ARCHAEOLOGICAL IMPACT ASSESSMENT WRENCHVILLE PHASE 2 LOW COST HOUSING DEVELOPMENT, REM. ERF1, KURUMAN NORTHERN CAPE

SAHRA CASE Id: 14281

Prepared for

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On behalf of

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By

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Executive summary

1. *Introduction*

ACRM was appointed by GNEC Environmental Consultants to conduct an Archaeological Impact Assessment (AIA) for the proposed Wrenchville Phase 2 Housing Development on Remainder of Erf 1 in Kuruman (Ga-Segonyana Local Municipality), in the Northern Cape.

The proposed development site is situated in Wrenchville, which is about 3.5kms south east of Kuruman/town centre. The proposed site shows signs of severe disturbance, mainly due to mining of gravel deposits, and extensive dumping of waste and building rubble. Wide gravel roads used by landfill and construction trucks, pedestrian footpaths and overgrazing contribute to the overall degraded character of the site.

The AIA forms part of a wider Heritage Impact Assessment (or HIA) requested by the South African Heritage Resources Agency (*SAHRA Case Id: 14281*), which includes a Palaeontological Impact Assessment (PIA).

GNEC is the appointed independent Environmental Assessment Practitioner (EAP) responsible for facilitating the Environmental Basic Assessment process.

2. The development proposal

The proposed Wrenchville Phase 2 low cost housing development will consist of approximately 200 residential units, including internal streets and engineering services. The total extent of the property is about 10ha. The reason for the proposed development is to reduce the current housing shortage/backlog in Kuruman and improve the quality of life of the surrounding community. The development is situated close to existing residential communities, and alongside Phase 1 of the Wrenchville housing project and Wrenchville School.

3. Aim

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

4. Findings

A field assessment of the proposed development site took place on 2 October 2019, in which the following observations were made:

Only three isolated stone implements were recorded across the proposed housing site. These include a small, burnished Early Stone Age banded ironstone biface, a Middle Stone Age chalcedony flake, and a Later Stone Age banded ironstone/jasperlite flake.

4.1 Grave

The grave of a possible child was recorded about 100m from the boundary fence of the new Wrenchville School, on the edge of the proposed development site. The grave is very recent and was reported to the Contractor, who in turn reported the find to the South African Police Services in Kuruman for further investigation.

4.2. Built environment

There are no old buildings, structures, or stone built features on the affected property.

5. Conclusion

The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to proposed development activities commencing.

The proposed development site is severely degraded and is not a threatened archaeological landscape.

The impact significance of the proposed Wrenchville Phase 2 Housing Development on archaeological heritage is assessed as LOW and therefore there are no objections, on archaeological grounds, to the development proceeding.

6. Recommendations:

1. No mitigation is required is required prior to construction activities commencing.

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1. INTRODUCTION

ACRM was appointed by GNEC Environmental Consultants to conduct an Archaeological Impact Assessment (AIA) for the proposed Wrenchville Phase 2 Housing Development on Remainder of Erf 1 in Kuruman (Ga-Segonyana Local Municipality), in the Northern Cape (Figures 1 & 2).

The AIA forms part of a wider Heritage Impact Assessment (HIIA) requested by the South African Heritage Resources Agency (*SAHRA Case Id: 14281*), which includes a Palaeontological Impact Assessment/PIA.

GNEC is the appointed independent Environmental Assessment Practitioner (EAP) responsible for facilitating the Environmental Basic Assessment process.

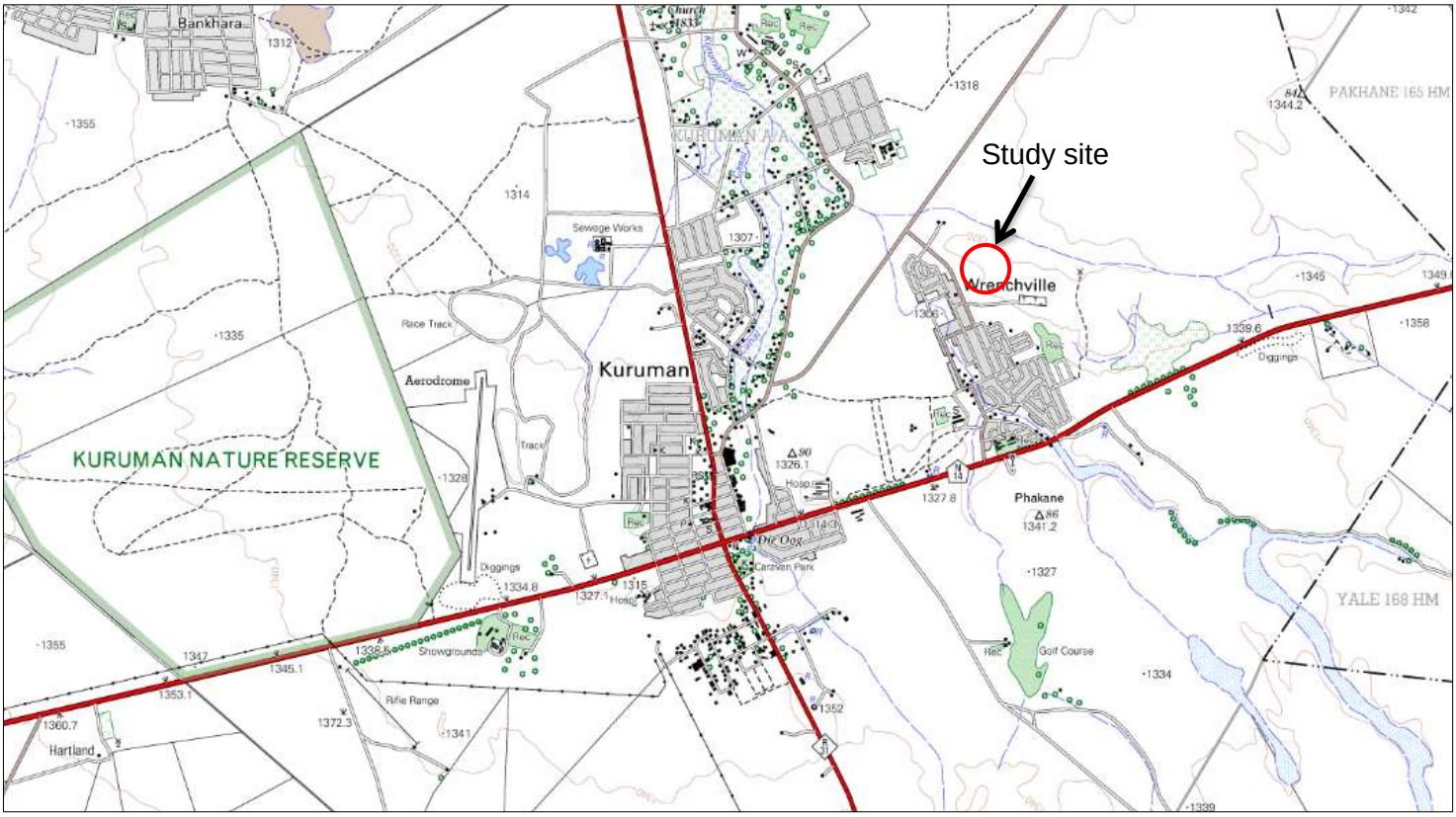

Figure 1. Locality map (2723AA Kuruman) indicating the site for the proposed Wrenchville Phase 2 (red polygon) in Kuruman.

Figure 2. Aerial photograph indicating the location of the proposed development site (red polygon) in Kuruman

2. THE DEVELOPMENT PROPOSAL

The proposed Wrenchville Phase 2 low cost development will consist of approximately 200 residential units, including internal streets and engineering services (Figure 3). Access to the property will be taken off the existing Buitekant Street within the existing residential neighbourhood of Wrenchville, located approximately 150m from the proposed development site. The total extent of the property is about 10ha. The reason for the proposed development is to alleviate the current housing shortage/backlog within the Ga-Segonyana Local Municipality and improve the quality of life of the surrounding community.

3. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA No. 25 of 1999) protects archaeological and palaeontological sites and materials, as well as graves/cemeteries, shipwrecks, battlefield sites and buildings, structures and features over 60 years old. The South African Heritage Resources Agency (SAHRA) administers this legislation nationally, with Heritage Resources Agencies acting at provincial level.

According to the Act (Sect. 35), it is an offence to destroy, damage, excavate, alter of remove from its original place, or collect, any archaeological, palaeontological and

historical material or object, without a permit issued by the SAHRA or applicable Provincial Heritage Resources Agency.

SAHRA was notified of the proposed housing project, and in a letter to the Department of Co-operative Governance Human Settlements and Traditional Affairs, SAHRA requested that a Heritage Impact Assessment (HIA), comprising an archaeological and palaeontological impact assessment, must be undertaken, as part of the environmental application process.

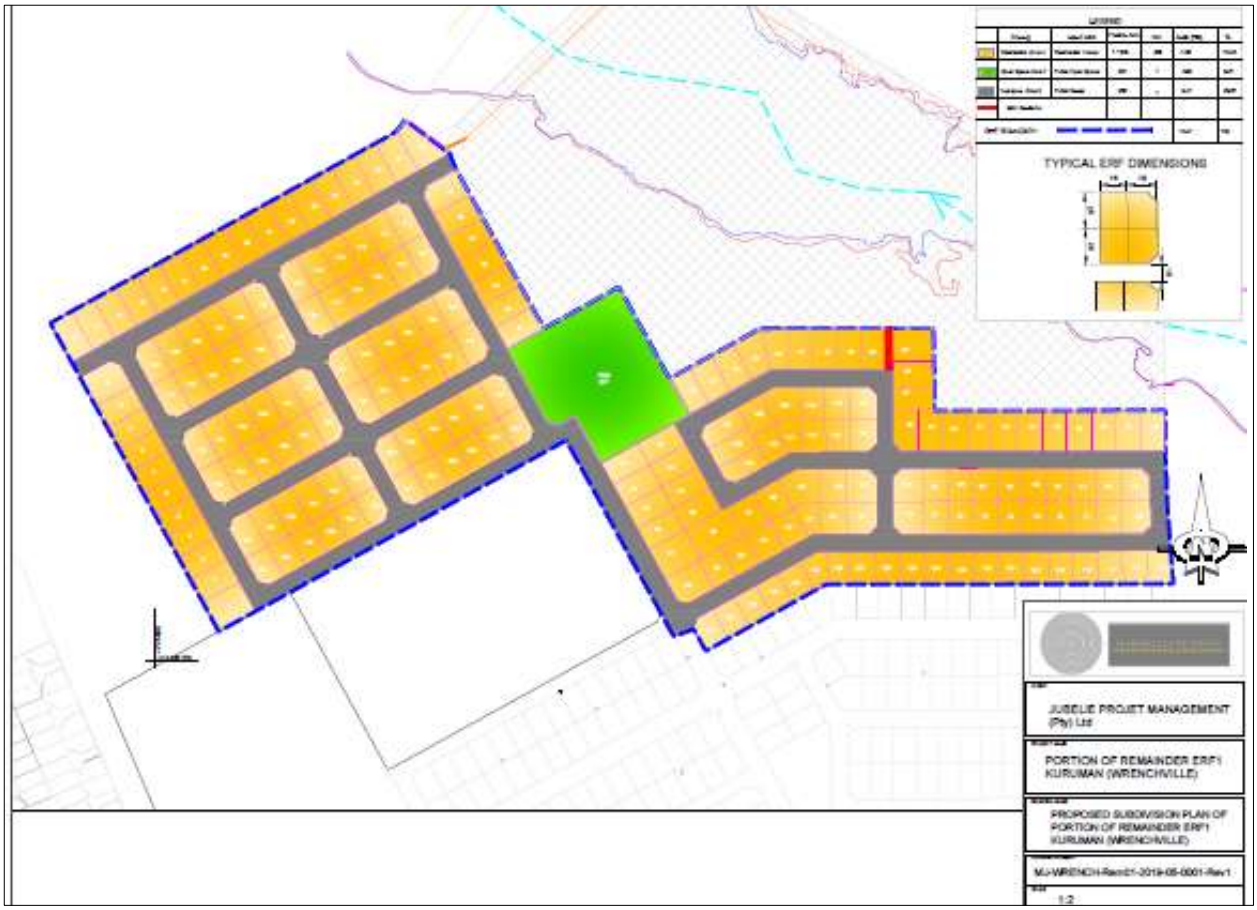

Figure 3. Wrenchville Phase 2 housing development: Proposed site layout plan

4. TERMS OF REFERENCE

The terms of reference for the archaeological study were to:

- Identify archaeological resources that might be impacted by the proposed development;

- Assess the sensitivity of archaeological resources on the proposed development site;

- Assess the significance of any impacts resulting from the proposed development, and

- Identify measures to protect any valuable archaeological resources that may exist within the proposed development site.

5. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The proposed ± 10ha development site is situated in Wrenchville, which is about 3.5kms south east of Kuruman/town centre (Figure 4). Almost the entire proposed housing site, on a substrate of sand and banded ironstone gravels is severely degraded, mainly due to mining of gravel deposits, and extensive dumping of rubble, domestic and industrial waste (Figures 5-12). Wide gravel roads used by landfill and construction trucks, pedestrian footpaths and overgrazing contribute to the overall degraded character of the site. There are no significant landscape features on the property. The northern portion of the site slopes gently down towards a semi-natural stream channel situated along the northern edge of the property, and is also very severely degraded. Surrounding land use is residential, including the Wrenchville Phase 1 housing project, Wrenchville School (currently under construction), Wrenchville Cemetery, the Kuruman Formal Landfill Site, and illegal sand mining (now abandoned).

It is proposed to locate the bulk sewer pipeline below the 1:100 year flood line of the degraded stream channel (Figures 13-28). Two layout alternatives for the bulk sewer are proposed, with the yellow route diversion being the preferred alternative. The proposed sewer line will pass underneath Buitekant Street through an existing culvert, and run alongside the Kuruman River in a southern direction before connecting to the existing pump station situated adjacent to the bridge crossing on Buitekant St (Figures 29-37).

Figure 4. Google aerial map of the proposed Wrenchville Phase 2 housing site (red polygon) & surrounding land use

Figure 5. View of the development site facing north. Wrenchville School is to the left of the plate

Figure 6. View of the development site facing east. The Wrenchville School is to the left of the plate

Figure 7. View of the development site facing north

Figure 8. View of the development site facing south east

Figure 9. View of the development site facing east. The Wrenchville School boundary fence is to right of the plate

Figure 10. view of the development site facing south

Figure 11. View of the development site facing south.

Figure 12. View of the development site facing west, with the Wrenchville School in the background

Figure 13. Wrenchville Phase 2 Housing Development. Proposed sewer routes. The yellow route alongside the Kuruman Landfill Site is the preferred route alternative


Figure 14. View of the sewer route (purple) facing north


Figure 15. View of the sewer route (purple) facing north

Figure 16. View of the sewer route (purple) facing north

Figure 17. View of the sewer route (yellow) facing north

Figure 18. View of the sewer route (purple) facing north

Figure 19. View of the sewer route (purple) facing north

Figure 20. View of the sewer route (purple) facing north

Figure 21. View of the sewer route (purple) facing north

Figure 24. View of the sewer route (purple) facing north

Figure 22. View of the sewer route (purple) facing north

Figure 23. View of the sewer route (purple) facing north

Figure 25. View of the sewer route (purple) facing north

Figure 26. View of the sewer route (purple) facing north

Figure 27. View of the sewer route (purple) facing north

Figure 28. View of the sewer route (purple) facing north

Figure 29. View of the sewer route facing north west

Figure 30. View of the sewer route facing west

Figure 31. View of the sewer route facing west

Figure 32. View of the sewer route facing west

Figure 33. View of the sewer route facing west

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Figure 36. View of the sewer route facing south

Figure 34. View of the sewer route facing west.

Figure 35. View of the sewer route facing west

Figure 37. End of the sewer line at Buitekant Street.

6. STUDY APPROACH

6.1 Method

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

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

A field assessment was undertaken on 02 October, 2019. The position of identified archaeological resources, were plotted using a hand held GPS unit set on the map datum wgs 84. A track path of the survey was also captured.

A literature survey was also carried out to assess the heritage context surrounding the proposed development site.

6.2 Constraints and limitations

There were no constraints or limitations associated with the study. Access to the site was easy, and mobility unhindered.

6.3 Identification of potential risks

The results of the study indicate that there are no archaeological risks associated with the proposed development. The affected property is severely degraded and transformed.

6.4 Archaeological context

The Kuruman Hills have historically been used for small scale pastoralist farming activities with goats and sheep, a practice which extends back possibly as much as 2000 years ago when Khoekhoe herders first entered the area. Sites with possible herder art were found in association with Later Stone Age (LSA) artefact assemblages on the Farms Tierkop and Bramcote south west of Kuruman during a survey for a proposed iron and manganese ore mine (Halkett 2009). Marginal scatters of Early (ESA), Middle (MSA) and Later Stone Age implements were also recorded during the above survey, where an abundance of banded ironstone provided a ready source of raw material for making stone tools. Banded ironstone is known to have been a desirable raw material for making stone artefacts and occurs on many sites throughout the Northern Cape. Isolated and ephemeral scatter of MSA tools were also recorded by Webley and Halkett (2008) during a survey for proposed prospecting license south west of Kuruman. LSA tools are usually associated with rock shelters/small caves, while MSA and older ESA tools comprise mostly dispersed and isolated scatters across the landscape (Beaumont & Vogel 1984).

Several more herder and hunter-gatherer rock art sites, including marginal scatters of MSA stone tools were also recorded during a survey for a proposed Wind Energy Farm on the Farm Bramcote, and Woodstock south west of Kuruman (CTS 2018). Generally

speaking, herder and LSA sites appear to be restricted to hilltops, and valley bottoms/plains, close to water sources, where caves and shelters occur (CTS 2018).

Relatively large numbers of MSA tools (99% in banded ironstone) were recorded by Kaplan (2012a) during a AIA for a proposed Solar Energy Farm (SEF) on the Farm Whitebank about 10kms south of Kuruman, while large numbers of MSA and LSA tools in banded ironstone/jasperlite were also recorded by Kaplan (2012b) during a survey for a proposed SEF on the Farm Mount Roper, about 20kms north west of Kuruman. The Whitebank resources comprise an unusual and compelling collection, of tools, characterized by large, heavy, chunky, implements with extensive retouch, step flaking, and utilization damage on blocks of banded ironstone. Lacking stratigraphic context, such tools almost defy description and their function is not clearly apparent. While no cores were recorded in the footprint area, it is apparent that some on-site knapping did take place, as several large chunks have been flaked and modified.

MSA and ESA material was also recorded at a large quarry on the banks of the Ga-Mogara River during a HIA for proposed new manganese mining areas on several farms at Black Rock north of Kuruman (Kusel & van der Ryst 2009). Morris (2010) recorded small numbers of stone tools during an AIA for a proposed housing development inside the urban edge of Kuruman, while a small number of MSA and LSA tools were recorded by Pelser (2102a, b) during a survey for several low cost housing projects in the town

Wonderwerk Cave, a National Heritage Site containing archaeological traces stretching back over 2 million years, is located about 45km to the southeast of Kuruman, on the road to Danielskuil. The cave has the most extensive archaeological sequence in the Northern Cape, with evidence for the controlled use of fire nearly 1 million years ago.

7. RESULTS

Trackpaths and waypoints of archaeological finds are illustrated in Figure 39.

7.1 Housing site

Only two, isolated stone tools were recorded in the proposed housing development site (Table 1 & Figure 40). These include a small, burnished, Early Stone Age banded ironstone biface/handaxe (Point 917) and a Later Stone Age utilized/miscellaneous retouched banded jasperlite flake (GPS reading not captured).

7.2 Proposed sewer

An isolated Middle Stone Age retouched chalcedony flake (Point 919) was found on a patch of surface gravel of banded ironstone in the surrounding area.

7.3 Graves

The grave (Point 223) of a possible child was recorded about 200m from the boundary fence of the new Wrenchville School, on the edge of the proposed footprint area (Figure 40). The grave is clearly quite recent and was reported to the Contractor, who in turn reported the find to the South African Police Services in Kuruman for further investigation.

7.4 Built environment

No buildings, structures or stone walled features were encountered during the study.

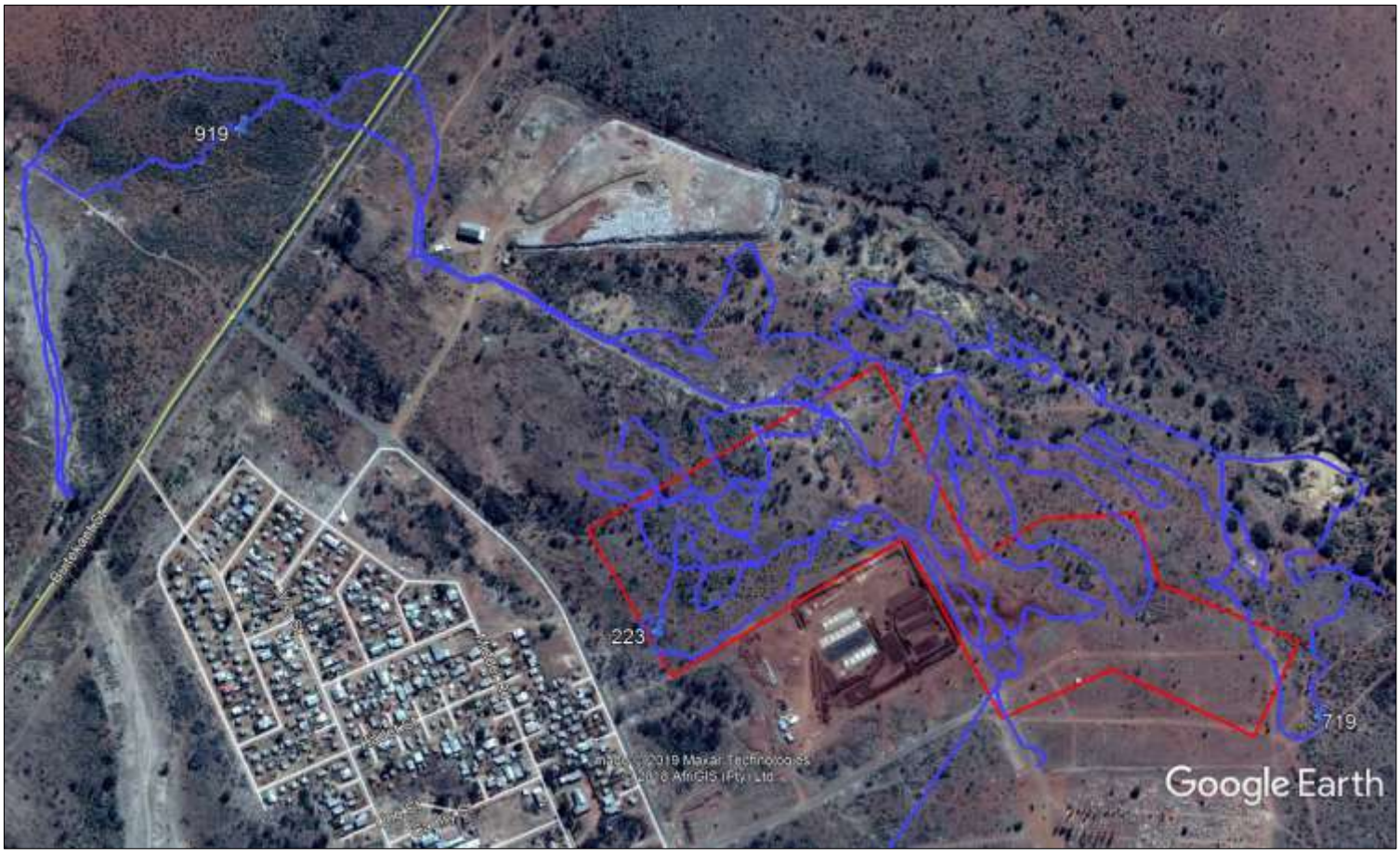

Figure 38. Track paths (in blue) and waypoints of archaeological finds

Point	Name of farm	Lat/long	Finds	Grading	Mitigation
	Rem. Erf 1, Kuruman				
223		S27° 26.522' E23° 27.321'	Grave, possibly of a small child (recent)	High 3A	Reported to SAPS Kuruman
719		S27° 26.578' E23° 27.810'	ESA banded ironstone handaxe	NCW[1]	None required
919		S27° 26.353' E23° 27.447'	MSA chalcedony flake	NCW	None required
		GPS reading not captured	Utilized/retouched LSA flake	NCW	None required

Table 1. Spreadsheet of waypoints and description of archaeological finds

[1] Not Conservation Worthy

Figure 39. Grave (Point 223)

Figure 40. Stone tools. Scale is in cm

8. IMPACT STATEMENT

The results of the study indicate that the proposed Wrenchville Phase 2 Housing Development in Kuruman will not have an impact of great significance on archaeological heritage.

Only three Stone Age implements, of low archaeological significance were recorded, in a severely transformed and degraded context.

9. CONCLUSION

The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to the proposed construction activities commencing.

The proposed development site is severely degraded and is not a threatened archaeological landscape.

The impact significance of the proposed Wrenchville Phase 2 housing development on important archaeological heritage is assessed as LOW and therefore there are no objection to the development proceeding.

10. RECOMMENDATIONS

With regard to the proposed Wrenchville Phase 2 Housing Development on Remainder Erf 1 in Kuruman, the following recommendations are made:

1. No mitigation is required prior to construction activities commencing.

11. REFERENCES

Beaumont, P. B. & Vogel, J.C. 1984. Spatial patterning of the ceramic Later Stone Age in the Northern Cape Province, South Africa. In Hall, M., Avery, G., Avery, D.M., Wilson, M.L. and Humphreys, A.J.B. (eds.) 1984. Frontiers: South African Archaeology Today. Cambridge Monographs in African Archaeology 10. BAR International Series 207: 80-95.

CTS Heritage, 2018. Heritage Impact Assessment, proposed Kuruman Wind Energy Facility (Phase 1 & Phase 2) including grid connection infrastructure, Kuruman. Report prepared for CSIR Envirotech. CTS Heritage, Cape Town

Halkett, D. 2009. An archaeological scoping assessment of the Remainder and Portion 1 (Tierkop) of Farm Bramcote 446, Northern Cape Province. Report prepared for Zama Mining Resources. ACO, Cape Town.

Kaplan, J. 2012a. Archaeological Impact Assessment, proposed Mount Roma Energy Solar Plant on farm 321 near Kuruman Northern Cape Province. Report prepared for Enviroafrica. ACRM, Cape Town

Kaplan, J. 2012b. Archaeological Impact Assessment for the Proposes Whitebank Keren Energy Solar Plant on Farm 379 near Kuruman Northern Cape Province. Report prepared for Enviroafrica. ACRM, Cape Town

Kusel & van der Ryst 2009. Cultural Heritage Resources Impact Assessment of manganese mining areas on the farms Belgravia 264, Santoy 230, Gloria 226 and Nchwaning 267, at Black Rock, north of Kuruman, Kgalagadi District Municipality, Northern Cape Province.

Morris, D. 2010. Heritage Impact Assessment of an area of proposed housing development and associated infrastructure in Kuruman, Northern Cape.

Pelser, A. J. 2012a. A report on Archaeological Impact Assessments (AIA's) for proposed housing development on Erven 83 and 2467, Kuruman, Northern Cape Province. Report prepared for Khumani Housing Development Company. Archaeotnos, Groenkloof.

Pelser, A.J. 2012b. A report on Archaeological Impact Assessment (AIA) for a proposed housing development on Erf 675, Kuruman in the Northern Cape. Report prepared for Thabo Phokoje. . Archaeotnos, Groenkloof.

Webley, L. & Halkett, d. 2008. Phase 1 Heritage Impact Assessment: Proposed prospecting on the farms Adams 328 and Erin 316, Kuruman, Ga-Segonyana Municipality in the Northern Cape