HERITAGE IMPACT ASSESSMENT

In terms of Section 38(8) of the NHRA for the

Proposed Development of Mixed-use Residential development on Portion 4 of Farm No. 560, Malmesbury District in the Western Cape Province

Prepared by CTS Heritage



CTS HERITAGE

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For

CK Rumboll

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CTS HERITAGE

EXECUTIVE SUMMARY

1. Site Name:

Portion 4 of Farm No. 560, Malmesbury

2. Location:

Application is made for the subdivision of Portion 4 of Farm No. 560, Malmesbury RD, into a Portion 1, approximately ±157,8295ha in extent and a Remainder approximately ±613,0865ha in extent to further develop the proposed Portion 1.

3. Locality Plan:



Figure A: Location of the proposed development area

4. Description of Proposed Development:

The community of Yzerfontein is a well-established tranquil, rural town situated in the western part of the Swartland Municipality. The owners wish to develop portions of the property included within the urban edge of Yzerfontein for residential, commercial and open space purposes with the aim to provide housing opportunities adjacent to the existing residential area.

5. Anticipated Impacts on Heritage Resources:

The survey proceeded with some constraints and limitations, yet the project area was comprehensively surveyed for heritage resources. Some Middle and Later Stone Age archaeology of limited scientific value was identified. None of the heritage resources identified have sufficient scientific value to warrant conservation and as such, no further mitigation steps are recommended.

However, it must be noted that the dense vegetation present within the dunefield may have obscured evidence of shell midden material. As such, ***it is possible that shell midden material as well as human remains may be located beneath the dense vegetation, or eleven buried beneath the dunes.*** As such, care must be taken with regard to impacts to potentially buried resources during the excavation phase of development. *Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.*

Similarly, ***excavations associated with the proposed development may uncover significant fossil material***. It is recommended that a requirement to be alert for possible fossils be included in the EMP for the Construction Phase of the proposed development, with a Fossil Finds Procedure in place. It is recommended that management arranges that earthworks personnel visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science. *Should any palaeontological material be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.*

6. Recommendations:

There is no objection to the proposed development from a heritage perspective on condition that:

- The attached Chance Fossil Finds Procedure must be implemented for the duration of construction activities. Should any palaeontological material be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.

- Earthworks personnel are recommended to visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science.
- Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.

Details of Specialist who prepared the HIA

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, heads up the heritage division of the organisation, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is a member of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Since 2016, Jenna has drafted over 250 Screening and Heritage Impact Assessments throughout South Africa.

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2 Desktop Palaeontological Impact Assessment 2023
3 Results of PPP

1. INTRODUCTION

1.1 Background Information on Project

The community of Yzerfontein is a well-established tranquil, rural town situated in the western part of the Swartland Municipality. The owners wish to develop portions of the property included within the urban edge of Yzerfontein for residential, commercial and open space purposes with the aim to provide housing opportunities adjacent to the existing residential area. Figure 4 below illustrates the proposed development. Application for additional educational facilities is not applied for, as the existing Spatial Development Framework has already identified areas of land for educational facilities in town.

SUBDIVISION

Application is made for the subdivision of Portion 4 of Farm No. 560, Malmesbury RD, into a Portion 1, approximately ±157,8295ha in extent and a Remainder approximately ±613,0865ha in extent to further develop the proposed Portion 1. Figure 5 below illustrates the proposed subdivision of land.

REZONING

Furthermore, application is made to rezone and subdivided Portion 1 of Portion 4 of Farm No. 560, Malmesbury RD, to subdivisional area to create a mixed use residential and commercial development.

The subdivisional area will include the following zonings (Site Development Plan shown above in Figure 4):

- Residential Zone 1 erven
- General Residential Zone 1 (group house) erven
- Open Space Zone 1 erf
- Business Zone 2 erven
- Transport Zone 2: Roads

1.2 Description of Property and Affected Environment

The proposed housing development on portion 4 of farm 560 in Yzerfontein is positioned more or less in an extended U-shape fringing and behind the existing layout of the town. Yzerfontein's main business hub lies around the headland and the harbour on its northern side. Extensive retirement and holiday housing has progressively stretched out to the south in a linear fashion to take advantage of the sea views along the West Coast. Another section of the town which is older than the southern section lies to the north of the headland and primarily formed around the Yzerfontein beach.

A small hill overlooks the town and a telecommunications mast and municipal water compound has been built on top of it in order to service the community via a gravity feed system. This hill is located near the northern arm of the study site with an undulating and very thickly vegetated stretch of ground connecting it down to the southern part of the study site and another similar arm jutting back inland. All of this ground is currently within a private nature reserve and ostriches roam freely in the town and over the ground within the reserve. Besides the municipal reservoir infrastructure on and alongside the hill, there are no other structures currently within the study site and, if approved, the site will essentially expand the town and its associated building footprint within its urban edge perimeter.



Figure 1.1: The proposed development area



Figure 1.2: The proposed development area



Figure 1.3: The proposed development area



Figure 1.4: The proposed development layout

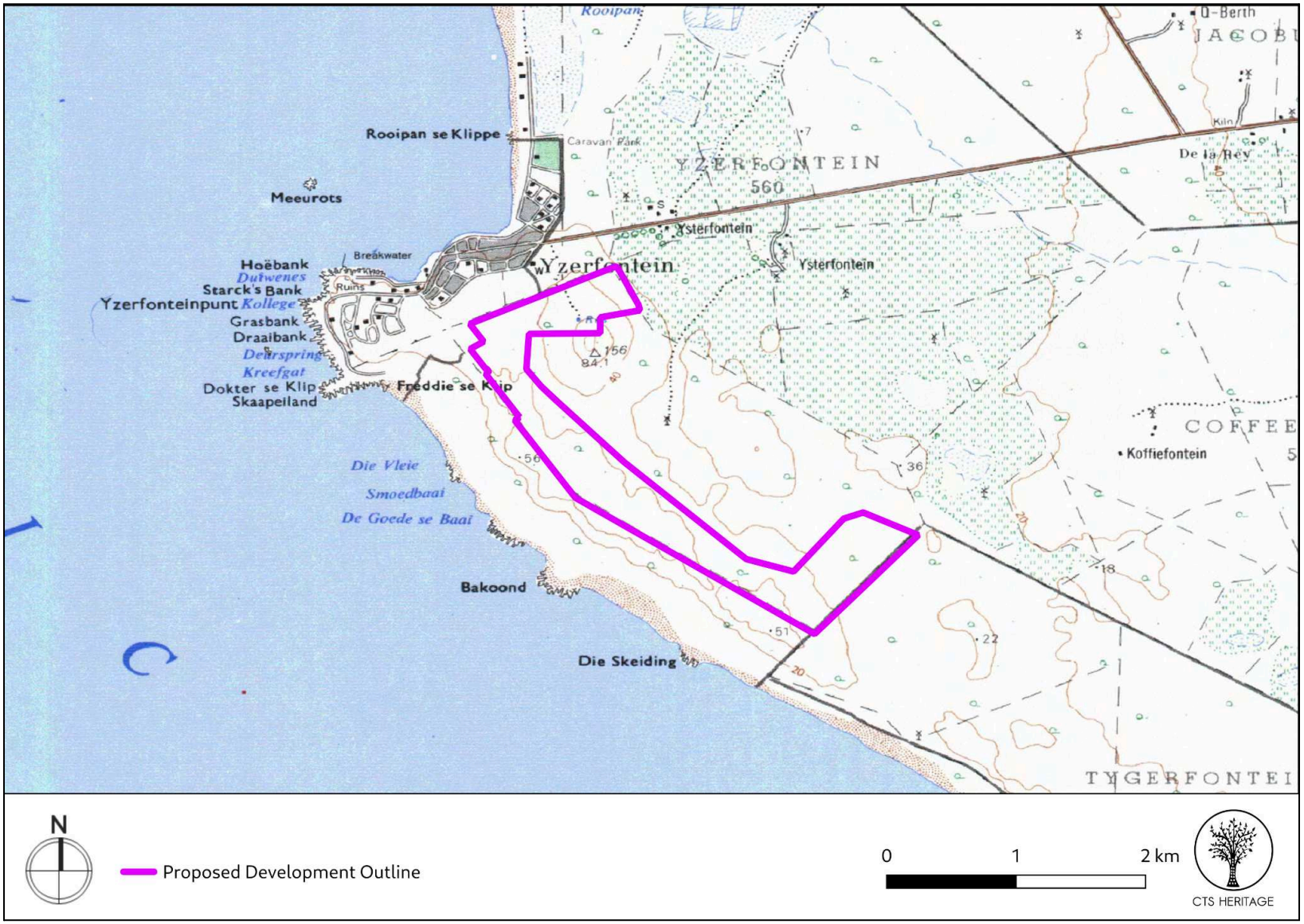

Figure 1.5: The proposed development area on an extract of the 1:50 000 Topo Map

2. METHODOLOGY

2.1 Purpose of HIA

A NID submission was made to HWC and was discussed at the Heritage Officers' Meeting (HOMs) Meeting held on 17 July 2023. HWC responded to the NID submission in correspondence dated 20 July 2023 and indicated that a Heritage Impact Assessment is required, and that this HIA must in addition have specific reference to the following:

- Archaeological Impact Assessment, &
- Palaeontological Impact Assessment.

The purpose of this Heritage Impact Assessment (HIA) is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999), and the requirements of HWC's letter dated 20 July 2023.

2.2 Summary of steps followed

- A Desktop Study was conducted of relevant reports previously written (please see the reference list for the age and nature of the reports used)
- An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development. The archaeologists conducted their site visit from 22 to 23 November 2023
- A palaeontologist conducted desktop assessment of palaeontological resources likely to be disturbed by the proposed development.
- The identified resources were assessed to evaluate their heritage significance and impacts to these resources were assessed.
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner

2.3 Assumptions and uncertainties

- The *significance* of the sites and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

- It should be noted that archaeological and palaeontological deposits often occur below ground level. Should artefacts or skeletal material be revealed at the site during construction, such activities should be halted, and it would be required that the heritage consultants are notified for an investigation and evaluation of the find(s) to take place.

However, despite this, sufficient time and expertise was allocated to provide an accurate assessment of the heritage sensitivity of the area.

2.4 Constraints & Limitations

The study site is covered in very thick coastal vegetation. Traversing the site can only be made on foot and the ground visibility is limited due to the thick vegetation. However, despite the thick vegetation there are enough exposed areas to gauge the overall density of surface material fairly reliably by walking transects to gain as much coverage as possible. We therefore feel the outcomes of the survey have provided a good account of the archaeological record found on the surface within the study site, with the knowledge that buried and in situ shell middens have been found down at the rocky shorelines about 600m from the edge of the project area.

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

3.1 Desktop Assessment

Yzerfontein is located approximately 80 kilometres from Cape Town along the west coast. This location advantage and accessibility contributes to the town's attractiveness and growth over the past years. Portion 4 of Farm No. 560, Malmesbury RD is located south-east of the existing residential area of town. The broader Swartland area has been inhabited since the Early Stone Age, and the presence of San hunter-gatherers and Khoe pastoralists in the area was reported in historic times. Europeans were first granted land to farm in the area in the late 1680s, which led to conflict with the indigenous occupants of the area and their eventual dispossession of land and way of life. Yzerfontein, the town, was established with the subdivision of the larger "Yzerfontein" farm into smaller plots. According to Webley and Schietecatte (2011) "Yzerfontein: is situated on the farm of the same name which dates back to 1824. However, the subdivision of the farm only occurred in 1930 when a portion of land was sold to the Yzerfontein Seaside Estates. While it was a popular destination for upcountry farmers during the 19th century, the town only dates to 1937. There is apparently a 19th century "fish house" and an old jetty." Prior to disturbance of the area for residential development, a rich mosaic of indigenous coastal fynbos covered the land. This vegetation is still present in the various greenbelt zones between the houses and also covers most of the areas being set aside as conservation areas by the Swartland Municipality. Based on this desktop survey, it appears that the proposed development will stand on a slight incline on the edge of the town and most of the proposed development will therefore look out over the rest of the town. The closest provincially graded heritage sites are two lime kilns, SAHRIS Site ID 94167 and 28182 (figure 3a). Webley and Schietecatte (2011) [SAHRIS NID 508790] wrote "The two lime kilns next to the R315 lie on the farms De la Rey and Jacobus Kraal. These stone kilns were stacked with wood and mussel shells, producing quicklime which was used as whitewash. The two kilns date to the 1940s and are both Provincial Heritage Sites." It is noted that the lime kilns were still used as recently as 1976 in the production of binding materials for cement. Furthermore, Webley and Schietecatte (2011) stated that the fish house and jetty formed part of the early initial farms established by presumably freeburgers with Dutch East India (VOC) cattle herds. Of the 29 farm werfs with buildings at the start of the 18th Century, very few of the original buildings still stand. Regarding the kilns, both of them are located approximately 4km to the north east of the proposed development are and as such, no impact is anticipated.

Archaeology

As shown by the Divisional Map of Malmesbury, the area surrounding the proposed development has a multitude of natural springs (Figure 1f). Based on previous excavations and studies, these are almost always synonymous with Early, Middle or Late Stone Age sites, meaning that there is a high likelihood of artefacts and middens dating from those periods located nearby. Coastal areas are also often associated with a high density of shell middens spread out along the coast. In their Archaeological Impact Assessment completed nearby, Webley and

Schietecatte (2011) [SAHRIS NID 508790] discovered a telephone pole in Yzerfontein placed on top of a shell midden. According to Klein et. al (2004) in an article about the MSA sites around Yzerfontein, the relatively high density of the vegetation cover in the area suggests that it has varied considerably in the past with open areas presumably having been present to allow occupation by prehistoric populations. According to Deacon (2006) [SAHRIS NID 8318], in recent years there has been considerable growth of the coastal town of Yzerfontein with a corresponding loss of archaeological sites. These include Holocene shell middens and older Pleistocene occurrences. A major excavation was undertaken at a partially destroyed but still significant Middle Stone Age site near the harbour which has also been extensively published on (Halkett et al. 2003; Klein et al. 2004). The site is located in an eroded cliff of calcrete at the coast and has yielded a number of interesting insights into Middle and Later Stone Age lifeways. Additional excavations have been completed at a site called Bakoond in Yzerfontein for which interpretive signage has been erected.

According to Orton (2007), "The local shoreline is composed of a combination of rocky outcrops and sandy beaches with the latter actively degrading as a result of the high energy coastline. This has caused embayments to form wherever shorter stretches of sandy shore are present. Each rocky outcrop protects the land immediately behind it resulting in the formation of small peninsulas and headlands of which the Bakoond site is the most prominent… The Yzerfontein rocky shores occupy some 4.5 km of coastline and both north and south of this area long sandy beaches stretch uninterrupted for some 17 km to the south and 25 km to the north. This has no doubt resulted in the Yzerfontein area having been a focus of occupation and food procurement during the Later Stone Age, and most especially the last 3000 years." The areas proposed for development are therefore very sensitive in terms of archaeological heritage such as shell middens including Later Stone Age stone tools, pottery, ostrich egg shell beads etc. Often, there may be very little evidence of rich archaeological deposits at the ground surface with the most dense archaeological midden material located below the ground surface. However, in an Archaeological Impact Assessment (AIA) completed in Yzerfontein, less than 500m away from the proposed development, Deacon (2006) [SAHRIS NID 8318] states that "As the properties are on a near level bench or platform inland of the immediate coastal zone the risk of encountering archaeological occurrences is lower than at the immediate coast. The bench or platform, underpinned by an eroded calcrete surface, would have been alternatively swept clean and covered by surficial sands of different ages. For this reason any cultural materials within the cover sands may only be present in deflated concentrates of reduced significance."

The proposed area for development falls outside of the recommended 500m Coastline buffer (see figure 3b). This recommended buffer is put in place due to the high probability and also density of archaeological resources found close to the ocean's highwatermark.

Palaeontology

According to the SAHRIS Palaeosensitivity Map (Figure 4), the area proposed for development is underlain by geological sediments of very high sensitivity for impacts to palaeontology. The geology of this coastline consists predominantly of the Langebaan and Witzand Formations. The calcareous aeolianite of the Langebaan Formation overlays the Varswater Formation which is the same formation that contains the significant deposits of the West Coast Fossil Park. The Langebaan Formation has high sensitivity for impacts to palaeontology according to the SAHRIS Fossil Heritage Layers Browser and is dated to the Late Pliocene to Late Quaternary (<~3 Ma.). The Witzand Formation essentially comprises whitish, unconsolidated, coastal calcareous dunes of Holocene age and is of moderate sensitivity for impacts to palaeontological heritage.

According to Almond (2011) [SAHRIS NID 8915] in his PIA completed for a fibre cable crossing this sensitive geology, "Much of the route across the coastal plain, including the Cape Flats and the Swartland area to the north of Cape Town, is blanketed by unfossiliferous soils or by at most sparsely fossiliferous aeolian sands (Witsand and Springfontein Formations, Sandveld Group). However, small areas of potentially fossiliferous Plio-Pleistocene aeolianites of the Langebaan Formation (Ql) will be crossed by the cable route on the Cape Flats as well as just north of Cape Town and approaching the coast at Yzerfontein. Trench monitoring for fossils in the last area at least will probably be necessary at the construction phase. This work is likely to be undertaken in conjunction with archaeological monitoring and independent palaeontological field assessment of the cable route here is therefore not considered necessary." In the same article, Almond (2011) stated the following, "Late Precambrian metasediments of the Malmesbury Group intruded by granite plutons of the Cape Granite Suite (e.g. Stellenbosch Pluton) are exposed at either end of this sector while the Cape Flats themselves are blanketed by Late Caenozoic sandy and lime-rich coastal sediments of the Sandveld Group, notably the Langebaan, Springfontein and Witsand Formations that locally contain important fossil and subfossil remains of Late Pliocene to Recent age." He further states that these small Cape Granite Suite intrusions occurring in the Yzerfontein area, do not contain any fossils.

Table 1: Explanation of underlying and surrounding geology

Formations	Group/Formation	Lithology
Yzerfontein Gabbro-Monzonite	Yzerfontein Mafic Sub-suite	Diorite, subordinate gabbro. It includes granites and other intrusive, extrusive igneous rocks. It has no fossil record.
Langebaan	Sandveld group	Fine- to medium-grained, partly calcretized, shelly sand and (aeolian) calcarenite. locally contain important fossil and subfossil remains of Late Pliocene to Recent age. “The Late Pliocene to Latest Pleistocene aeolianites of the Langebaan Formation contain a range of terrestrial gastropod genera (e.g. Trigonephrus, Phortion), plus a wide variety of large mammal remains including micromammals, bovids, probiscideans, equids and carnivores, many of which are phosphatized and associated with carnivore lairs (e.g. Elandsfontyn on the West Coast, Swartklip / Wolfgat on the False Bay coast, Haughton 1933, Singer & Fuller 1962, Hendy & Hendy 1968, Barwis & Tankard 1983, Klein 1986). There are also trace fossils such as rhizoliths, and various groups of microfossils (Visser & Schoch 1973, Rogers et al. 1990, Theron et al. 1992, Roberts & Brink 2002). Key hominid fossils include the Saldaha Man skull (Homo heidelbergensis) from Elandsfontyn (Singer & Wymer 1968) and 117 000 year old modern human footprints at Langebaan Lagoon (Roberts & Berger 1997, Roberts 2008)” (Almond 2011)
Witzand	Sandveld group	Generally unconsolidated, calcareous dune sand. locally contain important fossil and subfossil remains of Late Pliocene to Recent age. The Witsand formation has aeolianites rock types and spans from the holocene to to recent times. According to Almond (2011) it has a “Wide range of subfossil plant & animal remains including terrestrial and freshwater vertebrates, ostrich egg shells, coalified plant fossils, traces, microfossils, archaeological materials (stone artefacts, shell middlens etc)”. These fossil remains are often picked up during archaeological monitoring.

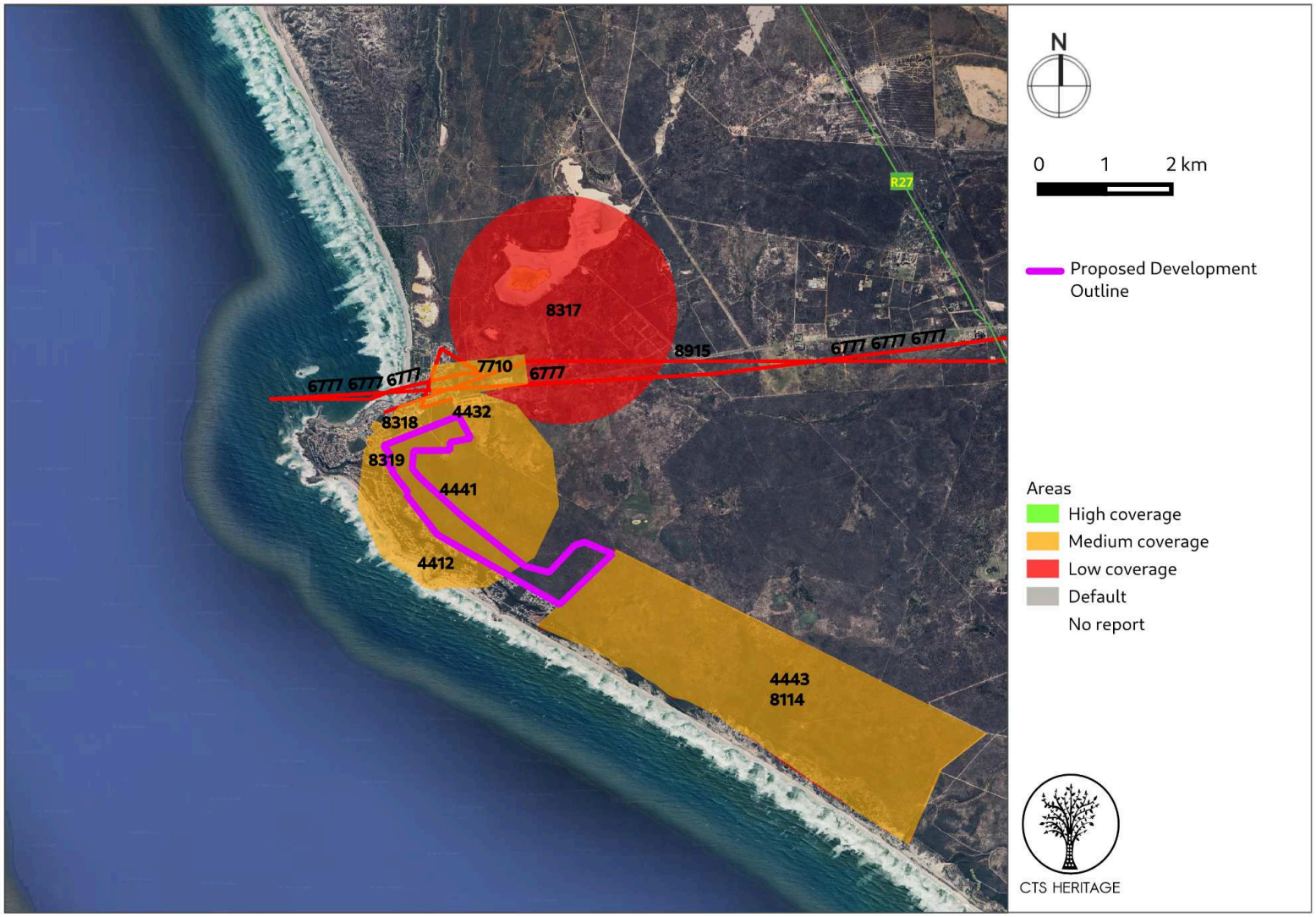

Figure 2: Spatialisation of heritage assessments conducted in proximity to the proposed development

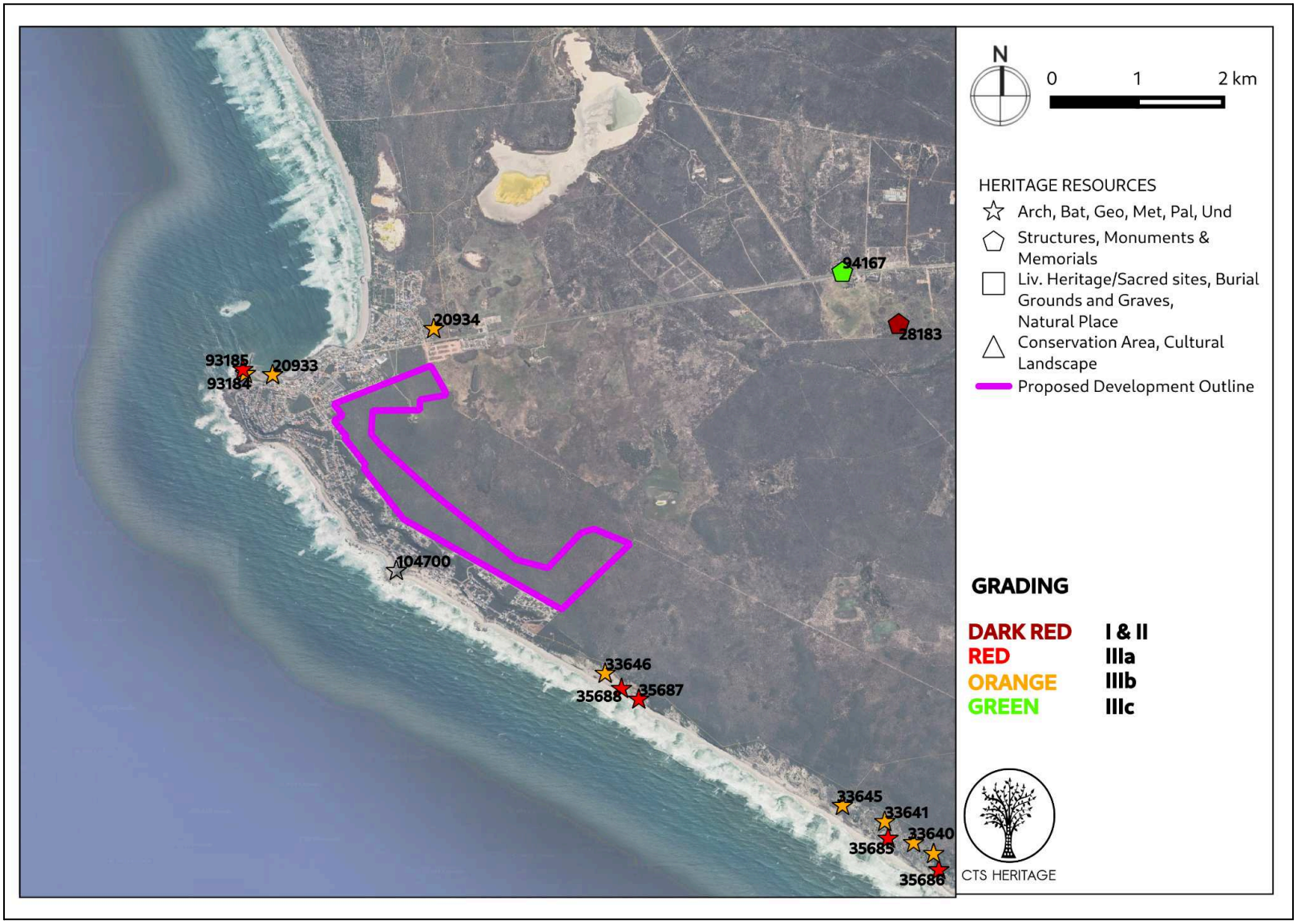

Figure 3: Spatialisation of known heritage resources in proximity to the development area

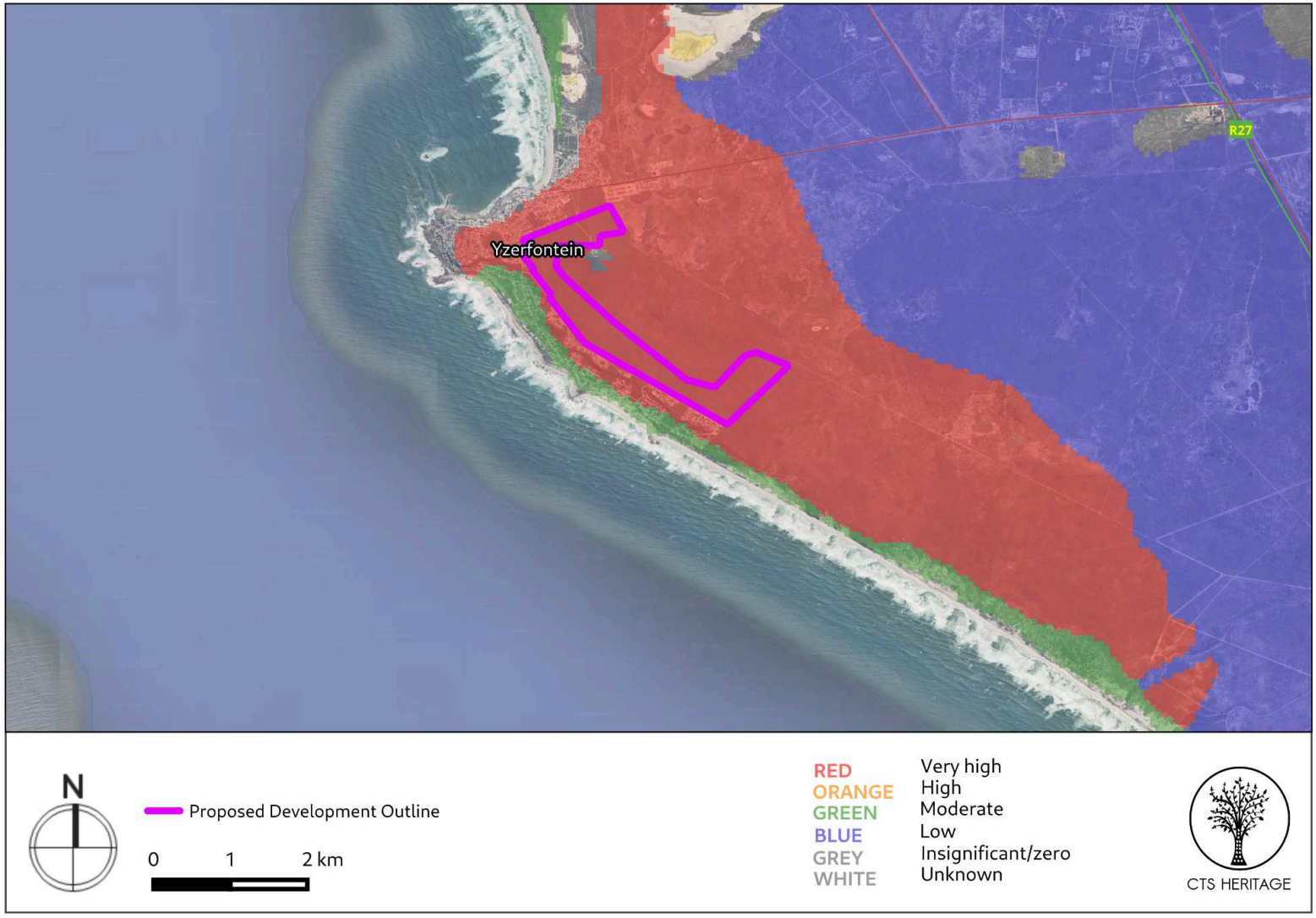

Figure 4: Palaeontological sensitivity of the proposed development area

4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Summary of findings of Specialist Reports

Archaeology

The study site lies about 600m from the beachline. It is therefore outside of the high density zone (up to 500m from the beach) where extensive shell middens are expected along the West Coast. Upon surveying the bulk of the site, particularly in the southern arm and the long section behind the stretch of recently completed buildings, little to no artefacts were found. This is partly due to the low sensitivity of surface material in this section as well as the extremely thick vegetation which prohibits a wider angle view when surveying the ground. Given the large number of previous studies in these contexts that have also yielded very little LSA material at this distance from the shellfish sources it is likely a true reflection of the generally low sensitivity of archaeological material.

The picture is slightly different around the koppie, however. Isolated scatters of LSA pottery, granite flakes (MSA and LSA), silcrete, quartz and quartzite flakes and cores were found on the slopes of the koppie and it is likely that an open air site was completely destroyed during the construction of the municipal reservoir on top of the hill. Another 20th century building with a corrugated asbestos roof in a dilapidated state is within the study site a little down the slope from the main reservoir. No shell scatters were noted in association with the stone tools but large sites with dense concentrations of shell and artefacts are known at the harbour and the salt pan to the north as well as at the rocky points that dot the coastline to the west.

Palaeontology

The Project Area is situated practically entirely on calcreted Langebaan Fm. calcareous aeolianite, beneath a generally thin (<1 m) mantle of quartzose coversands of the Springfontyn Fm. Q1 sandy soil. Note that in Figures 5 and 6 the coversands are not depicted where they thinly overlie the Langebaan Fm. calcrete. In the north the Langebaan Fm. lapping onto the slopes of the Yzerfontein conical hill may be underlain by eroded remnants of marine deposits evident as residual rounded boulders and cobbles and possibly fossil shells.

4.2 Heritage Resources identified

No resources of heritage significance were observed during the field assessment.

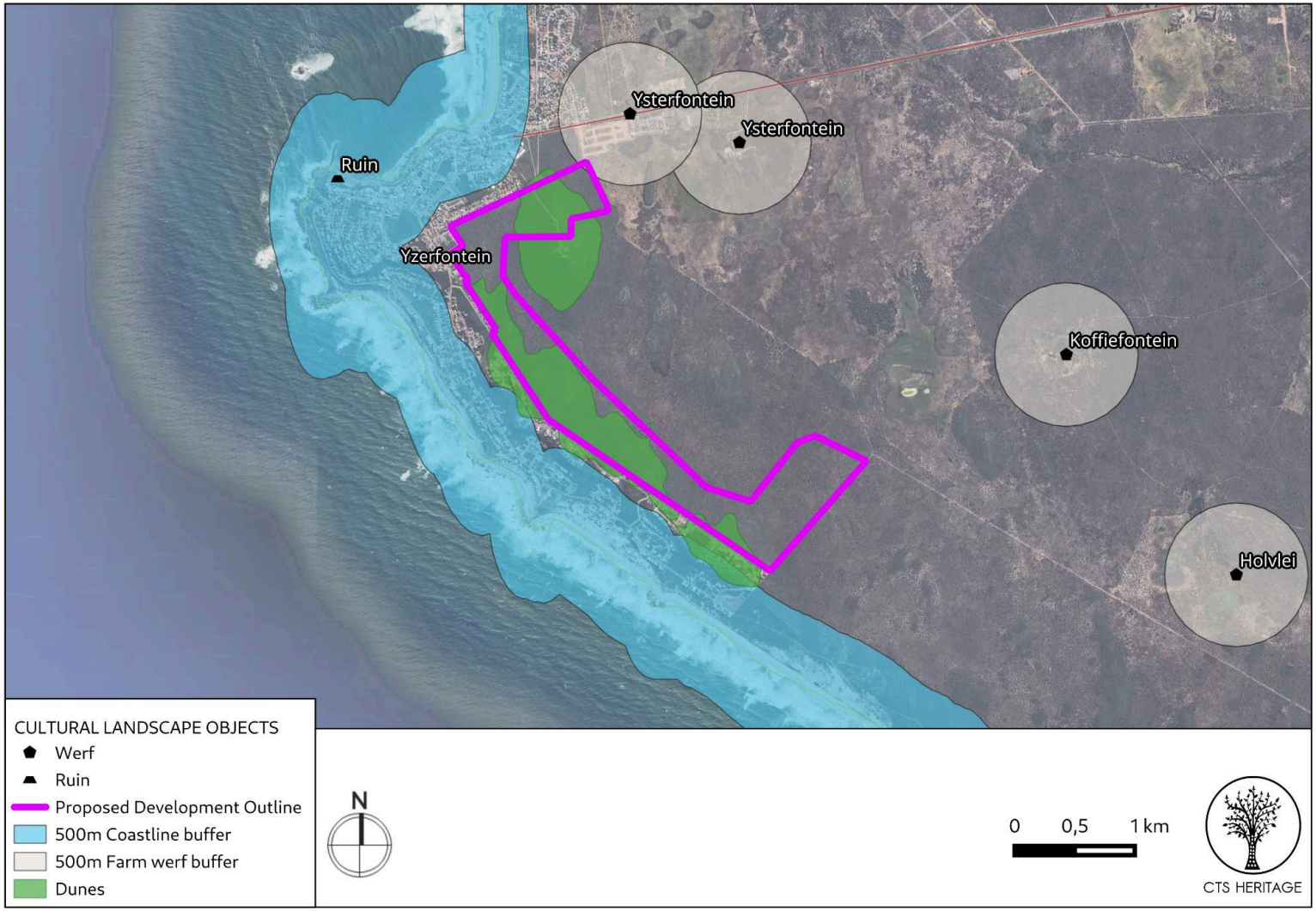

Figure 5.1. Cultural Landscape Map. Cultural Landscape Objects identified using the Topo 1:50 000 map



Figure 5.2: Map of all sites and observations noted within the development area

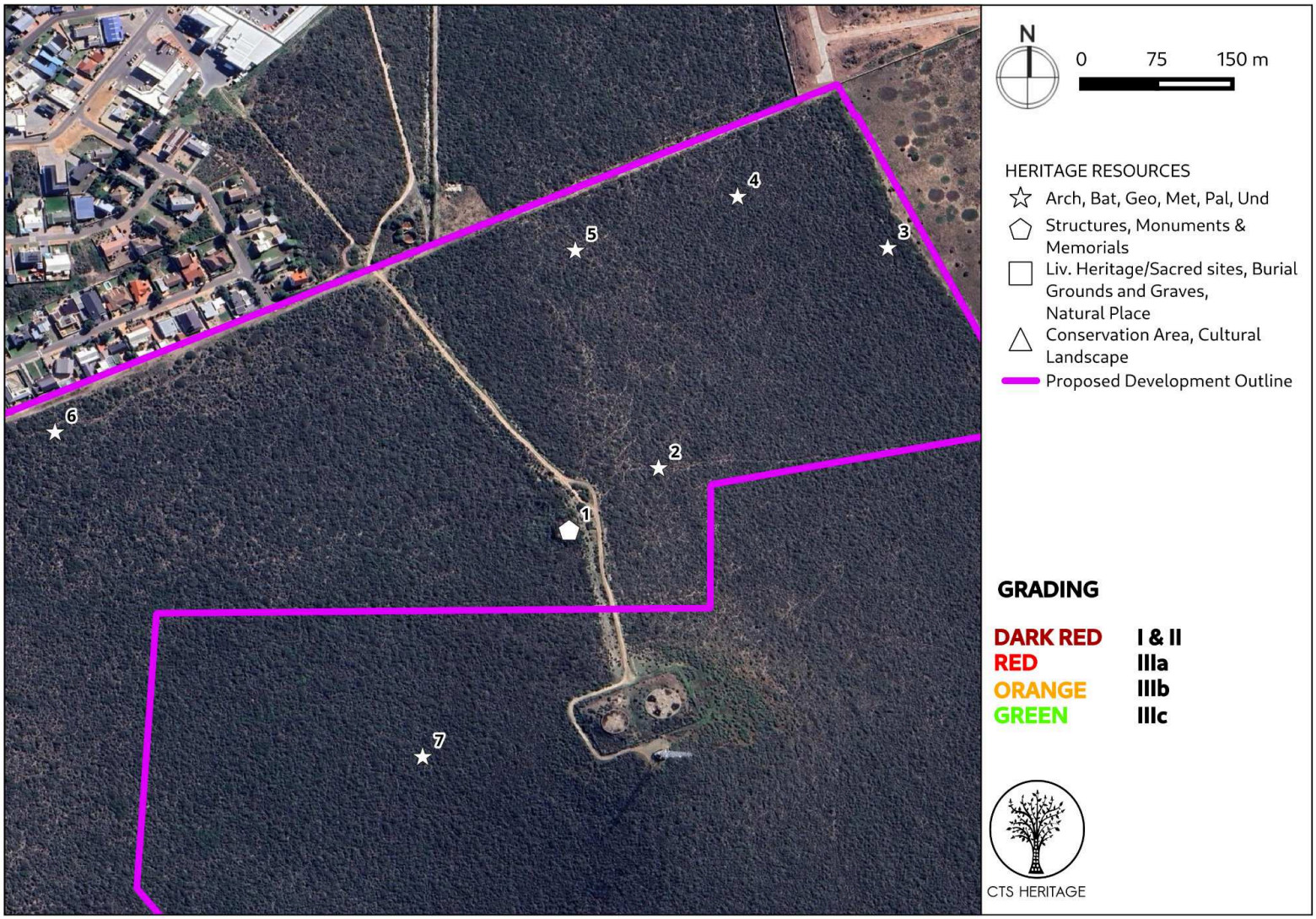

Figure 5.3: Inset Map A of all sites and observations noted within the development area

5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Heritage Resources

Archaeology

Despite the proximity of the development area to the coastline, and the increased likelihood of shell midden material in this area along the West Coast, no evidence of shell middens was identified during the field assessment. The field assessment identified seven archaeological observations. These include one municipal building (Obs 001), and Middle and Later Stone Age (MSA and LSA) artefacts. Observations 002-00–5 were all LSA lithic artefacts and Observation 006-007 were MSA artefacts.

None of the archaeological resources identified have any scientific or cultural value and as such, these observations are determined to be Not Conservation-Worthy. As such, it is not anticipated that the proposed development will have a negative impact on any significant archaeological heritage.

However, it must be noted that the dense vegetation present within the dunefield may have obscured evidence of shell midden material. As such, it is possible that shell midden material as well as human remains may be located beneath the dense vegetation, or eleven buried beneath the dunes. As such, care must be taken with regard to impacts to potentially buried resources during the excavation phase of development.

Palaeontology

The fossil bones in the Springfontyn Fm. coversands are expected to be of late Quaternary age and likely to be mainly members of the extant, modern fauna, but some extinct species could occur. With the exception of rare local “hotspots”, due to the overall scarcity of fossil bones in the coversands and underlying buried soils, the palaeontological sensitivity of the Springfontyn Fm. Q1 coversands is overall LOW. Although the palaeontological sensitivity of the Springfontyn Fm. coversands is rated low, the intensity of impact of the construction phases is rated as MODERATE due to the large development footprint and the considerable volume of coversands which will be excavated.

The calcreted Langebaan Formation is classified to be of VERY HIGH sensitivity, due to previous fossil finds of significant scientific value, such as the fossils occurring on naturally-exposed deflating palaeosurfaces, in quarries and in ancient hyaena lairs. Most of the infrastructure trenches are likely to intersect the calcreted, upper Langebaan Fm. beneath the coversands. Most intersections are expected to be relatively shallow, affecting mainly the calcrete in which the fossil bones are overall sporadic, but locally more common. As above, due to the large development footprint, the potential impact is rated HIGH in the absence of effective mitigation.

Residual marine deposits of Pliocene age might be encountered on the lower slopes of the Yzerfontein conical hill. It is likely these deposits would be decalcified, but robust shells such as oysters may be preserved, or the moulds of dissolved shells. Such occurrences are not expected to be a source of quality shell fossil specimens and the palaeontological sensitivity may be rated as LOW, but it is important to describe, record and sample any such exposures.

It is recommended that a requirement to be alert for possible fossils be included in the EMP for the Construction Phase of the proposed development, with a Fossil Finds Procedure in place. It is recommended that management arranges that earthworks personnel visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science.

Visual Impacts (from the Planning Motivation Report submitted with the NID)

Dassen Island Drive and Atlantic Drive and Adjacent Areas: The main direct visual impacts that will affect the views from individual erven will occur along the length of Dassen Island Drive and will affect any houses that have framed views over the valley towards the east. It is evident from the seaward panoramas found that many of the houses are oriented primarily towards the sea and landward views are secondary. The visual impact for this area will range between low for most houses to high for the few houses that have deliberate views over the site towards the east.

The R27 Coastal Road: It is unlikely that there will be any significant visual impact on the users of the R27 when approaching from the south although the roofs of some of the houses on the south of the development may be partially visible. There is however houses already visible on the ridgeline and at a distances of more than 10 km any potential visual impact is further lowered. There may also be partial views of the some of the roofs of the development to southward views from the R27 when approaching the Yzerfontein turn off from the north. From these viewpoints however the development will be seen within the context of the rest of Yzerfontein, a large part of which will be visible on the northward slope towards the bay. The overall increase in visually affected area will be small, especially considering that the views are approximately 15 km from the site. The overall assessment for the visual impact on the R27 and surrounding areas is therefore expected to be low.

Other areas: The impact on all other areas, including potential views from the sea, is low. Even though some of the houses will be seen against the skyline when viewed from the ocean, it will be in the visual context of the rest of Yzerfontein's houses, a landscape that is much more influenced by human activity and therefore less visually affected by the addition of more buildings. Other viewpoints that may be affected include a limited number of

farmsteads in the area including those across the valley on the hills to the east that have views towards the sea. The percentage change in the visual environment at the distance to these viewpoints ensures a low visual impact.

Night time: The visual impact of the lighting of the new roads and houses could cause a significant visual impact at night. With the correct management this can however be reduced to an acceptable level. There is a worldwide movement to cut light pollution from its present levels. Cape Town is changing its street lights in key areas for this very reason. Light pollution in rural areas has a far more significant affect than in urban areas. All future development is going to require mitigation in terms of its lighting. It will not cost any more to fit the correct lighting at the beginning rather than having to change the lighting when local by-laws change in future. The effect of lighting is also cumulative and by the time the whole area has been developed the light pollution caused by existing practices will be unacceptable.

5.2 Sustainable Social and Economic Benefit

The construction of the proposed mix-use residential development in Yzerfontein, can bring about significant socio-economic benefits to the local community and the region as a whole. The development is likely to generate a substantial number of employment opportunities, both during the construction phase and in the long term for ongoing maintenance, security, and community services. This influx of jobs can contribute to a decrease in unemployment rates, enhancing the overall economic well-being of the local population. The increased population resulting from residential development can spur economic growth by stimulating local businesses and services. The demand for retail, dining, and entertainment options is likely to rise, prompting entrepreneurs to establish new businesses or expand existing ones to meet the growing needs of the community. This not only creates more job opportunities but also contributes to a vibrant local economy, attracting further investments and fostering a sustainable business environment.

Furthermore, the development may enhance the infrastructure of Yzerfontein, leading to improvements in public services and amenities. With a larger tax base from the increased property values, local government authorities may have additional resources to invest in upgrading roads, electricity, water and sewage, healthcare facilities, and recreational spaces. The improved infrastructure not only enhances the quality of life for residents but also makes the area more attractive for potential investors, further fueling economic development in the region. Overall, the proposed residential development in Yzerfontein has the potential to create a thriving and sustainable socio-economic ecosystem.

As no impact to significant heritage resources is anticipated, the socio-economic benefits outweigh any impact to heritage resources for this project.

5.3 Proposed development alternatives

Two layouts are proposed for assessment - see Figures 6.1 and 6.2 below.

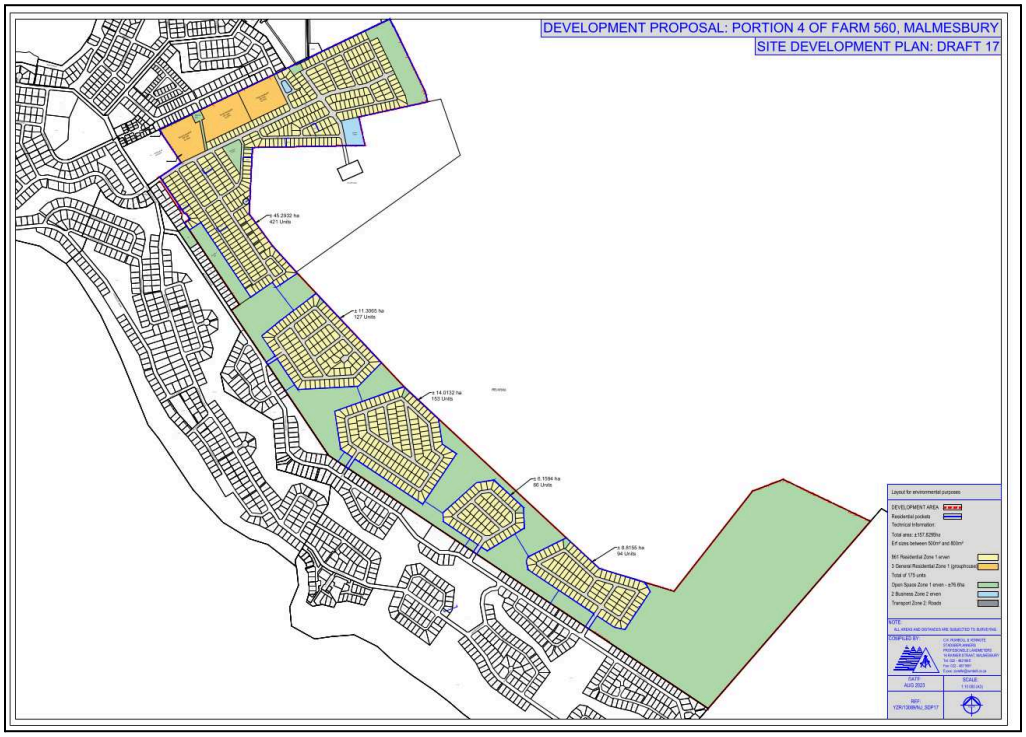

Figure 6.1: Preferred layout

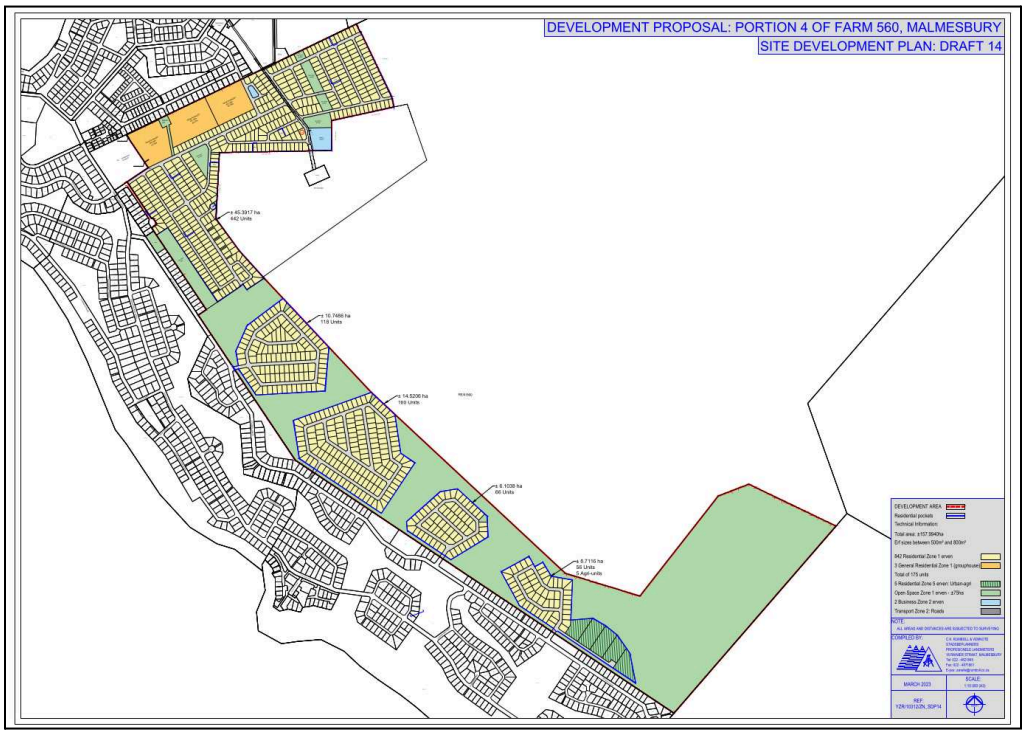

Figure 6.2: Alternative layout

As no heritage impacts are anticipated from either of the proposed layouts, there is no preferred alternative from a heritage perspective.

6. RESULTS OF PUBLIC CONSULTATION

As this application is made in terms of NEMA, the public consultation on the HIA will take place with the broader public consultation process required for the Environmental Impact Assessment process and will be managed by the lead environmental consultants on the project.

In addition, the report was shared with the local authority and the Friends of Blaauwberg Conservation Area (FoBCA) Conservation Body for comment for a period of 30 days. Comments were received from Dr Graham Avery on behalf of the FoBCA on 30 May 2024. The comments are summarised as follows:

1. I support the findings that the go-ahead on the project will not be hindered by heritage issues and am satisfied that any archaeological and palaeontological heritage issues that may arise can be managed to protect potential heritage occurrences that may arise during construction activities; these could range from single items to well-preserved palimpsests, it will be seen that I have commented critically on some aspects of the texts, based on my own experience in the Yzerfontein area. These need to be addressed.
2. Apart from what I hope are other helpful suggestions in the text, I have three strong reservations about the assessments:
    1. Sub-surface potential for archaeology and palaeontology could be made clearer - see comments. Such remains may be weathered and/or sparse, but their importance should not be underestimated. This applies to potential opportunities to record important material, that in the contexts of the Springfontyn and Langebaan Formations may, on discovery raise sensitivity to higher levels than indicated in the assessments and the possibility that deep excavations may expose marine deposits of much earlier Pliocene age.
    2. While the Chance Find protocol is helpful, it is likely to be beyond most construction staff to identify more than basic stone-bone categories as well as when to simply collect items or to initiate more detailed recovery like archaeological-type excavation where detailed mitigation may be required. It also excludes the palaeontological specialist who could identify bones and understand the implications of their occurrence.
    3. So, while the need for basic familiarization/training is fundamental, it does not qualify workers or construction staff to undertake more complex decision making. A protocol for this project

needs to be more specific on when to contact a skilled individual, who should be readily contactable and undertake monitoring investigations at agreed intervals.

In his comments included in the HIA directly, Avery notes:

There will be 3 phases of excavation that will offer opportunities for sub-surface observation:

1. Site clearing of vegetation -- may reveal further surface archaeological remains and, possible MSA.
2. Geotech sampling -- will cut through and Springfontyn aeolianites and into Langebaan calcareous material underlying the Holocene cover sands and expose the presence/absence (at least at these points) of MSA and/or fossils
3. Excavations for infrastructure and foundations.

Each phase should be part of the protocol and monitored by a specialist - phase 1 by an archaeologist and, 2 and 3, by an appropriately-qualified palaeontological specialist

Response

Dr Avery's comments are noted. In response to his recommendation that site clearing be monitored by an archaeologist, it is the conclusion of the specialist archaeological assessment that, while it is possible that artefactual material may be present beneath the vegetation, based on the location of this proposed development away from the coastline and its distance from the rocky shoreline, the likelihood that scientifically significant deposits are present is LOW. In the event that such deposits are encountered, it is recommended that work ceases and HWC is contacted to determine an appropriate way forward.

In response to his recommendations that geotech sampling, infrastructure and foundation excavation be monitored by a palaeontologist, it is noted that the likelihood of impact to scientifically significant palaeontological heritage is LOW. In the event that such deposits are encountered, it is recommended that work ceases and HWC is contacted to determine an appropriate way forward as per the Chance Finds Protocol. Additionally, it is recommended that site managers and earthworks personnel visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science.

It is the opinion of the HIA team that the recommendations included herein are appropriate to address the possibility of impact to significant archaeological and palaeontological heritage resources in this context.

7. CONCLUSION

The survey proceeded with some constraints and limitations, yet the project area was comprehensively surveyed for heritage resources. Some Middle and Later Stone Age archaeology of limited scientific value was identified. None of the heritage resources identified have sufficient scientific value to warrant conservation and as such, no further mitigation steps are recommended.

However, it must be noted that the dense vegetation present within the dunefield may have obscured evidence of shell midden material. As such, ***it is possible that shell midden material as well as human remains may be located beneath the dense vegetation, or eleven buried beneath the dunes.*** As such, care must be taken with regard to impacts to potentially buried resources during the excavation phase of development. *Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.*

Similarly, ***excavations associated with the proposed development may uncover significant fossil material***. It is recommended that a requirement to be alert for possible fossils be included in the EMP for the Construction Phase of the proposed development, with a Fossil Finds Procedure in place. It is recommended that management arranges that earthworks personnel visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science. *Should any palaeontological material be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.*

8. RECOMMENDATIONS

There is no objection to the proposed development from a heritage perspective on condition that:

- The attached Chance Fossil Finds Procedure must be implemented for the duration of construction activities. Should any palaeontological material be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.
- Earthworks personnel are recommended to visit the West Coast Fossil Park to be acquainted with fossil bones and palaeontological science.
- Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. Heritage Western Cape (HWC) must be contacted immediately in order to determine an appropriate way forward.

9. REFERENCES

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
4412	AIA Phase 1	Jonathan Kaplan	01/01/1999	Archaeological Study Erf 1626 (Bakoond), Ysterfontein
4432	AIA Phase 1	Jonathan Kaplan	01/07/2007	Phase 1 Archaeological Impact Assessment: Proposed Development Viladalmeida Yzerfontein Portion of Portion 27 Farm Yzerfontein No. 560 Malmesbury
4441	AIA Phase 1	Jonathan Kaplan	01/06/1996	Archaeological Impact Assessment: 16 Mile Beach Nature Resort, Ysterfontein
4443	AIA Phase 1	Jonathan Kaplan	01/06/2005	Phase 1 Archaeological Impact Assessment Proposed Development of a Private Nature Reserve on Tygerfontein Farm No.564 Yzerfontein Swartland Municipality
6777	AIA Desktop	Harriet Clift, Lita Webley	08/03/2011	Heritage Scoping report with preliminary impact assessments Fibre optic data cable: Graaff-Reinet to Yzerfontein
7710	AIA Phase 1	Jonathan Kaplan	01/07/2008	Phase 1 Archaeological Impact Assessment: Proposed Development Portion 27 of Farm No. 560 Yzerfontein
8114	AIA Phase 1	Graham Avery, WJJ van Rijssen, ML Wilson	01/01/1990	Archaeological and Palaeontological Survey on Tygerfontein 564, Malmesbury Division
8317	AIA Phase 1	Graham Avery	01/05/1994	Archaeological Survey at Ysterfontein: Coast to Ysterfonteinsoutpan (3318 AC)
8318	AIA Phase 1	Hilary Deacon	29/11/2006	Yzerfontein Retirement Village and Old Age Home Proposed Development in the Magisterial District of Malmesbury, Western Cape Province: Phase 1 Archaeological and Heritage Impact Assessment Report
8319	AIA Phase 1	Jonathan Kaplan	01/10/2008	Phase 1 Archaeological Impact Assessment: Proposed Development Portion of Portion 4 of Farm No. 560 Yzerfontein
8915	PIA Phase 1	John E Almond	08/04/2011	FibreCO Data Cable Project: Route 3 from Graaff-Reinet via George and Cape Town to Yzerfontein, Western and Eastern Cape Provinces

Lavin and Wiltshire (2023). Heritage Impact Assessment for the Proposed Development of Mixed-use Residential development on Portion 4 of Farm No. 560, Malmesbury District in the Western Cape Province (Unpublished)

APPENDICES

APPENDIX 1: Archaeology Assessment (2023)

APPENDIX 2: Palaeontological Assessment (2023)

APPENDIX 3: Results of PPP