HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED IMPROVEMENTS TO THE R44 ROAD BETWEEN SOMERSET WEST AND STELLENBOSCH, WESTERN CAPE

(Assessment conducted under Section 38 (8) of the
National Heritage Resources Act (No. 25 of 1999) as part of an EIA)

Prepared for

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EXECUTIVE SUMMARY

ACO Associates cc was appointed by CCA Environmental to assess the potential impacts to heritage resources that might occur through the proposed improvements to the R44 road between Somerset West and Stellenbosch. The section of road of concern stretches between Steynsrust Road (Km 20.15) in the south and Van Rheede Street (Km 33.00) in the north. This represents a length of 12.85 km. Besides minor interventions along the route, the principal alternatives of heritage concern involve the Winery and Annandale Road intersections. Grade-separated roundabouts (preferred alternative), at-grade roundabouts and signalised intersections are being considered at each. The preferred alternative may be constructed either with fill slopes or retaining walls, the latter of which would reduce the footprints.

In addition to the terms of reference provided for the study, Heritage Western Cape requested that the HIA include archaeological and visual specialist studies and mapping of all heritage resources located in and around the affected areas. Note that specialist studies of built environment and palaeontology were not requested by Heritage Western Cape.

The study included a literature survey and field survey, although the Steynsrust area was not physically examined because the context showed this to be pointless.

The study area has a generally rural character, although the southernmost part is a built-up residential area. Agricultural fields, tree lines and farmsteads occur throughout the area and wine tasting, farm stalls and other tourist facilities are present in places. In terms of expected local heritage, Early Stone Age archaeological material, historical farm buildings, the agricultural landscape and local scenic routes are all relevant.

It should be noted that an earlier proposal for grade-separated roundabouts included slip lanes which would have resulted in far greater impacts to heritage resources, particularly at the Annandale Road Intersection. During the process the proposal was revised to reduce these impacts and the revised proposal is assessed here.

The survey yielded low density scatters or Early Stone Age artefacts with very low significance. However, on one farm (Ken Forrester Wine Estate) the land owner has collected numerous Early Stone Age artefacts (including several hand-axes) from fields on a part of his farm. Surprisingly, just one historical artefact was found on the entire survey, but again, large numbers of historical artefacts (mostly ceramic fragments) have been found in the past on one of the farms (Ken Forrester Wine Estate). The historical development of the area goes back to the late 1600s and a number of well-preserved historical structures dating to the last few centuries are to be found in the study area. Some historical structures of limited significance will be directly impacted by the grade-separated roundabout alternative at the Annandale Road intersection but all other structures will only receive indirect (contextual) impacts. Although the general cultural landscape was also found to be important, specific cultural landscape features (historical roads, leiwater and trees) are less important. The R44, Winery Road and Annandale Road are all scenic routes with tourism significance. The visual study noted a variety of visual receptors, including the historical structures of the area, but that, because of the landscape setting of the proposed interventions and relatively small zones of visual influence, the visual sensitivity of the Steynsrust site is low to moderate, while that at the Winery and Annandale Roads is moderate.

Archaeological impacts are considered likely to be medium for the worst-case scenario (grade-separated roundabouts) but could be reduced to very low significance with mitigation. Test excavations would need to be carried out around the historical structures and plaster sampling would be required to better determine their age, construction sequence and hence significance. It should be noted that final comment from Heritage Western Cape may not be possible until such a study is carried out, unless the structures are avoided.

From a heritage point of view, at-grade roundabouts and signalised intersections are the preferred alternatives at the Annandale and Winery Road Intersections. The preferred alternative of grade-separated roundabouts is the least preferred in heritage terms because its sheer bulk will result in impacts of high significance to the cultural landscape and they are thus seen as inappropriate in heritage terms. Impacts to heritage resources at all the other intersections are negligible. The following general recommendations apply:

- Keep disturbance footprint to a minimum and avoid all demolitions unless absolutely necessary;
- Plaster sampling should be carried out to determine building sequences (Annandale Road grade-separated roundabout alternative only);
- Archaeological testing should be carried out to check for historical dumps and foundations (Annandale Road grade-separated roundabout alternative only);
- If any archaeological remains (artefacts or built foundations) or human remains are uncovered during development, then work in the vicinity of the find should be halted such that an archaeologist can inspect and advise on a way forward; and
- A landscape architect should be employed to ensure that all finishes, landscaping and planting are compatible with the surrounding cultural landscape and help to reduce visual impacts.

Contents

1. INTRODUCTION

ACO Associates cc was appointed by CCA Environmental to assess the potential impacts to heritage resources that might occur through the proposed improvements to the R44 road between Somerset West and Stellenbosch (Figure 1). The section of road of concern stretches between Steynsrust Road (Km 20.15) in the south to Van Rheede Street (Km 33.00) in the north. This represents a length of 12.85 km.

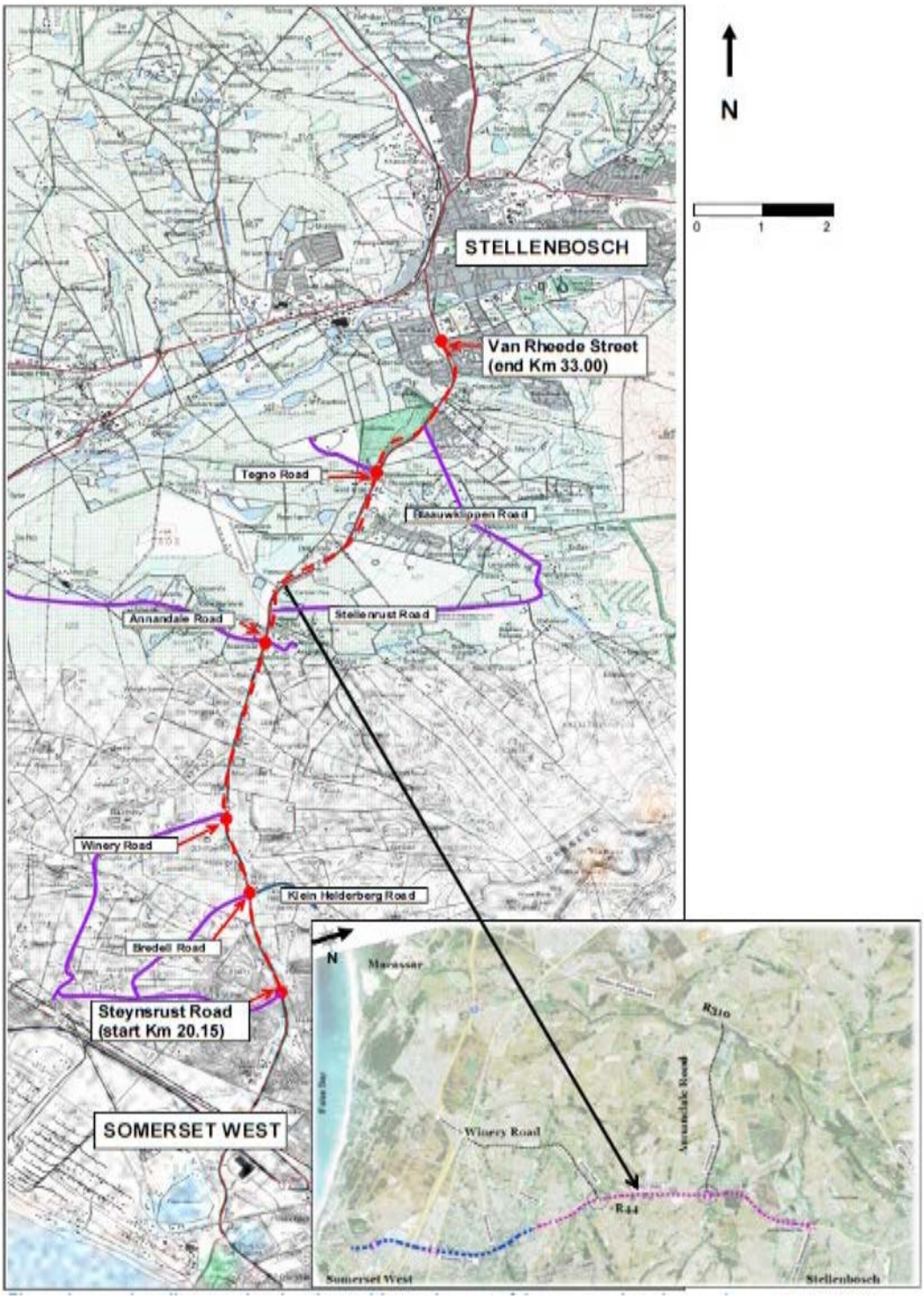

Figure 1: Map showing the location of the study area (provided by CCA).

1.1. Project description

The Western Cape Government (WCG): Department of Transport and Public Works (DTPW) is proposing to improve road safety along the R44 between Somerset West and Stellenbosch. The key issue that needs to be addressed to improve safety is the closing of the median openings. The implication of closing the median openings is that provision has to be made at existing intersections for the "U-turn" of traffic in order to provide access where median openings have been closed. The project study area extends from Steynsrust Road (Km 20.15) in Somerset West to Van Rheede Street (Km 33.00) in Stellenbosch, a total distance of 12.85 km.

In the past 20 years, tremendous traffic volume growth has been experienced on the R44, from approximately 2 000 cars per day in 1980 to current approximately 30 000 cars per day. Due to the increase in the volume of road users, road safety has become paramount. The purpose of the proposed project is thus to improve safety aspects along the R44. To meet the overall safety improvement aim of the project the following components are being proposed:

- The closure of most median openings between Somerset West and Stellenbosch – this would improve safety aspects by eliminating all U-turns, right turns across oncoming traffic, dangerous deceleration and reduce the number of conflict points;
- The upgrade of the Steynsrust Road, Bredell Road, and Techno Road Intersections;
- The provision of safe turnaround facilities by means of grade-separated roundabouts (interchanges) at the Winery Road and Annandale Road Intersections to facilitate safe turnaround movements and intersection operations;
- The closure/consolidation of certain private accesses along the R44 between Somerset West and Stellenbosch;
- The provision of pedestrian facilities at interchanges; and
- The provision of cycling friendly facilities at interchanges.

In addition to the grade-separated roundabouts, two alternatives are being considered for the interchanges at the Winery Road and Annandale Road Intersections, namely:

- The provision of at-grade roundabouts – this would result in a smaller footprint than the grade separated roundabout; and
- The provision of traffic lights – there would be no change in the existing intersection footprint for this alternative.

It should also be noted that for the grade-separated roundabouts the embankments would either be fill slopes or will be held back by retaining walls. The latter would result in a smaller footprint being disturbed.

Besides the R44 road servitude, the preferred alternative would affect the following properties:

- At Annandale Road Intersection:
  - Farm 502/15;
  - Farm 537/0; 537/6; 537/7; 537/13; 537/18 and 537/20;
  - Farm 538;
  - Farm 539/1; and
  - Farm 540/0; 540/2.

- At Winery Road Intersection:

- Erf169; erf 177; erf 178 and erf 211.

- At Bredell Road Intersection:
  - Farm 280.

1.2. Terms of reference

- Provide a description of the archaeology, palaeontology and cultural history / heritage of the site and identify and map any sites of archaeology, palaeontology or cultural history / heritage that may be impacted by the proposed project;
- Identify and assess the significance of the likely impacts of the proposed project on archaeology palaeontology and cultural history / heritage;
- Make recommendations on the protection and maintenance of any significant cultural history / heritage and / or archaeological sites that may occur on site;
- Identify practicable mitigation measures to reduce negative impacts on the heritage resources and indicate how these can be incorporated into the construction and management of the proposed project;
- Compile a single report that addresses archaeology, palaeontology and cultural history / heritage;
- Provide guidance for the requirement of any permits from Heritage Western Cape (HWC) that might become necessary; and
- Compile the Notice of Intent to Develop Form for submission to HWC.

The NID form was submitted and the response from HWC indicates the requirements for the HIA, namely that it should include archaeological and visual specialist studies and mapping of all heritage resources located in and around the affected areas. The report also includes further detail on other aspects of heritage. Note that specialist studies of built environment and palaeontology have not been requested and are therefore not required at this stage.

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources including palaeontological, prehistoric and historical material (including ruins) more than 100 years old (Section 35), human remains older than 60 years and located outside of a formal cemetery administered by a local authority (Section 36) and non-ruined structures older than 60 years (Section 34). Landscapes with cultural significance are also protected under the definition of the National Estate (Section 3 (3.2d)). Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted. This report fulfils that requirement.

Since the project is subject to a Basic Assessment Process, Heritage Western Cape (HWC) is required to provide comment on the proposed project in order to facilitate final decision making by the Department of Environmental Affairs and Development Planning (DEA&DP).

3. METHODS

3.1. Literature survey

A survey of available literature was carried out to assess the general heritage context into which the development was to be set. This literature included published material, unpublished commercial reports and online material. One landowner also provided a set of typed out historical notes from her own research on the history of the area[1].

3.2. Field survey

The two proposed roundabout sites and the Techno Road and Bredell Road areas were subjected to detailed foot surveys on 17th July 2013. During the surveys the positions of finds were recorded on a hand-held GPS receiver set to the WGS84 datum. Photographs were taken at times in order to capture representative samples of both the affected heritage and the landscape settings of the proposed developments. Historical information was also obtained from landowners where they were able to share this.

3.3. Impact assessment

The impact assessment ratings were undertaken using a standard scale supplied by CCA Environmental. Because HWC requested an archaeological study, this aspect is individually assessed. However, a second assessment assessing all heritage in general is also provided. This latter includes visual and direct impacts to other heritage resources such as built environment and the cultural landscape. It should be noted that an earlier proposal for the grade-separated roundabouts included slip lanes. Because of the increased impacts associated with these lanes and that from a traffic volume perspective they are not currently required, they were dropped from the proposal and at Winery Road the roundabout was shifted to be centred on the current intersection. The revised proposal without slip lanes is what is assessed here. The proposals are shown in Appendix 1.

3.4. Limitations

In certain areas the ground visibility was very limited due to cultivation or thick grass. In these areas the search for archaeological artefacts was compromised. However, given observations elsewhere on both this and other projects in the area, this is not believed to be a significant limitation. It is assumed that archaeological resources are sparsely present throughout the study area.

The Steynsrust Road area was not examined on foot since the vegetation cover and generally disturbed nature of the landscape (due to the existing roads) meant that there would be little value in a survey.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

There are five sections to the study area which are described separately from south to north by road name.

[1] Estelle du Plessis is thanked for her kindness in this regard.

4.1. Steynsrust Road

The affected land in this area is all grassed and vegetated road reserve.

4.2. Bredell Road

Work in the Bredell Road area would be limited to the road reserve which is generally grassed (Figures 2 & 3). However, a slight increase in the size of the road reserve (no more than about 10 m^2) would be required in the north-western quadrant of the intersection.

4.3. Winery Road

This area will require new land to be taken for the proposed interchange. To the east of the R44 this is comprised of a vineyard and a horse grazing paddock (Figures 4 & 5). To the west are vineyards (Figure 6), a small fallow field and an open area incorporated within the road reserve of Winery Road (Figure 7).

Figure 2: View north at the Bredell Road Intersection.

Figure 3: View south at the Bredell Road Intersection.

Figure 4: Vineyard east of the R44 at Winery Road.

Figure 5: Paddock east of the R44 at Winery Road.

Figure 6: Vineyard west of the R44 at Winery Road.

Figure 7: Winery Road reserve west of the R44.

4.4. Annandale Road

The area around the Annandale Road Intersection is characterised by strawberry farming (Figure 8). There are also a number of buildings in close proximity to the intersection and, in the north-western corner, many large trees (Figure 9). Vineyards occur within 300m to the east of the intersection (Figure 10). In the south-eastern corner there is a commercial farm store in operation (Figure 11).

Figure 8: Strawberry field in the south-western corner of the Annandale Intersection.

Figure 9: Trees and houses at Die Wilge in the north-western corner of the Annandale Intersection.

Figure 10: Vineyard in the north-eastern corner of the Annandale Intersection. View looking west.

Figure 11: The farm store in the south-eastern corner of the Annandale Intersection. The R44 is visible.

4.5. Techno Road

The section alongside Techno Road where an upgrade is proposed is gravelled and in places has a light grass cover. This is in the south-western corner of the intersection (Figure 12).

Figure 12: View westwards into Techno Road showing the area to be upgraded (left hand side). Image taken from Google Earth street view.

5. HERITAGE CONTEXT

Archaeological heritage is little studied in this area but Early Stone Age (ESA) artefacts are well known to occur in a belt along the foot of the mountains stretching from Gordons Bay in the south all the way to Porterville in the north. Numerous commercial surveys have

documented such artefacts but only once in recent years, in Gouda, has a sample of this material been recorded (Orton & Flear 2013). Early on, such artefacts found in Stellenbosch were used to describe what was then known as the “Stellenbosch Industry” of the ESA (Goodwin & Van Riet Lowe 1929). These artefacts are accommodated within the period now known as the Acheulean.

The area has a rich layering of history with many farms going back to the late 1600s. Historical houses, whether farm manor houses or workers’ cottages, abound in the landscape. Fransen (2004) lists many of the more notable structures in the region.

The general area is one dominated by agriculture with vineyards and strawberry fields notable along the R44. Horses are also reared on one farm. The area is highly scenic and, with the presence of many tourist-oriented farm stores and wine tasting rooms (Stellenbosch Wine Routes, n.d.), the R44 can certainly be regarded as a scenic route that displays the local cultural landscape.

6. FINDINGS

All recorded heritage features are mapped along with the walk- and drive-paths in Figures 13 to 16. They are described by category below.

Figure 13: Aerial view of the Bredell Road Intersection. The blue lines are walk- and drive-paths, the yellow bar for scale at lower left is 50 m long.

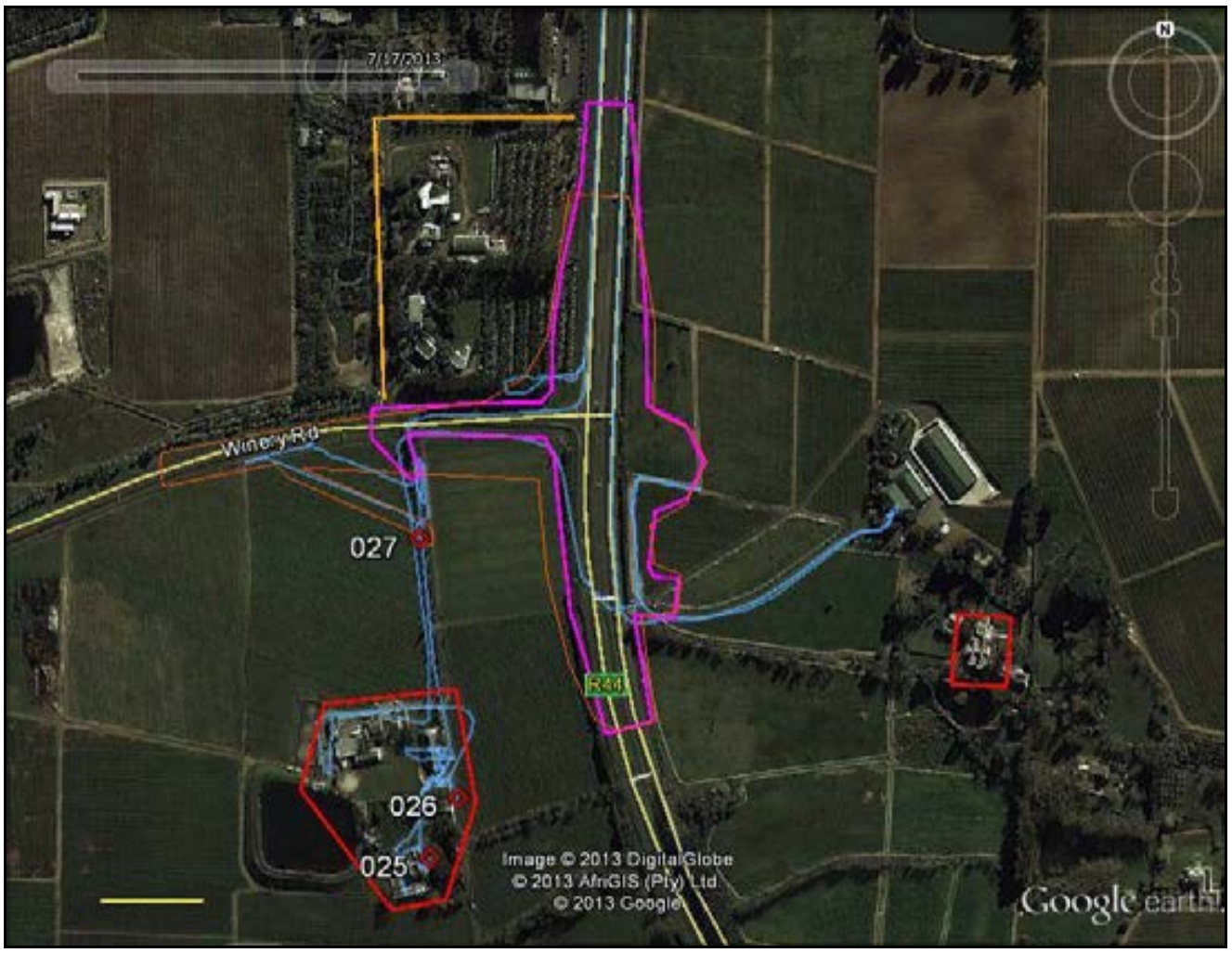

Figure 14: Aerial view of the Winery Road Intersection. The pink outline indicates the overall footprint including all new infrastructure, temporary bypass lanes and the current road surface where this will be removed. The fine orange lines indicate the earlier, larger footprint. The thick orange line indicates an existing side road that will be used as a bypass route during construction. The numbered red symbols and red polygons are heritage features, the orange line the original access to the Scholtzenhof (Ken Forrester) werf, the brown line an earlier road alignment, the blue lines are walk- and drive-paths, the yellow bar for scale at lower left is 100 m long.

6.1. Archaeological study

6.1.1. Stone Age archaeology

Archaeological resources were found in a few places, but in very limited density. On Farm 37/20 and Farm 540/rem stone artefacts were located close to the edge of Annandale Road (Figure 15). These were ESA artefacts, although one historical plate fragment was also noted (Figure 17 & 18). They occurred in sandy soil but clearly associated with ferruginous gravel nodules. Along Techno Road a very ephemeral scattering of similar artefacts was noted in the ferruginous gravel (Figure 16). These artefacts include one incompletely flaked radial core on a river cobble (Figure 16) and the tip of a hand-axe (far right in Figure 17). A further isolated artefact in the same field also appeared to be a hand-axe tip.

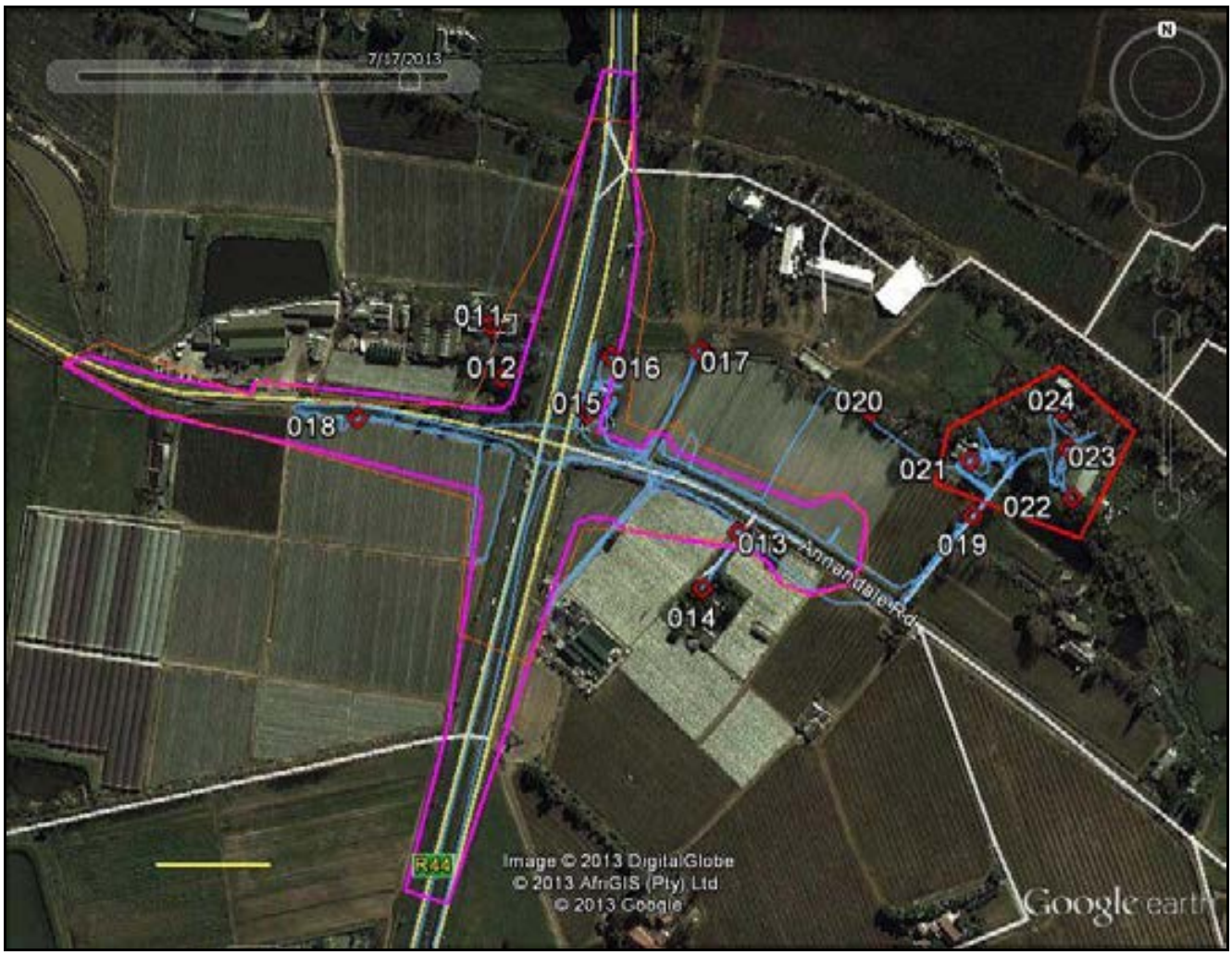

Figure 15: Aerial view of the Annandale Road Intersection. The pink outline indicates the overall project footprint including all new infrastructure, temporary bypass lanes and the current road surface where this will be removed. The fine orange lines indicate the earlier, larger footprint. The numbered red symbols and red polygon are heritage features, the blue lines are walk- and drive-paths, the yellow bar for scale at lower left is 100 m long.

While no Stone Age material was found during the survey on erf 169 (largely due to the surface being vegetated), the owner has collected a number of artefacts from the fields through the years. The majority of these were said to have come from the area close to the entrance to the property. These artefacts included several ESA hand-axes (Figure 18 & 19). The ESA material in this area is likely not very dense because it is expected that even with the vegetation a few artefacts would otherwise have been visible.

Figure 16: Aerial view of the Techno Road Intersection. The blue lines are walk- and drive-paths, the yellow bar for scale at lower left is 50 m long.

Figure 16: Flake and radial core from point 013. Scale in cm.

Figure 17: Stone artefacts and plate fragment from point 018.

6.1.2. Historical archaeology

The one small ceramic fragment found on Farm 540/rem was the only historical artefact found during the ground survey. This was surprising because of the many historical buildings present in the study areas. Kitchen dumps would often get disturbed in later years and the material spread around through ploughing and other agricultural activities. However, the owner of erf 169 has, over the years, assembled a large collection of ceramic and glass fragments found on the farm (Figures 20 & 21). These ceramics include coarse porcelain, transfer-printed refined earthenware, sponge-printed refined earthenware and stoneware (Figure 19). The bottle neck in Figure 20 is probably from a case bottle, while the embossed glass fragment is of the sort normally from soda or mineral water bottles.

Figure 18: ESA hand-axes collected by the land owner on erf 169, alongside Winery Road. The artefact at the top and that on the right are hand-axes with their tips missing. The left hand-axe shows no evidence of a break and has a sharp upper edge. Scale in cm.

Figure 19: ESA hand-axe with its tip missing from erf 169. Scale in cm.

Figures 20 & 21: Historical artefacts of glass and ceramic from erf 169. Scales in cm.

6.2. Historical development of the area

For the first two decades of permanent European settlement at the Cape, the Dutch confined themselves to the Cape Peninsula. However, the Table Valley area soon became overgrazed and it was necessary to expand. After earlier inspections of the Hottentots Holland area by various people, Pieter Cruijthoff was tasked with overseeing the establishment of a cattle post there. This he did, leaving Cape Town on 17 October 1672 (Heap 1977).

A large number of very old farms occur in this area. The original land grants for most of them date back to the late 1600s. What follows is a summary of some of this history based on the two farms that seem to be most significant and pertinent to the present study. The farm werfs concerned are mapped in Figures 14 and 15 to illustrate their spatial relationship to the proposed development. The most significant buildings referred to are briefly discussed and illustrated while only those structures directly impacted by the proposal are included in the built environment section which follows later.

6.2.1. Brakelsdal / Annandale

This farm, with werf located in the north-eastern quadrant of the Annandale Road Intersection (Figure 15), was previously known as Brakelsdal. It dates back to a land grant to Jan Wismaar in 1693, although he had already settled on the land in 1688. François Roos took ownership in 1786 and it is possible that he was the builder of the U-shaped homestead (point 024; red oval on Figure 22). Hendrik Johannes Louw acquired much of the farm in 1813 and probably built the two outbuildings. Although the one to the west (point 021; green oval on Figure 22; Figure 23) is now somewhat spoiled by modern alterations, the eastern one (point 023; blue oval on Figure 22; Figure 24) is very little modified and thought by Fransen (2004) to date to about 1813.

In 1846 Michiel Nicolaas Louw took ownership of the property and it is then that the property was listed as “Annandale” on the deed of transfer. He may have been responsible for the second storey that was added to the homestead. This storey was subsequently removed (Fransen 2004; Figure 25). One other historical structure also occurs on the werf (yellow oval on Figure 22; Figure 26). The farm has been cut into a number of different portions thus fragmenting the historical cultural landscape to some degree. Heritage structures built on what was originally Brakelsdal now fall on five different farm portions, although it is not known when some of them were constructed relative to when the subdivisions took place.

Figure 22: Modern (left) and 1938 (right) aerial views of the part of Annandale containing the farm werf. See text for key to marked buildings.

Figure 23: One of the Ananndale/Brakelsdal outbuildings, now converted into a residence (green oval in Figure 22).

Figure 24: One of the Ananndale/Brakelsdal outbuildings (blue oval in Figure 22).

Figure 25: The Ananndale/Brakelsdal manor house (red oval in Figure 22).

Figure 26: The Ananndale/Brakelsdal cottage (yellow oval in Figure 22).

Although the farm stall in the south-eastern quadrant of the Annandale Intersection has a date of 1909 onto its oldest section (Figure 27), the building does not appear on the 1966 aerial photograph (Figure 28). It has had two recent additions added in 2002 and 2006 (D. Zettler, pers. comm. 2013). Although the north-eastern gable faintly bears the date 2006, the

2005 aerial photograph from Google Earth shows that in fact this addition was the earlier one with the other yet to be built at that date. Given the building's age of less than 60 years, it is therefore not considered a built environment heritage resource. The 1909 date may well date the original farm stall on the property at a different location.

Figure 27: The Mooiberge Farm Stall showing the northeast (left), central and southwest (right) gables. The inset shows the 2005 aerial view from Google Earth.

Figure 28: Modern (left) and 1966 (right) aerial views showing the Mooiberge farm stall to be absent in 1966. The small werf east of the farm stall is marked in red and the farm stall itself in yellow. (2005 aerial photo taken from Google Earth.)

6.2.2. Zandberg / Scholtzenhof (Ken Forrester Wine Estate)

This farm, now the Ken Forrester Wine Estate, is located at the Winery road Intersection with the werf in the south-western quadrant (Figure 14). The original farm, Zandberg, was granted to Frederik Boot in 1694 (Fransen 2004), although he had previously lived there since 1689 (De Bosdari 1964). Interestingly Boot's name was spelled "Botha" from 1699 onwards, perhaps owing to his birth being near the town of Gotha (Fransen 2004). He was the origin of the Botha family in South Africa and an ancestor of General Botha. The name 'Scholtzenhof' was given to the farm by an early 19th century owner called Scholtz. The wife of General Smuts once taught school on the farm (De Bosdari 1964). According to the present owner,

this was in the cottage immediately to the northeast of the manor house and which used to be a stable and workshop (point 026; yellow oval on Figure 29; Figure 30).

The homestead (point 025; red oval on Figure 28; Figure 31) was T-shaped before being turned into an H-shaped house in about 1970. Fransen (2004) considers it likely that the tail of the T was in fact the original house on the farm and may thus date to the late 17th century, a very unusual and significant feature. De Bosdari (1964) notes that the Scholtzenhof house has very thick walls (varying from 2' 7" to 3' 5") and a one foot deep clay brandsolder above yellowwood ceilings. The present owner confirms that the brandsolder is present in the two arms of the T (on either side of the current front door) but not in the central (tail) portion (K. Forrester, pers. comm. 2013).

Figure 29: Modern (left) and 1938 (right) aerial views of the part of Scholtzenhof containing the farm werf. See text for key to marked buildings. This is now the Ken Forrester Wine Estate.

Figure 30: The cottage near the Scholtzenhof manor house (yellow oval in Figure 29).

Figure 31: The front of the Scholtzenhof manor house (red oval in Figure 29).

To the east of the Ken Foresster Wine Estate, lies another Cape Dutch house (Figure 32) whose history could not be traced. It currently lies on the Avontuur Estate, at least part of

which appears to have been subdivided off of Scholtzenhof in 1908 to become Annex Scholtzenhof. Aerial photography reveals this house to also be H-shaped, but with the rear wings longer than the front ones.

Figure 32: Cape Dutch house on the Avontuur Estate to the east of the Ken Forrester Wine Estate.

6.2.3. Verdruk-my-Niet / Happy Vale

This farm was an 1824 deduction from Zandberg for Daniel Wouter Malan. Although Malan supposedly built the wine cellar, its 1828-dated front gable bears the initials HDW. The far smaller, L-shaped manor house lies just to the west and is dated 1853 (Fransen 2004). The complex is entirely enclosed by a werf wall (Figure 33) and it faces obliquely towards the Winery Road Intersection some 800 m to the north (Figure 34).

Figure 33: Modern (left) and 1938 (right) aerial views of Happy Vale. The enclosing werf wall is prominent. The large building in the centre of the werf is the wine cellar with the main house lying to the left. The Winery Road Intersection and Scholtzenhof (Ken Forrester) farm are out of picture to the north.

Figure 34: Cape Dutch wine cellar (centre) and house (right) at Happy Vale. Image taken from Google Earth street view.

6.3. Built environment

As already noted, many historical buildings occur in the landscape. Three structures would be directly impacted should the project proceed. All three lie at the Annandale Road Intersection (Figure 15, sites 011, 012 and 015) and are dealt with here.

6.3.1. Main House on Farm 539/1 (011)

This structure lies in the northwest quadrant of the Annandale Road Intersection and has been much altered. According to the owner its core may date to the late 1700s (D. Zettler, pers. comm. 2013) but there is no way to prove this. However, the north-facing wall of the house (Figure 35) was found to be about 600 mm in thickness, a sure sign of some antiquity. Wooden ceilings present inside the core section have neatly worked beams that do not betray any great age (Figure 36). Given all the modifications to the house, these may have been added as replacements for older woodwork in the late 19th or early 20th centuries. The house is likely to have been an outbuilding or worker's cottage when originally constructed but given the extensive modification and addition (Figures 37 and 38) it is no longer possible to visually determine its original age. The small addition to the north-western corner of the house might date to the 1930s or 1940s while the double storey section to the east end is more modern. The nature of the modifications has rendered the house of very little heritage value in terms of architectural merits. The little value that can be attached to it is mostly archaeological and relates to any buried remains that might be present in and around the house and to an understanding of the construction materials and methods.

6.3.2. Secondary House on Farm 539/1 (012)

This house is also in the northwest quadrant of the Annandale Road Intersection and is said by the owner to have been built in the 1940s. Historical aerial photography shows that it did not yet exist in 1944. While the 1953 image is inconclusive, there is a house visible on the 1966 aerial photograph. While it may thus be greater than 60 years of age, triggering Section 35 of the NHRA, it has no special architectural characteristics and thus is of no heritage value as a structure (Figures 39 & 40).

Figure 35: View of the north-facing aspect of the structure at point 011.

Figure 36: Ceilings inside the old core of the structure at point 011.

Figure 37: View of the south-facing aspect of the structure at point 011.

Figure 38: View of the east-facing aspect of the structure at point 011.

Figure 39: north-facing aspect of the house at 012.

Figure 40: South-facing aspect of the house at 012.

6.3.3. Labourers' Cottage on Farm 538 (015)

This little cottage is said by the land owner to date to the late 1700s but a visual inspection suggests this to be unlikely. It is certainly at least 19th century and seems to have started out as a simple rectangular cottage of some 13 m by 6 m built of fired clay bricks and mud mortar on a stone foundation. It had an external hearth and chimney stack on its northern end gable (Figure 41). Subsequent additions were made to both the east (Figure 41) and west (Figure 42) sides of the southern end creating a T-shape. Both these additions were present prior to 1925 when a survey diagram was drawn for the creation of the property (Farm 538) from two earlier land parcels (Figure 43). A unique feature of this little house is that it has three hearth and chimney stacks, one original and one on each of the two later (but pre-1925) additions. This could suggest multiple families sharing the house with each having their own domestic space.

Figure 41: View of the northern end of the house at point 015 showing the external hearth and chimney stack. The small addition to the right is a modern bathroom.

Figure 42: View of the western aspect of the house at point 015 showing the added section with external hearth and chimney stack to the right and modern bathroom addition to the left.

All the external doors and the windows have been replaced during the 20th century with steel windows likely dating after about 1930. At least two phases of 20th century cement plastering of the house are visible. In places this cement plaster has fallen off revealing the older and weaker bricks and mud mortar to which it does not adhere well (Figure 40). This building

clearly has substantial amounts of original fabric and the majority is well over 60 years old. Although it is generally in very poor condition, it does have heritage value, primarily for its vernacular architectural characteristics (including its typically organic growth) and the value it imparts to the local cultural landscape. Its context among the strawberry fields and with two accompanying old oak trees (Figure 44) adds to this value (see further discussion below).

Also indicated on the 1925 survey diagram is another structure of similar dimension to the core of the existing building. This building is no longer present and would have been where the current R44 (which was built in the early 1960s) now lies. Mr D. Zettler also pointed out the remaining foundations of a house that he said dated to the 1930s. Although it appears not to be visible in the 1938 aerial photograph, the house can be seen in 1944 (Figure 45) so must have been built before that date. The small structure right against the road reserve fence (and now hosting the large strawberry as seen in Figure 42) was apparently related to or part of that house.

A small outbuilding to the southeast of the house is also greater than 60 years of age but has no particular heritage value.

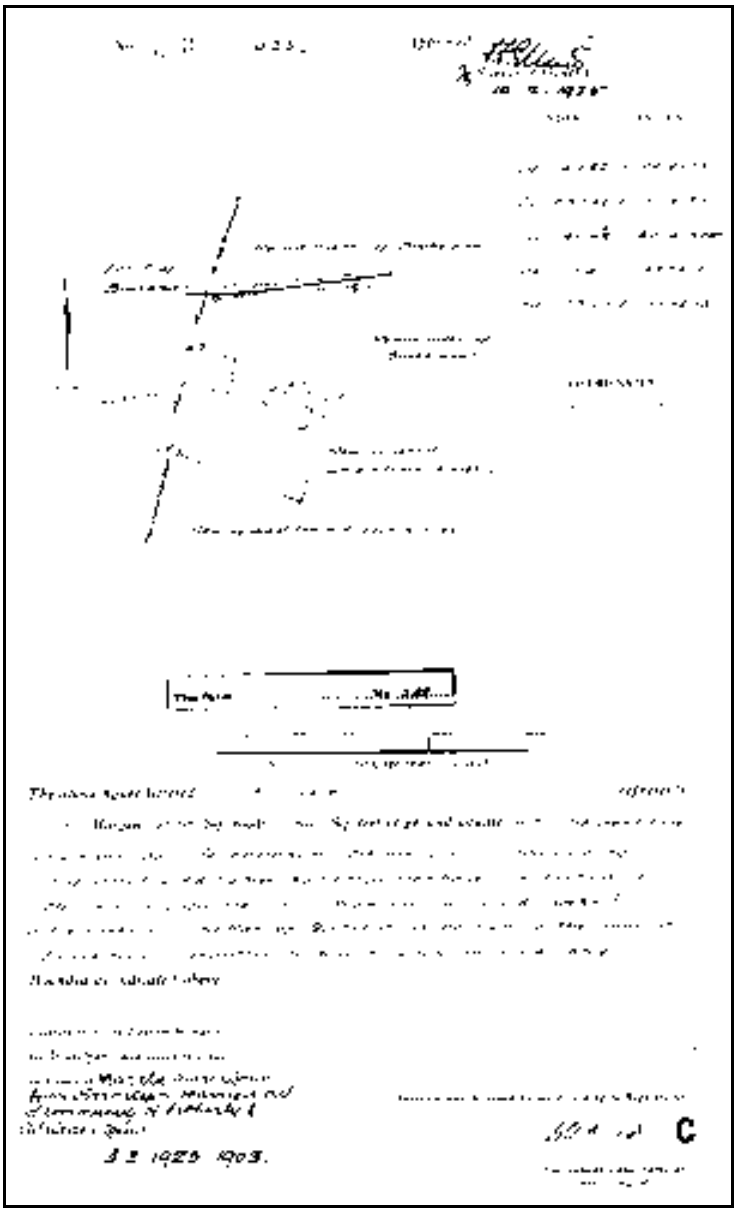

Figure 43: Survey diagram for the creation of the very small Farm 538 in 1925.

Figure 44: View towards the west showing the cottage at point 015 and its accompanying oak trees.

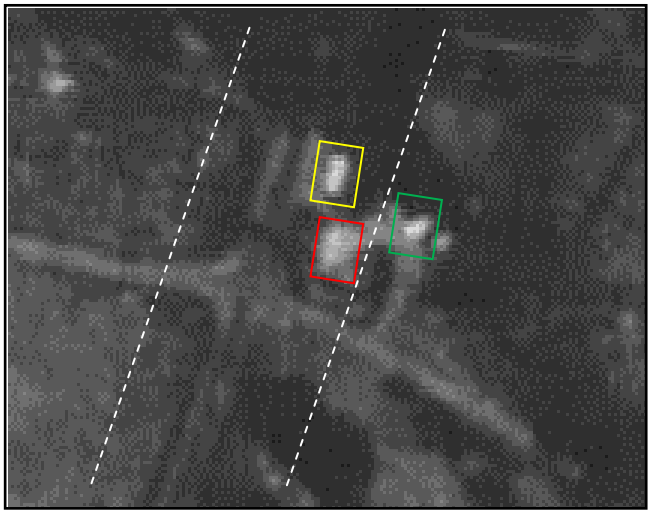

Figure 45: 1944 aerial photograph showing the two houses (yellow and green outlines) and possible third structure (red outline) present in the north-eastern quadrant of the Annandale Road Intersection at that time (the green one is still standing today, the yellow one is the second (smaller) house shown in Figure 43) as well as the location of the present R44 road reserve fences (white dashed lines). Note that the quality of the image is due to the elevation at which the original photograph was taken.

6.4. Cultural landscape and scenic route

There are various features on the local landscape that are a result of human intervention. These features turn a natural landscape into a cultural one. Certain specific features as well as the general landscape character are discussed here.

6.4.1. Leiwater canal (022, 020, 017 & 016)

This canal crosses the R44 just north of the Annandale Road Intersection and carries river water from upstream. It is traceable on aerial photography for at least two kilometres to the east of the R44 but it is uncertain where it runs on the west side. Mr D. Zettler commented that it supplies farms to the north of his farm. The canal takes two forms: for much of the length examined during the field survey it was an open furrow in the soil (Figure 46), but immediately to the east of the house at point 011 it is a cement canal (Figure 47). Beneath the R44 the water is carried by a modern pipe.

Figure 46: The open furrow of the leiwater (at point 022) where it passes the southern end of the gabled 1813 Annandale outbuilding.

Figure 47: The formal canal in front of the house at point 011.

6.4.2. Trees

There are a number of old trees in the general vicinity of the Annandale Road Intersection that contribute to the cultural landscape. A neighbouring land owner who conducted her own archival research, notes that a condition of the original land grant to Jan Wismaar was that any oak trees cut down for domestic use were to be replaced with young trees (E. Du Plessis, pers. comm. 2013). Although most of the old trees currently present in the vicinity of the Annandale Road Intersection lie around the original Brakelsdal werf, there are a few other trees of relatively old age located to the west around the house at 011. They include at least one oak tree and a palm tree (Figures 37 & 38) of which the oak may need to be removed for the proposed grade-separated roundabout.

An old tree lined avenue leads to the present Annandale farm (the original Brakelsdal werf; Figure 48). Although it has heritage significance for its contribution to the cultural landscape, it is not under direct threat from the proposed project.

Figure 48: View south along the tree lined avenue leading in to the Annandale werf.

6.4.3. Scholtzenhof historical access road

Prior to the modern road configuration there were different access roads at Scholtzenhof (now Ken Forrester Wine Estate). What appears to have been an earlier incarnation of Winery Road ran eastwards to the north of Scholtzenhof, terminating at the Cape Dutch house on Annex Scholtzenhof (now erf 211) east of the present R44. A separate access led from this road to the Scholtzenhof werf to the south but this ran slightly west of the current driveway. The original proposal would have reused a portion of the old road to facilitate access to the Ken Forrester Wine Estate but with the new, smaller layout the current access road can be used with only a minor deviation at its northern end (Figure 49).

Figure 49: Modern (left) and 1938 (right) aerial photographs showing the old road configuration in the Scholtzenhof (Ken Forrester / Avontuur) area. On the modern image the red polygons show old buildings, while brown lines are the old roads. The historic Happy Vale farmstead lies out of view a short way south of Scholtzenhof.

6.4.4. Raithby village

This little village is located just over one kilometre away from the Winery Road Intersection. It is likely located too far from the intersection to experience impacts to its context, but, for the sake of completeness, it is briefly discussed here.

The village owes its founding to the Reverend Barnabas Shaw in the mid-19th century. The Emancipation of Slavery Act was passed by the Imperial Parliament in 1833 and it declared that slavery was to be abolished at the Cape as of the end of 1834. It was this that prompted the Wesleyan Missionary Society to establish themselves in Somerset (as Somerset West was then known). With the aid of a generous donation from a Mrs Brackenbury of Raithby Hall, Yorkshire, a mission was established in Orange Street (Heap 1977).

Upon returning from England and following the success of this mission, Rev. Shaw purchased land near Firgrove to establish the settlement which he named Raithby in honour of his friend and benefactor of the Mission. Shaw built a small church and school and offered allotments to locally employed farm workers. His intention was that, while still employed on the farms, they could build their own homes on the land. The project met with some

opposition from the farmers who did not like the idea of educating the labourers. Nevertheless, Shaw's endeavour paid off as, in time, a small rural village came into being. The people set about cultivating vegetables but for the last several decades strawberries have been the main focus (Heap 1977).

6.4.5. General landscape

The local landscape is one strongly characterised by agricultural activities. Around the Annandale Intersection strawberries have been grown for many decades and the area is well known for this crop. In recent years the Zettler family have developed the Mooiberge Farm Stall into a well-known tourist stop where people can purchase curios, fresh produce (notably including strawberries) and other items. A number of wineries also occur in this area but are focused further up Annandale Road to the east.

At Winery Road, as the name suggests, grapes are the predominant crop. There are fewer wineries here than along Annandale Road, but, nonetheless, the vicinity is very strongly a wine-related cultural landscape.

The high significance of the Cape's viticultural landscape is underlined by the fact that it has been considered and placed on the tentative list for declaration as a World Heritage Site (UNESCO 2013). However, although one section, Idas Valley (located between Stellenbosch, Paarl and Franschhoek), has been declared a National Heritage Site (SAHRIS 2013), the World Heritage Site declaration has, for various reasons, never been carried out. The Somerset West and Stellenbosch area is of great significance to the wine industry with the first vines having been planted more than 300 years ago.

6.4.6. Scenic route (R44)

The R44 can certainly be regarded as a scenic route of some significance. It links two local towns, Stellenbosch and Somerset West, and at the regional level, extends northwards through the Swartland and southwards around the coast to Bot River. The entire road runs along the foot of the Cape Fold Belt Mountains and, with the exception of some of the built-up areas in the vicinity of Somerset West and Strand to the south, the surrounding scenery is most appealing (Figures 50 & 51). The many wine farms in the area and the local strawberry industry lend further tourism value to the stretch of the R44 under consideration here. Surrounding roads, particularly Winery and Annandale Roads, also have scenic significance.

Figure 50: Example of the local scenery. View to the northeast from the R44 between the Annandale and Winery Road Intersections (Image taken from Google Earth Street View).

Figure 51: Example of the local scenery. View to the west from the R44 between the Annandale and Winery Road Intersections with Table Mountain just visible in the background (Image taken from Google Earth Street View).

6.5. Visual study

The VIA for this project was conducted by Megan Anderson and is submitted to HWC along with this HIA. This section of the HIA contains a summary of the primary salient observations and conclusions of that report (Anderson 2014). The VIA focused on the three intersections where the largest interventions are planned (Steynsrust, Winery and Annandale).

In general, Anderson (2014) sees the visual and scenic resources of the area as being of high significance, although in the built-up area to the south around Steynsrus Road they are rated as moderate to high.

6.5.1. Zones of visual influence

Due to the narrow and artificially created valley in which the R44 runs in the Steynsrust area, the zone of visual influence is very small being limited to about 50-100 m on either side of the R44 and extending about 500 m north of the proposed on-ramp. The Winery Road site is contained by the various hills that occur in the area with the resulting zone of visual influence extending about 1 km to the north and east, 1.5 km to the south and 300 m to the west. The Annandale Intersection is located in the Bonterivier valley and is thus quite low-lying. Its zone of visual influence extends approximately 1 km in all directions.

6.5.2. Visual receptors

Important viewpoints and visual receptors on the landscape include the following: residential areas, rural farmsteads, tourist destinations, tourist routes, places of work and natural areas.

The only visual receptor of heritage significance identified at the Steynsrust Road area is the R44 itself as a scenic route. Residential areas are generally screened by walls, hedges and trees. At Winery Road the VIA has identified as sensitive receptors the historic settlements on either side of the R44, as well as both the R44 and Winery Roads which are scenic/wine routes. Wine tasting and other tourism opportunities operate from the farms in the area. At Annandale Road a similar set of receptors has been identified, but it is noteworthy that a higher incidence of tourism-related facilities is present there.

6.5.3. Visual sensitivity

This factor depends on how visible the development footprints are within the local landscape. At Steynsrust the sensitivity is rated as low to moderate, at both the Winery and Annandale Road Intersections a rating of moderate has been assigned.

7. ASSESSMENT OF IMPACTS

Two sets of assessments are provided here. The first deals with archaeology only, since this specialist input was specifically requested by HWC (Table 1). The second deals with visual (contextual) and direct impacts to other heritage resources such as built environment and the cultural landscape (Table 2). Note that the interventions for the Steynsrust, Bredell and Techno Intersections are very minor with negligible impacts of very low significance to any type of heritage resource. As such, only the Winery and Annandale Intersections are considered in detail here. In each case four alternatives are assessed.

A specific assessment of the visual impacts can be found in the VIA (appended to the BAR) and is therefore not repeated here. However, it is noted here that for the preferred alternative for each intersection the visual impacts as they apply to heritage qualities would be of very low significance at Steynsrust Road, of medium to high significance at Winery Road, and of medium significance at Annandale Road. Anderson (2014) explains that Annandale Road is given a lower significance rating because the area has already lost some of its rural character because of the presence of facilities associated with the strawberry industry. In terms of the latter two intersections, the impacts that might result from at-grade roundabouts are seen as having somewhat lower significance with signalised intersections the least problematic – Annandale Road already has this latter status. Light pollution would be similar for all alternatives, although lighting may be more extensive for some. Given that signalised intersections are unlikely to be feasible for the required service and safety standards, the VIA finds that at-grade roundabouts would be the most suitable from the visual impact point of view.

Archaeological impacts to pre-colonial material will be very minimal and are of no further concern for any alternative. Although only one historical artefact was seen, there is the potential to uncover historical material during the proposed construction work, particularly at the Annandale Intersection and particularly if the grade-separated roundabout with its larger footprint was chosen for implementation. The potential impacts to such resources are rated as being of medium significance before mitigation for the preferred alternative (Table 1). This is because the historical cottage and any buried material related to it would be entirely lost. Mitigation work should seek to confirm whether any historical dumps or earlier foundations might be present in the Annandale Intersection development footprint. If any significant material is found during this exercise then formal archaeological excavation, recording and sampling may be required. After such mitigation the impacts to archaeological heritage resources would be of very low significance. The at-grade roundabout and signalised intersection would not result in any archaeological impacts because their footprints are the same or virtually the same as the present situation (Table 1). At the Winery Road Intersection the impacts are less significant because no significant archaeological resources were documented there (Table 2).

For the preferred alternative (grade-separated roundabouts), impacts to the cultural landscape and built environment at the Annandale Road Intersection are likely to be of high significance because of the high degree of visual intrusion into the landscape and the fact that a historical building would be lost entirely (Table 3). The scale of the structure is such that the use of vegetated embankments would make very little difference to the overall impact because the historic structure would still be lost. Mitigation would only be able to very slightly reduce the intensity of the impact. To this end, appropriate planting to reduce visual impacts and landscape scarring would be required. The archaeological mitigation described above would serve to document some of the architectural features of the house to be demolished, but a detailed recording of the above-ground characteristics and features of the house will also need to be undertaken. Thereafter, a permit for the demolition of the house will need to be obtained from HWC. It is fortunate that the most significant built environment resources close to this intersection (at the Annandale Farm) are well shielded by trees. The second alternative (at-grade roundabouts) would only produce impacts of medium significance because the landscape impacts are substantially reduced. Notable here is that an at-grade roundabout would present the opportunity to create an appropriate planting/feature on the circle that would enhance the local landscape. Mitigation would slightly reduce the significance of the impacts but the loss of the historical cottage prevents the application of a low significance rating (Table 3). At the Winery Road Intersection the impacts are less severe

than at Annandale Road because no direct impacts to the built environment will be experienced (Table 4). However, because of the proximity to a very significant heritage structure (the Scholtzenhof (Ken Forrester) farmstead), the significance after mitigation is only slightly reduced to become high-medium.

Table 1: Assessment of archaeological impacts at the Annandale Road Intersection.

POTENTIAL IMPACTS ON HERITAGE RESOURCES: ARCHAEOLOGY			
Alternative:	**Grade-separated roundabouts (retaining walls & fill slopes)**	**At-grade roundabouts**	**Signalised intersections**
Nature of impact:	Disturbance or destruction of archaeological artefacts and historical building foundations.	Disturbance or destruction of archaeological artefacts and historical building foundations.	No impacts anticipated.
Extent and duration of impact:	Local (site-specific); Permanent	Local (site-specific); Permanent	n/a
Intensity of impact:	Medium	Low	Zero
Probability of occurrence:	Definite	Probable	Improbable
Degree to which the impact can be reversed:	Irreversible	Irreversible	n/a
Degree to which the impact may cause irreplaceable loss of resources:	High	High	Low
Cumulative impact prior to mitigation:	Very low since archaeological resources generally occur in very low densities in the area.	Very low since archaeological resources generally occur in very low densities in the area.	n/a
Significance rating of impact prior to mitigation	**Medium**	**Very low**	**Insignificant**
Degree to which the impact can be mitigated:	Medium	Medium	n/a
Proposed mitigation:	• Keep disturbance footprint to a minimum. • Archaeological test excavations to look for historical dumps and/or earlier foundations near point 015. • Formal excavation, recording and sampling if required.	• Keep disturbance footprint to a minimum.	• Keep disturbance footprint to a minimum.
Cumulative impact post mitigation:	Very low	Very low	Very low
Significance rating of impact after mitigation	**VERY LOW**	**VERY LOW**	**INSIGNIFICANT**

Table 2: Assessment of archaeological impacts at the Winery Road Intersection.

POTENTIAL IMPACTS ON HERITAGE RESOURCES: ARCHAEOLOGY			
Alternative:	**Grade-separated roundabouts (retaining walls & fill slopes)**	**At-grade roundabouts**	**Signalised intersections**
Nature of impact:	Disturbance or destruction of archaeological artefacts.	Disturbance or destruction of archaeological artefacts and historical building foundations.	No impacts anticipated.
Extent and duration of impact:	Local (site-specific); Permanent	Local (site-specific); Permanent	n/a
Intensity of impact:	Low	Low	Zero
Probability of occurrence:	Probable	Improbable	Improbable
Degree to which the impact can be reversed:	Irreversible	Irreversible	n/a
Degree to which the impact may cause irreplaceable loss of resources:	High	High	Low
Cumulative impact prior to mitigation:	Very low since archaeological resources generally occur in very low densities in the area.	Very low since archaeological resources generally occur in very low densities in the area.	n/a
Significance rating of impact prior to mitigation	**Very low**	**Very low**	**Insignificant**
Degree to which the impact can be mitigated:	Medium	Medium	n/a
Proposed mitigation:	• Keep disturbance footprint to a minimum.	• Keep disturbance footprint to a minimum.	• Keep disturbance footprint to a minimum.
Cumulative impact post mitigation:	Very low	Very low	Very low
Significance rating of impact after mitigation	**VERY LOW**	**VERY LOW**	**INSIGNIFICANT**

Table 3: Assessment of general heritage impacts at the Annandale Road Intersection.

POTENTIAL IMPACTS ON HERITAGE RESOURCES: GENERAL HERITAGE			
Alternative:	**Grade-separated roundabouts (retaining walls & fill slopes)**	**At-grade roundabouts**	**Signalised intersections / No-Go option**
Nature of impact:	Imposition of large built structure into the cultural landscape and destruction of built environment resources.	Minor alteration to local landscape and destruction of built environment resources.	No new impacts anticipated as this alternative is the status quo.
Extent and duration of impact:	Local (within approximately 1 km of activity); Permanent	Local (site-specific); Permanent	n/a
Intensity of impact:	High	Medium	Zero
Probability of occurrence:	Definite	Definite	Improbable
Degree to which the impact can be reversed:	Irreversible (although aspects would be partially reversible with demolition of the roundabout and reinstatement of the status quo)	Irreversible (although aspects would be partially reversible with demolition of the roundabout and reinstatement of the status quo)	n/a
Degree to which the impact may cause irreplaceable loss of resources:	High	High	Low
Cumulative impact prior to mitigation:	Low. Structures of a similar size and nature do not occur in the landscape so cumulative impacts to the landscape do not apply but at least one other heritage structure is known to have been lost at the Annandale Intersection when the R44 was built.	Low	n/a
Significance rating of impact prior to mitigation	**High**	**Medium**	**Insignificant**
Degree to which the impact can be mitigated:	Very low	Low	n/a
Proposed mitigation:	• Keep disturbance footprint to a minimum. • Possibly realign footprint to avoid heritage resources. • Plaster sampling and detailed recording of heritage structures to be demolished. • Appropriate planting to reduce visual impacts to the landscape and historical structures.	• Keep disturbance footprint to a minimum. • Possibly realign footprint to avoid heritage resources. • Plaster sampling and detailed recording of heritage structures to be demolished. • Appropriate planting of the circle.	• Keep disturbance footprint to a minimum.
Cumulative impact post mitigation:	No change.	No change.	Very low
Significance rating of impact after mitigation	**HIGH - MEDIUM**	**MEDIUM - LOW**	**INSIGNIFICANT**

Table 4: Assessment of general heritage impacts at the Winery Road Intersection.

POTENTIAL IMPACTS ON HERITAGE RESOURCES: GENERAL HERITAGE			
Alternative:	**Grade-separated roundabouts (retaining walls & fill slopes)**	**At-grade roundabouts**	**Signalised intersections**
Nature of impact:	Imposition of large built structure into the cultural landscape.	Minor alteration to local landscape.	No physical impacts anticipated as the footprint would not be increased. Minor contextual impacts to the landscape through addition of lighting.
Extent and duration of impact:	Local (within approximately 1 km of activity); Permanent	Local (site-specific); Permanent	n/a
Intensity of impact:	High	Medium	Very low
Probability of occurrence:	Definite	Definite	Definite
Degree to which the impact can be reversed:	Irreversible (although aspects would be partially reversible with demolition of the roundabout and reinstatement of the status quo)	Irreversible (although aspects would be partially reversible with demolition of the roundabout and reinstatement of the status quo)	Reversible
Degree to which the impact may cause irreplaceable loss of resources:	High	High	Low
Cumulative impact prior to mitigation:	Low. Structures of a similar size and nature do not occur in the landscape so cumulative impacts to the landscape do not apply.	Low	n/a
Significance rating of impact prior to mitigation	**High**	**Medium**	**Very low**
Degree to which the impact can be mitigated:	Very low	Low	n/a
Proposed mitigation:	• Keep disturbance footprint to a minimum. • Appropriate planting to reduce visual impacts to the landscape and historical structures.	• Keep disturbance footprint to a minimum. • Appropriate planting of the circle.	• Keep disturbance footprint to a minimum.
Cumulative impact post mitigation:	No change.	No change.	Very low
Significance rating of impact after mitigation	**HIGH - MEDIUM**	**MEDIUM - LOW**	**VERY LOW**

Direct impacts to the built environment and associated buried archaeological resources will occur with either roundabout alternative through demolition of the historic cottage at the Annandale Intersection. Mitigation here would involve plaster sampling and test excavation to document the building sequence and any other information that can be gained regarding the history of the structure, its architectural features and any related subsurface archaeological remains associated with it. It should be noted that HWC may well request that this exercise be carried out before they issue their final comment on the matter. This is because the structures could be found to be of higher significance than previously estimated and they may then choose to withhold permission for their demolition. Alternatively, the structures should be avoided if possible.

The main suggestions for visual mitigation involve minimising light pollution, re-vegetating disturbed areas, creating appropriate plantings (trees and hedges), landscaping to hide the newly-built structures, use of retaining walls to minimise footprint areas and use of appropriate finishes to the newly-built elements (Anderson 2014).

8. CONCLUSIONS

Archaeological impacts are not likely to be significant for any alternative. However, this report and the VIA find that for the preferred alternative, grade-separated roundabouts, impacts to the landscape settings in the study area will be of high significance with little opportunity for adequate mitigation. This is because of the high degree of intrusion into the cultural landscape. As such, this alternative is seen as being the least preferred.

The second alternative, at-grade roundabouts, will result in very few impacts because the footprints are not much larger than the present intersections. Although the required road reserves have not yet been established for this alternative, it is likely that there would be very little change and that no direct impacts to built environment and/or archaeological resources would occur. This alternative would also have a far less significant impact on the landscape. The at-grade roundabouts could even have a minor positive impact in that the Annandale Road traffic lights would be removed and the opportunity to create an appropriately planted circle that enhances the local cultural landscape would present itself at both the Annandale and Winery Road Intersections.

The signalised intersection alternative essentially maintains the status quo for Annandale Road and introduces minor new visual impacts to heritage resources at Winery Road. It would not result in any other new impacts to heritage resources.

It should be noted that further work on the structures may well be required before HWC will be able to issue a final comment. This work would need to be carried out under a permit issued to an archaeologist.

9. RECOMMENDATIONS

From a heritage point of view, at-grade roundabouts and signalised intersections are the preferred alternatives at the Annandale and Winery Road Intersections. The preferred alternative of grade-separated roundabouts is the least preferred in heritage terms because its sheer bulk will result in impacts of high significance to the cultural landscape and they are

thus seen as inappropriate in heritage terms. Impacts to heritage resources at all the other intersections are negligible. The following general recommendations apply:

- Keep disturbance footprint to a minimum and avoid all demolitions unless absolutely necessary;
- Plaster sampling should be carried out to determine building sequences (Annandale Road grade-separated roundabout alternative only);
- Archaeological testing should be carried out to check for historical dumps and foundations (Annandale Road grade-separated roundabout alternative only);
- If any archaeological remains (artefacts or built foundations) or human remains are uncovered during development, then work in the vicinity of the find should be halted such that an archaeologist can inspect and advise on a way forward; and
- A landscape architect should be employed to ensure that all finishes, landscaping and planting are compatible with the surrounding cultural landscape and help to reduce visual impacts.

10. REFERENCES

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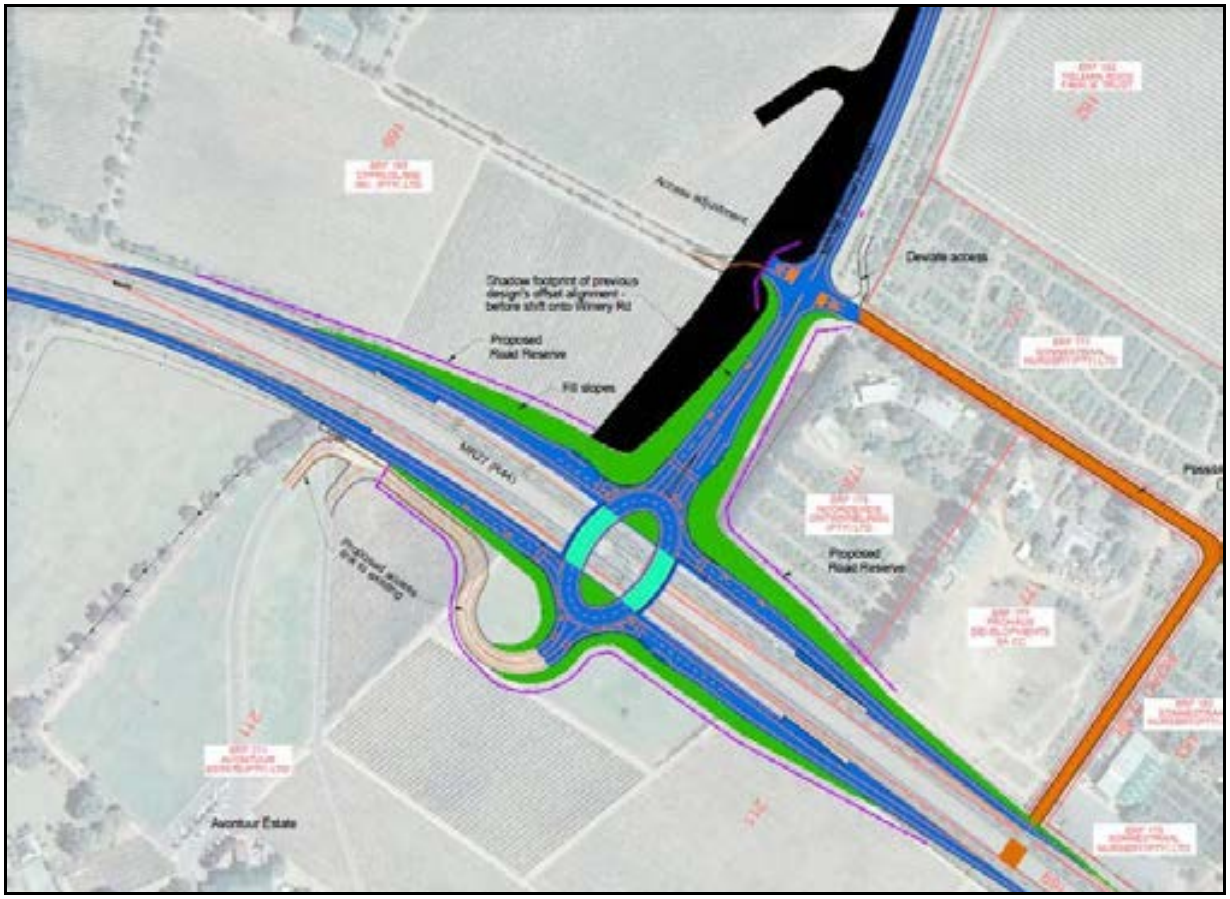
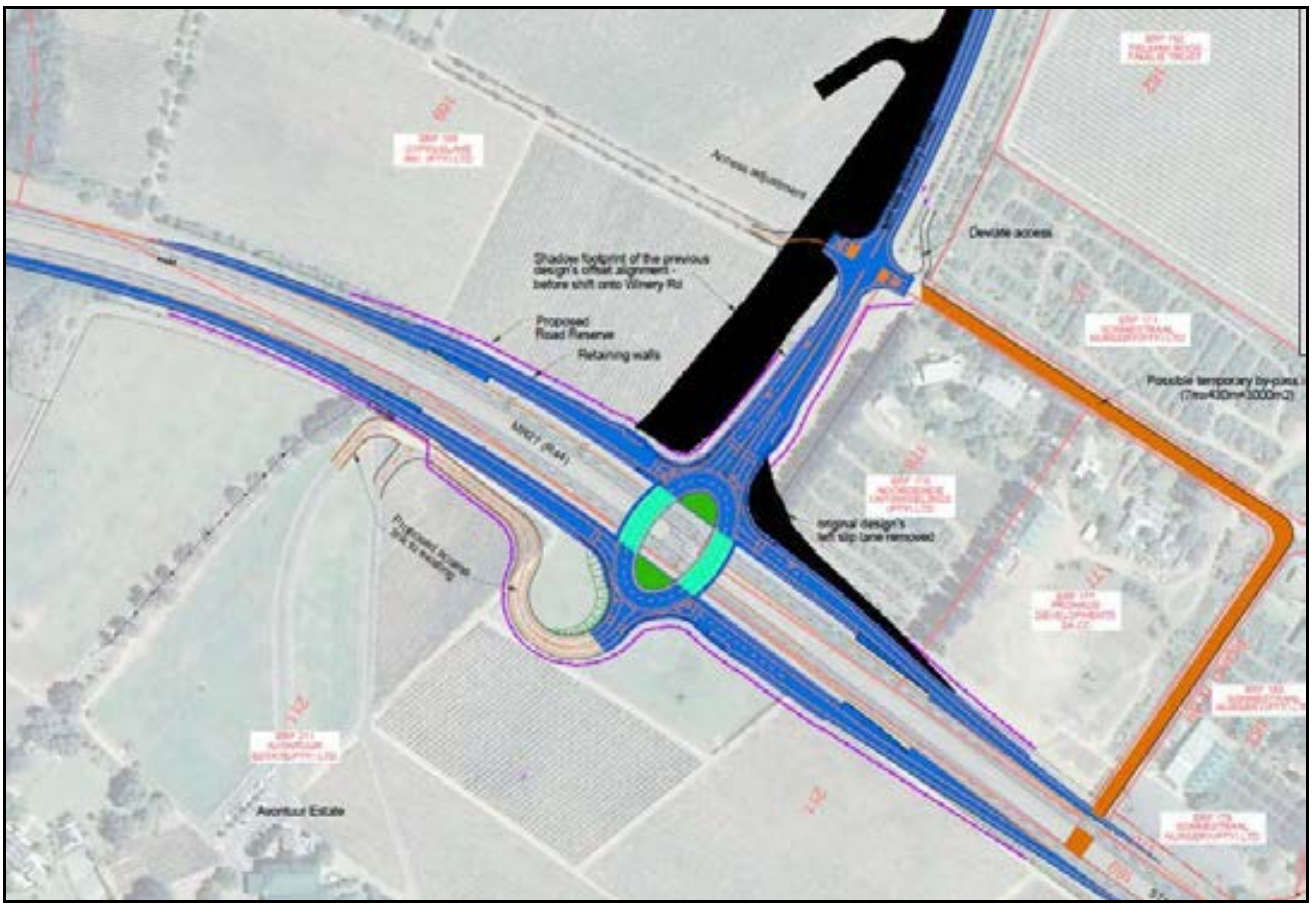
APPENDIX 1: Development proposals

Winery Road original grade-separated roundabout proposal.

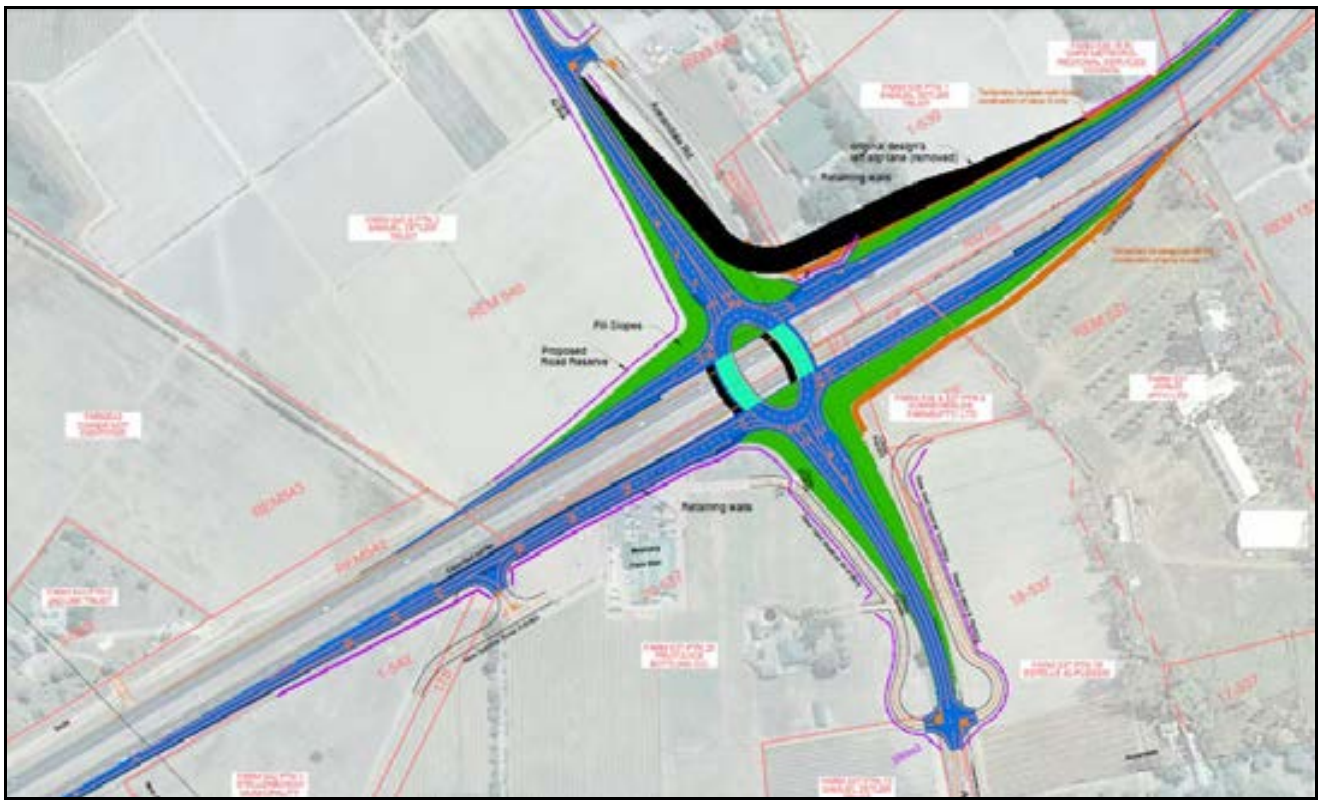


Winery Road revised grade-separated roundabout proposal (fill slopes) as assessed by this HIA. The black area shows the earlier footprint after the roundabout was centred onto the current intersection.

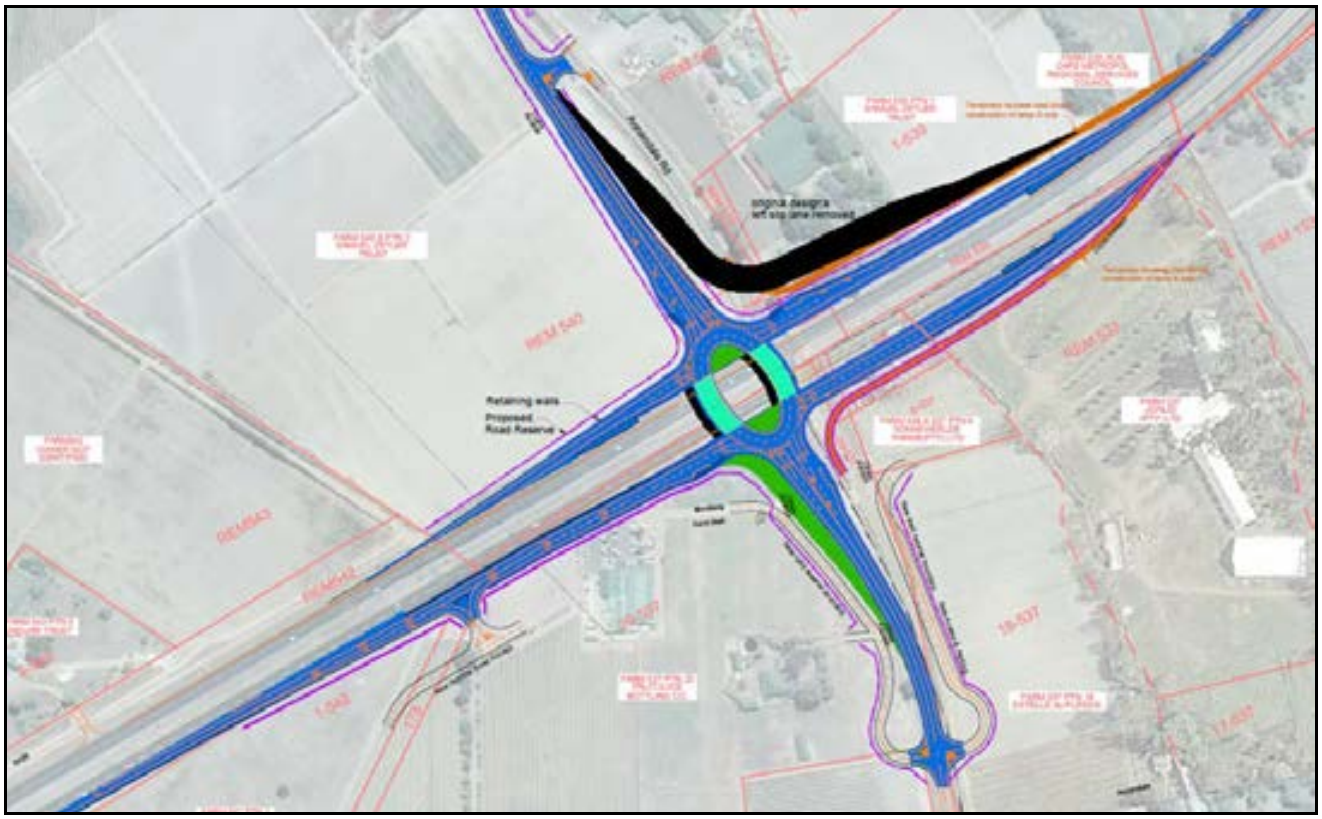


Winery Road revised grade-separated roundabout proposal (retaining walls) as assessed by this HIA. The black area shows the earlier footprint after the roundabout was centred onto the current intersection.

Annandale Road original grade-separated roundabout proposal.



Annandale Road revised grade-separated roundabout proposal (fill slopes) as assessed by this HIA. The black area shows the earlier footprint after the roundabout was centred onto the current intersection.



Annandale Road revised grade-separated roundabout proposal (retaining walls) as assessed by this HIA. The black area shows the earlier footprint after the roundabout was centred onto the current intersection.

APPENDIX 2: Declaration of Interest

THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I .....JAYSON ORTON....., as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: Terms of reference are included in the specialist report.

Signature of the specialist

ACO ASSOCIATES cc

Name of company:

19 DECEMBER 2013

Date:

APPENDIX 3: Curriculum Vittae

Name: Jayson David John Orton

Occupation: Archaeologist and heritage consultant

Employer: ACO Associates cc (formerly UCT Archaeology Contracts Office)

Date of appointment: June 2004 (at UCT), January 2011 (at ACO Associates cc)

Education:

Matric	South African College High School	1994
B.A.	University of Cape Town	1997
B.A. (Hons) (Archaeology)*	University of Cape Town	1998
M.A. (Archaeology)	University of Cape Town	2004
D.Phil. (Archaeology)	University of Oxford	2013

*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

Experience Record:

Research assistant	
Spatial Archaeology Research Unit, University of Cape Town	1996 - 1998
Field archaeologist	
Department of Archaeology, University of Cape Town	1998
Field archaeologist	
Archaeology Contracts Office, University of Cape Town	1999 - 2004
Professional archaeologist and heritage consultant	
Archaeology Contracts Office, University of Cape Town	2004 - 2012
Undergraduate Tutor	
School of Archaeology, University of Oxford	2008 - 2009
Professional archaeologist and heritage consultant	
ACO Associates cc	2011 -

Other:

South African Archaeological Society Council member	2004 -
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 -
ASAPA Cultural Resources Management Section member	2007 -
UCT Department of Archaeology Research Associate	2013 -

ASAPA accreditation (membership number 233):

Principal Investigator (awarded 2007):	Coastal shell middens
	Stone Age archaeology
Field Director (awarded 2007):	Colonial period archaeology
	Rock art
	Grave relocation

Fieldwork and project experience:

Extensive fieldwork as both Field Director and Principle Investigator primarily in the Western and Northern Cape as follows:

<u>Phase 1:</u>

- Numerous small surveys in Cape Town and surrounding suburbs as well as along the West and South Coasts and adjacent interior including the wine lands
- Olifants River Valley & Cederberg
- Little Karoo, Great Karoo & Bushmanland
- Southern & northern Namaqualand & Richtersveld (coastal and inland areas)

- Phase 1 test excavations in historical and prehistoric sites
- Project types include mining, residential, commercial and industrial development, dams, pipe lines, power lines, wind & solar energy facilities, etc
- The majority of projects are within the contexts of Environmental Impact Assessments or Basic Assessments under Section 38(8) of the NHRA but self-standing archaeological assessments, heritage assessments and research projects are also included

Phase 2:

- Duinefontein (ESA open site)
- Yzerfontein (MSA rock shelter)
- Melkbosstrand, Yzerfontein & Saldanha Bay (LSA shell middens & burials)
- Paternoster & Dwarskersbos (LSA open shell middens)
- Cederberg (LSA & MSA rock shelters)
- Richtersveld (LSA open sites)
- Namaqualand (ESA, MSA and LSA open sites, LSA shelters, shell middens & burials)
- Knysna (LSA open shell midden & burials)
- Infanta (LSA open shell middens)
- Franschhoek (historic farmstead, historic well & LSA open site)
- Chavonnes Battery, V&A Waterfront (historic well, structure & dump)
- Prestwitch Place, Green Point (burial ground)
- Marina Residential, V&A Waterfront (burial ground)
- Many small historical excavations in central Cape Town and surrounding suburbs