

BASELINE STUDY OF HERITAGE RESOURCES: CAPE TOWN INTERNATIONAL AIRPORT RE-ALIGNED RUNWAY & ASSOCIATED INFRASTRUCTURE PROJECT

(In terms of Section 38 of the NHRA of 1999)

Prepared for

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EXECUTIVE SUMMARY

Cape Town International Airport (CTIA) comprises two active runways: the primary runway and a secondary runway bisecting it. Airports Company South Africa (ACSA) proposes to re-align the existing primary runway. This will allow the runway to be lengthened (from 3 201m to 3 500m), which will enable the airport to accommodate larger aircraft such as the Airbus A380. The existing secondary runway will be decommissioned and be incorporated into a new integrated taxiway system, which will entail the construction of parallel taxiways and rapid exit taxiways to increase the capacity of the system to handle air traffic. The project footprint is shown Figure 1 while the existing and proposed runway configuration is shown in Figure 2.

We have assessed the proposed site at a desktop level in order to make a baseline statement about the heritage. A number of reports dating back over several years have been consulted and comments and observations with regard to palaeontological, archaeological and historical resources noted.

Some historical structures do exist within the project footprint and have previously been assessed. There is a small possibility that palaeontological and pre-colonial archaeological resources may exist. Similarly, human remains from that time could be present, though cemeteries and graves relating to old farming of the land is more likely. The positions of such material may not be easy to predict if surface markers have disappeared. No cemeteries are indicated here on old maps of the area. Victorian bottle dumps are known from the Delft area and the presence of such resources cannot be excluded, but in reality probably quite low.

The landscape of the active airport within the security perimeter is largely transformed and little surface heritage is likely to have survived. The land to the east is moderately disturbed but still preserves the old dune formations under alien vegetation. It is unlikely to warrant any heritage grading.

Our overall conclusion is that the proposed expansion site would be rated as having low heritage significance, although some minor mitigation may be required prior to the construction phase. No heritage fatal flaws have been identified.

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1. INTRODUCTION

Cape Town International Airport (CTIA) comprises two active runways: the primary runway and a secondary runway bisecting it. Airports Company South Africa (ACSA) proposes to re-align the existing primary runway. This will allow the runway to be lengthened (from 3 201m to 3 500m), which will enable the airport to accommodate larger aircraft such as the Airbus A380. The existing secondary runway will be decommissioned and be incorporated into a new integrated taxiway system, which will entail the construction of parallel taxiways and rapid exit taxiways to increase the capacity of the system to handle air traffic. The project footprint is shown in Figure 1 while the existing and proposed runway configuration is shown in Figure 2.

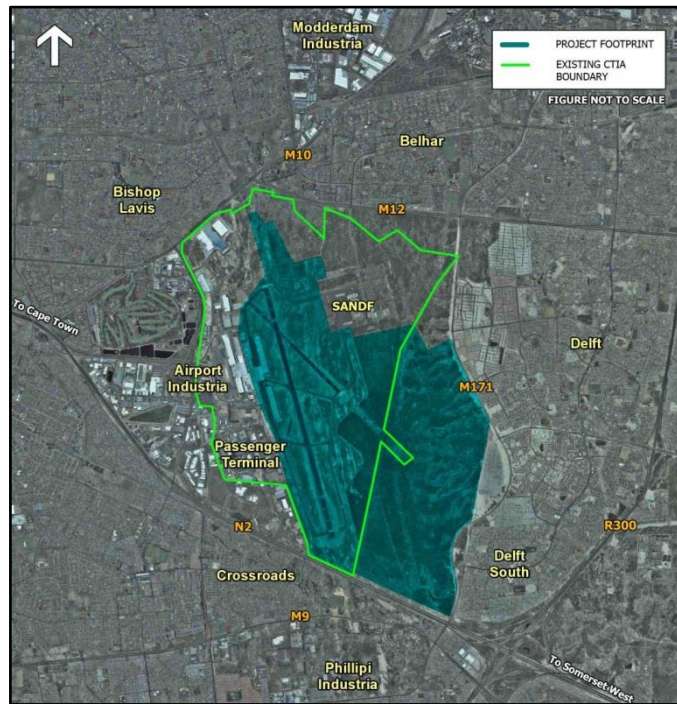


Figure 1: The project footprint in blue

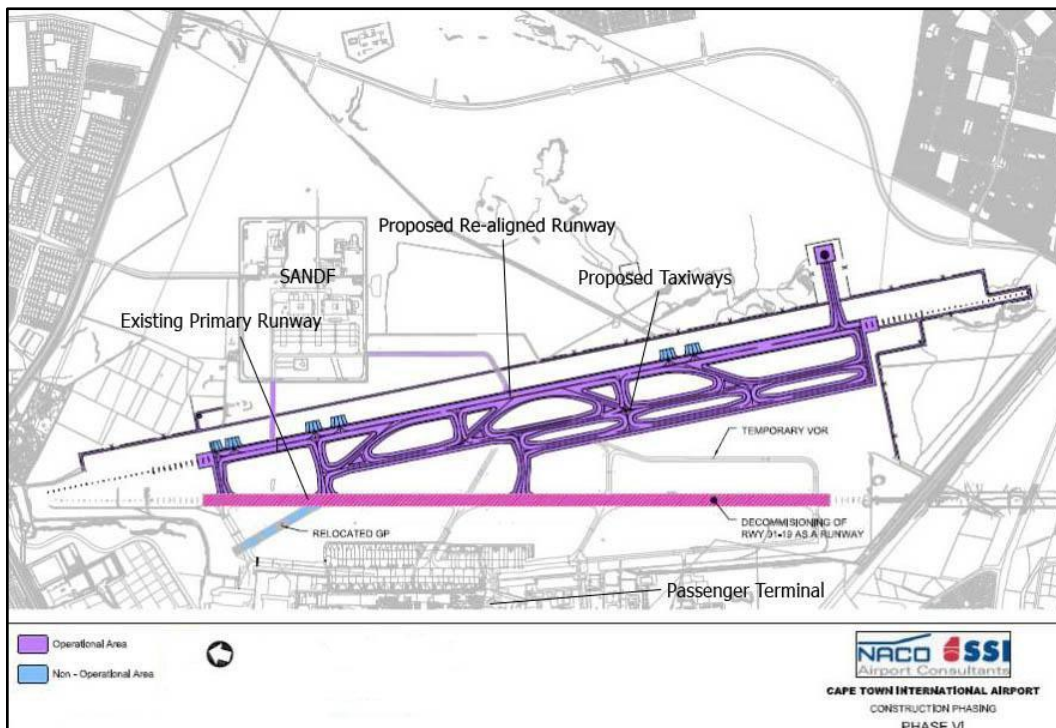


Figure 2: Existing and proposed runway configurations

ACO Associates cc has been appointed to undertake the heritage component of the study. An NID application has been compiled and submitted to HWC. This baseline desktop study seeks to contextualise the airport within the broader heritage landscape of the Cape flats, and identify any potential heritage which may exist within the project footprint, and assess if any fatal flaws are likely to exist.

2. PROJECT DESCRIPTION

2.1 Site description

CTIA is located in the sandy Cape Flats region, immediately north of the N2, approximately 20 km east of Cape Town's Central Business District. The surrounding area consists of mixed land uses including residential, industrial and portions of undeveloped and derelict land. The current CTIA property is approximately 975 ha in extent, incorporating the passenger terminal and related airport support infrastructure to the west of the runways, undeveloped land to the east of the runways, and a portion of land to the south, belonging to the South African National Roads Agency Ltd (SANRAL), but nominally falling within the CTIA property boundary (refer to Figure 1). ACSA is currently in the planning phase for the acquisition of additional parcels of land for the realignment project including the portion of land owned by SANRAL, portions of land to the east owned by the State and the City of Cape Town and a portion of private land to the north. A separate facility, presently used by the police and administered by the South African National Defence Force's (SANDF) 35 Squadron, is located to the immediate east of the runways within the CTIA property boundary.

The proposed project footprint is approximately 700 ha in extent and incorporates the proposed re-aligned runway, the associated taxiway system and other areas where fill material (sand) will be sourced or placed (refer to Figure 1).

Airport Industria is located to the west of the terminal, while Bishop Lavis and Belhar are located to the north of CTIA and the M10 (Modderdam Road) and M12 (Stellenbosch Drive) roads respectively. Modderdam industrial area lies between these areas. Immediately east of the CTIA property is a large, degraded portion of undeveloped land. Small sand dunes, with isolated patches of indigenous vegetation on the dune ridges and some small degraded wetland(s) occur in this area. The area is used for illegal dumping, harvesting of firewood, opportunistic grazing and, possibly, initiation rituals. To the east of this vacant land and the M171 (Symphony Way), new affordable housing has been built forming the residential areas of Delft and Delft South. Crossroads, consisting mostly of informal shacks, is located to the south of CTIA beyond the N2. Philippi Industria is located to the south of Crossroads.

1.2 Proposed project

The current runway system at CTIA comprises two active runways, namely:

Primary runway – 3 201 m long and 60 m wide; and

Secondary runway – 1 700 m long and 46 m wide.

The proposed project comprises the re-alignment of the existing primary runway to an "18L/36R" configuration¹. The new runway will be 3 500 m long and approximately 75 m wide and will be built to international specifications to enable the airport to receive Code F aircraft such as the A380. The existing primary runway will no longer be used as a runway but will form part of the integrated taxiway system. The existing secondary runway will be decommissioned in order to accommodate the new re-aligned runway (see Figure 2).

The proposed development will entail the construction of two parallel taxiways and Rapid Exit Taxiways to accommodate increasing air traffic. Parallel 3 500 m long taxiways will be aligned to the west of the primary runway. Taxiway access to the SANDF apron will be maintained and

accommodated within the new runway and associated taxiway system. The total area occupied by the proposed new taxiway system will be approximately 34 ha.

In total, the new runway and taxiways will have a footprint of approximately 82.7 ha, almost all located within the existing CTIA perimeter fence, though CTIA will have to acquire some land to accommodate the re-alignment. Additional key elements of the project include:

Eight connecting taxiways;

One aircraft isolated parking position and compass calibration pad;

One dual lane taxiway;

Bellmouths for future taxiway tie-ins; and

Widening of existing taxiway.

Associated infrastructure required as part of the project includes stormwater pipelines and control systems, internal roads, security facilities, etc. In addition, several services such as Telkom cables, power cables and fibre optic cables will have to be relocated.

Other areas where fill material will be sourced or placed will increase the disturbance footprint. Approximately 350 ha will be required for cut operations and 170 ha will be required for fill operations. It is anticipated that construction will be in six phases, beginning in the third quarter of 2014, and will be completed in early 2017.

3. METHOD FOR BASELINE HERITAGE ASSESSMENT

A series of historical aerial photographs (1938, 1944 and 1953) of the site have been examined and the SAHRIS database has been searched for existing heritage reports in the area. The findings of the various reports have been interrogated for information pertaining to heritage resources.

4. BRIEF HISTORICAL BACKGROUND

Aikman, (2001:4) undertook an assessment of the background history for a project that was planned for the area at the time. The historical background is of relevance to this study. I have quoted from his report below:

The study area covers part of the farm "Klip Fontein" which represents the first settled farming of this area. Historic records indicate that this land, originally part of "Duinefontein", was transferred to GM Liebentrouw on 22 January 1849.

Klip Fontein is older than most of the Cape Flats farms that were granted to German immigrants after 1877 (it lies much further to the north than any of these land grants.) When arable land close to Cape Town and the Peninsula was fully utilised and under pressure to adequately provide for Cape Town's growing needs, poor German immigrants were shipped to the Cape and granted patches of Cape Flats waste land which they were obliged to stabilise and farm. The struggle and suffering that these settlers had to endure in attempting to farm the depleted soils of the Flats has been well documented (Blumer 1959). Bearing in mind the poor farming qualities of the Cape Flats, the circumstances under which the farm Klip Fontein was granted is unclear. It is unlikely that the land would have ever supported anything more than subsistence agriculture; however, the presence of permanent water must have been of benefit to livestock.

A 1902 Military Map indicates a house and some five wells adjacent to large areas of drift sands. The wells perhaps suggest that one of the strengths of this area was access to fresh water for agriculture. All that remains today are clumps of large eucalyptus trees probably dating from the end of the 19th

century when extensive tree planting programmes on the Cape Flats were encouraged by the Cape Colonial Government to control the wind and sand movement.

5. OBSERVATIONS

As the potential for Stone age and historical material to survive is largely dependent on subsequent development, the aerial photos are very important sources of information. Recent development destroys or obscures earlier material and so it is important to isolate areas where it is unlikely that older material will survive. The airport as it stands today has undergone several changes since it was first opened in 1954, and it was built on land that had previously largely consisted of stabilised dune and sand flats, and land to the east within the overall project footprint has changed little since that time, still showing the characteristic undulations of the old dune system. Some sporadic farming was attempted and shows as cleared areas within the dense bush that was used to stabilise the sand.

Prior to the arrival of European settlers, the Cape Flats would have been an extensive shifting dune system. As we know from studying surviving dune systems in other parts of the country, Stone age people used such systems extensively if sufficient fresh water was available. It seems likely that such conditions would have been met in the past and thus, traces of early occupation is likely to be found throughout the Cape Flats. The major problem with locating such sites today is related to the sand stabilisation program that was instituted in the early 20th century. This has led to the build up of sand over the years that has now largely obscured any archaeological sites which may remain. That being said, very little archaeology has ever been recognised during surveys of the area, or during subsequent development activities.

Given that recent development may obscure older material, we will look at the heritage sequence starting from the most recent historical period and extending back to the pre-colonial past.

5.1 Aerial photos

These are a valuable source of information of recent history and land transformation. The earliest series dates to 1938.

5.1.1 Aerial photo: 1953

In Figure 3, construction of the airport was at a very advanced stage. Of relevance to the current study is the small patches of cleared farmland at the southern end of the project area, which appear to have diminished since the 1944 image. The railway line (now removed) is a prominent development on the site. The dune formations on the eastern side are still undeveloped though vegetation is encroaching.

5.1.2 Aerial photo: 1944

In Figure 4, a number of distinct fields can be seen at the southern end of the project area, as well as to the northern part of the site (most visible on the 1938 image). These latter fields were all covered over during the later construction. Dune formations on the east still show unvegetated patches. The railway line (now removed) is a prominent development on the site

5.1.3 Aerial photo: 1938

In Figure 5, farming is very evident in the northern and southern sections of the site. Large areas of mobile dune are visible on the eastern edge. The railway line was built after this photo was taken.



Figure 3: Compilation of 1953 aerial photos with project footprint (red) and runaway realignment (purple) superimposed

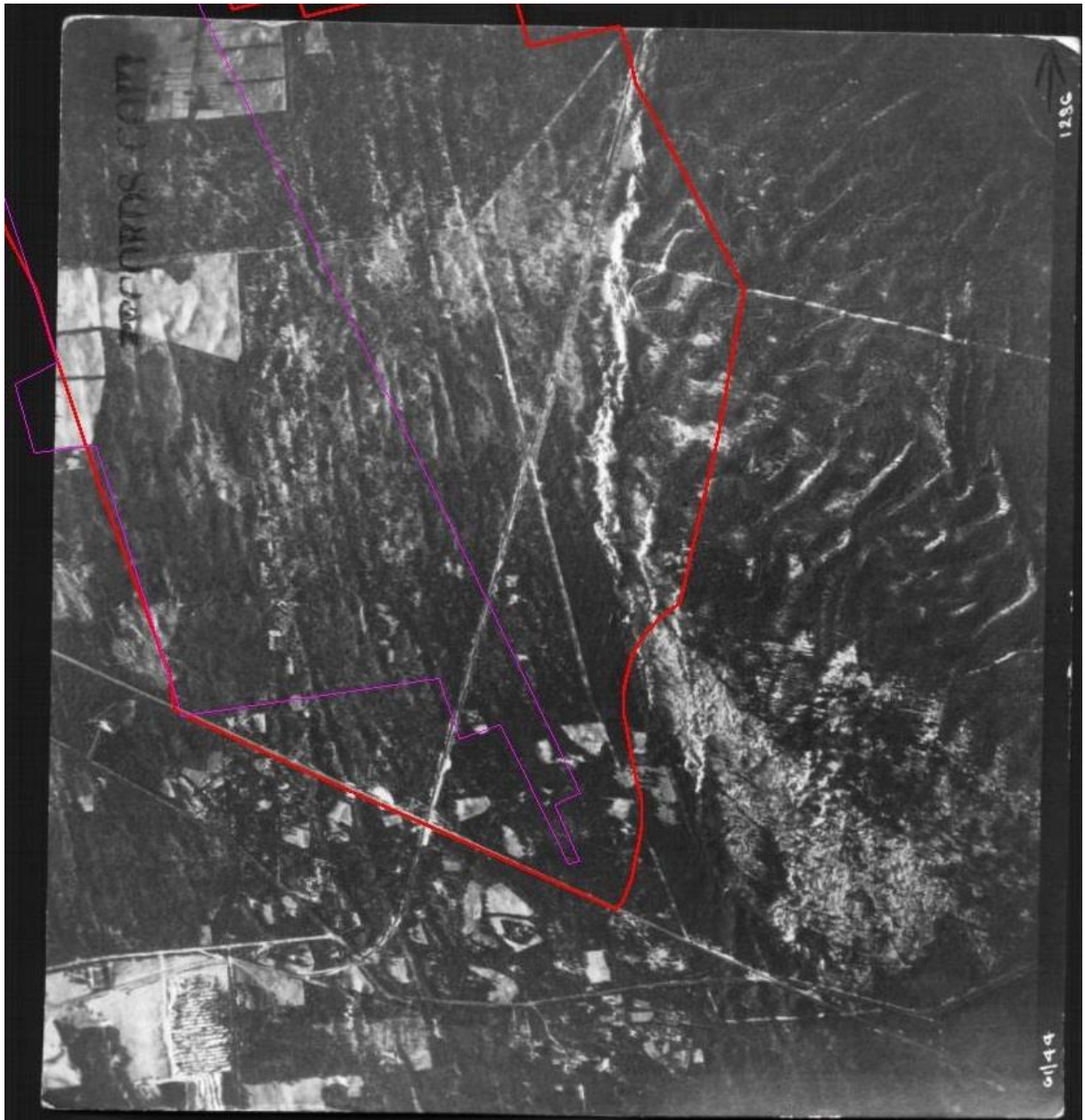


Figure 4: Compilation of 1944 aerial photos with project footprint (red) and runaway realignment (purple) superimposed

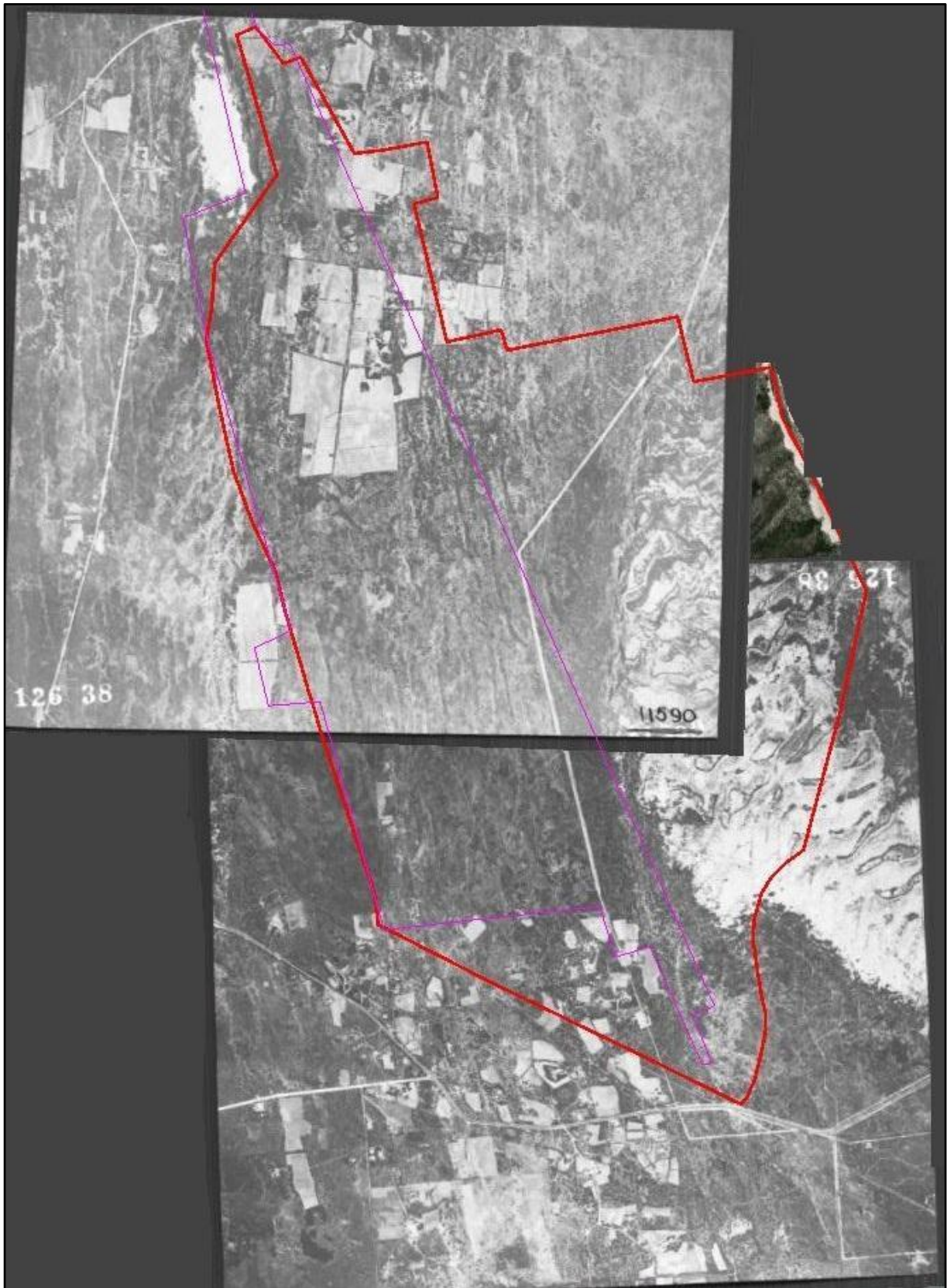


Figure 5: Compilation of 1938 aerial photos with project footprint (red) and runaway realignment (purple) superimposed

5.2 Identified heritage within the project footprint

Fieldwork undertaken by Mr Tim Hart of the Archaeology Contracts Office at UCT for Aikman Associates, and they noted that: examination of an aerial photograph of the airport area taken in 1955 showed that the farm was still active in that cleared areas of land and some patches of small fields existed at the time. It is also possible to discern several small structures (other than the farm house) in the area. These may have been wood and iron buildings, which have not survived to the present day.

Today the site is completely overgrown, standing structures have been stripped of all fittings and have deteriorated considerably since they were vacated. The standing remains are detailed below:

- The remains of what might have been the Klip Fontein dwelling house: a vernacular structure built of chunks of calcrete, using calcrete mortar (33.9327° S 18.61871° E). Parts of the front of the building have been plastered with modern cement indicating recent occupation. The building appears to have taken the form of an end-gabled cottage with a central entrance and rooms on the left and right sides. On the front was a long stoep while the rear took the form of an afdak, which contained the kitchen (hearth still present). Further rooms had been built against the left-hand end-gable. The structure has no roof and the floors of the building are covered with toppled plaster and vegetation. No obvious dumps or kitchen middens were visible in the vicinity of the structure.
- The foundations of a small two roomed dwelling built of calcrete chunks and calcrete mortar (33.9135° S 18.61811° E): the remains are heavily inundated with vegetation. Nearby is a round pit into the calcrete which may have once been a well. It is now dry. This structure may have been a labourer's cottage or outbuilding of Klip Fontein farm. No obvious dumps or kitchen middens were visible in the vicinity of the structure.
- The foundations of a single (?) room structure built of calcrete chunks and calcrete mortar heavily overgrown with vegetation (33.9126°S 18.61736°). No obvious dumps or kitchen middens were visible in the vicinity of the structure.

The following mitigation was suggested at the time:

- The structures are poorly preserved and do not merit conservation or major changes to any development plans. To mitigate against the loss of information it is suggested that the following action is taken before the development activities begin:
- The sites need to be cleared of vegetation and the standing structures exposed. The debris needs to be cleared from the interior of the rooms.
- The floor plan, and where possible, elevations of structures need to be recorded by means of measured drawing and photography. A report detailing the work must be lodged with SAHRA.
- The client must apply to SAHRA for a permit to destroy any structures that are over 60 years old. SAHRA will issue such a permit if they are satisfied that the mitigatory measures that have been taken are satisfactory.
- The clumps of eucalyptus which appear not to be of any of the Category 2 species listed as alien invaders and are definitely not *Eucalyptus lehmanii*, Category 1 in the Western Cape, should be retained if possible in any new development.

5.3 Significance of the structures

The significance of the structures is that they are the remains of one of the earliest Cape Flats farms that have been identified to date. The remains of these structures have the potential to increase existing knowledge of both the building and lifestyle of these small marginal farms, the study and

conservation of which has been often neglected in favour of the more spectacular structures (“Cape Dutch”) more commonly associated with the winelands. The remaining clumps of eucalyptus are closely associated with the structures and are good indicators of the site’s agricultural history.

6. OTHER PROJECTS

The SAHRIS database indicated a number of small heritage projects in the immediate vicinity of the study area and those consulted have been listed in the references. Some are archaeological impact assessments while others have a broader heritage focus. While some mention historical structures is made, none of the record any trace of stone age archaeological material. Although these observations pertain specifically for proximate projects, this tends to be true for the broader Cape Flats region and numerous other studies further afield can attest to this fact. Mention is made by Kaplan of Victorian bottle dumps in the vicinity of the old Simon VD Stel rifle range (Kaplan 1992) which lay to the north east of the project footprint and which has now been covered by the extension of Delft township.

7. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The site as it stands today consists of two broad areas namely, the active airport and runway zone, and the area to the east which lies vacant and largely undeveloped, though subject to various small human interventions.

7.1 Main airport

The development of the main active airport inside the security perimeter will for the most part have obliterated any heritage material that may have existed at the surface, although some palaeontological material could still be present below surface. Victorian bottle dumps are known from the Delft area and there is a very small chance of encountering such objects here. Human remains may be present below surface that relate to either the old farms, or pre-colonial inhabitants of the area, but the position/s will be impossible to predict. The former is more likely. There would seem to be little point in assessing this area further during the EIA. It is possible that a palaeontologist may wish to inspect any deeper excavations during the construction stage to determine if any older deposits exist.

7.2 Eastern area

While largely undeveloped recently apart from various minor interventions, the site is quite heavily infested with alien vegetation. Traces of the original dune system are still preserved though difficult to access. While we cannot rule out the possibility of finding pre-colonial archaeological material there, given the paucity of reported material in the area, it is unlikely.

Some historical structures relating to the earliest farming of the area existed on the site in 2001, but even then were in poor state of repair. These probably represent the only tangible heritage resources on the site. It needs to be determined through fieldwork if the structure/s still stand, and if anything is left to record as was suggested when they were first identified. Victorian bottle dumps are known from the Delft area and there is a very small chance of encountering such objects here. Human remains may be present below surface that relate to either the old farms, or pre-colonial inhabitants of the area, but the position/s will be impossible to predict. The former is more likely.

Similarly, palaeontological material may exist in the dunes, but with deposition over the years is unlikely to be visible now. As with the main airport, deeper excavations during construction may expose older deposits of interest.

8. CONCLUSION

The proposed expansion footprint is considered to be of very low heritage sensitivity and the landscape would probably not be considered worthy of any form of heritage grading. While some

minor mitigation may be required, no fatal flaws have been identified that would inhibit the proposed expansion project. It needs to be determined during fieldwork if any trace of cemeteries or informal graves could be recognised. Apart from the human remains issue, these conclusions are made with a high degree of confidence.

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