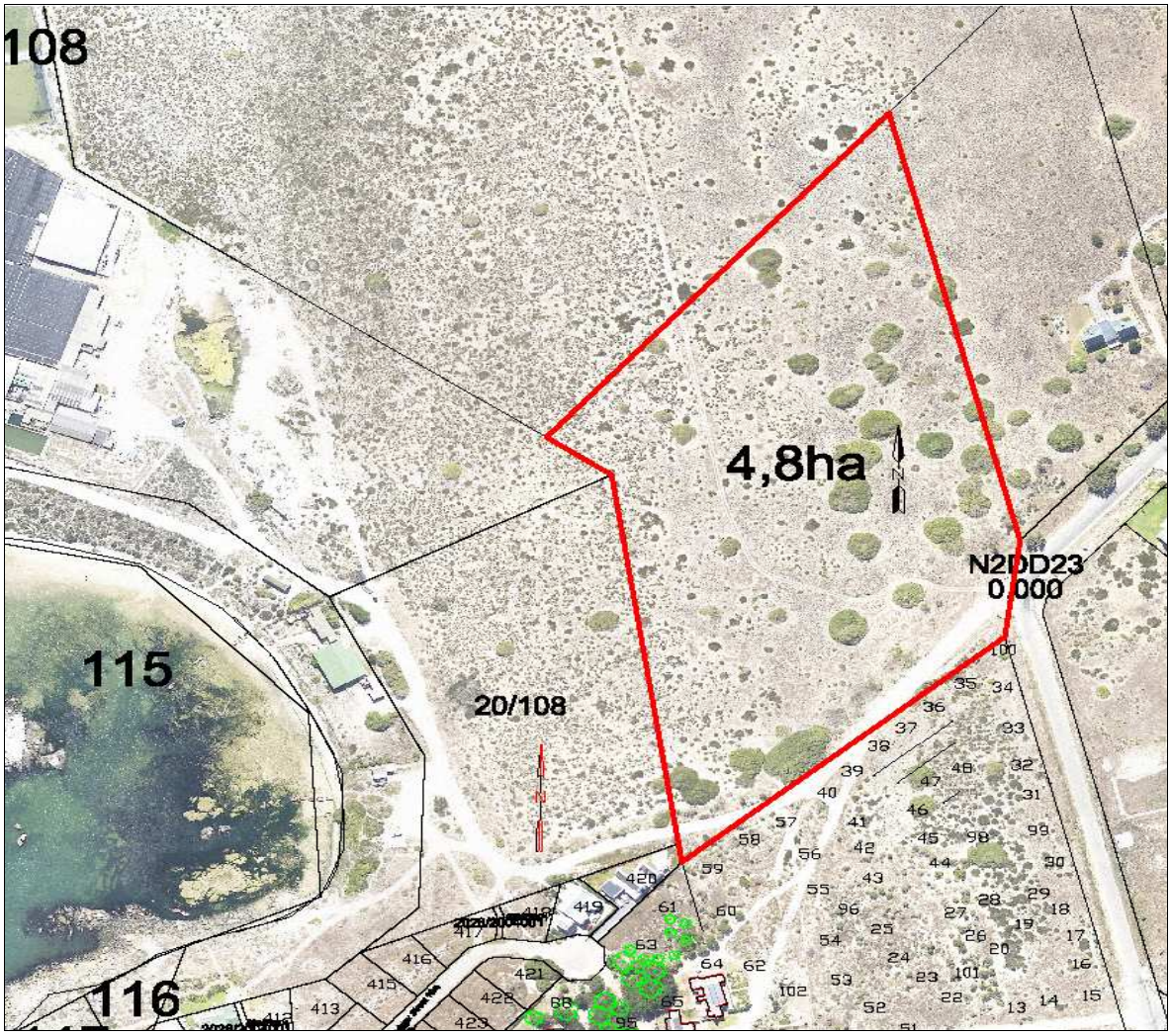

Figure 4. Aerial photograph illustrating the boundary of Rmd Erf 299, Jacobsbaai


Figure 5. View of the study site facing south west


Figure 6. View of the study site facing south west


Figure 7. View of the study site facing west

Figure 8. View of the study site facing south west

Figure 9. View of the study site facing west

3. STUDY APPROACH

3.1 Method

A detailed foot survey of the proposed development site was undertaken on 25th July, 2013 (refer to track path in Appendix I).

Visible archaeological occurrences located during the study were recorded using a hand held GPS device set on map datum wgs 84.

A desktop study was also done.

3.2 Constraints and limitations

There were no major constraints associated with the study but a significantly large portion of the proposed development site is heavily vegetated resulting in low archaeological visibility.

3.3 Identification of potential risks

Based on the results of the field and desk top study, the following risk sources have been identified

- Unmarked human burials and buried ostrich eggshell caches for example, may be uncovered during earthmoving operations.

- Stone artefacts may be uncovered during bulk earthworks, but these are expected to be limited.

- Vertebrate fossils (bones), fossil shell and Pleistocene archaeology may be exposed if underlying limestone and associated deposits are intercepted during excavations for foundations and services (Pether 2013).

3.4 Archaeological desktop study

Pre-colonial human presence in the Jacobsbaai area was first recognized more than 60 years ago when Bateman (1946) described shell middens in the dunes between Jacobsbaai and Hospital Point. In later years surveys done by archaeologists from the South African Museum and the University of Cape Town (Thackeray & Cronin 1975; Avery 1975; Parkington & Poggenpoel 1987) noted the archaeological potential of the region and especially its vulnerability to future residential development (see also Kaplan 1993). In the last 15 years, housing developments at Jacobsbaai has increased rapidly, resulting in numerous surveys taking place as part of the EIA process. Archaeological Impact Assessments (AIA's) have documented large numbers of sites in the Jacobsbaai area (Kaplan 2013, 2011, 2007a, b, 2006a, b, 2005a, b, 2004a, 2003a, b; Yates & Henshilwood n.d.), mainly shell middens that occur immediately inland of the rocky shoreline.

Large volumes of shellfish and modest amounts of bone, stone tools, ostrich eggshell and pottery have been generated during test excavations (Kaplan 2004b, c) and in Erf 6 near the small harbour, a radiocarbon date of 1604 - 1489 BP, was obtained from a shellfish sample (Kaplan 2005c).

Sampling of deposits on Farm 108/20 directly adjacent Erf 299 (refer to Figure 4), did not reveal important sub surface remains, apart from small numbers of LSA stone flakes (Smith & Mutti 2008). No pottery was found in any of the areas tested, leading to the suggestion that the site was older than 2000 years.

Monitoring of construction activities for several developments in Jacobsbaai have not revealed important remains, apart from marginal amounts of shellfish, a few stone flakes and some 19th century porcelain (Kaplan 2007c, 2005a).

A Khoisan burial was reportedly uncovered during bulk excavations for the Jacobsbaai Perlemoen factory in 2005, but this was never verified or confirmed by the archaeologist.

Sadly, destruction of archaeological heritage at Jacobsbaai (and Gonnemanskraal for example) continues to take place (Kaplan 2013).

It is also well established that vertebrate fossils (bone) and Middle Stone Age Pleistocene archaeological occurrences are contained in limestone formations in the Vredenburg-Saldanha Bay region (see for example Berger & Parkington 1995), although none such occurrences have yet been documented in Jacobsbaai. At Swartriet, however, about 2 kms to the north, 200-250 000 year old vertebrate fossils, including a possible human humerus, have been found embedded in limestone below the high water mark (Kaplan 2005b).

4. FINDINGS

4.1 Archaeology

Very little archaeological heritage was encountered in the 4.8ha footprint area of the proposed development site (refer to Figure 14 in Appendix I).

A single quartz chunk (054), a silcrete flake (055), and a very small (± 1 x 1m²) scatter of weathered shellfish (056) and a few small whole shell (S. cochlear) was encountered in the south western portion of the property. No cultural remains were found.

No shellfish was noted among any of the dune mole rat heaps inspected, suggesting that little sub surface deposits occur over the proposed development area. This is also indicated by the results of test excavations done by Smith and Mutti (2002) on Farm 108/20. Interestingly, though, fairly modest shell deposits were found on some of the dune mole rat dumps further to the east, outside the proposed development site, overlooking the wetland area.

A diffuse scatter of shellfish (057), about 3 x 3m² in extent comprising a few whole shells (S. oculus & C. granatina) and fragments of limpets, were encountered on compact gritty sands in the far north eastern corner of the proposed site (Figure 10). One manuport (a round shale cobble) was found, but no other cultural remains were noted.

Site 058 (probably an extension of 057) comprises a wider surface scatter of shellfish, including some whole limpet (C. granatina & C. argenvillei), but mainly weathered and fragmented limpet shell, situated just outside the northern boundary of the proposed footprint area (Figures 11 & 12, & refer to Figure 14). A fragment of Perlemoen (Haliotis) was also found. The scatter measures about 5 x 6m² in extent, thinning out to the north. One flat round milled stone and one silcrete flake was found on the compact sands, but no pottery, bone or ostrich eggshell was found.

Sites 065 and 068 are located between 160 and 180m north of the boundary of the proposed development site. 065 is a small patch of fragmented shellfish (limpet and Black Mussel), and a few large whole C. argenvillei, and smaller C. granatina, and S. oculus on compact sands. No cultural remains were found.

Site 068 comprises fragments of limpet (C. granatina & S. oculus) associated with several dune mole rat heaps, within a large grassed area, underlain by loose brown sands. A few whole C. granatina were noted lying about, and several crude quartzite LSA flakes were also found. This expansive grassed area (a few sporadic Manitoka trees occur in places) overlooks the wetland in the east.

Site 069 (Figure 13) comprises small weathered fragments of shellfish (limpet) associated with the loose sands of mole rat dumps, outside the proposed footprint area (refer to Figure 14), close to the boundary of a small holding property.

Figure 10. Site 057 view facing west.

Figure 11. Site 058 occurs outside the proposed site. View facing south east

Figure 12. Site 058 occurs outside the proposed site. View facing west

Figure 13. Site 069 occurs outside the proposed site. View facing west

4.2 Significance of the archaeological finds

The archaeological remains (054, 055, 056 & 057) in the proposed development site have been rated as having low (Grade 3C) significance. The occurrences comprise a few isolated lithics (054 & 055), a thin almost imperceptible scatter of shellfish (056), and a larger, more coherent scatter of shellfish (057), the bulk of which (058) is located just outside the footprint area of the proposed site.

Sites 065, 068 and 069 occur outside the footprint area of the proposed development site and will not be impacted by development activities.

4.3 Palaeontology

According to Pether (2013) excavations trenches made for foundations and/or services will penetrate into the Langebaan Formation calcreted aeolianites, and also likely intersect underlying fossiliferous beach deposits of the older part of the Velddrif Formation.

It is expected that any shells and bones in the surface windblown sands, above the calcreted aeolianites will very likely occur in an archaeological context. Pether (2013), notes that excavations may also intersect human burials.

The underlying aeolianites of the Langebaan Formation have a generally sparse, but important fossil bone content. Common fossils include shells of land snails, tortoises, ostrich including egg fragments, and sparsely scattered bones. Bone and shell concentrations related to Early and Middle Stone Age Pleistocene archaeological sites may also occur in this context, in its calcreted upper part.

Bone concentrations (of antelopes and small carnivores) made by hyena's are also not uncommon in hardened hollows of these limestone deposits and provide samples of the local faunas of the past, which often differ from the historical fauna.

The expected pre-Last Interglacial (LIG) marine deposits of the Velddrif Formation are poorly known and require systematic sampling for fossil content. Some fossil finds suggest that, as during the LIG, warm-water extra-limitals and extinct shell species are present, but the data are few. In addition to shells, scattered bones may occur in these older deposits as well, such as bones of whales, dolphins, seals, seabirds etc., but are much rarer.

5. PREDICTED IMPACTS

5.1 Archaeology

The results of the study indicate that the proposed development of Remainder Erf 299 is unlikely to have a negative impact on the archaeological heritage.

Test excavations on Farm 108/20 did not reveal any significant sub surface deposits, indicating limited occupation by hunter gatherers in this area (Smith & Muti 2008).

Unmarked human burials and buried ostrich eggshell caches may be exposed during earthmoving operations and it should be noted that a burial was intercepted during

excavations for the abalone farm near the harbour at Jacobsbaai, while a burial was also found in an, illegal sand mine at Swartriet further to the north (Kaplan 2005b).

5.2 Palaeontology

While no visible surface limestone was observed in the proposed 4.8ha footprint area, it is possible that Pleistocene archaeological heritage, vertebrate fossils (bones) and fossil shell may be uncovered if underlying limestone and older Veldriff Formation deposits are intercepted during building excavations (Pether 2013).

6. RECOMMENDATIONS

With regard to the proposed development of a housing project on Remainder Erf 299 in Jacobsbaai the following recommendations are made:

6.1 Archaeology

1. Bulk earthworks must be monitored during the construction phase. Most of the monitoring can be done by the ECO (Environmental Control Officer) in consultation with the archaeologist, but the archaeologist must visit the site at least once a week during construction.

An archaeological monitoring plan must be presented to Heritage Western Cape for approval.

2. Should any unmarked human remains, or ostrich eggshell caches be exposed or uncovered during construction, these must immediately be reported to Heritage Western Cape (Att: Mr Guy Thomas 021 483 9685), or the archaeologist (Jonathan Kaplan 082 321 0172)

6.2 Palaeontology

1. It is recommended that bulk earth works and the excavated material be monitored for the occurrence of archaeological material and possible fossils, particularly fossil bones. During the excavation of the trenches the on-site personnel must be alert to the occurrence of fossil bones and shells. The ECO and construction supervisor must inform staff of the need to watch for potential fossil occurrences.

Appendices 1 and 2 (in Pether 2013) outline monitoring by construction personnel and general Fossil Find Procedures.

In the event of possible fossil and/or archaeological finds, the contracted archaeologist or palaeontologist must be contacted. For possible fossil finds, the palaeontologist will assess the information and liaise with the developer and the ECO and a suitable response will be established.

7. REFERENCES

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Appendix I

Track path and archaeological waypoints

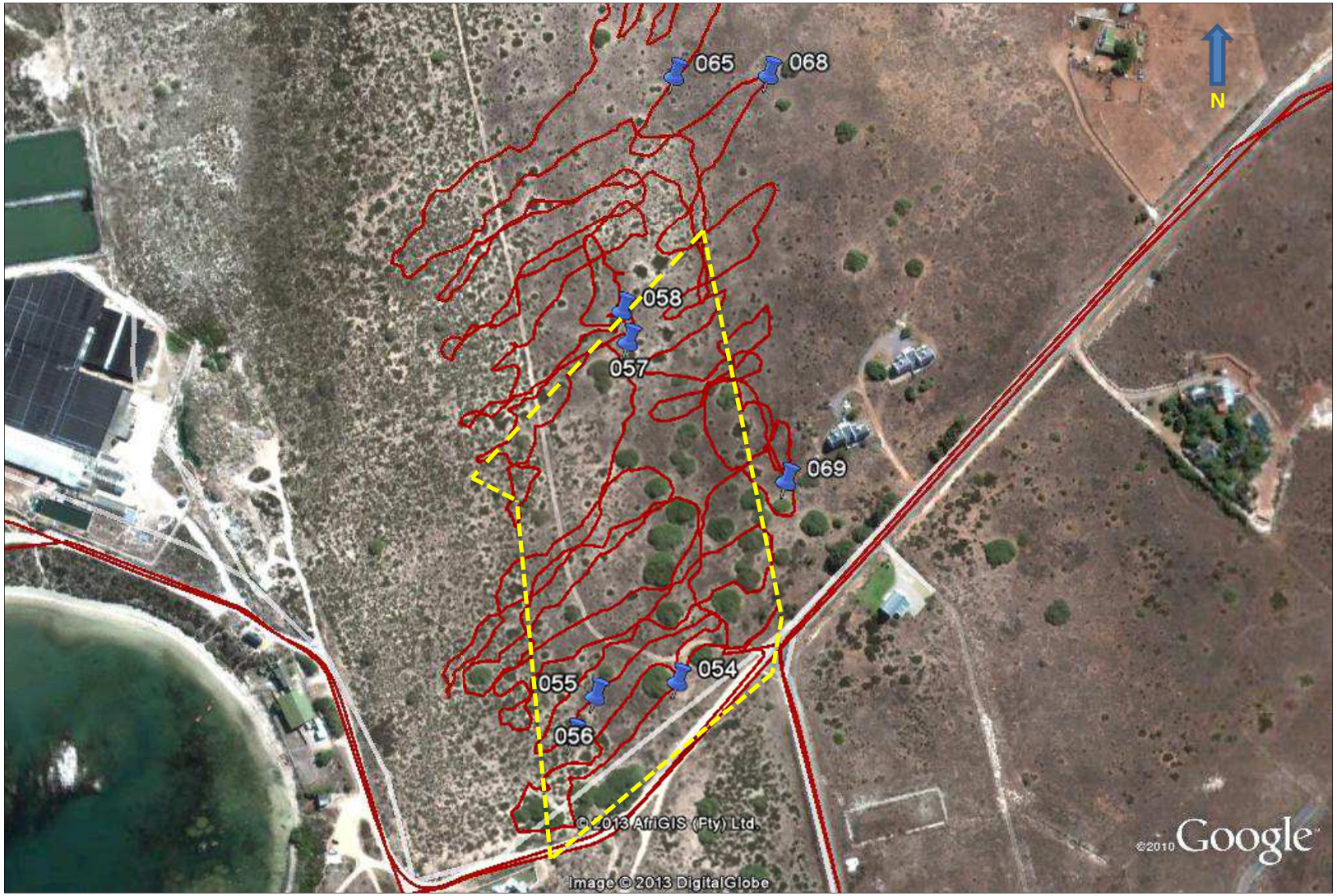

Figure 15. Track path and waypoint of archaeological finds. Dashed yellow line is the approximate boundary of the footprint area

Appendix II

Palaeontological Impact Assessment – Desk top study