A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED N2 NATIONAL ROUTE (N2-13) BETWEEN GRAHAMSTOWN AND THE FISH RIVER BRIDGE AS WELL AS SIX BORROW PITS AND THREE QUARRIES, EASTERN CAPE PROVINCE.

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A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED N2 NATIONAL ROUTE (N2-13) BETWEEN GRAHAMSTOWN AND THE FISH RIVER BRIDGE AS WELL AS SIX BORROW PITS AND THREE QUARRIES, EASTERN CAPE PROVINCE.

NOTE: The phase 1 archaeological impact assessment was conducted as a requirement of the National Heritage Resources Act 25 of 1999 (NHRA), Section 38 (1)(c)(i):

38. (1) Subject to the provisions of subsections (7), (8), and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
(c) any development or other activity which will change the character of the site –
(i) exceeding 5000m^2 in extent

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling a Phase 1 Archaeological Impact Assessment (AIA).

1. EXECUTIVE SUMMARY

1.1. Purpose of the Study

The purpose of the study was to conduct a phase 1 archaeological impact assessment (AIA) for the proposed N2 National Route (N2-13) road upgrade between Grahamstown and the Fish River Bridge and an alternative section proposed for the N2 route, as well as six borrow pits and three quarries associated to the construction of the road upgrade. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage.

1.2. Brief Summary of Findings

No pre-colonial archaeological heritage resources were observed along the N2 National Route or the N2 alternative route section within or adjacent to the road reserve. A few historical structures and one informal burial area were encountered adjacent to the N2 National Route road reserve and are situated on private land. These included the remains of abandoned farmhouses and dry packed stone walling. Three stone walling features were also documented along the route situated on private land between 10 m and 40 m from the current road reserve fence line. One informal burial area that may be negatively affected by the proposed road upgrade was documented on private land

situated approximately 10 m from the boundary of the current road reserve but on the boundary of the proposed road reserve layout for the road upgrade.

The Frasers Camp Signal Tower is situated along the alternative route proposed for the upgrade of the N2 National Route. The fortified structure was declared a National Monument in 1938 and since the inception of the National Heritage Resources Act 25 of 1999 is regarded a Grade II status Provincial Heritage Site (PHS).

Isolated scatters of Middle and Later Stone Age stone artefacts were encountered on the areas proposed for Borrow Pit 7 (BP7). Later Stone Age and historical artefacts were encountered on the area proposed for Borrow Pit 5 (BP5) situated along the R72 between Grahamstown and Fort Beaufort. One informal burial area was identified on the area proposed for Quarry 6 (Q6).

1.3. Summary of Recommendations

The areas investigated (N2 National Route and associated borrow pits and quarries) are of a low pre-colonial archaeological and a medium – high historical cultural sensitivity owing to the location stone walling structures and the provincial heritage site along the route investigated. Most of the historical built environment recorded along the N2 National Route is unlikely to be negatively affected. Two of the stonewalling features are likely to be impacted by the construction activities. The informal burial area along the N2 route will be negatively affected and the informal burial area on the site proposed for Quarry 6 (Q6) may be negatively affected if the appropriate mitigation measures are not adhered to. In cases where the development may impede negatively on these heritage resources the appropriate mitigation and conservation measures must be considered and implemented before development commences and continue during the development, construction, and quarrying activities. The following recommendations must be considered (see Section 11 for full recommendations and mitigation measures):

1. Borrow Pit 6 (BP6): The stone artefact occurrences are considered to be in a secondary context. The developer must apply for a destruction permit before the commencement of borrowing activities.

2. Borrow Pit 7 (BP7): It is preferred that the historical scatter area be avoided and that the borrow pit be extended towards the north and south of the current borrow pit area.

3. Quarry 6 (Q6): An area of 40 m x 30 m was identified as containing graves in an informal burial area. This area must be regarded as a no-go development area during the quarrying activities and an additional 25 m boundary area must be added and clearly demarcated to avoid any negative impact.

4. N2 BE2: The ruin of the farmhouse is situated approximately 100 m north of the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

5. N2 BE5: This structure is situated approximately 25 m north of the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist should be appointed to assess the significance of the structure and make further recommendations.

6. N2 BE14: The Original Fraser's Camp farmhouse is situated almost 100 m south of the current N2 National Route. According to the layout of the N2 road upgrade layout, this section of the road is proposed to be widened therefore decreasing the distance between the proposed N2 road reserve boundary and the structure to 40 m, however, it is not expected that the structure will be negatively affected by the construction of the N2. A 40 m boundary area around the structure must be established and clearly demarcated so as to avoid any possible negative impact during construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the structure and make further recommendations.

7. N2 BE18: The Fraser's Camp fortified watchtower is situated on the route proposed for the alternative N2 section. The layout of the proposed N2 alternative route must be planned to avoid negative impact to the historically significant provincial heritage site.

8. N2 BE20: The farmhouse is situated approximately 100 m from the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

9. N2 SW1: The dry packed stone wall is situated between 15 m and 30 m from the current N2 National Route and extends for almost 700 m running parallel to the N2 National road. According to the layout of the proposed N2 road upgrade the structure

will not be negatively affected during the construction activities. A 15 m boundary area around the structure must be established and clearly demarcated so as to avoid any possible negative impact during construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

10. N2 SW2 and N2 SW3: The dry packed circular pen (N2 SW2) and dry packed stone wall are situated between 10 m and 20 m from the current boundary of the road reserve. According to the layout of the proposed N2 road upgrade the structures may be negatively affected by during the construction activities. This section of the road is proposed to be widened, therefore, decreasing the distance between the proposed N2 road and the features to between 0 m and 10 m. It is recommended that construction activities do not occur within the road reserve on this section of the proposed road upgrade.

11. N2 G1: A possible 7 graves within an informal burial area, demarcated to 20 m x 20 m, were documented situated approximately 25 m from the current N2 National Route road reserve. According to the layout of the proposed N2 road upgrade the graves are situated within proposed layout and construction activity area for the road upgrade and will be negatively affected by the construction activities. It is recommended that this area be considered a no-go area and that construction activities do not occur within the road reserve on this section of the proposed road upgrade.

12. If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the Albany Museum and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) so that systematic and professional investigation/ excavation can be undertaken.

13. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

2. BACKGROUND INFORMATION

The Department of Archaeology, Albany Museum, has been appointed by Coastal and Environmental Services (CES), Grahamstown, to conduct the Phase 1 Archaeological Impact Assessment (AIA) which has been prepared as part of the Environmental Impact Assessment (EIA) phase for the proposed project in accordance with the National Heritage Resources Act 25 of 1999, and guidelines by the South African Heritage

Resources Agency (SAHRA), and the Eastern Cape Heritage Resources Agency (ECPHRA).

The proposed project includes the upgrade of the N2 National Route (N2-13) between Grahamstown and the Fish River Bridge as well as an alternative section that runs south between of the current N2 National Route and Fraser's Camp Adventures and Motel and Padstal. Six proposed borrow pit areas, some with existing borrow pits; have been identified to be used for the construction of the N2 upgrade. Three proposed quarry areas, some with existing quarries, have been identified of which the materials would be used for the construction activities. One borrow pit (BP15) and one quarry (Q1) are situated in the Amathole District Municipality.

2.1. Developer:

South African National Roads Agency (SANRAL)

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2.3. Terms of reference

The purpose of the study was to conduct a phase 1 archaeological impact assessment (AIA) for the proposed N2 National Route (N2-13) road upgrade between Grahamstown and the Fish River Bridge and an alternative section proposed for the N2 route as well as six associated borrow pits and three associated quarries that will be used for the construction of the road upgrade.

The survey was conducted to:

- establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features;
- establish the potential impact of the development; and
- make recommendations to minimize possible damage to the archaeological heritage.

3. BRIEF HERITAGE LEGISLATIVE REQUIREMENTS

Parts of sections 3, 27, 34, 35, 36 and 38 of the National Heritage Resources Act 25 of 1999 (NHRA 25 of 1999) apply (see Appendix A for full extracts from the NHRA):

S3. National estate

Includes heritage resources which are of cultural significance or other special value to the present community and are protected by heritage resources authorities. For this area it would include:

- Places, buildings and equipment of cultural significance;
- Places to which oral traditions are attached or which are associated with living heritage;
- Historical settlements and townscapes;
- Landscapes and natural features;
- Archaeological and palaeontogical sites;
- Graves and burial grounds
    - Ancestral graves,
    - Historical graves and cemeteries, and
    - Other human remains which are not covered in terms of the Human Tissue Act 1983 (Act No. 65 of 1983);
- Movable objects
    - Objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects and material, meteorites and rare geological specimens,
    - Objects to which oral traditions are attached or which are associated with living heritage, and
    - Objects of scientific or technological interest.

A place or objects is to be considered part of the national estate if it has cultural significance or other special value because of:

- Its importance in the community, or pattern of South Africa's history;
- Its potential to yield information that will contribute to and understanding of South Africa's natural or cultural heritage;
- Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- Its strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons; and
- Its strong or special association with the life or work of a person, group or organisation of the importance in the history of South Africa.

S27. National heritage sites and provincial heritage sites

The Fraser's Camp Signal Tower fortified structure was Gazetted as a National Monument on 4 February 1938. It has subsequently attained a Grade II status as a Provincial Heritage Site (PHS). Legislation guides the processes to follow when development is proposed to be undertaken on Provincial Heritage Sites and these must be followed, which includes consultation with the landowner/s and affected community/ies, and inevitably the final commenting authority for the proposed development/s is on the onus of the relevant provincial heritage resources authority, in this case, the Eastern Cape Heritage Resources Agency (ECPHRA).

S34. Structures

Protects buildings and structures older than 60 years.

S35. Archaeology, palaeontology and meteorites

Protects and provides guidelines on all archaeological and palaeontological heritage resources as well as meteorite sites.

S36. Burial grounds and graves

The Act protects all graves and burial grounds older than 60 years. However, graves younger than 60 years that occur in informal burial areas or outside of formal cemeteries, graves of conflict, ancestral, and historical graves are also protected under the NHRA.

S38. Heritage resources management

Provides the appropriate legislative requirements for developments that require heritage impact assessments, the minimum requirements required in compiling impact assessments, and the procedures to follow on the outcome of certain recommendations as well as appeal processes.

4. BRIEF ARCHAEOLOGICAL BACKGROUND

The pre-colonial archaeological record of the Grahamstown region and surrounds includes traces of the Early Stone Age (ESA) (1.5 million – 250 000 years ago), Middle Stone Age (MSA) (250 000 – 30 000 years ago), Later Stone Age (LSA) (30 000 – recent), Khoekhoen pastoralists, and Later Iron Age farming communities within the last 2000 years. The historical archaeological record is relatively extensive owing to the area being infiltrated before the arrival of the 1820 British Settlers and then later settled by the 1820 British Settlers and the subsequent features established in relation to the

British – Xhosa Wars.

The archaeological literature and research within this area is limited and incomplete, although a few sites (pre-colonial and historical) have been excavated in the surrounding Grahamstown area. The Albany Museum Site Recording Database was consulted for archaeological sites nearby and within the surrounding area of the proposed area for the mining right application. Several archaeological and heritage impact assessments have been conducted near to and within the surrounding area of the proposed area for the N2 National Route upgrade, these have been consulted to assist in the awareness of the heritage resources that occur within the region (Van Ryneveld 2012a-b; Nilssen 2011; Binneman & Booth 2008, 2009; Booth 2011; Way-Jones 2011; Anderson 2009, 2011).

4.1. The Early Stone Age (ESA) (1.5 million-250 000 years ago)

The Early Stone Age that ranges between 1.5 million and 250 000 years ago refers to the earliest that *Homo sapiens sapiens* predecessors began making stone tools. The earliest stone tool industry was referred to as the Olduwan Industry originating from stone artefacts recorded at Olduvai Gorge, Tanzania. The Acheulian Industry, the predominant southern African Early Stone Age Industry, replaced the Olduwan Industry approximately 1.5 million years ago, is attested to in diverse environments and over wide geographical areas. The hallmark of the Acheulian Industry is its large cutting tools (LCTs or bifaces), primarily handaxes and cleavers. Bifaces emerged in East Africa more than 1.5 million years ago (mya) but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Iberian coast. The end products were similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the production of handaxes and cleavers perfectly suited to the available raw materials (Sharon 2009).

The most well-known Early Stone Age site in southern Africa is Amanzi Springs, situated about 10km north-east of Uitenhage, near Port Elizabeth (Deacon 1970). In a series of spring deposits a large number of stone tools were found *in situ* to a depth of 3-4m. Wood and seed material preserved remarkably very well within the spring deposits, and possibly date to between 800 000 to 250 000 years old. Other Early Stone Age sites that contained preserved bone and plant material include Wonderwerk Cave in the Northern Province, near Kimberly and Montagu Cave in the Western Cape, near the small town of Montagu (Mitchell 2007). Early Stone Age sites have also been reported in the foothills of the Sneeuberge Mountains (in Prins 2011). Systematic Early Stone Age research is currently being carried out in the Sundays River Valley which will add to the lack of information of this period within the surrounding area.

According to S.L. Hall (1985), classic Early Stone Age handaxes and cleavers had been found near the Grahamstown golf course that probably dates between 1 million and 200 000 years ago in comparison to similar artefacts documented throughout southern

Africa.

4.2. Middle Stone Age (MSA) (250 000 – 30 000 years ago)

The Middle Stone Age spans a period from 250 000 - 30 000 years ago and focuses on the emergence of modern humans through the change in technology, behaviour, physical appearance, art and symbolism. Various stone artefact industries occur during this time period, although less is known about the time prior to 120 000 years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean 2008). The large handaxes and cleavers were replaced by smaller stone artefacts called the Middle Stone Age flake and blade industries. Surface scatters of these flake and blade industries occur widespread across southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artefacts to be found between the surface and approximately 50-80cm below ground. Fossil bone may in rare cases be associated with Middle Stone Age occurrences (Gess 1969). These stone artefacts, like the Earlier Stone Age handaxes are usually observed in secondary context with no other associated archaeological material.

From as early as 1915, stone artefacts which were of a "peculiar character", referred to as hand-axes and tortoise-cores by Reginald A. Smith, were plentiful within the Victoria West district. The latter were only found in certain areas and the hand-axes occurred in conjunction with the cores or without them (Smith 1919). During the 1920's, A.H.J. Goodwin (1926, 1946), identified the Victoria West stone artefact industry, presumably referring to those artefacts with a "peculiar character" found within the district, the wider Karoo region, as well as along the Vaal River. They comprised mainly of stone tools that had been manufactured using a prepared core technique, and were regarded as being transitional between the Early Stone Age and Middle Stone Age. Recent research has established that the Victoria West cores were the "evolutionary step" towards the Levallois prepared core industry, indicating an outward spread of this technological change (Lycett 2009).

The Middle Stone Age is distinguished from the Early Stone Age by the smaller-sized and distinctly different stone artefacts and *chaîne opératoire* (method) used in manufacture, the introduction of other types of artefacts and evidence of symbolic behaviour. The prepared core technique was used for the manufacture of the stone artefacts which display a characteristic facetted striking platform and includes mainly unifacial and bifacial flake blades and points. The Howiesons Poort Industry (80 000 - 55 000 years ago) is distinguished from the other Middle Stone Age stone artefacts: the size of tools are generally smaller, the range of raw materials include finer-grained rocks such as silcrete, chalcedony, quartz and hornfels, and include segments, backed blades and trapezoids in the stone toolkit which were sometimes hafted (set or glued) onto handles. In addition to stone artefacts, bone was worked into points, possibly hafted, and used as tools for hunting (Deacon & Deacon 1999).

Other types of artefacts that have been encountered in archaeological excavations include tick shell (*Nassarius kraussianus*) beads, the rim pieces of ostrich eggshell (OES) water flasks, ochre-stained pieces of ostrich eggshell and engraved and scratched ochre pieces, as well as the collection of materials for purely aesthetic reasons. Although Middle Stone Age artefacts occur throughout the Eastern Cape, the most well-known Middle Stone Age sites include the type-site for the Howiesons Poort stone tool industry, Howiesons Poort (HP) rock shelter, situated close to Grahamstown and Klasies River Mouth Cave (KRM), situated along the Tsitsikamma coast. Middle Stone Age sites are located both at the coast and in the interior across southern Africa. Scatters of Middle Stone Age stone artefacts are known to occur within the surrounding area were these have been recorded in archaeological and heritage impact assessments

The site of Howieson's Poort is situated about ten kilometres south-west of Grahamstown and is the archetype site for a distinctive type of Middle Stone Age stone tool with similar specimens having been documented at the Kasouga River Mouth and at Bell in the Peddie District (van Riet Lowe *et al.* 1929*)*. The Middle Stone Age in the region has been dated to between 125 000-75 000 years ago as it coincides with the last interglacial period when climatic and environmental conditions were similar to those of the present interglacial. It is possible, although lacking in evidence, that seasonal movement between the Cape folded mountains behind Grahamstown and the coast took place (Hall 1985).

The Albany Museum Database provides locations of several Middle Stone Age stone artefact scatters and sites at the coast and inland. Scatters of Middle Stone Age stone artefacts have also been documented by Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments ranging between Grahamstown and the coastline and the surrounding east-west region (Van Ryneveld 2012a; Nilssen 2011).

4.3. The Later Stone Age (LSA) (30 000 – recent) and Pastoralism within the last 2000 years

4.3.1. The Later Stone Age

The Later Stone Age (LSA) spans the period from about 20 000 years ago until the colonial era, although some communities continue making stone tools today. The period between 30 000 and 20 000 years ago is referred to as the transition from the Middle Stone Age to Later Stone Age; although there is a lack of crucial sites and evidence that represent this change. By the time of the Later Stone Age the genus *Homo*, in southern Africa, had developed into *Homo sapiens sapiens*, and in Europe, had already replaced *Homo Neanderthalensis*.

The Later Stone Age is marked by a series of technological innovations, new tools and artefacts, the development of economic, political and social systems, and core symbolic beliefs and rituals. The stone toolkits changed over time according to time-specific needs and raw material availability, from smaller microlithic Robberg (20/18 000-14 000ya), Wilton (8 000-the last 500 years) Industries and in between, the larger Albany/Oakhurst (14 000-8 000ya) and the Kabeljous (4 500-the last 500 years) Industries. Bored stones used as part of digging sticks, grooved stones for sharpening and grinding and stone tools fixed to handles with mastic also become more common. Fishing equipment such as hooks, gorges and sinkers also appear within archaeological excavations. Polished bone tools such as eyed needles, awls, linkshafts and arrowheads also become a more common occurrence. Most importantly bows and arrows revolutionized the hunting economy. It was only within the last 2000 years that earthenware pottery was introduced, before then tortoiseshell bowls were used for cooking and ostrich eggshell (OES) flasks were used for storing water. Decorative items like ostrich eggshell and marine/fresh water shell beads and pendants were made.

Hunting and gathering made up the economic way of life of these communities; therefore, they are normally referred to as hunter-gatherers. Hunter-gatherers hunted both small and large game and gathered edible plantfoods from the veld. For those that lived at or close the coast, marine shellfish and seals and other edible marine resources were available for the gathering. The political system was mainly egalitarian, and socially, hunter-gatherers lived in bands of up to twenty people during the scarce resource availability dispersal seasons and aggregated according to kinship relations during the abundant resource availability seasons. Symbolic beliefs and rituals are evidenced by the deliberate burial of the dead and in the rock art paintings and engravings scattered across the southern African landscape.

Later Stone Age sites occur both at the coast (caves, rock shelters, open sites and shell middens) and in the interior (caves, rock shelters and open sites) across southern Africa. There are more than a few significant Later Stone Age sites in the Eastern Cape. The most popular are the type sites for the above-mentioned stone artefact industries, namely Wilton (for the Wilton Industry), Melkhoutboom (for the Albany Industry), both rock shelters situated to the west of Grahamstown, and Kabeljous Rock Shelter (for the Kabeljous Industry) situated just north of Jeffreys Bay.

The majority of archaeological sites found in the area would date from the past 15 000 years where San hunter-gatherers inhabited the landscape living in rock shelters and caves as well as on the open landscape. These latter sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The preservation of these sites is poor and it is not always possible to date them (Deacon and Deacon 1999). Caves and rock shelters, however, in most cases, provide a more substantial preservation record of pre-colonial human occupation.

Between 75 000 and 15 000 years ago there seems to have been no human occupation within the Grahamstown region owing to the worsening climatic conditions. From about 15 000 years ago populations of hunter-gatherers re-established themselves within the region as is evidenced in the preserved Later Stone Age occupational deposits of the few caves and rock shelters that have been excavated, namely Melkhoutboom in the Suurberg (Deacon 1976), Wilton near Alicedale, Uniondale about 20km north-east of Grahamstown (Leslie-Brooker 1987), Springs Rock Shelter and Glen Craig situated immediately north and north-east of Grahamstown, and Edgehill and Welgeluk located on the Koonap River some 40km to the north of Grahamstown (Hall 1985). In addition, most of these sites and many more caves and shelters in the surrounding Grahamstown area contain rock art.

The Albany Museum Database holds records of several Later Stone Age sites that have been recorded between Grahamstown and the coastline as well as within the surrounding region east-west of the proposed development site. Most of these archaeological remains occur in as shell midden along the coastline, as surface scatters, as well as within caves and rock shelters, where available and long the rivers. Scatters of Later Stone Age stone artefacts have also been documented by Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments ranging between (Nilssen 2011; Anderson 2009).

4.3.2. Pastoralism

Until 2000 years ago, hunter-gatherer communities traded, exchanged goods, encountered and interacted with other hunter-gatherer communities. From about 2000 years ago the social dynamics of the southern African landscape started changing with the immigration of two 'other' groups of people, different in physique, political, economic and social systems, beliefs and rituals. Relevant to the study area, one of these groups, the Khoekhoen pastoralists or herders entered southern Africa with domestic animals, namely fat-tailed sheep and goats, travelling through the south towards the coast. They also introduced thin-walled pottery common in the interior and along the coastal regions of southern Africa. Their economic systems were directed by the accumulation of wealth in domestic stock numbers and their political make-up was more hierarchical than that of the hunter-gatherers. The most significant Khoekhoen pastoralist sites in the Eastern Cape include Scott's Cave near Patensie (Deacon 1967), Goedgeloof shell midden along the St. Francis coast (Binneman 2007) and Oakleigh rock shelter near Queenstown (Derricourt 1977). Often, these archaeological sites are found close to the banks of large streams and rivers.

The Albany Museum Database holds records of several Later Stone Age sites that have been recorded along coastline identified by the presence of coastal thin-walled and mostly undecorated earthenware pottery. Pastoral occurrences along the coastline have also been documented by Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments (Binneman 2006).

4.4. Human Remains

It difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. In some instances packed stones or rocks may indicate the presence of informal pre-colonial burials.

The Albany Museum Database holds records of human remains that have been exposed and collection for conservation and curation. Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments have also recorded formal historical cemeteries and informal burials (Van Ryneveld 2008) as well as on the farm Tower Hill (Nilssen 2011) and have attended to instances of exposed human remains during construction activities of development (Van Ryneveld 2010).

4.5. Rock Art (Paintings and Engravings)

Rock art is generally associated with the Later Stone Age period mostly dating from the last 5000 years to the historical period. It is difficult to accurately date the rock art without destructive practices. The southern African landscape is exceptionally rich in the distribution of rock art which is determined between paintings and engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa. Rock engravings, however, are generally distributed on the semi-arid central plateau, with most of the engravings found in the Orange-Vaal basin, the Karoo stretching from the Eastern Cape (Cradock area) into the Northern Cape as well as the Western Cape, and Namibia. At some sites both paintings and engravings occur in close proximity to one another especially in the Karoo and Northern Cape. The greatest concentrations of engravings occur on the andesite basement rocks and the intrusive Karoo dolerites, but sites are also found on about nine other rock types including dolomite, granite, gneiss, and in a few cases on sandstone (Morris 1988). Substantial research has also been conducted in the Western Cape Karoo area around Beaufort West (Parkington 2008).

The Albany Museum Database holds records of several rock art painting sites that have been recorded between Grahamstown, Fort Beaufort, Peddie, and the coastline. One additional rock art site has been recorded by Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments east of Grahamstown (Nilssen 2011).

5. DESCRIPTION OF THE PROPERTY

5.1. Location data

The proposed area for the N2 National Route road upgrade is situated between Grahamstown and the Fish River Bridge (N2-13, KM62 - KM103). The section of the road extends for 39 km. The area situated within the road reserve has been heavily disturbed by the construction and maintenance of the current N2 National Route. Most of the area within the road reserve and the adjacent area running parallel to the N2 National Route on either side of the road reserve are mostly covered in dense vegetation. The N2 alternative route runs for approximately 4.5 km south of the Fraser's Camp Adventures and the Fraser's Motel and Padstal situated along the current N2 route. The western turn-off off the N2 route onto the secondary gravel road is situated between 88.5KM and 89.0 KM and will join the current N2 route to the west between 93.5KM and 94.0KM. The western turn-off can also be identified by the signboard "Fraser's Camp Signal Tower".

Three of the six proposed borrow pits are situated along the R72 road between Grahamstown and Fort Beaufort whilst the remaining three are situated along or slightly off the N2 National Route road between Grahamstown and the Fish River Bridge. The three quarries are similarly situated along the N2 National Route or slightly off the route. One borrow pit (BP15) and one quarry (Q1) are situated in the Amathole District Municipality.

5.2. Map: 1:250 000 Map: 3326 GRAHAMSTOWN (Figure 1).

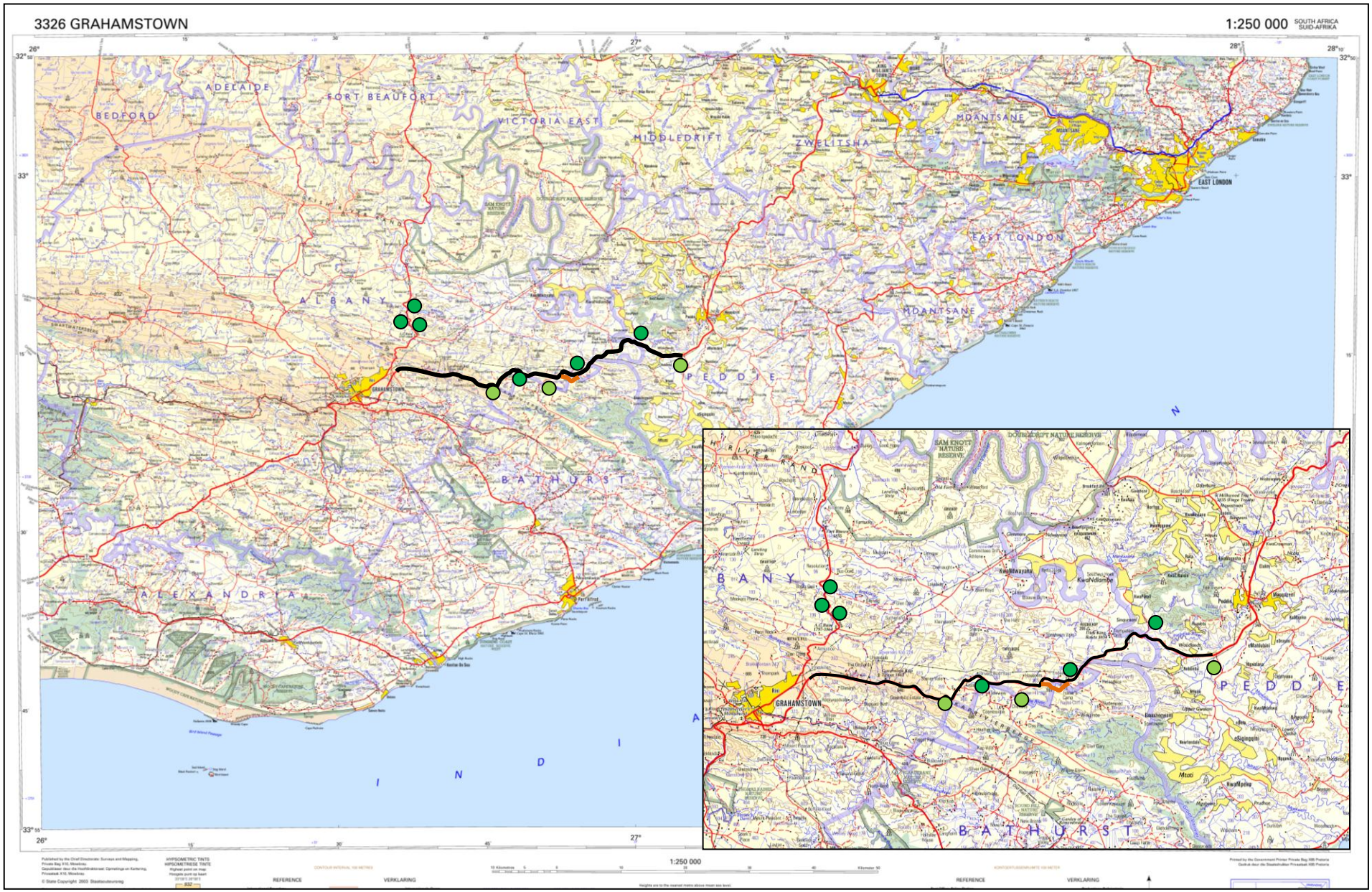

Figure 1. 1:250 000 topographic map 3326 GRAHAMSTOWN showing the location of the N2-13 National route upgrade (black), the N2 alternative (orange), and the associated borrow pits (dark green dots) and quarries (light green dots).

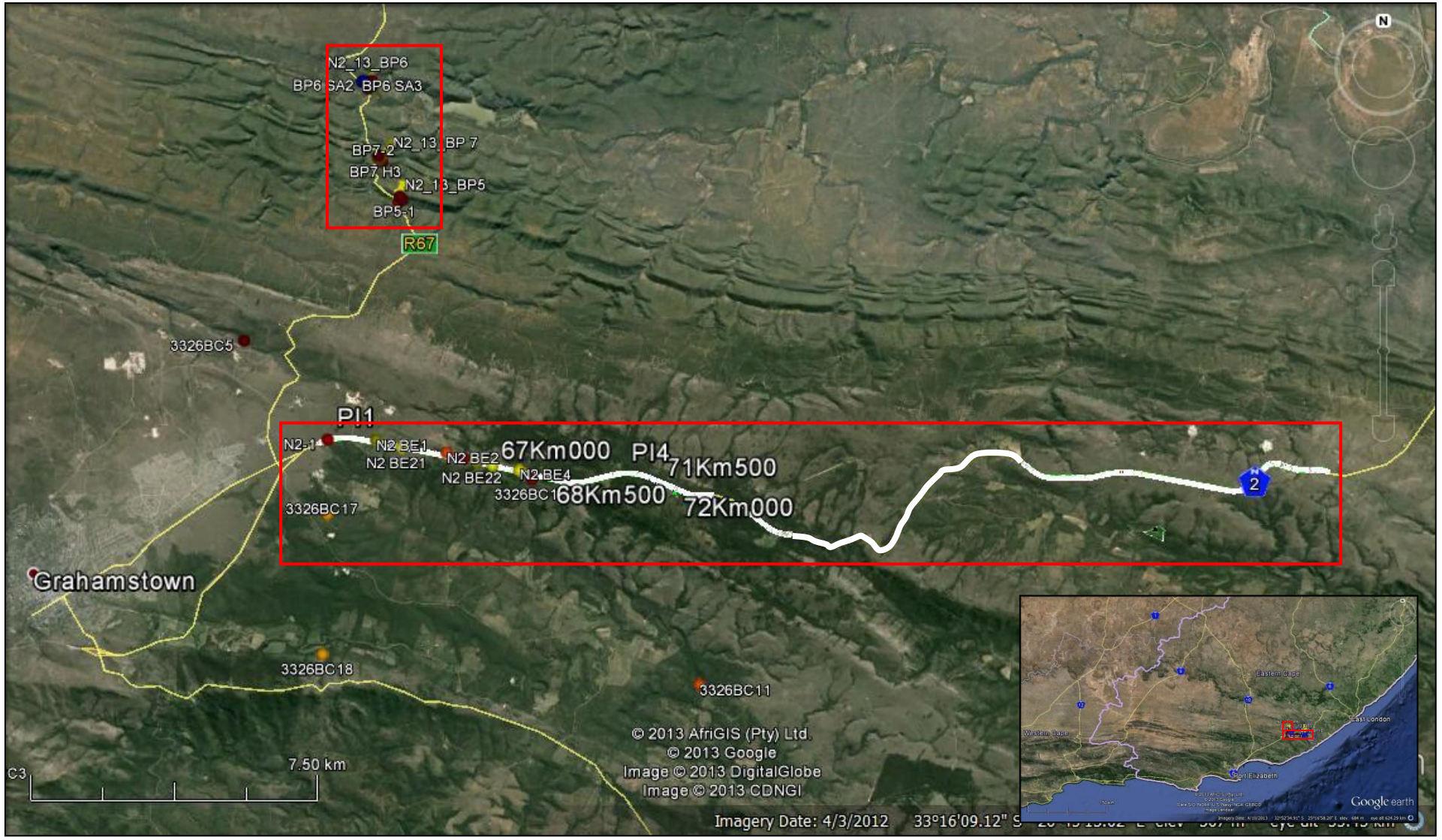

Figure 2. Aerial view of the location of the proposed area N2 National Route (N2-13) road upgrade (white line) and associated borrow pits and quarries. Nearby archaeological sites stored in the Albany Museum Database have been plotted (3326BC 5, 3326BC 11, 3326BC 18).

6. ARCHAEOLOGICAL INVESTIGATION

6.1. Methodology

The surveys for the six borrow pits and three quarry sites were conducted on foot. The survey for the N2 (N2-13) national route upgrade including the proposed alternative N2 section was conducted by conducting spot checks from a vehicle when structures, features, and exposed areas were observed along the route. GPS readings and photographs were taken using a Garmin Oregon 550 (Table 8.1). The GPS readings have been plotted on the accompanying Google Earth generated maps.

The surveys and results for the N2 National Route (N2-13) road upgrade and associated six borrow pits and three quarries will be individually described.

6.2. Results of Survey

6.2.1. BORROW PIT 6 (BP6), BORROW PIT 7 (BP7), AND BORROW PIT 5 (BP5)

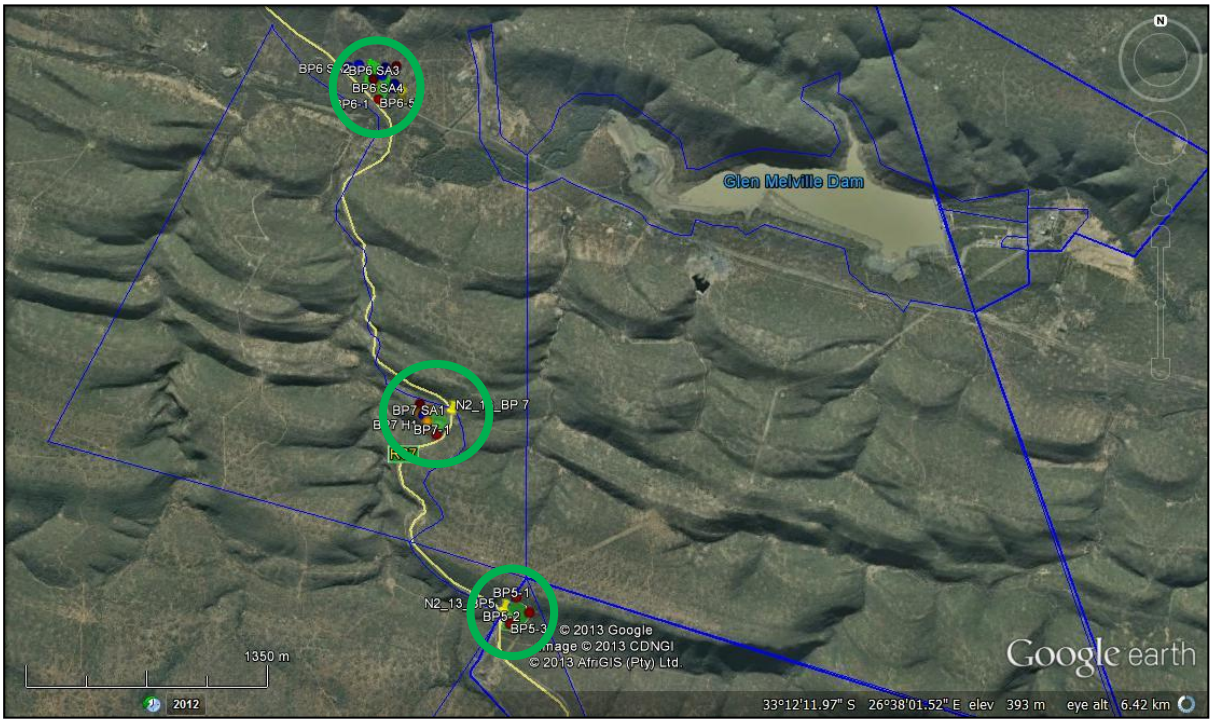

Figure 3. Aerial view showing the locations of Borrow Pit 6 (BP6), Borrow Pit 7 (BP7), and Borrow Pit 5 (BP5) situated along the R67 road.

Borrow Pit 6 (BP6), Borrow Pit 7 (BP7), and Borrow Pit 5 (BP5) are situated along the R67 road between Grahamstown and Fort Beaufort (Figure 3). All three borrow pits are located within the extent of the Ecca Pass.

[Please Note: Technical information for the borrow pits and quarries was provided by Coastal and Environmental Services (CES)]

6.2.1.1. BORROW PIT 6 (BP 6):

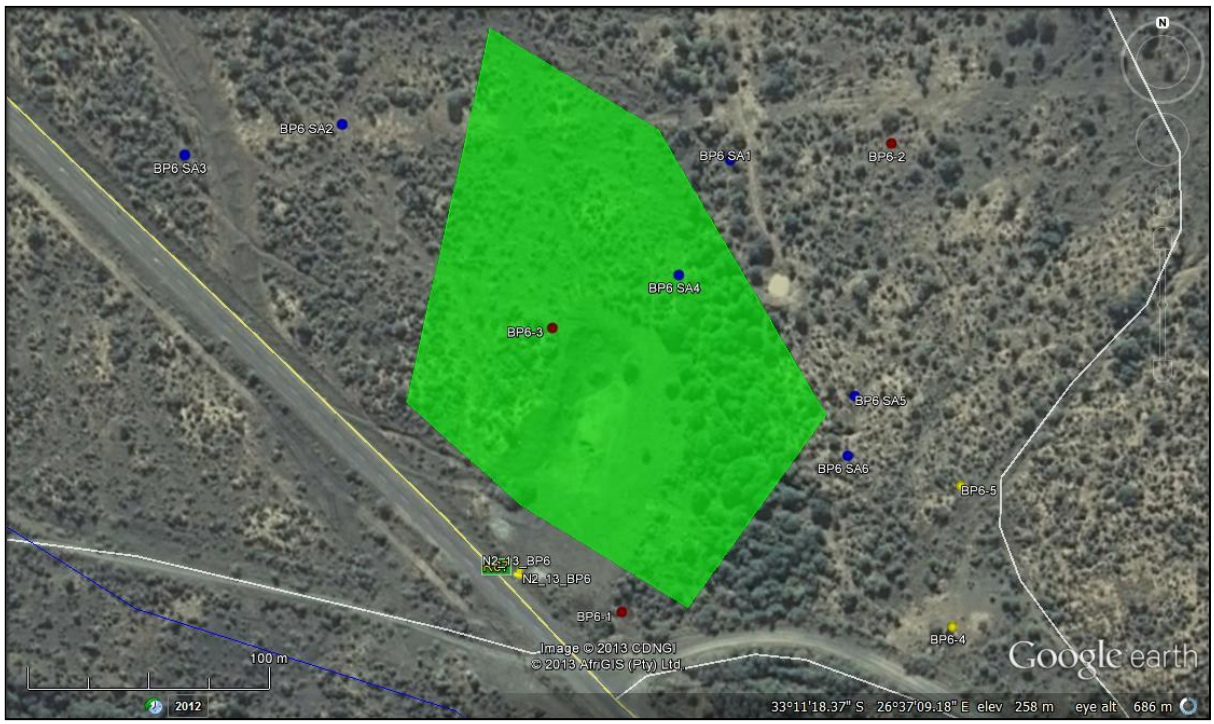

Figure 4. Close-up aerial view of the area proposed for Borrow Pit 6 (BP6) showing the plotted general GPS points, built environment, and isolated scatters of stone artefacts.

BP6 is the northern-most site located approximately 18 km north of Grahamstown on the Farm Glen Melville (Figures 3-4). The Glen Melville Dam is one of the dams that supplies Grahamstown with its municipal water supply and is situated about 1.5 km west of the proposed borrow pit site.

The intention is to expand and deepen the existing borrow pit area. The existing borrow pit area is approximately 130 m x 70 m in extent and a maximum of 2.5 m in depth (Figure 5). The proposed borrow pit area including the existing borrow pit is approximately 180 m x 170 m in extent. The geological make-up is a dark grey, very loosely jointed, fissle to fragmentary mudstone shale.

The vegetation cover is dense Great Fish Thicket that obscured archaeological visibility (Figures 6-7). An Eskom power line and associated service road runs along the northern boundary of the proposed site (Figure 8). The exposed and disturbed surface and soil eroded areas were investigated for the possibility of encountering archaeological heritage remains (Figure 9).

Figure 5. View of the existing borrow pit at the area proposed for Borrow Pit 6 (BP6).

Figure 6. View of the general landscape and dense thicket vegetation on site.

Figure 7. View of the general landscape and dense thicket vegetation.

Figure 8. Eskom power line and service road on northern boundary of the proposed site.

Figure 9. View of the results of the soil erosion occurring on site.

Isolated occurrences of stone artefact scatters were encountered during the survey (BP SA1 – BP SA6). Most of these stone artefacts were encountered outside of the proposed site within the surface disturbed areas (Figure 10). A possible lower grinding stone (BP SA4) was identified within the proposed area (Figure 11). The artefact was identified by the slightly smoothed surface area.

The stone artefacts are predominantly Middle Stone Age (MSA) manufactured on shale raw materials and comprise of flakes, some secondary retouch is evident (Figures 12-14). One Later Stone Age (LSA) formal scraper tool made of a fine-grained silcrete raw material (BP SA2) was documented outside of the proposed area (Figure 15).

Owing to the dense vegetation that obscured archaeological visibility only stone artefacts that occurred in the exposed and surface disturbed areas could be identified during the survey. It is highly probable that the stone artefacts encountered occur in a secondary (*ex situ*) context and yield very little primary archaeological information. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the dense vegetation.

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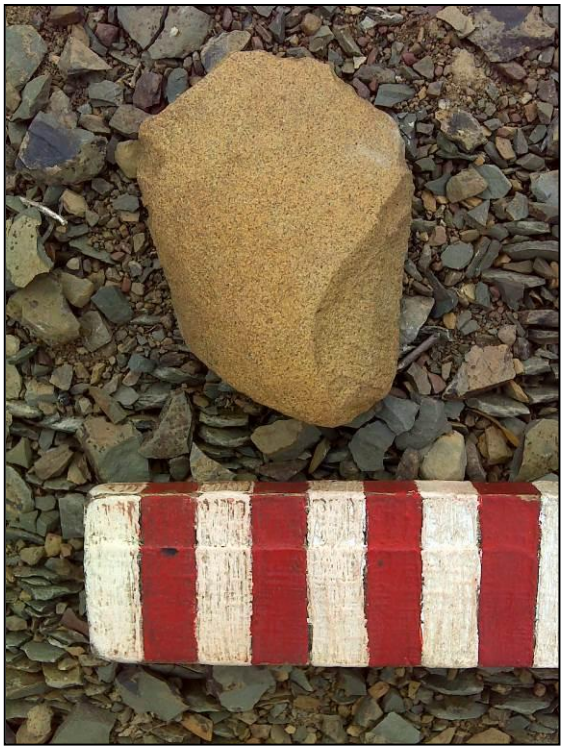
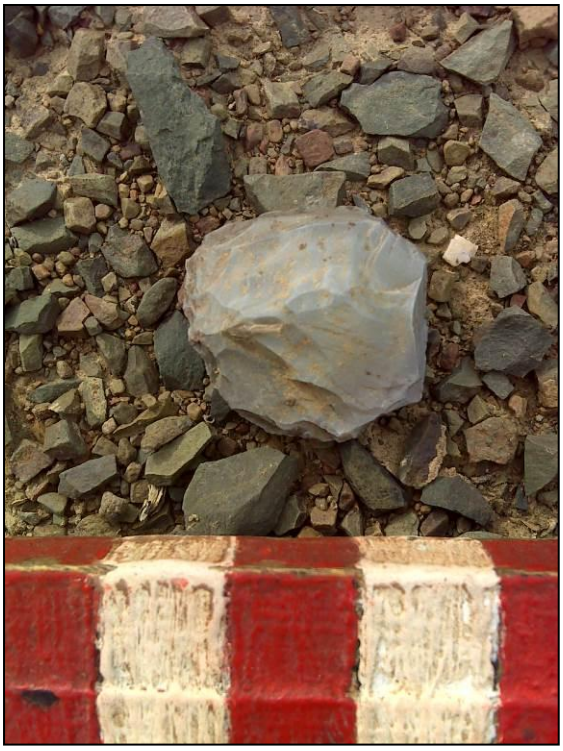
Figure 10. View of a stone artefact eroding out of the side of a 1.8 m deep donga (red circle, see Figure 14 for an example of the stone artefact).

Figure 11. An example of a possible slightly smoothed lower grinding stone.

Figures 12 – 13. Examples of Middle Stone Age stone artefacts documented within the vicinity of the proposed Borrow Pit 6 (BP6) site.





Figures 14 – 15. Examples of stone artefacts documented within the vicinity of the proposed Borrow Pit 6 (BP6) site.

One disused reservoir and trough (Figure 16-17) were documented outside of the proposed borrow pit area (BP6-4 and BP6-5). It is unlikely that these structures will be affected during development activities

Figure 16. View of the disused water reservoir situated outside of the area proposed for the borrow pit.

Figure 17. View of the disused water trough situated outside of the area proposed for the borrow pit.

6.2.1.2. BORROW PIT 7 (BP 7):

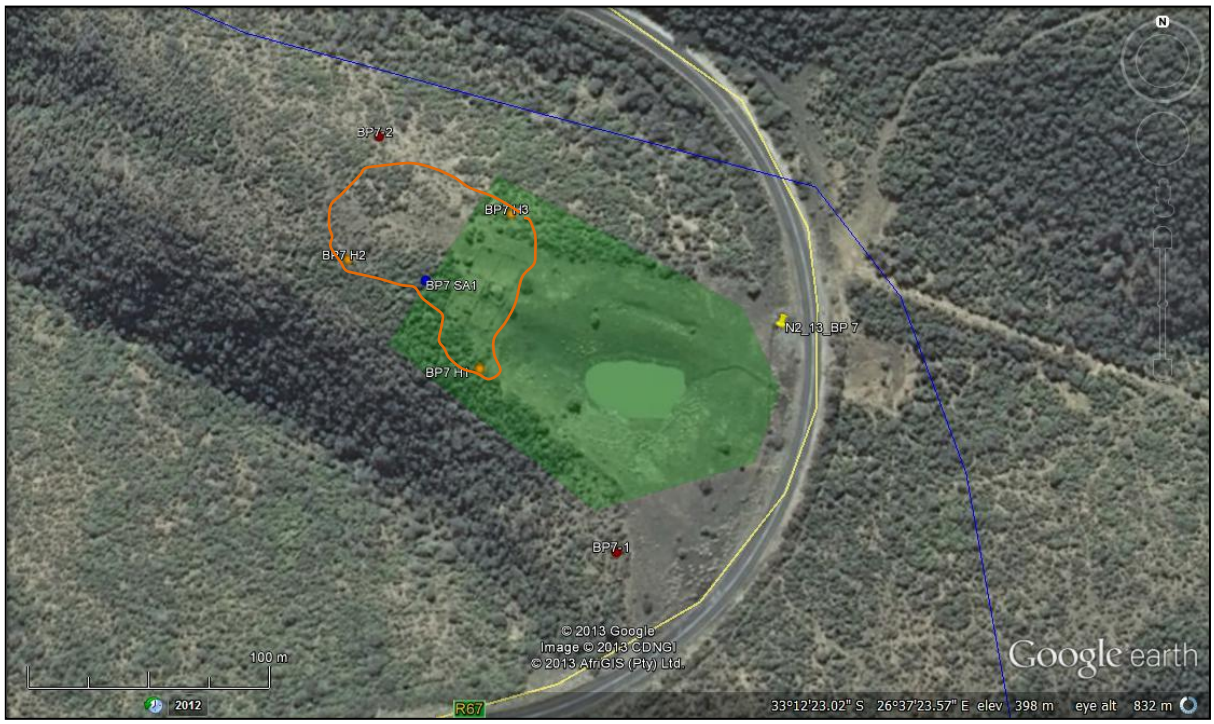


Figure 18. Close-up aerial view of the area proposed for Borrow Pit 7 (BP7) showing the plotted general GPS points, built environment, an isolated scatter of one stone artefact, and historical artefacts.

BP7 is located approximately 1.7 km south of BP6 on the Farm Boski Dell. This area has recently been acquired by Kwandwe Private Game Reserve to extend the game reserve area (Figures 3 and 18).

The intention is to expand and deepen the existing borrow pit area across the entire hill summit area to a depth of 3 m. The existing borrow pit area is approximately 40 m x 25 m in extent (Figure 19). The proposed borrow pit area including the existing borrow pit is approximately 155 m x 105 m in extent. The geological make-up is a grey, moderate to highly weathered mudrock shale.

The vegetation cover is dense Great Fish Thicket that obscured archaeological visibility (Figures 20-21). The exposed and disturbed surface and soil eroded areas were investigated for the possibility of encountering archaeological heritage remains (Figure 22).

Figure 19. View of the existing borrow pit at the area proposed for Borrow Pit 7 (BP7).

Figure 20. View of the general landscape, vegetation cover, and kraal complex in the distance.

Figure 21. View of the general landscape and vegetation cover.

Figure 22. View of the general landscape and exposed areas allowing better archaeological visibility.

A kraal and dipping tank complex is situated within the western half of the proposed borrow pit area (Figure 23). It is likely that the dipping tank has not been utilised for some time as the area is overgrown with vegetation.

Historical artefacts, probably of the late 1800's and early-mid 1900's, were documented within and beyond the western boundary of the proposed borrow pit area. The relatively large scatter area, approximately 90 m x 50 m in extends into the kraal and dipping tank complex (Figure 24). It is possible that these artefacts were disturbed during the construction of the kraal complex. The historical scatter seemed to occur within the dense thicket vegetation as well.

One Later Stone Age (LSA) stone artefact was encountered during the survey (Figure 25). The stone artefact was documented within the historical scatters area near to the kraal and dipping tank complex. The stone artefact has been retouched and was manufactured on a chalcedony raw material. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the dense vegetation.

Two pieces of thick glass show working and modification of intentional flaking were documented within the historical scatter (Figures 26-27). Historically, glass pieces were modified into flakes and tools instead of stone as it was considered a good raw material. No chips associated with the working of the glass were observed in association with the glass pieces.

The historical scatter included fragments of salt glazed stoneware and ceramic sherds of bottles and plates (Figures 28 -29). The ceramic sherds comprised painted decoration and transfer printed designs. Broken glass fragments were also documented (Figure 30). One bottle with the inscription "Talana 1949" was still intact (Figure 31). A small fragment of the stem of clay pipe was documented on the hill slope (BP7 H3); however, no inscription was available to identify its origin.

It is possible that the historical artefact scatter may have been disturbed by the construction and continuous utilisation of the area as a working kraal and dipping tank complex. The vegetation growth may also have hampered the context of the area artefacts and it possible that the historical artefact scatter may have occurred where the existing borrow is currently situated.

Figure 23. Close-up view of the disused trough within the kraal enclosure.

Figure 24. View of the area housing historical material in relation to the kraal complex.

Figure 25. Example of one isolated stone artefact scatter documented within the proposed borrow pit area.

Figures 26 – 27. Examples of possible intentionally flaked glass documented within the proposed borrow pit area.

Figures 28 – 29. Examples of stoneware and ceramic sherds documented within the historical scatter.

Figures 30 – 31. Examples of broken glass fragments and an intact glass bottle with the inscription "Talana 1949".

6.2.1.3. BORROW PIT 5 (BP 5):

Figure 32. Close-up aerial view of the area proposed for Borrow Pit 5 (BP5) showing the plotted general GPS points and upgraded roads (red lines).

BP5 is located approximately 1.4 km south of BP7 on land owned by Makana Municipality (Figure 3). The intention is to expand the existing borrow pit area. However, it seems that the existing borrow pit area has recently been upgraded and is currently being utilised indicated by the upgraded roads (Figure 32, red lines).

The existing borrow pit area is approximately 95 m x 80 m in extent (Figure 33). The proposed borrow pit area including the existing borrow pit is approximately 195 m x 150 m in extent. The geological make-up is a top half of dark grey, highly weathered mudrock shale overlying maroon and yellow/brown highly weathered foliated mudstone.

The vegetation cover is dense Great Fish Thicket that obscured archaeological visibility over the site, except where the surface has already been disturbed by the construction of new roads and the borrowing activities (Figure 34). These exposed and disturbed surface areas were investigated for the possibility of encountering archaeological heritage remains.

No archaeological or other heritage resources were documented within the exposed areas. The Thicket area could not be surveyed owing to the impenetrable vegetation. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the dense vegetation.

Figure 33. View to the south showing the general landscape, dense thicket vegetation, and existing borrow pit.

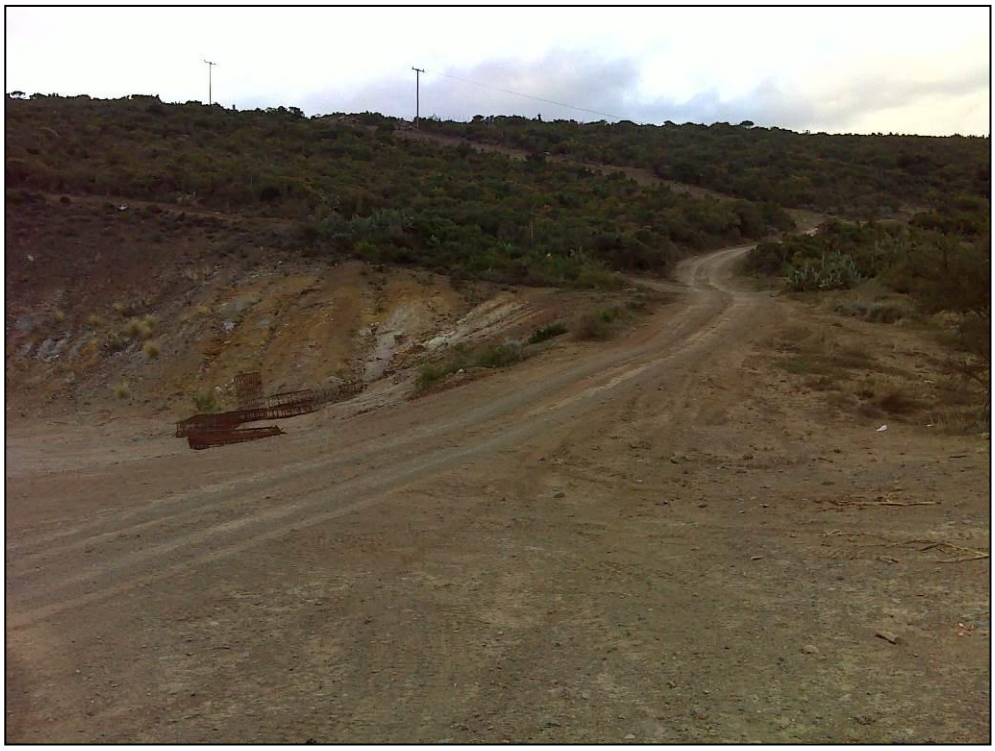


Figure 34. View to the north showing the general landscape, dense thicket vegetation, and existing borrow pit.

6.2.3. QUARRY 7, BORROW PIT 10, AND QUARRY 6

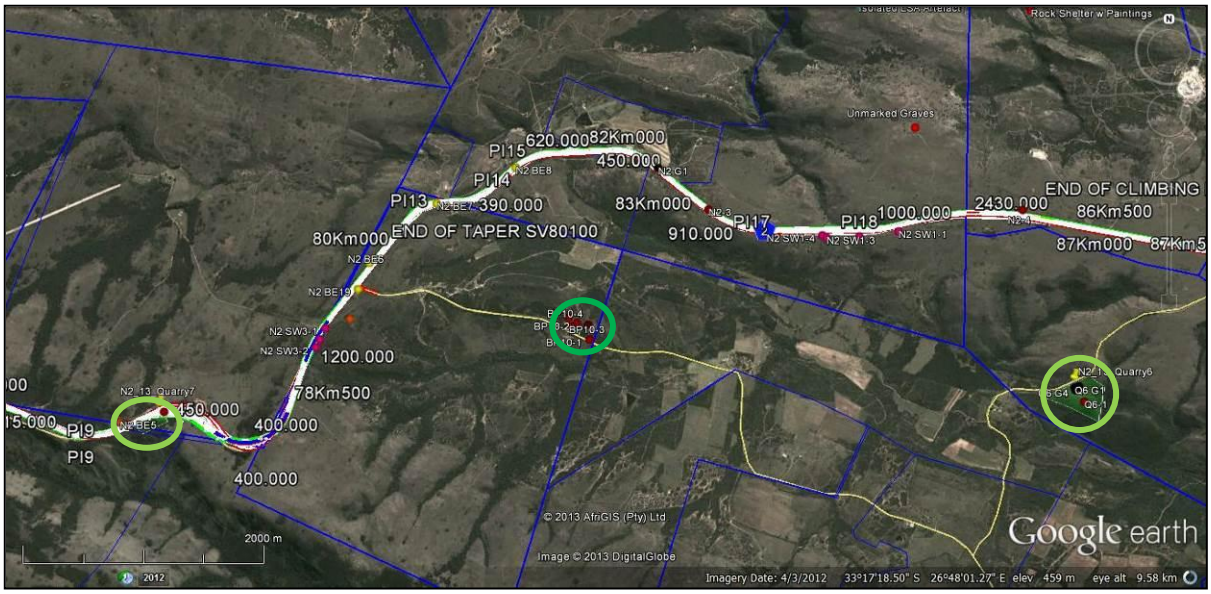


Figure 35. Aerial view showing the locations of Quarry 7 (Q7) along the N2 National Route and, Borrow Pit 10 (BP10) and Quarry 6 (Q6) situated in the Coombs.

Quarry 7 (Q7) is situated about 14 km east of Grahamstown towards the Fish River Bridge on the southern side of the N2 National Route. Borrow Pit 15 (BP15) and Quarry 6 (Q6) are both located in the Coombs River Valley (Figure 35).

6.2.3.1. QUARRY 7 (Q7):

Figure 36. Close-up aerial view of the area proposed for Quarry 7 (Q7) showing the plotted general GPS points.

Q7 is located on the Farm Greenhills 358 and is situated on a bend of the N2 National Route. A section of the proposed quarry area is demarcated as being included into the new layout for the upgrade of the N2 National Route (Figure 36).

There is no existing quarry on the proposed area; therefore, the establishment of the quarry will create the first surface excavation. The proposed borrow pit area is approximately 310 m x 145 m in extent (at the widest points). The geological make-up is a light grey, slightly weathered medium to widely jointed, hard rock quartzite. The visible reserve estimate is very extensive and the aim is to extend southwards along the ridge. The proposed area is considered as a good rock type and is centrally located and in close proximity to the N2.

The vegetation cover is considered as having been transformed from its original state of Suurberg Quartzite Fynbos to its current state of low grass vegetation as a reaction to the invasive black wattle that occurs over most of the proposed quarry site (Figures 37-39).

No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

Figure 37. View of the general landscape and vegetation cover over the proposed site north-east towards the N2 National Route.

Figure 38. View of the general landscape and vegetation cover.

Figure 39. View of the general landscape and vegetation cover facing north-west towards the N2 National Route.

6.2.3.2. BORROW PIT 10:

Figure 40. Close-up aerial view of the area proposed for Borrow Pit 10 (BP10) showing the plotted general GPS points and existing diggings (red circle).

BP10 is located on the Farm Coombs Dale 3 situated about 2 km off the N2 National Route on the secondary gravel road running east through the Coombs Valley (Figure 35). The proposed site is centrally located and in relatively close proximity to the N2 National Route.

An existing quarry area or digging is located outside of the proposed borrow pit area on an internal farm gravel road that extends from the entrance gate (BP10-6, red circle, Figure 40) (Figure 41). There is no existing quarry on the proposed area; therefore, the establishment of the quarry will create the first surface excavation. The proposed borrow pit area is approximately 125 m x 70 m in extent (at the widest points). The geological make-up is khaki, highly weathered, very closely jointed mudstone. Blasting may be required to loosen the material.

The vegetation cover is very dense and impenetrable Kowie Thicket that dominates the site and obscured archaeological visibility (Figures 42 - 43). Exposed surface, cattle paths, and soil eroded areas were investigated for possible archaeological or other heritage material remains. No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

Figure 41. View of the existing borrow pit / digging.

Figure 42. View of the general landscape and dense vegetation cover.

Figure 43. View of the general landscape showing the dense vegetation cover.

6.2.3.3. QUARRY 6 (Q6):

Figure 44. Close-up aerial view of the area proposed for Quarry 6 (Q6) showing the plotted general GPS points and the demarcated area housing the informal burial area (black block).

Q6 is located on the Farm Tower Hill 363 situated about 2 km south off the N2 National Route on the secondary gravel road running through the Coombs Valley down to the Fish River Mouth, and is in relatively close proximity to the N2 National Route (Figure 35).

There is no existing quarry on the proposed area; therefore, the establishment of the quarry will create the first surface excavation. The proposed borrow pit area is approximately 620 m x 320 m in extent (at the widest points) (Figure 44). The geological make-up is light grey, slightly to unweathered, hard rock quartzite. The quartzite ridge is situated on a minor gravel side road with the hard rock outcropping at the surface. Reserves appear to be extensive with an area of 80 m x 40 m x 12 m visible reserve estimate. Borehole drilling will be required to remove samples. The quarrying activities are proposed to advance from the south.

The vegetation cover is dense Kowie Thicket that obscured archaeological visibility. Exposed surface, cattle paths, and soil eroded areas were investigated for possible archaeological or other heritage material remains. No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

An informal burial area was pointed out by the farmer and his employee. The specific area could not be pointed as the area is overgrown and only the family members who still visit the area would be able to point out the exact position of the burials. A general area has been demarcated with the safety boundary taken into consideration. The demarcated is approximately 40 m x 30 m in extent and it is suggested that an additional 25 m perimeter be added to the area already identified.

(No photographs available)

6.2.4. BORROW PIT 18 (BP18), BORROW PIT 15 (BP15), AND QUARRY 1 (Q1)

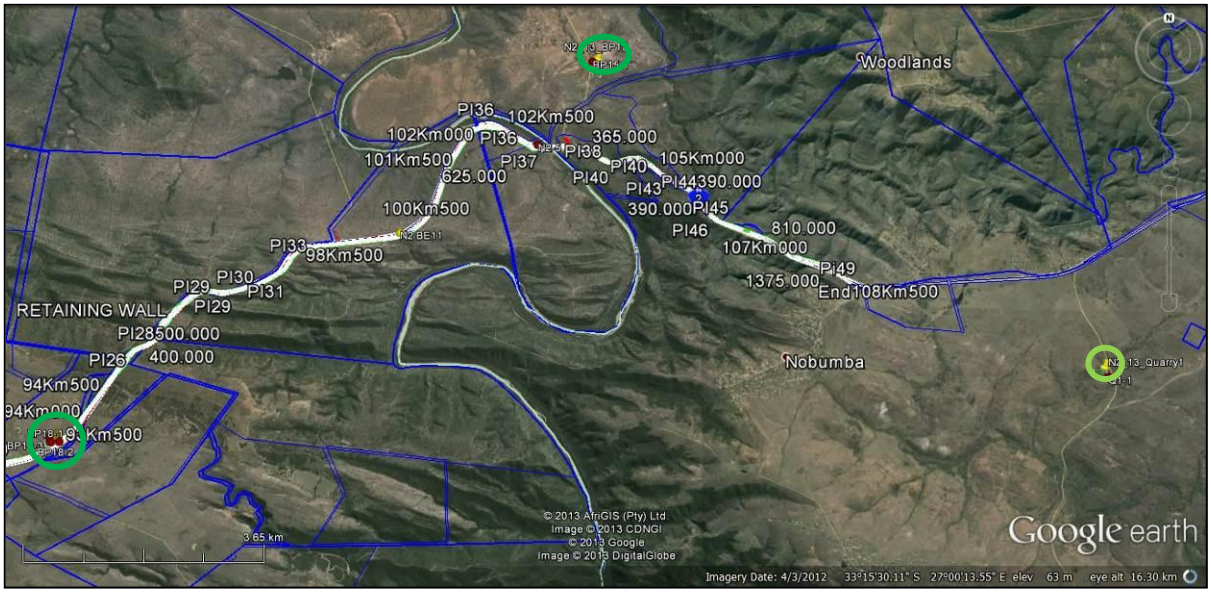


Figure 45. Aerial view showing the locations of Borrow Pit 18 (BP18), Borrow Pit 15 (BP15), and Quarry 1 (Q1).

Borrow Pit 18 (BP18) is situated about 12 km west of Fish River Bridge on the N2 National Route towards Grahamstown. Borrow Pit 15 (BP15) and Quarry 1 (Q1) are situated east of the Fish River Bridge and Fish River Pass within the Amathole District Municipality (Figure 45).

6.2.4.1. BORROW PIT 18 (BP18):

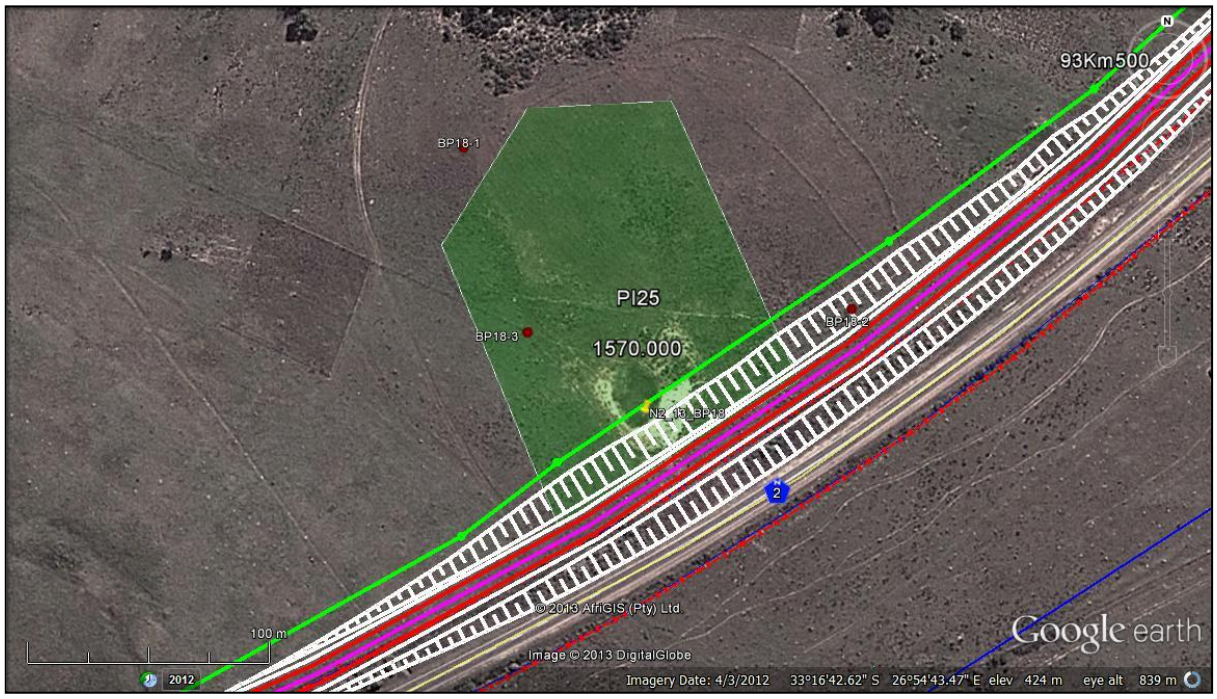


Figure 46. Close-up aerial view of the area proposed for Borrow Pit 18 (BP18) showing the plotted general GPS points.

BP18 is located on the Farm Endeavour situated immediately north of the N2 National Route (Figure 45). A section of the proposed quarry area is demarcated as being included into the new layout for the upgrade of the N2 National Route (Figure 46).

A borrow pit / digging area, approximately 40 m x 20 m in extent, is located within the proposed site (Figure 47). The proposed borrow pit area is approximately 170 m x 110 m in extent (at the widest points). The geological make-up is a buff reddish brown, silty gravel colluvium. The estimated reserves for the proposed borrow pit is 50 m x 60 m x 1 m in extent to be extended in a north-north east direction along the hill crest.

The vegetation cover is considered as having been transformed from its original state of Great Fish Thicket to its current state of a low grass vegetation as a result of farming activities (Figure 48).

Exposed surface, cattle paths, and soil eroded were investigated for possible archaeological or other heritage material remains. No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

Figure 47. View of the general landscape showing the disturbance of the surface by the construction of a dam wall.

Figure 48. View of the general landscape and vegetation cover.

6.2.4.2. BORROW PIT 15 (BP15):

Figure 49. Close-up aerial view of the area proposed for Borrow Pit 15 (BP15) showing the plotted general GPS points.

BP15 is located on the Farm Gnusha Poort 130 situated about 1.2 km north of the N2 National Route near Sinqumeni Village (Figure 45).

The proposed borrow pit area is approximately 175 m x 165 m in extent (at the widest points) (Figure 49). The geological make-up is a dark grey, highly to moderately weathered, medium to hard bedrock shale. The estimated reserves of the material is about 60 m x 40 m x 2.5 m in extent. It is suggested that the weathered mudrock shale can be scraped to a depth of 1 m – 1.5m; thereafter blasting and primary stage crushing may be required.

The vegetation cover is Great Fish Noorsveld that dominates the site and obscured archaeological visibility in densely vegetated areas and grass and scrub cover. Exposed surface, paths, and soil eroded areas were investigated for possible archaeological or other heritage material remains (Figures 50-51). No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

Figure 50. View of the general landscape showing soil erosion affected areas.

Figure 51. View of the general landscape and vegetation cover.

6.2.4.3. QUARRY 1 (Q1):

Figure 52. Close-up aerial view of the area proposed for Quarry 1 (Q1) showing the plotted general GPS points.

Q1 is located on the Newtondale Commonage 134 situated about 8 km east of the Fish River Bridge and 1.65 km south of the N2 National Route from Lewiswood Village (Figure 45).

The proposed borrow pit area including the existing borrow pit is approximately 230 m x 120 m in extent (Figure 52). The geological make-up is a hard, grey sandstone on the contact between the Fort Beaufort and Ripon foundations Drilling activities are required. The very old quarry area, approximately 75 m x 30 m in extent, is situated along the ridge that was mined for what appears to be Macadam Stone (Figure 53).

The vegetation cover is Great Fish Noorsveld that dominates the site and obscured archaeological visibility in densely vegetated areas and grass and scrub cover. Exposed surface, paths, and soil eroded areas were investigated for possible archaeological or other heritage material remains (Figure 54). No archaeological or other heritage resources were documented within the exposed areas. However, it is possible that stone artefacts may occur in primary context (*in situ*) 50 cm – 80 cm underneath the vegetation cover.

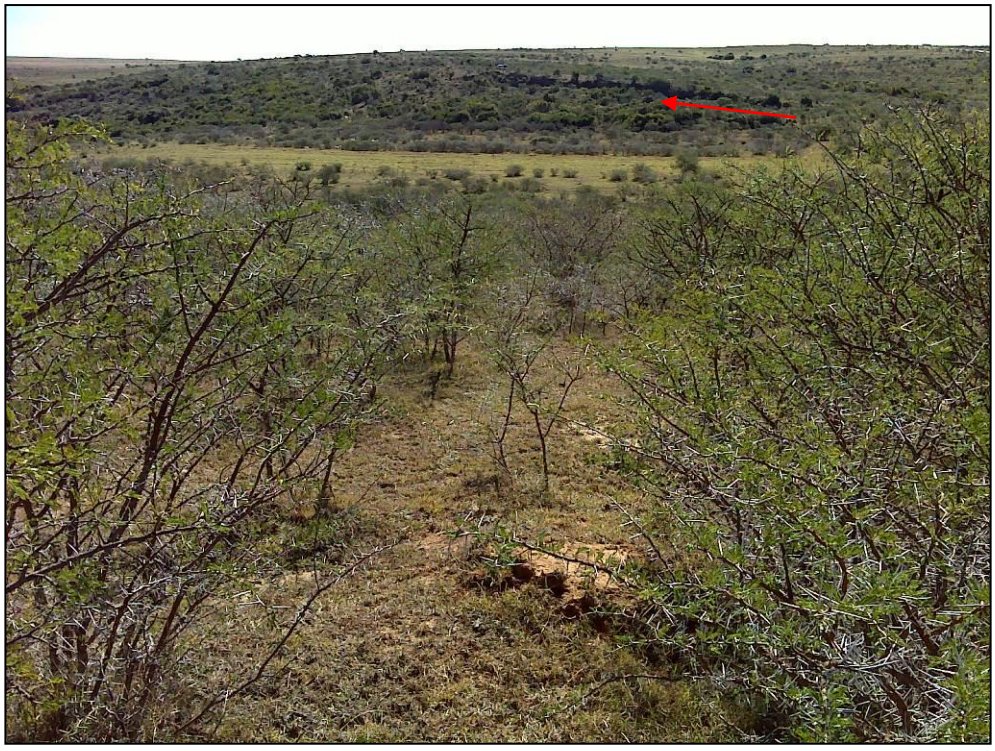


Figure 53. View of the general landscape, vegetation cover, and existing quarry in the distance (red arrow).

Figure 54. View of the general landscape and vegetation cover.

Three of the proposed borrow pit and quarry areas investigated comprise heritage resources that must be appropriately mitigated before the quarrying activities begin.

The area proposed Borrow Pit 6 (BP6) comprised isolated occurrences of predominantly Middle Stone Age stone artefacts and one Later Stone Age stone artefact. Most of these occurrences were documented outside of the proposed development area within surface disturbed areas; however, it is possible that stone artefact and/or other archaeological and other heritage resources may occur between the surface and 50 cm – 80 cm below ground.

Borrow Pit 7 (BP7) comprised a relatively large historical artefact scatter and one isolated Later Stone Age stone artefact within and disused kraal and dipping tank complex.

Quarry 6 (Q6) comprised one informal burial area pointed out by the farmer and his staff member. The area is still visited by members of the family of the deceased.

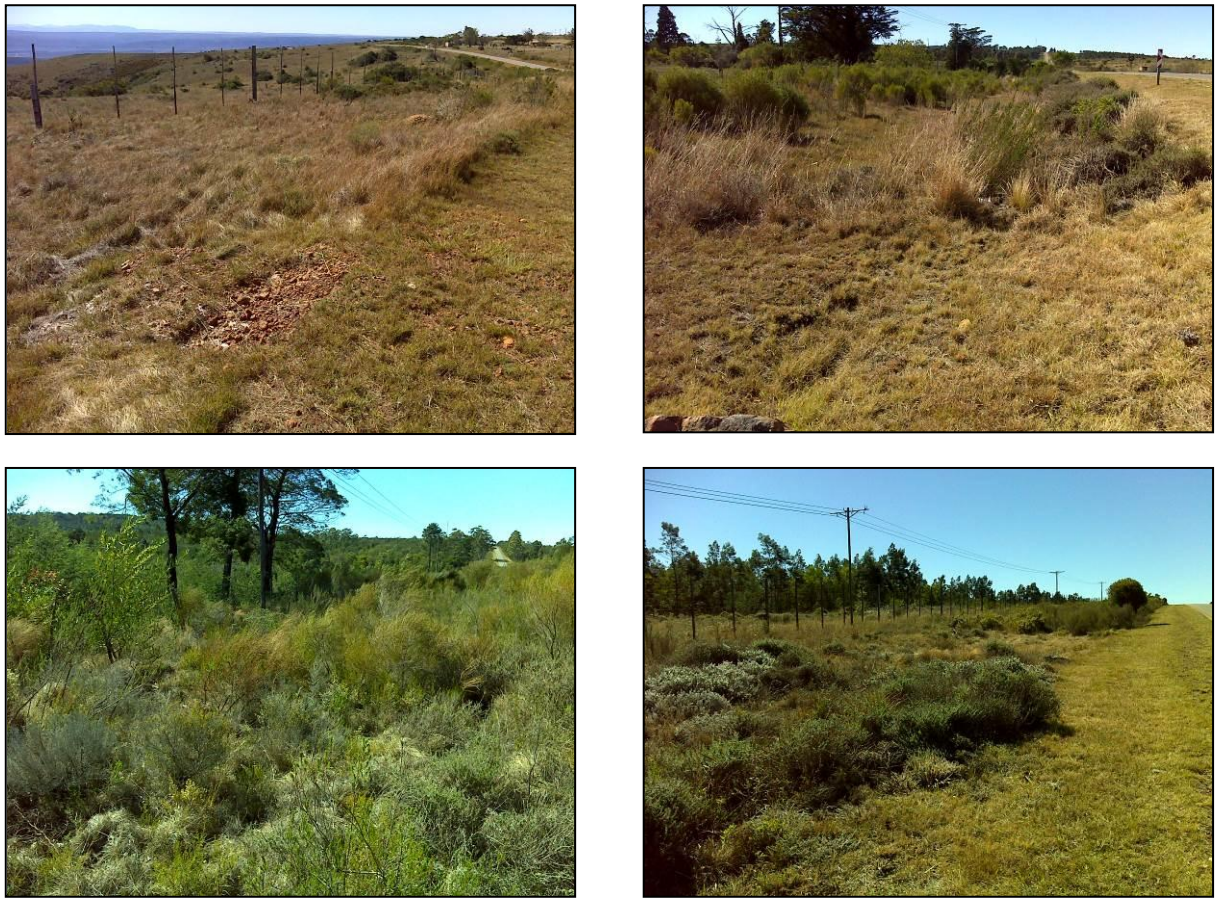
No heritage resources were documented on the remaining borrow pit (BP5, BP10, BP18, and BP18) and quarry (Q7 and Q1) areas, however, the survey is limited to what can be observed on the surface and heritage resources may be uncovered during quarrying activities.

6.2.5. N2 NATIONAL ROUTE:

The survey for the N2 (N2-13) national route upgrade and the proposed N2 alternative section was conducted by conducting spot checks from a vehicle when structures and exposed areas were observed along the route.

The dense transformed vegetation cover within the road reserve and the areas adjacent to both sides of the road reserve boundary on private land proposed for the road upgrade made archaeological visibility difficult. Very few undisturbed exposed surface areas occurred within the road reserve. The vegetation cover within the proposed road upgrade areas on private land varied from transformed farm lands, dense grass vegetation, and impenetrable Albany Thicket vegetation, similarly obscuring archaeological visibility (Figures 55-58). The area within the road reserve and immediately adjacent to the road reserve has in the past been heavily disturbed by the construction and continued maintenance of the existing N2 National Route as well as by the construction of power lines, boundary fences, picnic spots, and farm entrances (Figures 59-64).

No pre-colonial archaeological heritage resources were observed along the N2 National Route section within or adjacent to the road reserve. It is unlikely that *in situ* archaeological heritage remains would be encountered during construction activities.



Figures 55 – 58. Views of the varying mostly dense vegetation cover within and adjacent to the N2 National Route road reserve.

Figures 59 – 64. Examples of surface disturbance activities associated with the construction and maintenance of the road, the erection of farm boundary fences, power lines and telephone lines, as well farm entrances and several picnic spots occur within the road reserve area.

6.2.5.1. N2 - BUILT ENVIRONMENT

The built environment encountered along the proposed route for the upgrade of the N2 National Route included contemporary dwellings, functional and unused reservoirs and troughs, and ruins of buildings and structures both younger and older than 60 years. The Frasers Camp Signal Tower is situated along the alternative route proposed for the N2 National Route. Three separate stone walling features were also documented along the route situated up to 30 m from the road reserve fence line situated on private land.

Most of the built environment should not be affected by the construction activities associated with the upgrade of the N2 National Route. The built environment structures considered as part of the heritage resources encountered (N2 BE2, N2 BE5, N2 BE14, N2 BE18, N2 BE20, N2 SW1 – N2 SW3) have been highlighted below to show their location in relation to the proposed layout of the N2 National Route upgrade.

i. N2 BE2:

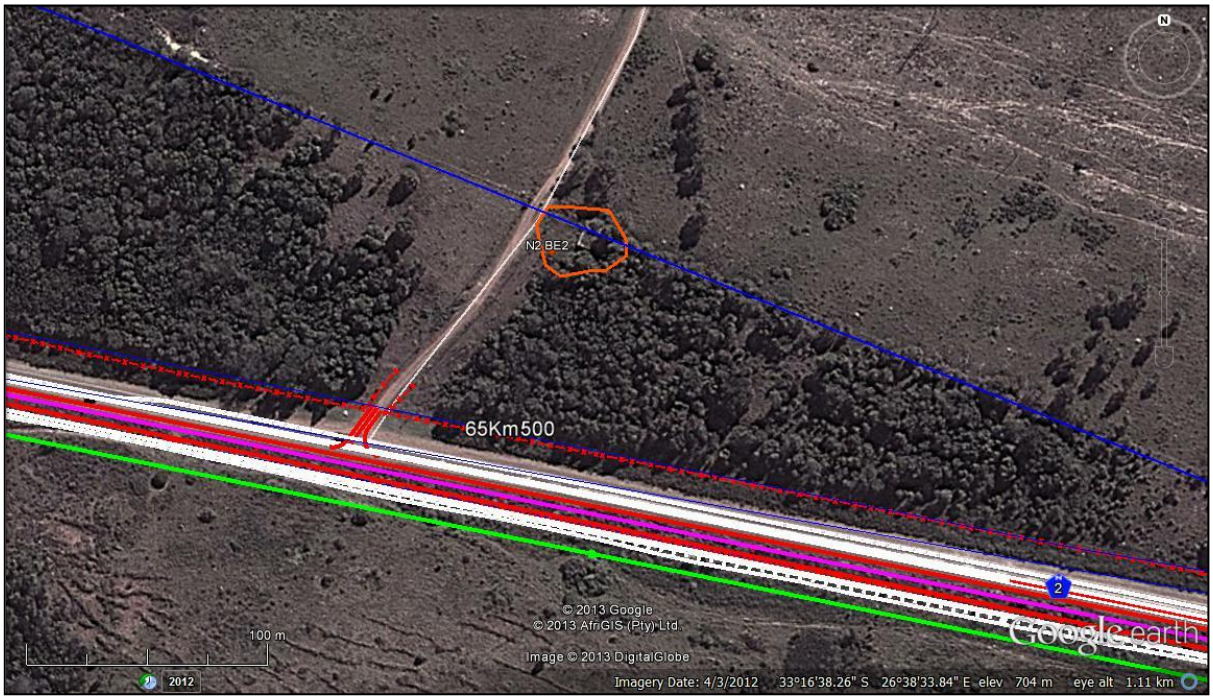


Figure 65. Close-up aerial view of the location of the ruin of the structure situated on the Farm The Orchards 293.

N2 BE2 is situated about 100 m north of the N2 national road and will not be affected by the construction of the upgrade activities along the entrance of the Farm The Orchards (Figure 65). The site includes the ruin of a farmhouse (Figures 66-67). The area was investigated for the possible remains of historical artefacts. However, no artefacts or a dump site / midden were observed within close vicinity to the ruin. The relatively dense and overgrown vegetation cover and Black Wattles obscured the surface visibility.

Figure 66. View of the ruin of the farmhouse.

Figure 67. Close-up view of the ruin of the farmhouse.

ii. N2 BE5:

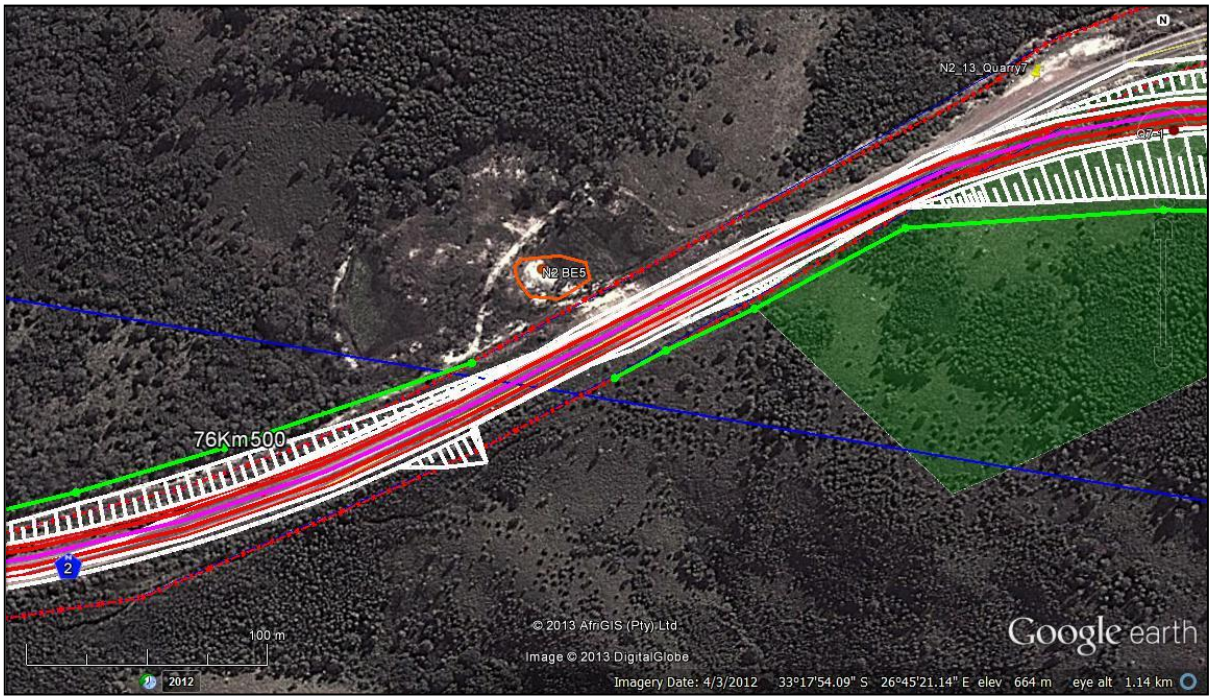


Figure 68. Close-up aerial view of the location of the structure situated on the Farm Stony Vale 359.

Stony Vale 359 east the area proposed for Quarry 7 (Q7) (Figures 68-69). If the construction activities are limited to the layout of the proposed road upgrade then this structure should not be affected during the construction activities.

Figure 69. View of the structure on the Farm Stony Vale 359 from the existing N2.

iii. N2 BE14:

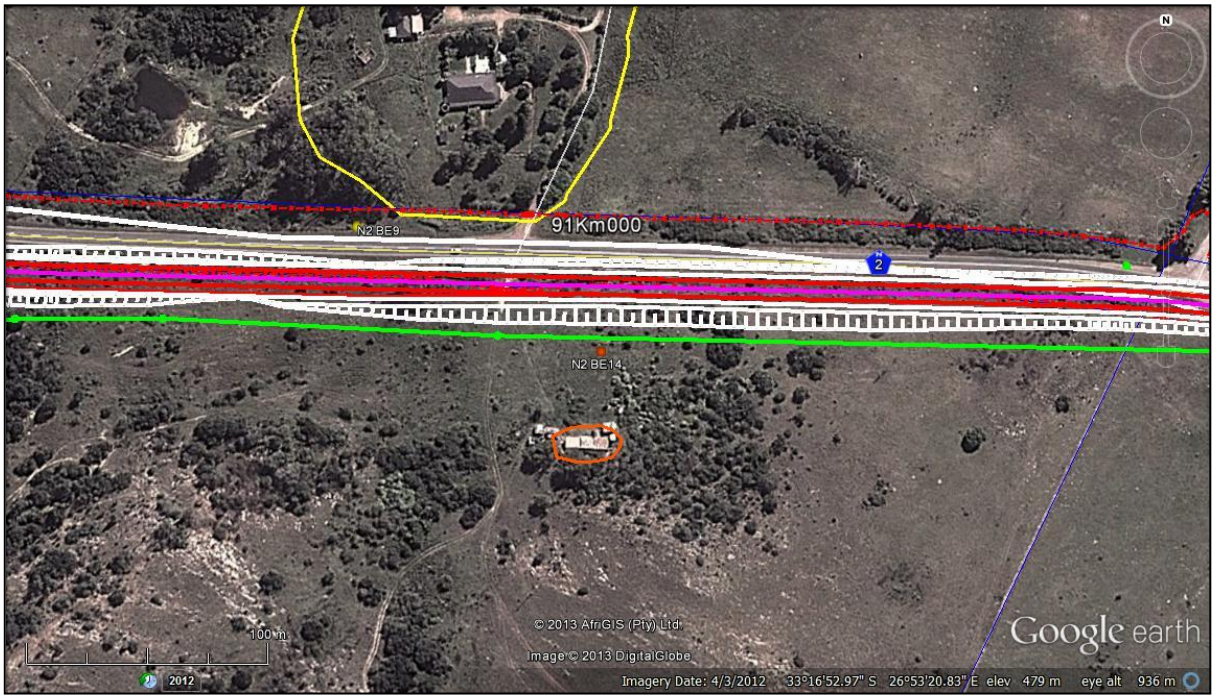


Figure 70. Close-up aerial view of the location of the structure situated on the Farm Fraser's Camp.

The original Fraser's Camp farmhouse is situated approximately 30 m south of the boundary of the proposed layout for the N2 road upgrade (Figure 70). The stone structure has been incorporated into the staff living quarters (Figure 71). If the construction activities are limited to the layout of the proposed road upgrade then this structure should not be negatively affected during the construction activities.

Figure 71. View of the original Fraser's Camp stone house incorporated into the staff living quarters.

iv. N2 BE18:

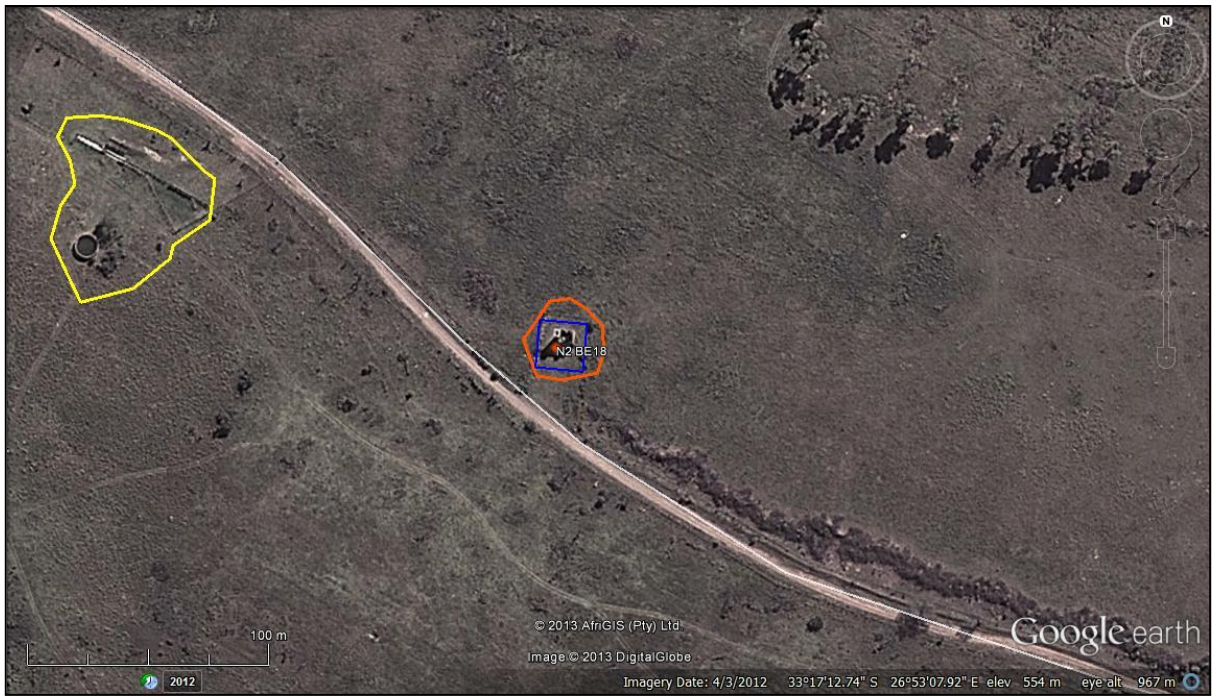


Figure 72. Close-up aerial view of the location of the Fraser's Camp Watch Tower fortification situated along the route proposed for the N2 Alternative.

The Fraser's Camp Watch Tower or Signal Tower fortified structure is situated on the Farm Tower Hill 363 along the proposed route for the N2 alternative section (Figure 72). The fortified structure was declared a National Monument in 1938 and since the inception of the National Heritage Resources Act 25 of 1999 is regarded a Grade II status Provincial Heritage Site (PHS) (Figure 73). The fortified structure is still is good condition albeit the vegetation is unkempt and overgrown both outside and inside the structure (Figures 74-75).

The proposed N2 alternative road layout was not available; therefore it is unknown to what extent the construction activities of the road upgrade may affect the site. The construction of the N2 alternative along this route may have both positive and negative influences on the fortified structure. The influences may boost tourism and visitors to the site however it may also instigate vandalism and deterioration if not included into the management plan of the proposed N2 upgrade project. The appropriate mitigation and conservation measures for the site must be implemented if the alternative route has been determined to be the preferred option for the N2 National Route upgrade (see section 11 for full recommendations).

Figure 73. The plaque indicating that the structure is a National Monument hung by the Historical Monuments Commission.

Figure 74. Alternative views of the Fraser's Camp Signal Tower.

Figure 75. View of the overgrown vegetation cover inside the structure.

v. N2 BE20:

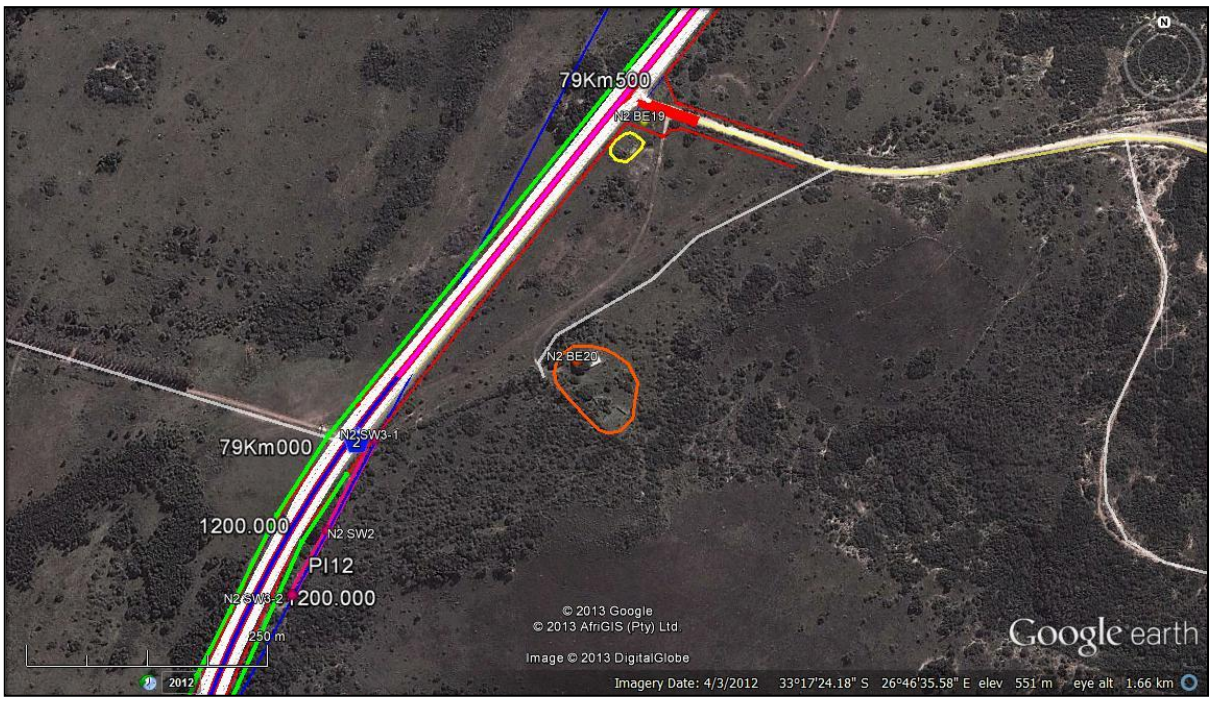


Figure 76. Close-up aerial view of the location of the structure and associated infrastructure on the farm Komsfountain 360.

N2 BE2 is situated about 125 m south-east of the N2 national road and will not be affected by the construction of the upgrade activities (Figure 76). The site is a farmstead complex with stone walling possibly running from the complex north-west towards the boundary fence of the N2 road reserve (Figure 77). Stone walling was observed within the dense vegetation from the boundary of the N2 road reserve (N2 SW2 and N2 SW3).

Figure 77. View of the farmhouse showing the distance from the existing road reserve boundary.

6.2.5.2. N2 – DRY PACKED STONE WALLING

i. N2 SW1:

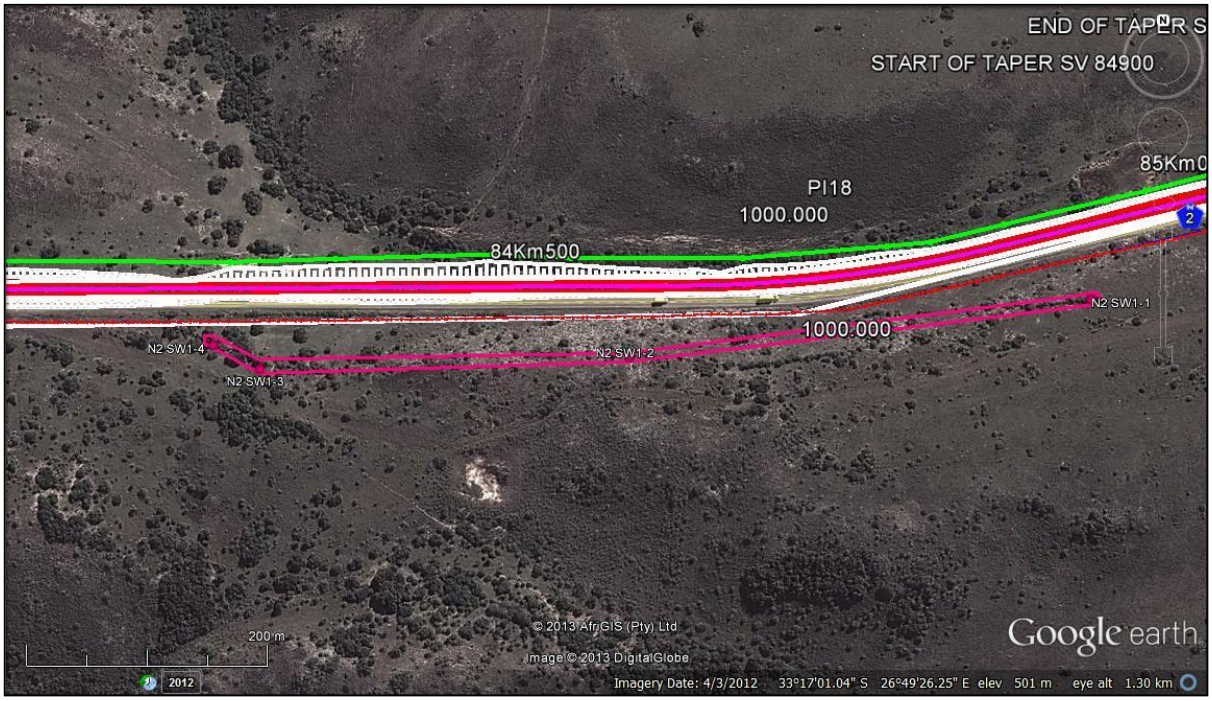


Figure 78. Close-up aerial view of the location of the dry packed stone wall situated adjacent to the N2 National Route on the Farm Gilead 361.

A dry packed stone wall extends for about 700 m south of the current N2 national route on the Farm Gilead 361 (Figure 78). The wall is situated between 15 m and 30 m from the proposed boundary layout of the proposed upgrade. The stone wall can be seen when driving on N2 National Route.

The stone wall runs east-west along the ridge (N2 SW1-1) adjacent to the N2 National Route and continues down the slope on the lower area (N2 SW1-4). The stone wall is mostly intact probably owing to the overgrown vegetation holding the stones in place. The naturally *in situ* occurring rocks have been incorporated into the certain areas of the wall (Figures 79-84).

If the construction activities are limited to the layout of the proposed road upgrade then this structure should not be affected during the construction activities.






Figures 79 – 84. Views of the location of the stone wall, condition, and areas of the naturally in situ occurring rocks used as part of the wall.

ii. N2 SW2 AND N2 SW3:

Figure 85. Close-up aerial view of the location of the dry packed stone wall and circular feature on the Farm Komsfountain 360.

These dry packed stone wall features (N2 SW2 and N2 SW3) are situated on the Farm Komsfountain 360 and are probably associated with the farmstead recorded as N2 BE20 in this report (Figure 85). These features are situated between 0 m at the area marked N2 SW3-1 and 10 m at the area marked N2 SW2-3 from the proposed boundary layout of the proposed N2 road upgrade.

N2 SW2 is a circular dry packed stone feature about 1.5 m x 1.5 m in extent (Figure 86). This type of feature is usually considered to have been used to hold small domestic stock such as kids and lambs. In other circumstances, historically, circular stone features would be erected to act as hides for hunters. This feature is probably associated with the dry packed stone wall (N2 SW3) that extends for approximately 200 m along and relatively close to current N2 road reserve boundary.

The stone wall has been overgrown by vegetation and is difficult to observe at first glance. This was the case at the area marked N2 SW3-1 (Figure 87). The condition of the stone is relatively intact at the area marked N2 SW3-1 but seems to become indiscernible as a row of stones towards the area marked N2 SW3-3. N2 SW2 is still in a good condition.

It is highly likely that the stone wall and circular pen will be negatively affected during the construction activities. The appropriate mitigation and conservation measures must be implemented (see section 11 for full recommendations).

Figure 86. View of the circular stone feature (N2 SW2).

Figure 87. View of the stone wall situated in the dense vegetation.

6.2.5.3. N2 – INFORMAL BURIAL GROUNDS

i. N2 G1:

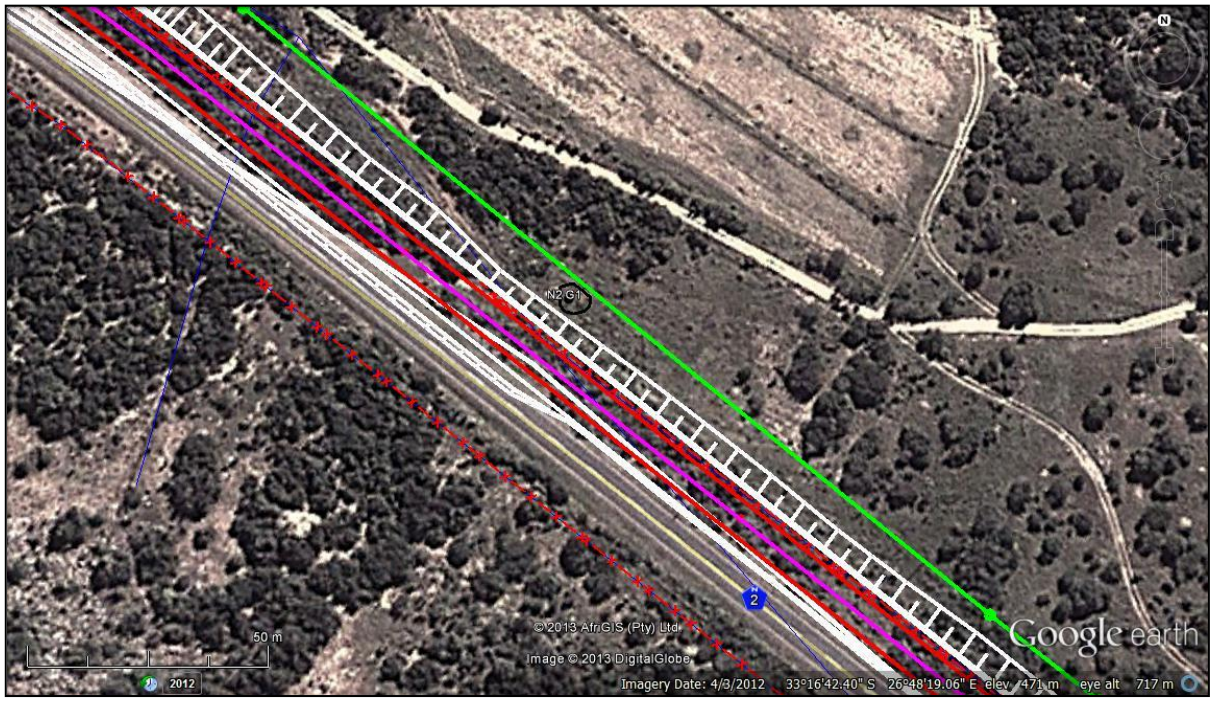


Figure 88. Close-up aerial view of the location of the informal burial area on the farm Honeykop.

One informal burial area, comprising seven graves was reported and identified. The site is situated within the proposed layout for the construction activities for the N2 road upgrade and approximately 20 m x 20 m in extent (Figure 88). Mr Crous who owns the farm provided information on the burial area. The graves are those of farm workers whose families no longer reside on the farm, however, they do still come and visit the graves. Visitation is apparently not regular; however, the site is a significant living heritage and memory site.

The appropriate mitigation and conservation measures must be considered. Informal burial areas are protected under the National Heritage Resources Act 25 of 1999. The first option is that the area be considered a no-go development zone is strongly recommended. Alternatively, consultative processes with the affected family members must be conducted to suggest the possibility of exhumation and reburial (see section 11 for full recommendations).

(No photographs available)

According to the layout of the proposed N2 road upgrade three heritage resources will be negatively affected by during the construction activities: the Fraser's Camp Signal Watch Tower situated on the Farm Tower Hill along the proposed N2 alternative route (N2 BE18); the dry packed circular stone feature and wall situated on the Farm Komsfountain

360 (N2 SW2 and N2 SW3); and the informal burial area situated on the Farm Honeykop (N2 G1). The appropriate mitigation and conservation measures must be implemented (see section 11 for full recommendations).

7. DESCRIPTION OF SITES

7.1. Stone Artefact Scatters

7.1.1. Borrow Pit 6 (BP6):

BP SA4: Possible lower grinding stone identified by the slightly smoothed centre. No degree of pitting or rubbing indentation. One Middle Stone Age flake situated nearby the grinding stone which is probably *ex situ*.

BP6 SA1 – BP SA3 / BP SA5 – BP SA6: Isolated occurrences of mostly Middle Stone Age stone artefacts manufactured on varying shale raw materials. One Later Stone Age scraper implement manufactured on a silcrete raw material was documented at BP SA2.

The stone artefacts were all observed within soil eroded and surface disturbed areas, therefore, it is unlikely that the stone artefacts occur in a primary context (*in situ)*.

7.1.2. Borrow Pit 7 (BP7):

BP7 SA1: One isolated Later Stone Age retouched stone artefact was documented within the extent of a historical artefact scatter.

The isolated stone artefact occurrences and scatters are considered as having a low cultural significance.

The stone artefact occurrences and scatters has been allocated a heritage grading of Grade III (NHRA 25 of 1999) being worthy of conservation by local authorities.

(See Table 8.1. for descriptions and co-ordinates)

7.2. Historical Artefact Scatter

7.2.1. Borrow Pit 7 (BP7):

BP7 H1 – BP7 H3: Demarcated area showing the extent of the historical artefact scatter visible on the exposed surface areas. The relatively large scatter area, approximately 90 m x 50 m in extent extends into the kraal and dipping tank complex. The historical scatter seems to occur within the dense thicket vegetation as well.

BP7 H1: Historical artefacts, including broken glass fragments, stoneware and ceramic sherds of painted decoration and transfer print type, probably of the late 1800's and early-mid 1900's, were documented within and beyond the western boundary of the proposed borrow pit area.

BP7 H2: Intentionally flaked historical glass pieces in exposed path.

BP7 H3: Clay pipe stem fragment.

The historical artefacts are considered as having a medium to low cultural significance.

The historical artefacts have been allocated a heritage grading of Grade III (NHRA 25 of 1999) being worthy of conservation by local authorities.

(See Table 8.1. for descriptions and co-ordinates)

7.3. Built Environment

7.3.1. N2 BE2:

The ruin of the a farmhouse situated near the entrance to the Farm The Orchards about 100 m north of the current N2 National Route. The condition of house is dilapidated. No other historical artefacts or middens were documented within the immediate vicinity of the structure.

7.3.2. N2 BE5:

The structure is situated about 25 m north of the proposed upgrade activities for the N2 National Route on the Farm Stony Vale 359. The structure is probably of historical origin owing to the historical significance of the Farm Stony Vale as part of the Governerskop Estate.

7.3.3. N2 BE14:

The original Fraser's Camp stone farmhouse: the structure is situated approximately 30 m south of the boundary of the proposed layout for the N2 road upgrade and has been incorporated into the staff living quarters

7.3.4. N2 BE18:

The Fraser's Camp Watch Tower or Signal Tower fortified structure is situated on the Farm Tower Hill 363 along the proposed route for the N2 alternative section (Figure 70). The fortified structure was declared a National Monument in 1938 and since the

inception of the National Heritage Resources Act 25 of 1999 is regarded a Grade II status Provincial Heritage Site (PHS).

7.3.5. N2 BE20:

The site is a farmstead complex, situated about 125 m south-east of the N2 national road, with stone walling possibly running from the complex north-west towards the boundary fence of the N2 road reserve.

The historical structures, except N2 BE18, have been allocated a heritage grading of Grade III (NHRA 25 of 1999) being worthy of conservation by local authorities.

N2 BE18 has been allocated a heritage grading of Grade II (NHRA 25 of 1999) being worthy of conservation by provincial authorities.

(See Table 8.1 for descriptions and co-ordinates)

7.4. Dry Packed Stonewalling Structures

7.4.1. N2 SW1:

A dry packed stone wall extends for about 700 m south of the current N2 national route on the Farm Gilead 361 situated between 15 m and 30 m from the proposed boundary layout of the proposed upgrade. The stone wall runs east-west along the ridge (N2 SW1-1) adjacent to the N2 National Route and continues intermittently down the slope onto the lower area (N2 SW1-4). The stone wall is mostly intact probably owing to the overgrown vegetation holding the stones in place. The naturally *in situ* occurring rocks have been incorporated into the certain areas of the wall.

7.4.2. N2 SW2:

A circular dry packed stone feature about 1.5 m x 1.5 m in extent situated on the Farm Komsfountain 360 is positioned relatively close, approximately 10 m from the proposed boundary layout of the proposed upgrade.

7.4.3. N2 SW3:

The stone wall runs approximately 200 m along and relatively close to current N2 road reserve boundary on the Farm Komsfountain 360. The condition of the stone is relatively intact at the area marked N2 SW3-1 but seems to become indiscernible as a tumbled row of stones.

The dry packed stone walling features have been allocated a heritage grading of Grade III (NHRA 25 of 1999) being worthy of conservation by local authorities.

(See Table 8.1 for descriptions and co-ordinates)

7.5. Informal Burial Areas

7.5.1. Quarry 6 (Q6):

Q6 G1: An informal burial area was pointed out by the farmer and his employee. The specific area could not be pointed as the area is overgrown and only the family members who still visit the area would be able to point out the exact position of the burials. A general area has been demarcated with the safety boundary taken into consideration. The demarcated is approximately 40 m x 30 m in extent and it is suggested that an additional 25 m perimeter be added to the area already identified.

7.5.2. N2 G1:

One informal burial area, comprising seven graves was reported and identified. The site is situated within the proposed layout for the construction activities for the N2 road upgrade and approximately 20 m x 20 m in extent. Mr Crous who owns the farm provided information on the burial area. The graves are those of farm workers whose families no longer reside on the farm, however, they do still come and visit the graves. Visitation is apparently not regular; however, the site is a significant living heritage and memory site.

The informal burial areas have been allocated a heritage grading of Grade III (NHRA 25 of 1999) being worthy of conservation by local authorities.

(See Table 8.1 for descriptions and co-ordinates)

8.1. GPS CO-ORDINATES AND SITES FOR THE PROPOSED UPGRADE OF THE N2 NATIONAL ROUTE, THE N2 ALTERNATIVE ROUTE, AS WELL AS THE ASSCIATED BORROW PITS AND QUARRIES, EASTERN CAPE PROVINCE.

TABLE 8.1. GPS CO-ORDINATES AND SITES FOR THE PROPOSED MINING PERMIT APPLICATION ON ERF 118, SCHOENMAKERSKOP, PORT ELIZABETH, NELSON MANDELA METROPOLITAN MUNICIPALITY, EASTERN CAPE PROVINCE.

REFERENCE	DESCRIPTION	CO-ORDINATE	HERITAGE GRADING
BORROW PIT 5 (BP5)			
General GPS Points			
BP5-1	General GPS point	33°12'55.20"S; 26°37'41.80"E	NA
BP5-2	General GPS point	33°12'58.10"S; 26°37'44.60"E	NA
BP5-3	General GPS point	33°13'00.30"S; 26°37'40.30"E	NA
BORROW PIT 6 (BP6)			
General GPS Points			
BP6-1	General GPS point	33°11’21.70”S; 26°37'09.40"E	NA
BP6-2	General GPS point	33°11'15.50"S; 26°37'13.60"E	NA
BP6-3	General GPS point	33°11'17.90"S; 26°37'08.30"E	NA
BP6-4	Disused reservoir	33°11'21.90"S; 26°37'14.70"E	NA
BP6-5	Disused trough	33°11'20.00"S; 26°37'14.80"E	NA
Stone Artefact Occurrences			
BP6 SA1	Stone artefact	33°11'15.70"S; 26°37'11.10"E	III
BP6 SA2	Silcrete thumbnail scraper	33°11'15.30"S; 26°37'05.10"E	III
BP6 SA3	Shale core	33°11'15.70"S; 26°37'02.70"E	III
BP6 SA4	Shale MSA flake; lower grinding stone, middle smooth	33°11'17.20"S; 26°37'10.30"E	III

BP6 SA5	LSA shale cortex flake	33°11'18.80"S; 26°37'13.10"E	III
BP6 SA6	Stone artefact	33°11'19.60"S; 26°37'13.00"E	III
BORROW PIT 7 (BP7)			
General GPS Points			
BP7-1	General GPS point	33°12'25.50"S; 26°37'23.70"E	NA
BP7-2	General GPS point	33°12'19.90"S; 26°37'19.80"E	NA
Stone Artefact Occurrences			
BP7 SA1	Chalcedony flake	33°12'21.90"S; 26°37'20.60"E	III
Historical Artefact Occurrences			
BP7 H1	Ceramics and glass	33°12'23.10"S; 26°37'21.50"E	III
BP7 H2	Flaked glass	33°12'21.60"S; 26°37'19.30"E	III
BP7 H3	Fragment clay pipe stem	33°12'21.00"S; 26°37'22.00"E	III
BORROW PIT 10 (BP10)			
General GPS Points			
BP10-1	General GPS point	33°17'30.40"S; 26°47'55.50"E	NA
BP10-2	General GPS point	33°17'25.70"S; 26°47'51.20"E	NA
BP10-3	General GPS point	33°17'26.50"S; 26°47'48.40"E	NA
BP10-4	General GPS point	33°17'24.10"S; 26°47'48.40"E	NA
BP10-5	General GPS point	33°17'26.80"S; 26°47'49.50"E	NA
BP10-6	General GPS point	33°17'26.20"S; 26°47'55.00"E	NA
BORROW PIT 15 (BP15)			
General GPS Points			
BP15-1	General GPS point	33°13'34.80"S; 27° 0'5.30"E	NA

BORROW PIT 18 (BP18)			
General GPS Points			
BP18-1	General GPS point	33°16'40.00"S; 26°54'41.20"E	NA
BP18-2	General GPS point	33°16'42.10"S; 26°54'47.20"E	NA
BP18-3	General GPS point	33°16'42.40"S; 26°54'42.20"E	NA
QUARRY 1 (Q1)			
General GPS Points			
Q1-1		33°16'09.90"S; 27° 05'11.00"E	NA
QUARRY 6 (Q6)			
General GPS Points			
Q6-1	General GPS point	33°17'48.00"S; 26°50'43.70"E	NA
Q6 G1	Grave Area	33°17'43.90"S; 26°50'40.00"E	III
Q6 G2	Grave Area	33°17'43.50"S; 26°50'41.50"E	III
Q6 G3	Grave Area	33°17'44.10"S; 26°50'41.50"E	III
Q6 G4	Grave Area	33°17'44.70"S; 26°50'40.40"E	III
QUARRY 7 (Q7)			
General GPS Points			
Q7-1	General GPS point	33°17'50.80"S; 26°45'31.30"E	NA
N2			
N2-1	General GPS point	33°16'25.80"S; 26°36'30.70"E	NA
N2-2	Picnic Spot 1	33°16'42.60"S; 26°38'50.50"E	NA
N2-3	Rocky outcrop	33°16'53.60"S; 26°48'35.80"E	NA
N2-4	Windmast	33°16'53.70"S; 26°50'22.30"E	NA
N2-5	General GPS point	33°14'15.50"S; 26°59'33.10"E	NA

Built Environment			
N2 BE1	Structure at 63.6km "No. 2"	33°16'26.00"S; 26°37'20.60"E	NA
N2 BE2	Building ruins at entrance to The Orchards	33°16'37.00"S; 26°38'33.00"E	III
N2 BE3	Contemporary houses next to N2, Miniplaas, JC Scheepers	33°16'48.10"S; 26°39'19.60"E	NA
N2 BE4	Disused reservoir (On Nutwood 10)	33°16'52.50"S; 26°39'47.50"E	NA
N2 BE5	Structure	33°17'53.00"S; 26°38'21.30"E	III
N2 BE6	Disused trough	33°17'8.70"S; 26°46'41.00"E	NA
N2 BE7	Contemporary dwelling	33°16'51.90"S; 26°47'3.80"E	NA
N2 BE8	Contemporary dwelling	33°16'41.80"S; 26°47'30.50"E	NA
N2 BE9	Contemporary dwellings next to N2	33°16'51.20"S; 26°53'16.50"E	NA
N2 BE10	Ruins (on Endeavour)	33°16'51.10"S; 26°53'38.00"E	NA
N2 BE11	Contemporary dwellings and lodge	33°14'58.60"S; 26°58'11.80"E	NA
N2 BE12	Fraser's Camp motel and padstal	33°16'55.40"S; 26°54'7.40"E	NA
N2 BE13	Functional reservoir	33°16'53.30"S; 26°53'34.00"E	NA
N2 BE14	Original Fraser's Camp	33°16'52.20"S; 26°53'18.80"E	III
N2 BE15	Reservoir	33°16'51.50"S; 26°53'9.20"E	NA
N2 BE16	Fraser's Camp Adventures	33°17'3.10"S; 26°52'23.50"E	NA
N2 BE17	Contemporary dwellings and stone	33°17'22.10"S; 26°53'30.40"E	NA

N2 BE18	Fraser's Camp fortified watch tower	33°17'12.70"S; 26°53'7.10"E	II (PHS)
N2 BE19	Dipping tank	33°17'16.10"S; 26°46'37.10"E	NA
N2 BE20	Farmstead	33°17'24.50"S; 26°46'34.30"E	III
N2 BE21	Ruins opposite Hooleton Park	33°16'45.70"S; 26°39'3.70"E	NA
N2 BE22	Functioning reservoir and windmill	33°16'33.00"S; 26°37'46.80"E	NA
Stonewalling			
N2 SW1-1		33°16'59.80"S; 26°49'40.20"E	III
N2 SW1-2		33°17'1.20"S; 26°49'26.90"E	III
N2 SW1-3		33°17'1.50"S; 26°49'15.80"E	III
N2 SW1-4		33°17'0.90"S; 26°49'14.40"E	III
N2 SW2	Circular Pen	33°17'30.30"S; 26°46'24.10"E	III
N2 SW3-1		33°27'27.20"S; 26°46'26.00"E	III
N2 SW3-2		33°17'32.50"S; 26°46'22.70"E	III
Graves and Burials			
N2 G1	X7 graves in an informal burial area	33°16'42.00"S; 26°48'18.70"E	III

9. CULTURAL LANDSCAPE

Cultural landscapes are increasingly becoming a significant considering factor when conducting various heritage impact assessments for proposed developments. The area proposed for the upgrade of the N2 National Route and associated borrow pits and quarries has a medium-high heritage significance. This significance attests to the area comprising historical structures including the original stone house on the Farm Fraser's Camp, the fortified Fraser's Camp Signal Tower which is declared a Grade II status provincial heritage site (PHS), dry packed stone walling features, and informal burial areas situated along the N2 route and on one of the proposed quarry sites, as well as

occurrence of archaeological and historical artefacts on two proposed borrow pit sites along the R67 road.

This section gives a brief introduction to the concept of cultural landscape and its relation to various aspects of the dynamic interaction of humans as cultural agents and the landscape as a medium. A description of the interwoven relationships of humans with the landscape over time will be given including the archaeological, historical, and contemporary connections. Lastly, the living heritage makes up a small part of the study undertaken, its significance will be highlighted in relation to the communities who still identify with the area and retain a sense of identity to the landscape.

Concept of Cultural Landscape

Cultural landscapes can be interpreted as complex and rich extended historical records conceptualised as organisations of space, time, meaning, and communication moulded through cultural process. The connections between landscape and identity and, hence, memory are fundamental to the understanding of landscape and human sense of place. Cultural landscapes are the interface of culture and nature, tangible and intangible heritage, and biological and cultural diversity. They represent a closely woven net of relationships, the essence of culture and people's identity. They are symbol of the growing recognition of the fundamental links between local communities and their heritage, human kind, and its natural environment. In contemporary society, particular landscapes can be understood by taking into consideration the way in which they have been settled and modified including overall spatial organisation, settlement patterns, land uses, circulation networks, field layout, fencing, buildings, topography, vegetation, and structures. The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives. Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes.

The impact of human action of the landscape occurs over time so that a cultural landscape is the result of a complex history and creates the significance of place in shaping historical identities by examining a community's presence or sense of place. The deeply social nature of relationships to place has always mediated people's understanding of their environment and their movements within it, and is a process which continues to inform the construction of people's social identity today. Social and spatial relationships are dialectically interactive and interdependent. Cultural landscape reflects social relations and institutions and they shape subsequent social relations.

Cultural landscapes tell the story of people, events, and places through time, offering a sense of continuity, a sense of the stream of time. Landscapes reflect human activity and

are imbued with cultural values. They combine elements of space and time, and represent political as well as social and cultural constructs. Culture shapes the landscape through day-to-day routine and these practices become traditions incorporated with a collective memory the ultimate embodiments of memorial consciousness', examples such as monuments, annual events and, archives. As they have evolved over time, and as human activity has changed, they have acquired many layers of meaning that can be analysed through archaeological, historical, geographical, and sociological study.

Indigenous people, European explorers, missionaries, pastoralists, international and domestic travellers all looked or look at similar landscapes and experience different versions of reality. Regardless of the power of different cultural groups, however, all groups create cultural landscape and interpret them from their own perspectives. This gives rise to tensions and contradictions between groups, invariably expressed in landscape forms as well.

The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives.

Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes. A common theme underpinning the concept of ideology of landscape itself it the setting for everything we do is that of the landscape as a repository of intangible values and human meaning that nurture our very existence. Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities, Landscape, culture and collective memory of a social group are intertwined and that this binds the individuals to their community. Culture shapes their everyday life, the values bind gradually, change slowly, and transfer from generation to generation – culture is a form of memory. We see landscapes as a result of our shared system of beliefs and ideologies. In this way landscape is a cultural construct, a mirror of our memories and myths encoded with meanings which can be read and interpreted. Pivotal to the significance of cultural landscapes and the ideas of the ordinarily sacred is the realisation that it is the places, traditions, and activities of ordinary people that create a rich cultural tapestry of life, particularly through our recognition of the values people attach to their everyday places and concomitant sense of place and identity.

Living heritage means cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism, and meaning of social life to generations of people as individuals, social groups, and communities. It also allows for identity and sense of belonging for people as well as an accumulation of intellectual capital current and future generation in the context of mutual respect for human, social and cultural rights.

Protection of these cultural landscapes involves some management issues such as successful conservation is based on the continuing vital link between people and their landscapes. This link can be disrupted or affected by for instance economical reasons. Other threats can also be attributed to urban expansion and development, tourism, war and looting and something beyond our human intervention: natural disasters and climate change. Cultural landscape management and conservation processes bring people together in caring for their collective identity and heritage, and provide a shared local vision within a global context. Local communities need, therefore, to be involved in every aspect of identification, planning and management of the areas as they are the most effective guardians of landscape heritage.

Most elements of living heritage are under threat of extinction due to neglect, modernisation, urbanisation, globalisation, and environmental degradation. Living heritage is at the centre of people's culture and identity, it is importance to provide space for its continued existence. Living heritage must not be seen as merely safeguarding the past, but it must be seen as safeguarding the logic of continuity of what all communities or social groups regard as their valuable heritage, shared or exclusive.

In some instances, villages may capitalise on local landscape assets in order to promote tourism. Travel and tourism activities are built around the quest for experience, and the experience of place and landscape is a core element of that quest. It is a constant desire for new experiences that drives tourism, rather than a quest for authenticity. It is, therefore, important to engage actively with the tourism industry so that aspects of life and landscape important to cultural identity, including connection with place are maintained.

It is difficult to describe the 3 hectare area proposed for the mining right application as a cultural landscape, but that it falls within a wider cultural landscape archaeologically, historically, and contemporarily.

Archaeological Landscape

The archaeological landscape presents a challenge to interpretation as the landscape is wholly read by encountering pre-colonial artefacts on the landscape. As no pre-colonial archaeological heritage resources were encountered during the survey it is difficult to determine what exactly happened on the area proposed for the mining right application, archaeologically. This however does not intend that no pre-colonial activity took place within the area. Owing to the interaction of later populations with the landscape and the historical establishment of the area as conducive to farming activities, these disturbances in addition to climate change and natural weathering effects, changes to the organic layout once inhabited by the pre-colonial populations may have 'hidden' the material and organic material remains. Therefore, it is necessary to find and use the

archaeological evidence available from the wider region to piece together and predict the possible movements and dynamics of the particular cultural landscape.

Taking to consideration the proposed area for the upgrade of the N2 National Route, the proposed N2 alternative section, the areas proposed for the borrow pits and quarries, and the wider region between Grahamstown, Fort Beaufort, Peddie, Port Alfred, and Hamburg, the particular landscape has been a place of occupation and migration for the last 1 million years. The earliest occupation is shown in the evidence of Early Stone Age handaxes near Grahamstown and was most probably occupied by early hominids referred as *Homo erectus* between 1 million years and 200 000 years ago. The identity of this population's period of existence is ephemeral on the landscape owing to the lack of well-preserved sites available or study.

The second wave of evolutionary occupation and migration took place between 125 000 and 75 000 years ago coincides with the last interglacial period when climatic and environmental conditions were similar to those of the present interglacial. Possible seasonal movement between the Cape Folded Mountains behind Grahamstown and the coast may have taken place. The archaeological evidence on the landscape is wider than that for the Early Stone Age predecessors. Several areas comprise typically Middle Stone Age stone artefacts and the evidence of occupation in rock shelters and caves is slightly better preserved. Evidence shows that the skeletal anatomy of these populations, referred to *Homo sapiens,* were evolving into a similarly modern human structure as *Homo sapiens sapiens* identified by the development of an upright spine, chin, and more graceful facial bone features. It is evident that these populations may have interpreted and utilised the landscape differently to their predecessors. This would have been influenced by several evolutional changes that took place over time as well as the development of the brain and therefore the ability of modern thought, experience, and symbolism. The positions of sites show that these populations would have utilised resources such as shellfish along the coastline that their predecessors may never attempted to try. The implements found in excavations show that they hunted animals whether by bow and arrow or up close, therefore, the perception of various animals available would have changed to a possibly hunted and not scavenged source of food.

Between 75 000 and 15 000 years ago no human occupation took place within the Grahamstown and wider region owing to the worsening climatic conditions. It is therefore, evident that climatic changes play a role in determining the occupation of certain areas and whether it is conducive for human survival. This particular cultural landscape was determined by the non-occupation of hominids during this time.

The third wave of evolutionary occupation and migration took place from about 15 000 years ago when populations of hunter-gatherers (presumably the predecessors of contemporary known San hunter-gatherers) established themselves on the landscape. Evidence of occupation is very well preserved in various caves and rock shelters that are situated within the wider region relative to the area proposed for the mining right

application. However, sites that would have possibly shown occupation on the open veld are difficult to find as they have been covered by vegetation growth over time. By this time it is expressed that the population of these *Homo sapiens sapiens* would have been larger than their predecessors from the Middle Stone Age evidenced by the increased numbers and additional places of occupation. Several cultural groups may also have existed at the same time and definitely over evolutionary time. The cultural changes over time is shown in the changing stone artefacts (implements), slight differences of other material artefacts, and food resources collected and hunted that have been analysed from various excavation. Seasonal movements and migrations, similarly between the coast and the Cape Folded Mountain behind Grahamstown may also have been active on the landscape. The Later Stone Age is popularly known for its explosion of cultural material artefacts and the origins of rock art (painting and engraving). The engagement of these populations supersedes those of their predecessors. They utilised and perceived the landscape in very different ways which can be seen by the differing cultural artefacts and rock paintings and engravings left on the landscape.

The remains of rock paintings and engravings whether painted in rock shelters, caves, or loose rocks, and engraved on boulders or flat andesite basements provides insight into their perception and interaction with the landscape and nature as well as their beliefs and engagement with the 'everyday' that we may never have known if they had never left behind this type of 'text'. Only rock paintings in caves and rock shelters occur on this landscape.

Pre-colonial human remains are mostly unmarked and invisible on the landscape, however, in some instances, they may be marked by organised piles of stones. Several pre-colonial human remains have been recorded within the wider region including around Port Alfred and around the Grahamstown area.

The San hunter-gatherers occupied the South African landscape until about 2000 years when two other cultural groups moved onto the landscape. The Khoekhoen pastoralists down central and western South Africa and the Bantu-speaking agro-pastoralists also referred to as Iron Age communities, down the east. The pastoralists were driven by locating enough food to feed their domestic stock herds. The movements of the agro-pastoralists were determined by the summer rainfall enabling the planting of sorghum and millet. Very little evidence of these communities have been documented within the area proposed for the mining right application and surrounds, whereas evidence of pastoralist occupation occurs along the coastline, but very little has been documented very far inland.

Pre-colonial human remains are mostly unmarked and invisible on the landscape, however, in some instances, they may be marked by organised piles of stones.

Historical Landscape

The archaeological interpretation of the cultural landscape relies solely on the presence and surface visibility of artefacts left behind on the landscape by the populations who occupied and migrated through the area proposed for the mining right application. A more comprehensive historical layer is able to be fitted onto the cultural landscape owing to the availability of written documents and the continuing existence of the traces left behind by European Settlers and the moulding of these traces used to shape the contemporary communities that occupies and regards itself attached to its present cultural landscape.

Over the last 270 years the European settlers' interactions and perceptions of the landscape were dramatically different to those of the pre-colonial inhabitants. This particular landscape had begun to be moulded from as early as the 1750's.

The Fish River that runs north of this section of the N2 National Route was historically considered as the natural boundary between the AmaXhosa who occupied the land to the north of the and the British who occupied the land to the south. Influenced by conflict over land the British established fortified structures, used as signal towers, along the southern banks of the Fish River. This area presents this historical interaction between the British, the AmaXhosa, and the cultural landscape created from conflict, wars and dynamic interaction between the different cultural groups.

Contemporary Landscape

The contemporary cultural landscape is the product of centuries of human interaction, more so when the European Settlers entered the area. Wars have been fought on the landscape, most probably to attain power and the land. Remnants of these cultural conflicts remain on the landscape, such as forts and people who may have died on the landscape with only oral histories and stories handed down from one generation to the next to remain in the collective memory of the community/ies and through generational farmers living on the landscape.

The cultural landscape which was later shaped by various governing policies of the Apartheid governments before 1994 by the establishment of the Bantustans in the former Ciskei. Currently the area remains a mainly commercial farming area and the establishment of the Fraser's Camp Adventures and Fraser's Motel and Padstal provide a tourism environment to showcase the heritage, both natural and cultural, of the area.

The living heritage is rife on this cultural landscape by the presence of informal burial areas documented during this survey and other heritage impact assessments and by the members of the families of the deceased who still visit these sites. Therefore, the oral histories, stories, and collective of all communities becomes relevant in the management

and dissemination of information that may assist in better management practices to continue respecting the communities' connection to the landscape.

10. CONCLUSION

The phase 1 archaeological impact assessment (AIA) was conducted as requirement of the National Heritage Resources Act (NHRA 25 of 1999) triggered by Section 38(1)(c)(i). A literature review was conducted focusing on the archaeological literature resources available. Historical research was conducted to establish the significance of the historical artefact scatter. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimise the possible damage to the archaeological heritage. The report follows the minimum standards guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA).

The study was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage.

Several archaeological sites have been documented within the surrounding area between Grahamstown, Fort Beaufort, Peddie, Port Alfred and Hamburg and surrounds. The proposed area for the proposed N2 upgrade, borrow pits, and quarries has an extensive history dating back to the 1750's.

The thick densely covered road reserve and thicket vegetation obscured archaeological visibility over most of the areas surveyed. Some exposed and disturbed areas were investigated for the possibility of locating archaeological heritage remains. Isolated scatters of stone artefacts and historical artefacts were documented on the areas proposed for Borrow Pit 6 (BP6) and Borrow Pit 7 (BP7). No other archaeological heritage, organic or material, was encountered on the remaining proposed borrow pit and quarry areas assessed during the survey. However, owing to several archaeological sites that have been recorded and documented within the surrounding are for the proposed mining right application, it is possible that arechaeological heritage remains may be encountered between the surface and 50-80 cm below ground.

The historical archaeological and historical heritage known in the historical documents and oral histories of generations of community members who continue to reside on the subdivided portions of the farm and slightly more visible on the landscape is highly significant and this is emulated in the area having a grade II status of a Provincial Heritage Site (previously a National Monument under the Historical Monuments Commission).

Two unmarked informal burial areas were pointed out from memory and oral histories the farmers and one of the farmer's staff members. Both these sites located in different areas (Q6 G1 and N2 G1) are still visited by the members of the families of the deceased.

Several historical structures were encountered along the N2 National Route that should not be negatively affected by the construction activities for the N2 road upgrade. Two areas containing dry packed stone walling features were documented along the N2 National Route. The one area comprising the circular stone packed feature and stone wall (N2 SW2 and N2 SW3) could be negatively impacted during construction activities.

In general, the proposed development would have negative implications on the possible archaeological heritage remains, historical archaeological, historical structures as well as the unmarked burials and informal grave areas documented within the proposed area. The negative implications include the destruction of the sites and surface scatters of stone artefacts and historical artefacts, as well as further occurrences that are not immediately visible. The recommendations must be considered as appropriate mitigation measures to protect and conserve the archaeological, historical archaeological and historical heritage remains well as the unmarked burials and informal graves observed within the proposed development area and further archaeological remains that may occur and are not immediately visible on the surface.

The impacts on the significance of the cultural landscape must also be considered, therefore the proposal to conduct an additional study to assess the social impact of the development on the interested and affected parties and the resident community who are attached to area whether it be for generational, spiritual, or aesthetic purposes. The study should aim to collect the oral histories focusing on locating additional unmarked graves to avoid a negative impact on the social implications of the greater community.

11. RECOMMENDATIONS

The areas investigated (N2 National Route and associated borrow pits and quarries) are of a low pre-colonial archaeological and medium – high historical cultural sensitivity owing to the location of the provincial heritage site along the N2 alternative route. Most of the historical built environment recorded along the N2 National Route is unlikely to be negatively affected. Two of the stonewalling features is likely to be impacted by the construction activities. In cases where the development may impede negatively on these heritage resources the appropriate mitigation and conservation measures must be considered and implemented before development commences. The following recommendations must be considered:

1. Borrow Pit 6 (BP6): The stone artefact occurrences are considered to be in a secondary context. The developer must apply for a destruction permit before the commencement of borrowing activities.

2. Borrow Pit 7 (BP7): It is preferred that the historical scatter area be avoided and that the borrow pit be extended towards the north and south of the current borrow pit area. Otherwise a historical specialist archaeologist should be appointed to assess the significance of the structure and make further recommendations.

3. Quarry 6 (Q6): An area of 40 m x 30 m was identified as containing graves in an informal burial area. This area must be regarded as a no-go development area during the quarrying activities and an additional 25 m boundary area must be added and clearly demarcated to avoid any negative impact. It is suggested that the quarrying activities occur within the southern and eastern sections of the proposed borrow pit area.

4. N2 BE2: The ruin of the farmhouse is situated approximately 100 m north of the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

5. N2 BE5: This structure is situated approximately 25 m north of the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the structure and make further recommendations.

6. N2 BE14: The Original Fraser's Camp farmhouse is situated almost 100 m south of the current N2 National Route. According to the layout of the N2 road upgrade layout, this section of the road is proposed to be widened decreasing the distance between the proposed N2 road and the structure to 40 m, however, it is not expected that the structure will be negatively impacted by the construction of the N2. A 40 m boundary area around the structure must be established and clearly demarcated so as to avoid any possible negative impact during construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the structure and make further recommendations.

7. N2 BE18: The Fraser's Camp fortified watchtower is situated on the route proposed for the alternative N2 section. The layout of the proposed N2 must be planned to avoid negative impact to the historical provincial heritage site. The fort must be

considered a significant historical heritage resource. Currently the structure is hidden away and with the possible construction of the upgraded N2 route could become a tourism stop which must be managed appropriately. Once the layout of this alternative N2 section has been determined a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations and draw up a conservation management plan for the fortified structure during construction activities and its long-term management, protection, and conservation.

8. N2 BE20: The farmhouse is situated approximately 100 m from the current N2 National Route. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

9. N2 SW1: The dry packed stone wall is situated between 16 m and 30 m from the current N2 National Route and extends for almost 700m running parallel to the N2 National road. According to the layout of the proposed N2 road upgrade the structure will not be negatively affected during the construction activities. However, if the layout changes and it is possible that the changes would require that the structure be affected or demolished a historical archaeologist, historical architect, or historical built environment specialist be appointed to assess the significance of the ruins and make further recommendations.

10. N2 SW2 and N2 SW3: The dry packed circular pen (N2 SW2) and dry packed stone wall are situated between 10 m and 20 m from the current boundary of the road reserve. According to the layout of the proposed N2 road upgrade the structures may be negatively affected by during the construction activities. This section of the road is proposed to be widened decreasing the distance between the proposed N2 road and the features to between 0 m and 10 m. It is recommended that construction activities do not occur within the road reserve on this section of the proposed road upgrade and that the layout be changed to extend the eastern side of the road.

11. N2 G1: A possible 7 graves within an informal burial area, demarcated to 20 m x 20 m, were documented situated approximately 25 m from the current N2 National Route road reserve. According to the layout of the proposed N2 road upgrade the graves are situated in the construction activity area for the road upgrade and will be negatively affected by the construction activities. It is recommended that this area be considered a no-go area and that construction activities do not occur within the road reserve on this section of the proposed road upgrade. The layout must be changed to continue upgrade construction activities towards the south.

12. If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the Albany Museum and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) so that systematic and professional investigation/ excavation can be undertaken.

13. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

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14. GENERAL REMARKS AND CONDITIONS

NOTE: This report is a phase 1 archaeological impact assessment (AIA) only and does not include or exempt other required specialist assessments as part of the heritage impact assessments (HIAs).

The National Heritage Resources Act (Act No. 25 of 1999, Section 35 [Brief Legislative Requirements]) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources including all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic, or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasized that the conclusions and recommendations expressed in this phase 1 archaeological impact assessment (AIA) are based on the visibility of archaeological remains, features and, sites and may not reflect the true state of affairs. Many archaeological remains, features and, sites may be covered by soil and vegetation and will only be located once this has been removed. In the event of such archaeological heritage being uncovered (such as during any phase of construction activities), archaeologists or the relevant heritage authority must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Resources Act No. 25 of 1999 (NHRA 25 of 1999).

Archaeological Specialist Reports (desktops and AIA's) will be assessed by the relative heritage resources authority. The final decision rests with the heritage resources authority that may confirm the recommendations in the archaeological specialist report and grant a permit or a formal letter of permission for the destruction of any cultural sites.

APPENDIX A: HERITAGE LEGISLATIVE REQUIREMENTS

Parts of sections 34(1), 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

Structures

34. (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

National heritage sites and provincial heritage sites

27 (16) A provincial heritage resources authority is responsible for the protection of provincial heritage sites in accordance with the provisions in this section.

27 (18) No person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

27 (19) The responsible heritage resources authority may make regulations pertaining to heritage sites under its control, or to any other heritage site with the consent of the owner of that site –

(a) safeguarding heritage sites from destruction, damage, disfigurement, excavation or alteration;
(b) regulating the conditions of use of any heritage site or the conditions for any development thereof;
(c) regulating the admission of members of the public to a heritage site, and the fees payable for such admission.

27 (20) Any branch of the State or supported body which is the owner of a heritage site must maintain such a site according to a minimum standard and according to a procedure prescribed by the responsible heritage resources authority after consultation with the relevant Departments of Works.

27 (21) The responsible heritage resources authority may, by agreement with the owner of a heritage site –

(a) conserve or improve any heritage site;
(b) construct fences, walls or gates around or on a heritage site;
(c) acquire or construct and maintain an access road to a heritage site over any land, and construct upon such land fences, walls or gates; or
(d) erect signs on or near a heritage site.

27 (22) No person may damage any fence, wall or gate constructed or sign erected by a heritage resources authority in terms of subsection (21).

27 (23) (a) All reproduction rights wither in two or three dimensions in respect of a heritage site, subject to any existing rights and the agreement of the owner of such site, belong to the State and vest in the heritage resources authority responsible for the protection of such site or, by agreement, with the authority or public institution responsible for the management of such site.

(b) Subject to the provisions of paragraph (a), no person other than the owner of the site may make such reproduction for profit without a permit issued by SAHRA or provincial heritage resources authority, as the case may be, which may prescribe the fees payable in respect of such reproduction and must deposit such fees in a trust fund dedicated to the conservation of such site or of heritage resources in general.

Archaeology, palaeontology and meteorites

35 (4) No person may, without a permit issued by the responsible heritage resources authority—

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

Burial grounds and graves

36. (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

Heritage resources management

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of the site –

(i) exceeding 5000m^2 in extent, or

(ii) involving three or more erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;

(d) the re-zoning of a site exceeding 10 000m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

APPENDIX B: GRADING SYSTEM

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- Grade I: Heritage resources with qualities so exceptional that they are of special national significance;
- Grade II: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- Grade III: Other heritage resources worthy of conservation on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable mitigation measures would allow the development activities to continue.

APPENDIX C: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM COASTAL AREAS AND NEARBY INLAND AREAS: guidelines and procedures for developers

1. Shell middens

Shell middens can be defined as an accumulation of marine shell deposited by human agents rather than the result of marine activity. The shells are concentrated in a specific locality above the high-water mark and frequently contain stone tools, pottery, bone and occasionally also human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m^2 in extent, should be reported to an archaeologist.

2. Human skeletal material

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.

3. Fossil bone

Fossil bones or any other concentrations of bones, whether fossilized or not, should be reported.

4. Stone artefacts

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.

5. Stone features and platforms

They come in different forms and sizes, but are easy to identify. The most common are an accumulation of roughly circular fire cracked stones tightly spaced and filled in with charcoal and marine shell. They are usually 1-2 metres in diameter and may represent cooking platforms. Others may resemble circular single row cobble stone markers. These are different sizes and may be the remains of wind breaks or cooking shelters.

6. Historical artefacts or features

These are easy to identified and include foundations of buildings or other construction features and items from domestic and military activities.