

ARCHAEOLOGICAL ASSESSMENT OF BULK SERVICES ON THE BOSCHENDAL FOUNDERS ESTATE, STELLENBOSCH.

To inform a S27 application in terms of the National Heritage Resources Act

Prepared for

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On behalf of

Boschendal (Pty) Ltd

April 2022



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1. INTRODUCTION

1.1 Background

ACO Associates was requested to undertake an archaeological assessment of the proposed bulk services footprints on both Founders' Estate and on other parts of the Boschendal farms which lie to the north east and south east. Founders' Estate is a declared Grade 1 site while the rest of the land is not and hence different mechanisms have to be used in any heritage applications. These mechanisms are discussed below.

The location of the site is shown in Figure 1.

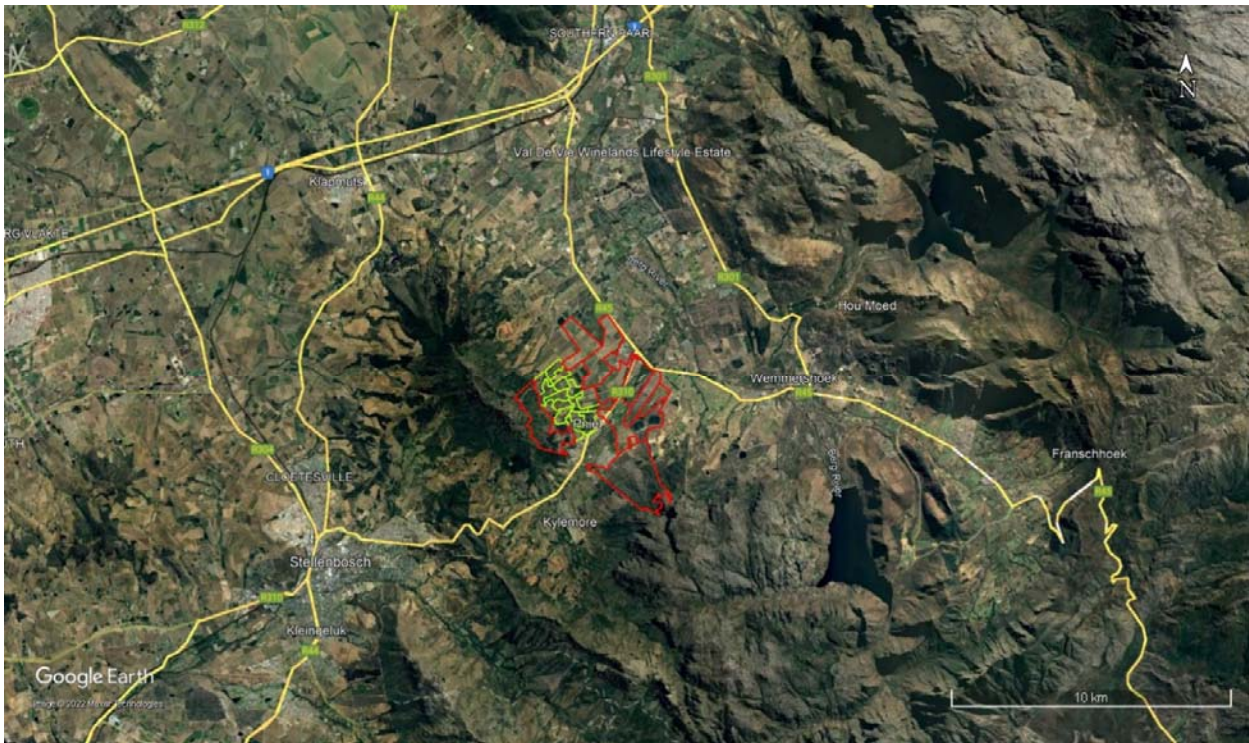


Figure 1: The location of the Boschendal land (red and green) Founders' Estate (green) in regional context.

1.2 Statement on the regulatory mechanisms

Boschendal (Pty) Ltd has acquired the rights to the subdivision and development of eighteen (18) so-called Founders' Estates. The Founders' Estates effectively comprise 18 different farms measuring between 21 and 44ha each (Figure 2). The entire area comprising all the Founders' Estates has been declared a National Heritage Site in terms of the NHRA, as a component of the Cape Winelands Cultural Landscape. From a heritage management perspective, as a National Heritage site, the Founders' Estates falls within the jurisdictional (regulatory) control of the South African Heritage Resources Agency (SAHRA), while the remainder of the Boschendal landholdings fall within the regulatory authority of HWC (Winter 2020).

The bulk services work on Founders' Estate requires a permit application in terms of S27, while the work elsewhere must follow the normal application process of HWC, commencing with a NID application.

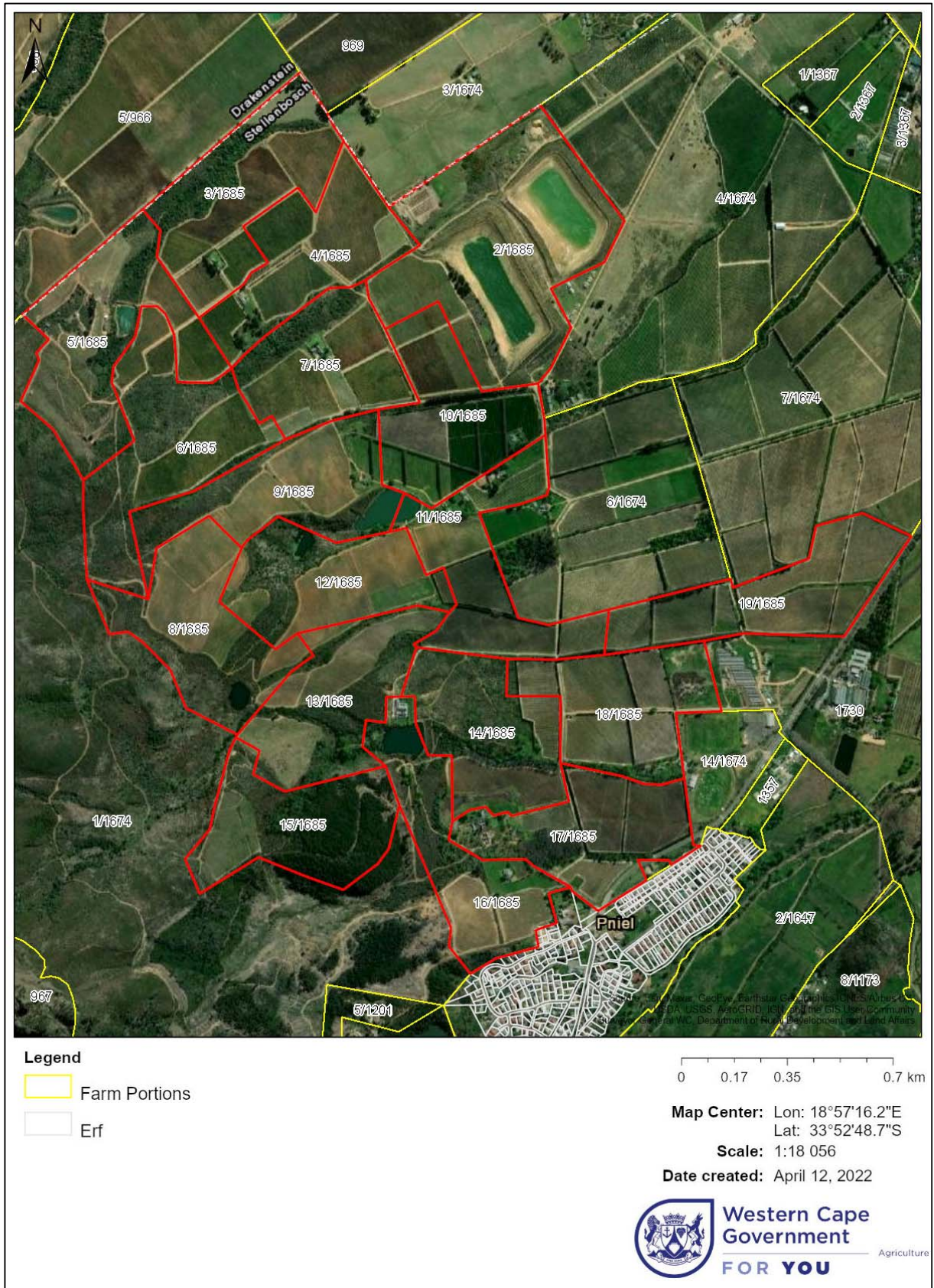


Figure 2: Cadastral map of Boschendal Founders' Estate farms (red) and some of the other farms.

1.3 The Receiving Environment

The Boschendal farms including Founders Estate is a largely transformed agricultural landscape with associated infrastructure such as roads, pipelines, dams, reservoirs etc. There are extensive vineyards (which encroach up the slopes of the Simonsberg), and orchards as well as cereals grown in certain areas. The Simonsberg lies to the south west, and from there the land slopes down towards the distant Berg River. The Keurbos stream and Dwars River cross the land running into the Berg. Only small pockets of undisturbed vegetation are present, mostly along the streams. Historical buildings associated with the old Silvermine (ore processing mill and smelt house) are found inside the south western part of the Founders Estate, with other structures and the mine itself just outside the boundary. The remains of the old VOC silvermine complex is considered to be the most important archaeological heritage site on the property.

The area contains several significant building complexes, namely the Goede Hoop homestead and werf, Rhodes's cottage as well as buildings associated with what used to be the old Nieuwedorp Farm complex. There are structures scattered across the farms, some of which are protected by the NHRA but not of major historical significance. Most of the historic settlement areas are associated with groves of oak or bluegum trees.

Typical landscape features are tree lined roads, while most of the numerous streams and springs which originate in the Simonsberg have been captured by formal leiwater (furrow) systems through the orchards and fields.

There are a number of modern dwellings on Founders Estate which are modified structures or new buildings.

2. PRE-COLONIAL BACKGROUND FOR THE REGION

2.1 Early Stone Age (ESA)

Kaplan (2005a) notes that the ESA material located during the archaeological assessment of the Boschendal lands are consistent with tools often found elsewhere in the Stellenbosch/Drakenstein area (Kaplan 1998, 1999, 2000, 2001, 2002a,b,c, 2003a,b,c, 2004a,b,c,d, 2005a,b,c, Orton et al 2005, Orton n.d., Yates & Manhire 1997). The age and context of the ESA is described further below.

ESA material that is commonly found on river terraces, has been widely reported in the Boland with finds particularly common in a belt from Somerset West through Stellenbosch and Paarl, to Malmesbury and beyond. This material is mostly in secondary context having been reworked, or washed into the terraces during flood events post-dating their formation and hence is seldom, if ever, associated with associated non-lithic material.

During the early years of archaeological research in South Africa, large quantities of ESA artefacts were noted in the vicinity of Stellenbosch, leading researchers to assign the name "Stellenbosch Culture" to the artefacts (Péringuey 1911; Péringuey & Corstophine 1900).

The ESA is divided into two main industries known as the 'Oldowan' and the 'Acheulean'. The latter includes the "Stellenbosch Culture", and in fact all western Cape ESA occurrences are likely to fall within the latter period dating between ~1.4 million and ~200,000 years (Asfaw *et al.* 1992; Kuman & Clarke 2000; Szabo & Butzer 1979). Typical Acheulean artefacts include hand-axes and cleavers, but a variety of cores, flakes and chunks are also found (Mitchell 2002). Goodwin ascribed ESA material from the western edge of the Cape Fold Belt and locations across South Africa to the "Stellenbosch Culture" (Goodwin & Van Riet Lowe 1929) and he noted two common methods used for the manufacture of handaxes i.e. on large flakes or fashioned directly from river cobbles.

2.2 Middle Stone Age (MSA) and Later Stone Age (LSA):

Younger Middle Stone Age (MSA) and more recent Later Stone Age (LSA) remains are found less frequently during impact assessments in the Franschhoek/Paarl area, but LSA sites known to occur

(Orton et al 2005, Orton n.d.). LSA material must have been widespread in the area, but as sites of that type would likely have overlapped places favourable for settlement and agriculture in more recent times, are difficult to identify now due to disturbance.

The Middle Stone Age (MSA) probably started ~200,000 years ago but a more precise date of transition to the Later Stone Age (LSA) is still uncertain, but probably occurred between ~30,000 and 20,000 years ago (Thackeray 1992:400). In general, many larger flakes, such as those from the earlier parts of the MSA, could easily be confused with ESA artefacts, while later while in some cases, overlap in flake size occurs with the LSA. Certain types of MSA are easily recognised i.e. triangular flakes, long quadrilateral blades and those with faceted platforms, and are very characteristic of the period.

The Later Stone Age spans the period from ~20,000 years up to and overlapping the arrival of European colonists. Few LSA sites are described in assessment reports though other aspects such as rock paintings, which are also from the period, occur in the Wemmershoek area and on the farm Môrelië (Kaplan 2003b).

One notable LSA site was located by Orton et al (2005) at Solms Delta wine farm ~3.5 km to the north east of Founders Estate. The site was found during a series of trial excavations on the old werf and a small controlled excavation in the area produced a significant number of artefacts that were later analysed and described (Orton n.d.). Three retouched stone tool types i.e. segments, backed bladelets and backed scrapers are common in the assemblage most probably date the site to the period between 3600 BC and 1200 BC when compared to dated sites with these artefacts from the west coast. The presence of indigenous pottery indicates that at least some part of the occupation occurred after 2000 years ago when this technology first appeared in south-western Africa.

3. PREVIOUS ARCHAEOLOGICAL ASSESSMENTS OF BOSCHENDAL

The original archaeological surveys of Boschendal were done as two separate projects. Kaplan (2005a) undertook an archaeological assessment of precolonial archaeological sites of significance on the affected Boschendal farms while Hart (2005) was tasked with assessing the impacts of development on the farms, with particular reference to the area known as the Founders Estate. Kaplan's assessment was of a much broader area than is currently being assessed for the bulk services, but there are several overlaps.

3.1 Pre-colonial material

During his survey on the broader area, Kaplan located relatively large numbers of Early Stone Age (ESA) artefacts, including large flakes, flaked/split cobbles, large chunks, worked and pitted river cobbles, large irregular and prepared cores, as well as several incomplete and complete handaxes, cleavers, and choppers. Artefacts were made on large flakes from quartzite river cobbles. These were found in a variety of highly disturbed and degraded contexts such as old agricultural fields, vineyards, and orchards close to the Cannery Houses, the Jam Factory and south of the proposed Retirement Village. Artefacts were also found in the piles of rocks alongside cleared fields or packed in rows in the vineyards. Artefacts were also noted in orchards on the banks and floodplain of the Dwars River. ESA artefacts were found in old fields near Lanquedoc village, near the sewerage works and in orchards alongside the Dwars River. and near Wily Dam and in highly disturbed lands and a large dam under excavation above York Piggery. ESA and some Middle Stone Age artefacts were also located on the steep gravel slopes of the Old Bethlehem Conservation area, and Groot Drakenstein Eco Precinct, particularly in the wide gravel roads and vineyards on the steep slopes.

On Founders' Estate, ESA artefacts were located in orchards, vineyards and fields surrounding the Rhodes Cottage Homestead, and alongside some of the nearby gravel roads, and among piles of river cobbles and rocks cleared from fields, and near several dams in this area. Several ESA artefacts were noted on the higher gravel slopes of the Simonsberg Mountains and in land north and east of, and near an old gravel quarry above the Goede Hoop farm.

Kaplan notes that ESA material was also found during earlier archaeological surveys of Boschendal-owned land. These studies included the proposed Lanquedoc social housing development (Kaplan 1998) and proposed Bulkwater Supply Infrastructure Planning project for the City of Cape Town on farmlands alongside the R44 (Kaplan 2004c).

Kaplan concluded that due to the transformed context in which the ESA material was found on Boschendal, that it was considered to have low local significance and no mitigation was required.

3.2 Historical archaeological remains

Other specialist background studies on the built environment and history were extremely useful in isolating areas of potential historical significance. The previous studies by Lucas (2004) were invaluable resources for aspects of the site such as the Silvermine and its associated structures, and the Goede Hoop homestead especially since in 2005, thick regrowth of alien black wattle growth on the slopes of the Simonsberg, subsequent to the fire that provided a cleared site for Lucas, meant that many of the Silvermine remains on the south western slopes of the farms were inaccessible.

Lucas (2004) conducted a series of surveys and excavations in the valley between 1998-2001, the results of which was published in his book, "An archaeology of Colonial Identity". His archaeological research covered the history of the VOC mining operation, the Goede Hoop werf and the village of Pniel itself. The publication explores the archaeological signatures of historical settlement at these various sites and comments on the identity of the communities who lived and worked in the area. The publication has added enormous value and significance to the study area through the process of discovery and the linkages it illustrates with not only neighbouring communities, but also the context of the sites within the VOC hegemony, and on the later British Colonial period.

Hennie Vos of Stellenbosch Museum also produced a number of unpublished reports on the historic farms and recently, a conservation commentary on the Silvermine complex.

In essence the archaeological significance of the study area is well established.

Given this, it is not within the scope of this report to furnish new knowledge but rather to frame what is known within the context of heritage impact assessment and further conservation.

3.3 The 2005 Hart assessment

Since built structures were separately addressed in other specialist reports, Hart 2005 noted that his report focussed on historical archaeological material (as defined by the NHRA to be the remains of human settlement and activity which is more than 100 years of age) and therefore included artefact scatters, activity areas, ruins etc. Fieldwork on Founders' Estate was done by Archaeologists Tim Hart and Liesbet Schietecatte from the ACO.

3.4 Areas of historical archaeological sensitivity on the Founders' Estate.

Refer to Figure 3 for the locations of the areas discussed below.

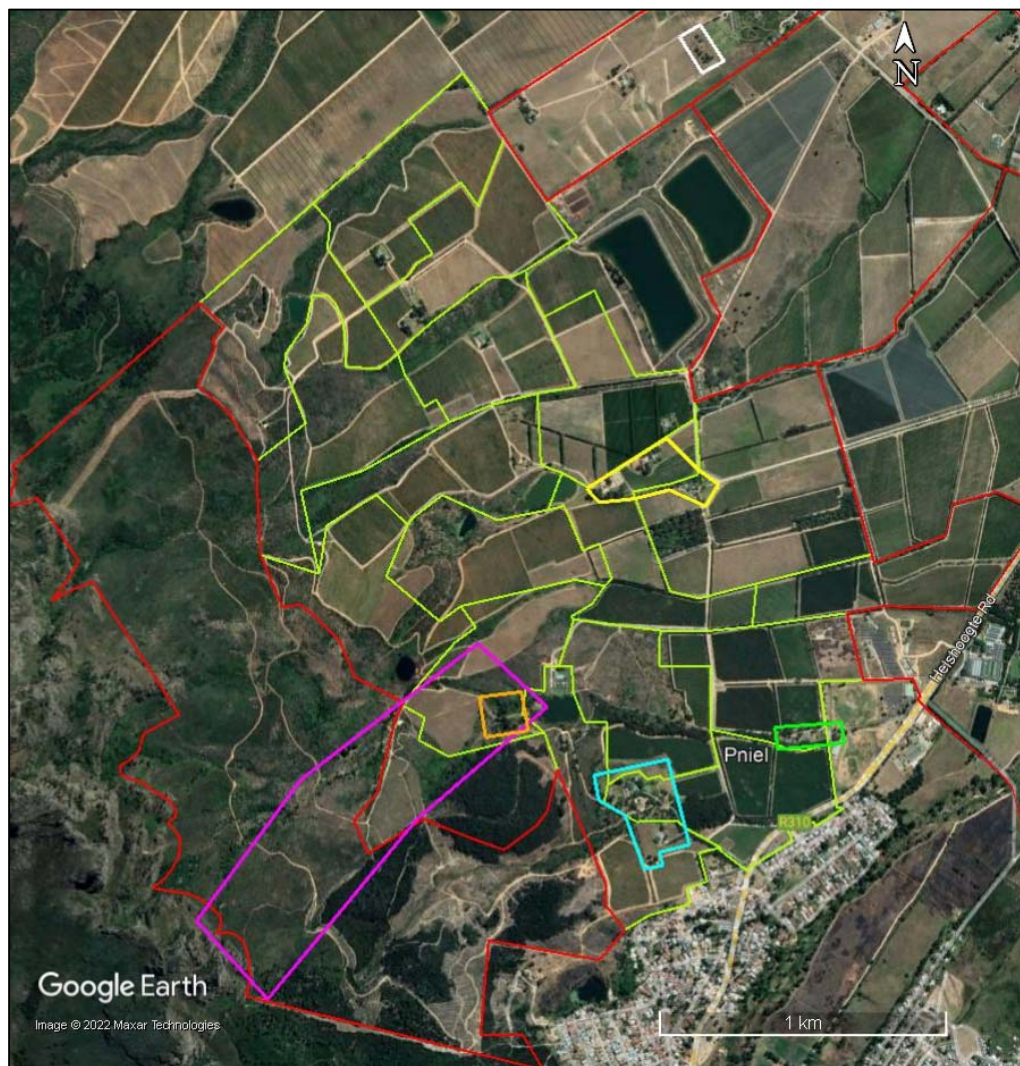


Figure 3: Areas of historical archaeological sensitivity on the Founders' Estate (after Hart 2005). Nieuwedorp (yellow), Goede Hoop (blue), mining landscape (purple), old workers housing (green). Some old walls (white) lie on the broader Boschendal farm area

3.4.1 Nieuwedorp

3.4.1.1 Rhodes Cottage and surrounds

It has been hypothesized that the original Nieuwedorp homestead was built here in the early 19th century but was demolished when Sir Herbert Baker built Rhodes' Cottage in 1902. However, there are no visible traces of archaeological material on the surface in the immediate vicinity of the cottage today. While Hart mentions a survey diagram of the 19th century that suggests that a structure existed roughly immediately behind or on the site of Rhodes Cottage, this was not included in the report. The possible structure is a likely candidate for the original Nieuwedorp homestead and werf. There are no immediate surface indications of the structure, but it is quite probable that foundations exist below surface.

3.2.2 Rhodes Cottage Annex

This small separate cottage contains early elements. It is said to have been a mill that was once associated with the Nieuwedorp farmstead. A nearby *leiwater* may once have fed a mill race, although there is no immediate evidence of this. If it were ever deemed necessary, a closer examination of the Annex building that involves excavation and fabric analysis may be able to verify if the structure was in fact a mill in the past.

3.2.3 Barn

The area around the Nieuwedorp Barn appears to contain old building rubble and evidence of earlier construction in the general vicinity. There is the possibility that original architectural details exist below the floor surface inside the barn. Archaeological excavation and fabric analysis may be able to shed light on the early phases of the structure and reveal its uses.

3.4.1.2 Area of sensitivity

Given the possibility of finding the remains of demolished structures pre-dating Rhodes Cottage, and possible remains of a mill race, the area encapsulated within the yellow polygon (Figure 3) is considered to be potentially sensitive to development activities. Hart recommended that development activities within the demarcated zone should be monitored, and if any archaeological remains found, they should be explored to identify possible age and use.

3.4.2 Goede Hoop

The Goede Hoop werf and associated structures as a complex (Figure 4) is considered by Lucas and Vos to be of high archaeological sensitivity as it has been demonstrated to contain a more or less complete archaeological sequence from the earliest period of the farm's existence until the present day. Lucas located what he believed to be the buried remains of one of the earliest structures located between the Slave Lodge and the 1821 homestead. Furthermore, artefactual material is plentiful both within and outside the existing werf wall. As yet, little is known about the developmental sequence of various individual structures such as the main house, annex, stables and mill building – all of which have high archaeological potential.

On a site such as Goede Hoop, impacts to heritage material can occur as a result of even minor interventions: for example, replacing plasterwork within any of the structures may result in damage to possible hidden wall paintings. The addition of a new bathroom may cause damage to sub-surface archaeological deposits through injudicious placing of service pipes. This site is considered so sensitive that Hart recommended that a Heritage Conservation Plan be drawn up to articulate the significance of the site, vulnerabilities, and to determine acceptable limits of change.



Figure 4: The Goede Hoop werf (1. Main house, 2. Wine cellar, 3. Slave lodge, 4. Stables, 5. Mill, 6. Cemetery, 7. Second house)

3.4.3 Silvermine complex

The silver mine complex is an early industrial landscape which according to Vos (2004) must surely be one of the earliest colonial period mines in South Africa. The background history of the mine was researched in some detail by Lucas (2004, n.d.). The “discovery” of precious metals in the Simonsberg Mountains by Frans Diederick Muller led to him motivating the development of a mining association involving many prominent members of the local VOC who funded the operation which commenced in about 1743 employing up to 20 VOC employees and 19 slaves.

Despite sinking two complexes of mine shafts on the upper and lower slopes of the Simonsberg (Figure 5) and substantial investment of funds by senior politicians, no metals of any value were ever found. Muller was exposed as a fraud, and was deported to Batavia without his possessions in 1750.

The mining operation, albeit relatively short lived, left a substantial footprint on the landscape including mine shafts, a number of buildings, roads and an ore processing mill and smelting facility. The archaeological footprints of a number of these have survived, while others not found previously, may still lie hidden in the dense thickets of the Simonsberg. The ruin of Muller’s house and other mining associated structures have been partially excavated by Lucas. The ruins and shafts, though very well known to the Pniel community who visit regularly and identify closely with the sites as local heritage, have not been formally documented .

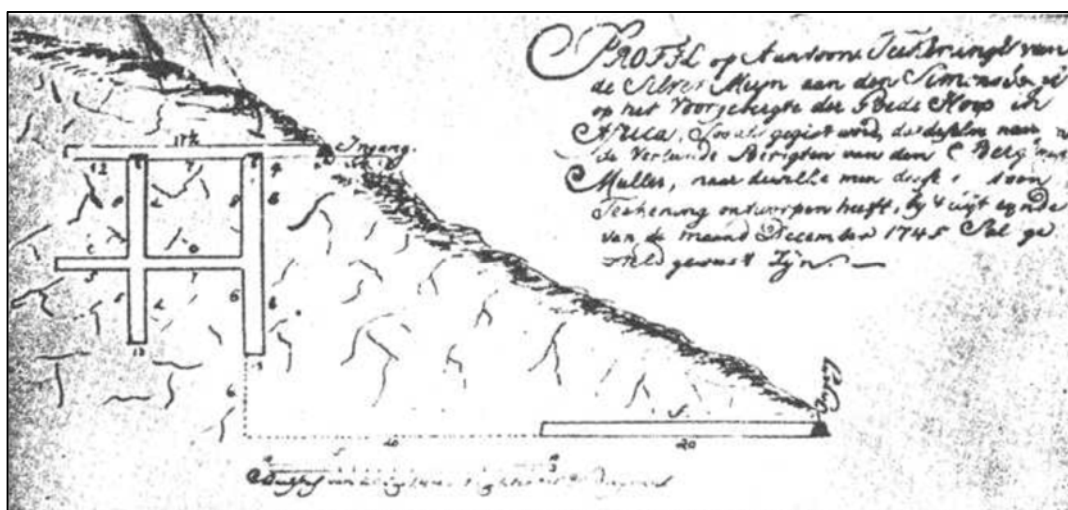


Figure 5: Contemporary drawing of the upper silver mine works from 1743. (Source: South African Library MSB 974/2 in Lucas 2004:45)

3.4.3.1 Ore processing mill and smelt house

The substantial ruin of the ‘mill’ is located alongside a stream on Founders’ Estate and Lucas has suggested that this was a water operated crushing plant where “ore” from the mine was brought for processing (Figure 6). Vos however is not convinced by this hypothesis and argues that the mining operation and the mill may not be contemporary.

Built from stone and calcrete mortar, the building once contained three levels, the lowest of which contains several large stone built ‘mountings’ of an industrial nature. The numerous openings are arched and finished with well fired brick. No woodwork or joinery has survived though beam rests and sockets are visible in the masonry and attest to the use of wood. Dense plant growth has severely impacted the structure through root movement and at least one fallen tree has collapsed a large section of walling in the past. Large trees continue to grow in close proximity and threaten sections of the walls. Immediately to the south is a second structure which has been identified as the smelt house.

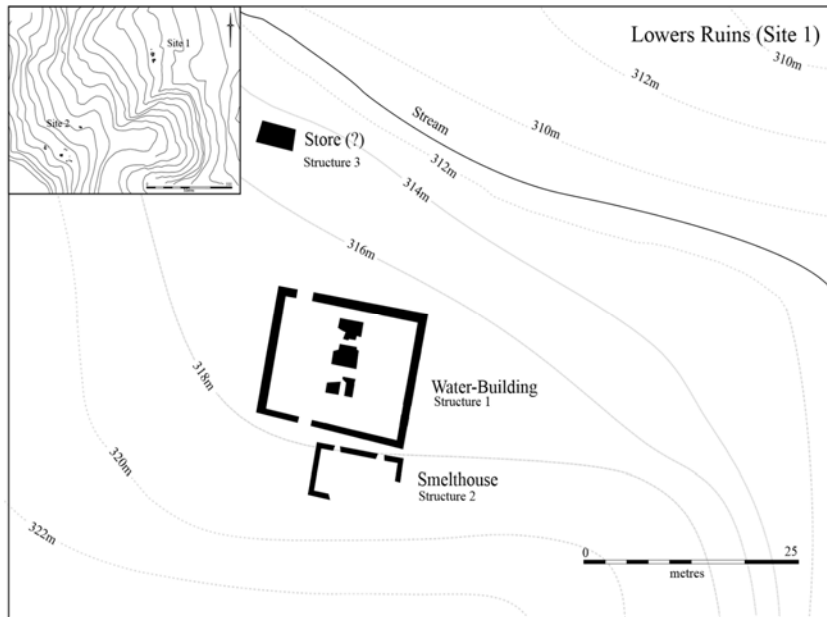


Figure 6: The lower industrial complex and mill has been mapped by Lucas (undated) and was reproduced in Hart 2020 with his permission.

Although not shown on the drawing, there is another less substantial structure ~20m upslope to the south, on the other side of a farm service road. There appear to be a few rooms visible, and it may be some form of dwelling? Another structure located downslope is believed to have been a store?

In reality the significance of this and associated structures is not very well understood. It is clear that its construction method contrasts to the comparatively rudimentary building methods used for Muller's own house, but a lot more work is needed to explain the age, function and purpose of this enigmatic structure and those associated.

If indeed they are associated with the mine, then we must assign to the group, a high degree of significance as the only surviving mine of its kind in South Africa. The site begs substantial archaeological investigation and conservation.

3.4.4 Proposed Founders' Estate residential development sites

Although not specifically described in Hart's 2005 report, his findings with respect to the eighteen small development sites were described in his archaeological residues conservation management plan (2020). The proposed site locations provided in 2022 are mostly consistent with those assessed by Hart, with four being in different locations. These four sites were investigated during the 2022 fieldwork, with four being in different locations. These four sites were investigated during the 2022 fieldwork to assess the bulk services. Hart's observations have in some instances been updated to reflect current ground conditions. The development sites are shown on Figure 7?

Table 1: Findings with respect to Founders' Estates

Hart 2005	Description	Position	Finding	Halkett 2022	Finding
FE2	The development footprint is at the corner of a large farm dam lies mostly in an existing vineyard.	Consistent with 2022	Monitoring not required	n/a	n/a
FE3	The development footprint includes a 20th century house, landscaped surrounds and a portion of vineyards. The land around the house has been substantially transformed.	Consistent with 2022	Monitoring not required	n/a	n/a

FE4	The development footprint is located on the edge of a vineyard. The aerial map suggests that this portion of land was deliberately excised from the vineyard, which may imply an earlier history for this land. The land contains a clump of large oak trees suggesting a possible earlier settlement. The land contains a corrugated tin and wire “chicken coop”, a modern brick lined well, evidence of modern red bricks dumped on the site as well as recent dumping of old vineyard stumps.	Consistent with 2022	Monitoring not required	There were at least 3 small cottages on the site in the 1973 aerial photo, which explains why the vineyard did not encapsulate that area, but nothing was on the site in the 1938 photo.	n/a
FE5	Old vineyard/fields	Consistent with 2022	Monitoring not required	There are large piles of rocks on the north west edge – bulldozed out of the field.	n/a
FE6	this site has moved ~100 m south east	changed		New location is almost entirely of transformed agricultural land	Monitoring not required
FE7	This development footprint contains a modern 20th century house and swimming pool. There are several large trees and shrubs in the garden, and the kikuyu lawn has covered the soil surface. This piece of land has been completely transformed.	Consistent with 2022	Monitoring not required	n/a	n/a
FE8 (new)				Located almost entirely in a steep sloped vineyard	Monitoring not required
FE9	The development footprint includes a small modern cottage and associated outbuildings, which do not appear to be older than 60 years. The area around the cottage has been completely transformed and is a mixture of kikuyu grass and gravel farmyard.	Consistent with 2022	Monitoring not required	n/a	n/a
FE10	the site has moved ~100m to the nw	changed		Located almost entirely in transformed agricultural land with a stream running through the north part	Monitoring not required
FE11	The development footprint is occupied by the Rhodes Cottage and Barn. possibly the site of the historic (since demolished) Nieuwedorp farm werf. it is possible that sub-surface foundations and remains of the early farm house and werf may still exist.	Consistent with 2022	Monitor landscaping and earth disturbance	n/a	n/a
FE12	the site has moved ~500 meters to the east to avoid a stream and heritage features	changed		Located almost entirely in transformed agricultural land with a stream running through the south part	Monitoring not required
FE13	The development footprint is located on undeveloped land with a stream? running along one margin. The vegetation is very thick, making a survey of the surface difficult. No indications of heritage resources though.	Consistent with 2022	Monitoring not required	n/a	n/a

FE14	the site has moved ~120 meters to the east	changed		The site straddles a pine windbreak and vineyards on the east while the west is probably transformed and heavily grassed, Some oaks present.	Monitoring not required
FE15 (old FE8)	Development footprint is located predominantly on fallow lands, which may have been a vineyard in the past. There is a farm road and a small stream running to the west	Consistent with 2022 but now FE15	Monitoring not required	The north of the site lies in transformed agricultural land while the south appears not have been used. A cycle track crosses the site and a small borrow pit is located on the west. Nothing to suggest any structures relating to the Silver mine	n/a
FE16 (now 16A)	This development footprint is situated next to a small dam which has been constructed on a small stream. There are several large boulders and rocky outcrops on this plot. Two test holes have been excavated into the soil and it is apparent that there are many sandstone cobbles beneath the surface.	Consistent with 2022	Monitoring not required	The site is now developed and was not visited 2022	n/a
FE17 (now 16B)	This comprises the original Goede Hoop farmhouse and associated farm buildings.	changed		The original development site was for the whole werf but now is only for one existing building to the south, now labelled 16B. As this lies in the sensitive area of the Goede Hoop werf, any work around the site is to be monitored	Monitoring required
FE18	The development footprint is situated in a fallow field with some indigenous vegetation along the west.	Consistent with 2022	Monitoring not required	n/a	n/a
FE19	This development footprint is located entirely with an orchard on transformed land.	Consistent with 2022	Monitoring not required	n/a	n/a

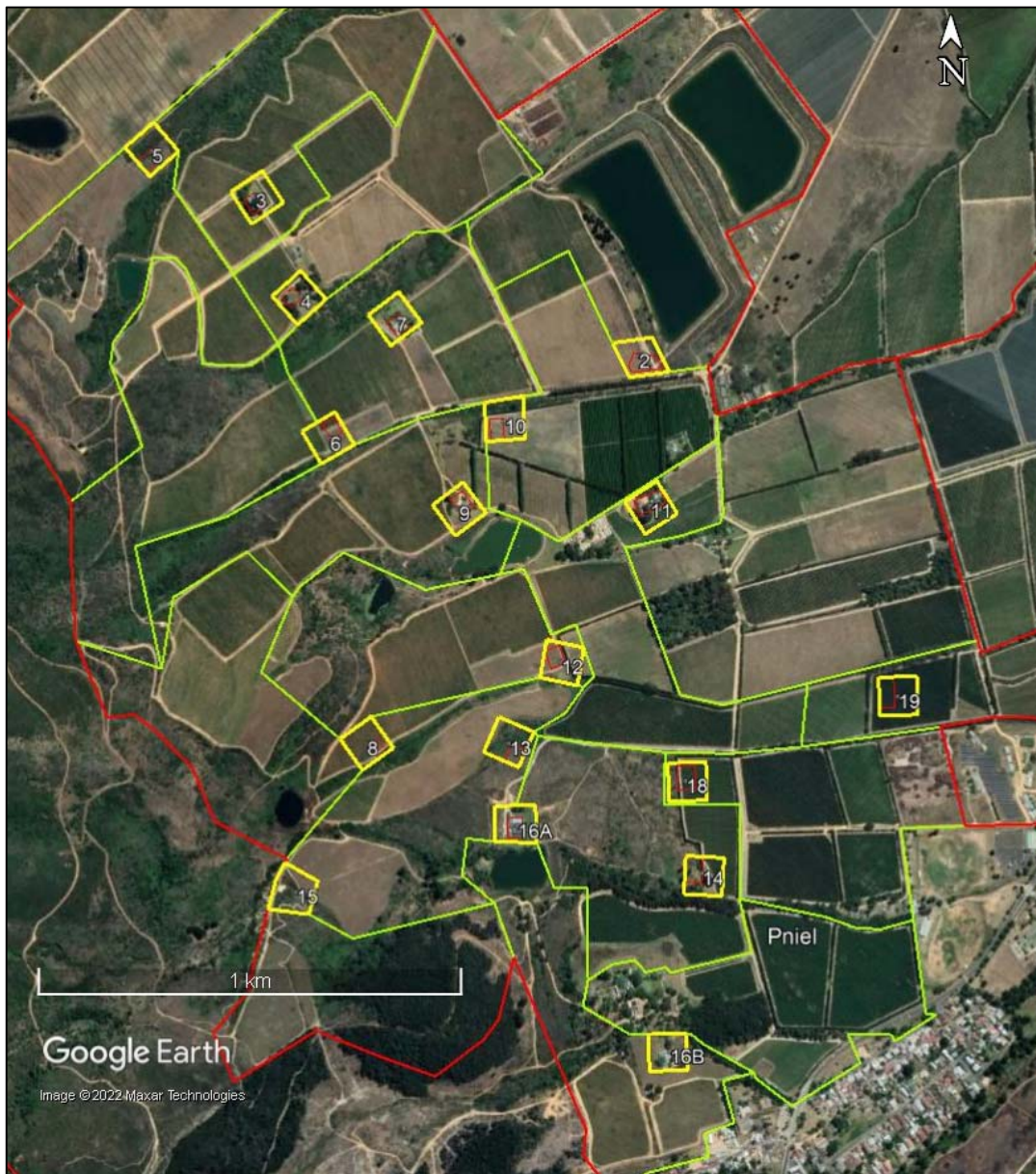


Figure 7: The eighteen Founders' Estates footprints (yellow) with house locations indicated by smaller red rectangles as per 2022 plans.

3.4.5 Aspects of the mining site on land outside Founders' Estate

The mining settlement is located ~600 m upslope to the south west and the layout is indicated in Figure 8.

3.4.5.1 Muller's house and associated ruins

Muller's house has been excavated by Lucas who succeeded in collecting a significant amount of artefactual material and exposing the ruins themselves. The ruins consists of stone and mud walls and brick paving. Eradication of alien vegetation has opened the site and meant that root movement in the foundations of the structure has been reduced. Other structures include a kraal and an oven, stores and labourers cottages. Lucas also documented wagon tracks associated with the mining operations



Figure 8: Detailed map of the mining settlement complex (site 2) midway between the Mine shafts and the ore processing precinct, shows the foundations of structures as well as the slag and domestic middens associated with the buildings. Structure 1 is Muller’s House. (After Lucas undated)

3.4.5.2 Mine shafts

Although Lucas included a section drawing of the mine layout (Lucas 2004:45; see Figure 5) the mine shafts themselves have never been mapped in detail in recent times. The shafts have been inspected by Vos and Lucas and more recently by Gribble who compiled a basic description of the visible layout and condition (in Hart 2020). Vos mentions issues of safety in that there are vertical shafts in excess of 20 m. This is clearly a hazard that will need to be managed once the land is under formal control as this is a source of risk to the visitor and liability to whoever manages the land.

3.5 Harts’ conclusions with respect to Founders’ Estate

Hart’s overall conclusion was that the development of Founders’ Estate would have limited direct impacts to historical archaeological material. Possible impacts were mostly controllable through appropriate mitigation measures and good conservation practice. What is of concern are indirect impacts that can result from the way in which those portions of the site that contain historical resources are managed and utilised in the future. Particular reference was made to maintenance of the ore processing mill ruins. He stressed the importance of maintaining the linkages between all the elements of this early industrial landscape as the land is developed.

Goede Hoop is a site of established archaeological significance. Any intervention, in or near the Goede Hoop werf has the potential to impact archaeological material. Services would need to be laid under a permit issued by SAHRA for excavation on an archaeological site.

Rhodes cottage and the Nieuwedorp barn area may be elements of a related historical site. Major interventions in this area must be preceded by a focused archaeological investigation to check for buried deposits.

4. RECENT 2022 ARCHAEOLOGICAL OBSERVATIONS IN RELATION TO BULK SERVICES

The proposed footprints of various bulk services to the Founders' Estates and other areas (Figure 9) were provided to ACO Associates cc for assessment. These were uploaded to handheld GPS units, and inspected on 8th April 2022 by Mr D Halkett and Mr J Gribble. On the 3rd March 2022, prior to the main field assessment, a site meeting was held between representatives of Boschendal and Mr Gribble of ACO, to examine a section of the route of the 'rising main' pipe where it passed through the ore processing mill precinct, to determine if the route was viable, or if a new route would have to be proposed. The initially proposed route was found to be viable with conditions, as indicated in section 4.2.2.1.1. The rising main is one of the bulk services examined in full on the 8th April.

Other services include water pipes, electrical cabling, foul sewers, fibre optic cabling, irrigation connections, rising main, a small number of roads. Some services are located outside the Estate, and were assessed for inclusion in a separate NID application.

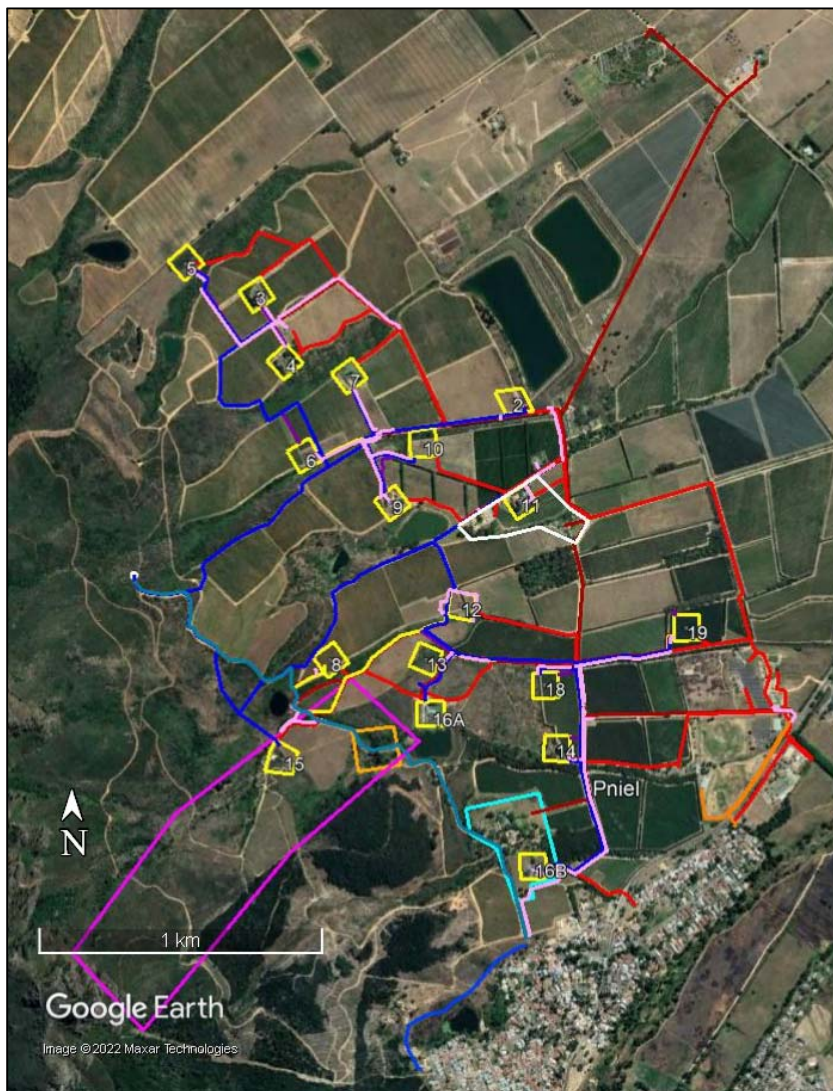


Figure 9: Bulk services footprints in relation to Founders Estates (yellow squares). Sensitive archaeological areas as per Hart 2005 (Nieuwedorp – white, Goede Hoop – turquoise, mining landscape – purple, ore processing mill – orange). Services: Dark blue – water, rising main – light blue, electrical – pink, foul sewers – red, fibre optic – dark red, road sections – yellow lines, irrigation connections - dark purple, external services – extreme south, blue – water, red sewers, orange – electrical?)

4.1 Method

Using the information stored on the GPS units, the services footprints were examined on foot and from the vehicle. Most services are in or at the edge of existing farm roads, but some sections cross land where no access exists, and those were examined on foot unless in land that was already disturbed by agriculture or other activities. As it had been several years since Harts' assessment, some development sites were re-examined to determine if changes to the land may have occurred and the results of his assessment and the 2022 assessment are shown in section 3.4.4., Table 1. At the same time, search tracks were recorded on the GPS units, and the positions of heritage resources were geo-referenced, and described in note books. Resources were photographed in some cases.

4.2 Findings and recommendations

4.2.1 Pre-colonial archaeology

In general, we observed few pre-colonial archaeological resources in the bulk services footprints which are for the most part in disturbed areas. A few isolated ESA artefacts were found in disturbed agricultural areas. No LSA or MSA material was observed.

4.2.2 Historic remains

Visible historic resources were limited in the bulk services footprints on Founders' Estate, and since no new resources were identified beyond those described by Hart, his earlier recommendations will continue to apply, i.e. that all earthmoving in the sensitive precincts such as Nieuwedorp, Goede Hoop, and in the Silvermine precinct (specifically the ore processing mill sub-precinct) must be monitored to determine if traces of previous structures may be present in those sites.

Trenching for bulk services outside those areas may proceed without monitoring or mitigation.

We did not identify any significant archaeology on any of the eighteen development sites.

4.2.2.1 Specific conditions

4.2.2.1.1 The ore processing mill sub-precinct

In terms of the site meeting of 3rd March 2022 and subsequent discussions, the options for the installation of the rising water main pipeline within the road close to the ore processing mill were discussed and the following constraints were noted and approach agreed:

- Any trenching along the approximately 50 m trench section of the road in the vicinity of the two historical structures identified at the meeting will need full-time monitoring by a professional archaeologist for the duration of the works;
- An archaeological monitoring programme between the archaeologist and the contractor must be agreed to well in advance of the commencement of any excavation activities in this area;
- The trenching should be done initially by hand but and if deemed safe to do by the archaeologist say can then proceed with a mini trench digger;
- In the event that archaeological material is uncovered it may be necessary to stop work until the recording and safeguarding of archaeological material is undertaken;
- In order to avoid delays in the overall project programme it is advisable to first commence work on this section of the pipeline; and
- The Section 27 permit application to SAHRA should make provision for an archaeological excavations in the event of archaeological material being uncovered.

4.2.2.1.2 Goede Hoop

All trenching in the precinct is to be monitored. Few new services are indicated to be provided in the old core of the precinct but services will be provided to the development area known as Site FE16B (originally Harts' FE17). While electrical and water services, pass by the cemetery, these are several

meters distant. We do not anticipate burials outside the walled cemetery, but this area will be monitored and if any remains are encountered, services will be relocated.

- An archaeological monitoring program between the archaeologist and the contractor must be agreed to well in advance of the commencement of any excavation activities in this area.

4.2.2.1.3 Nieuwedorp

All bulk services trenches in the sensitive precinct to be monitored. Particularly those to the site known as FE11 (Nieuwedorp Cottage and Barn).

- An archaeological monitoring program between the archaeologist and the contractor must be agreed to well in advance of the commencement of any excavation activities in this area.

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