Archaeological Impact Assessment

Proposed Sedgefield College on Portions 14, 15 & 18 of Farm 187, Sedgefield, George, Eden, Western Cape Province

prepared for

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by

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Executive Summary

As requested in a RoD issued by Heritage Western Cape (HWC), an Archaeological Impact Assessment (AIA) was conducted for the above-named project on 15 May 2010 (HWC RoD ID 937 & Case ID 1061). The vast bulk of the study area is disturbed by activities associated with pine plantations, and the ground surface is covered with a layer of pine needles and other vegetation litter. As a result, archaeological visibility is very poor. Intense animal burrowing occurs in clearings. Only small areas were exposed for archaeological inspection though much of the study area was accessible on foot.

No archaeological or tangible heritage related resources were identified in the study area, but it is possible that such materials occur beneath plantation litter and in subsurface sediments.

Aside archaeology, it was noted that the study area is between roughly 2 and 15m above mean sea level, and that the bulk of geological sediments consist of easily eroded sands. Given the proximity of the proposed development to a large, tidal water body, the impact of scientifically predicted rise in sea levels should be considered.

Provided that the recommended mitigation measure – as approved by Heritage Western Cape - is implemented, it is suggested that the proposed project be approved.

It is recommended that;

- *Archaeological monitoring should be conducted by a professional archaeologist during vegetation clearing and earthmoving activities so as to avoid or minimize negative impact on potential subsurface archaeological resources.*

Note that;

- *In the event that vegetation clearing and earthmoving activities expose archaeological or paleontological materials, such activities must stop and Heritage Western Cape must be notified immediately.*
- *If archaeological materials are exposed during vegetation clearing and/or earth moving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer.*
- *In the event of exposing human remains during construction, the matter will fall into the domain of Heritage Western Cape (Mr. Nick Wiltshire) or the South African Heritage Resources Agency (Ms Mary Leslie) and will require a professional archaeologist to undertake mitigation if needed.*

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1. Introduction

1.1 Background

In accordance with an RoD issued by Heritage Western Cape for the proposed Sedgefield College, Sedgefield, George, Western Cape Province (Figures 1 & 2), Ms Cathy Avierinos of HilLand Associates appointed CHARM to conduct an Archaeological Impact Assessment (AIA) of the affected properties in accordance with Section 38 of the National Heritage Resources Act (Act 25 of 1999)

The study area is currently used as a pine plantation and includes Portions 14, 15 & 18 of Farm 187, Sedgefield, George, Eden (see Figure 2). The proposed development includes the construction of school buildings, infrastructure and associated services. It is assumed that the entire study area will be impacted by development activities that will include large scale earthmoving operations. These activities could have a permanent negative impacts on archaeological and tangible heritage related resources.

A detailed layout plan was not available at the time of preparing this report, but coordinate data for boundary points are given in Table 1 (also see Figure 2), and further details and specifications can be obtained from Ms. Cathy Avierinos – see contact details on the title page of this report.

1.2. Purpose and Scope of the Study

Objectives of the Archaeological Impact Assessment and heritage scoping study are:

- To assess the study area for traces of archaeological and heritage related resources;
- To identify options for archaeological mitigation in order to minimize potential negative impacts; and
- To make recommendations for archaeological mitigation where necessary
- To identify heritage resources and issues that may require further attention and to complete the HWC NID form.

Terms of Reference (ToR):
a) Locate boundaries and extent of the study area.
b) Literature review of earlier archaeological work in and near study area
c) Conduct a survey of the study area to identify and record archaeological and heritage related resources.
d) Assess the impact of the proposed development on above-named resources.
e) Recommend mitigation measures where necessary.
f) Prepare and submit a report to the client that meets standards required by Heritage Western Cape in terms of the National Heritage Resources Act, No. 25 of 1999
g) Prepare and submit HWC NID form.

As requested, a Heritage Western Cape (HWC) Notice of Intent to Develop (NID) form was completed, signed by the author and submitted with this document.

1.3 Study Area

The study area of some 50ha is comprised of Portions 14, 15 & 18 of Farm 187, Sedgefield and is situated approximately 7.5km and 17km from Sedgefield and Wilderness respectively.

The study areas were accessed by vehicle via the N2 from Mossel Bay and by taking the Swartvlei/Pine Lake Marina turnoff some 15.2km after Wilderness (see red direction arrows in Figure 1).

The study area is disturbed by relatively recent human activities associated with the pine plantation and where vegetation is cleared, extensive and intense animal burrowing occurs. No unaffected indigenous vegetation was seen and is restricted to the area where the property borders on the Swartvlei. In addition to pine trees, numerous eucalyptus trees are present. Examples of the affected environment – development, vegetation, topography, disturbances, and so on - are shown in Plates 1 through 4. Dune sands are the only geological sediment seen in the study area.

Table 1. Coordinate data for boundary points and photo localities (see Figure 2 and Plates 1 to 4)

Name	**Description** img=image snd=sound	**Datum: WGS 84 Lat/Lon dec.degrees**	**Datum: WGS 84 Grid: SA National**
1	img7088-91	S34.00333 E22.72788	23 Y0025139 X3764064
2	img7092-3 snd7093	S34.00086 E22.73832	23 Y0024175 X3763788
3	img7094-5 snd7095	S33.99990 E22.73836	23 Y0024171 X3763681
4	img7096 snd7096	S34.00024 E22.73759	23 Y0024242 X3763719
5	img7097 snd7097	S33.99852 E22.73757	23 Y0024245 X3763528
6	img7098-9 snd7099	S33.99656 E22.73854	23 Y0024156 X3763311
7	img7100-1 snd7101	S33.99614 E22.73846	23 Y0024164 X3763264
8	img7103 snd7103	S33.99649 E22.73948	23 Y0024070 X3763302
9	img7104 snd7104	S33.99699 E22.73855	23 Y0024155 X3763358
10	img7105-6 snd7106	S33.99955 E22.73758	23 Y0024244 X3763642
11	img7107-8 snd7108	S33.99686 E22.73622	23 Y0024370 X3763345
12	img7109-12 snd7112	S33.99575 E22.73649	23 Y0024346 X3763221
13	img7113 snd7113	S33.99534 E22.73710	23 Y0024289 X3763176
14	img7114-5 snd7115	S33.99658 E22.73508	23 Y0024475 X3763313
15	img7116-8 snd7118	S33.99298 E22.73533	23 Y0024453 X3762914
16	img7119-22 snd7121	S33.99131 E22.72567	23 Y0025346 X3762731
17	img7123 snd7123	S33.99210 E22.72475	23 Y0025431 X3762819
18	img7124-5 snd7125	S33.99289 E22.72689	23 Y0025233 X3762907
19	img7126-9 snd7129	S33.99205 E22.72786	23 Y0025144 X3762813
20	img7130 snd7130	S33.99800 E22.73423	23 Y0024554 X3763472
A	boundary point	S33.99114 E22.72509	23 Y0025400 X3762713
B	boundary point	S33.99307 E22.73582	23 Y0024408 X3762924
C	boundary point	S33.99651 E22.73513	23 Y0024471 X3763305
D	boundary point	S33.99684 E22.73621	23 Y0024371 X3763343
E	boundary point	S33.99575 E22.73634	23 Y0024360 X3763222
F	boundary point	S33.99521 E22.73721	23 Y0024279 X3763161
G	boundary point	S33.99629 E22.74034	23 Y0023989 X3763280
H	boundary point	S34.00060 E22.73850	23 Y0024158 X3763759
I	boundary point	S33.99478 E22.73020	23 Y0024927 X3763116
J	boundary point	S33.99279 E22.72705	23 Y0025218 X3762895
K	boundary point	S33.99201 E22.72472	23 Y0025434 X3762809

1.4 Approach to the Study

Previous archaeological work in the vicinity and in contexts roughly like that investigated here, no archaeological materials were recorded on exposed sand surfaces (Nilssen 2009a & b).

On behalf of the client, Ms Cathy Aviernos provided a locality map of the study area. A foot and vehicle survey was conducted and the bulk of the study area was accessible on foot, but near zero ground visibility precluded comprehensive coverage. Archaeological visibility was inadequate for investigation and assessment.

Survey tracks were fixed with a hand held Garmin Camo GPS to record the search area (Figure 2, gpx tracking file submitted to HWC and is available from author). Photo localities were also fixed by GPS (Figure 2, Plates 1 through 4 and Table 1). Digital audio notes and a high quality, comprehensive digital photographic record were also made (full data set available from author). Localities of photographs are established by matching the numbers on photographs with those of waypoints in Figure 2. Directions of views are indicated with compass bearing names like E is east; WSW is west south west, and so on. Bearing names on panoramic views indicate the bearing at the position of the label.

2. Results

On 14 May 2010, in approximately 4 hours of survey, a distance of 15km was covered over an area of about 15ha, of which an average of less than 5% provided good archaeological visibility (Figure 2 and Plates 1 through 4). Sediments in the study area are fully disturbed.

Areas that are open to archaeological inspection are severely disturbed by animal burrows. Mole heaps often reveal the presence of subsurface archaeological materials and moles can fetch materials from as deep as 1.5m or so. Nevertheless, no archaeological or tangible heritage related resources were recorded during the survey.

Aside archaeology, it was noted that the study area is between roughly 2 and 15m above mean sea level, and that the bulk of geological sediments consist of easily eroded sands. Given the proximity of the proposed development to a large, tidal water body, the impact of scientifically predicted rise in sea levels should be considered.

3. Sources of Risk, Impact Identification and Assessment

Proposed development activities that may have a permanent negative impact on archaeological resources in the study area include vegetation clearing and earthmoving activities.

Earthmoving activities will penetrate sediments unaffected by previous disturbances. Although results of the study suggest that the presence of subsurface archaeological materials is unlikely, their presence cannot be ruled out.

Table 3 summarizes the potential impact of the proposed development on archaeological resources with and without mitigation.

Table 3. Potential impact on and loss of archaeological resources.

	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	High	High
Probability	Low to None	Unknown
Significance	Unknown	Unknown
Status	Unknown	Unknown
Confidence	High	High

Provided that the recommended mitigation measure - as approved by Heritage Western Cape - is implemented, it is recommended that the proposed activity be approved.

4. Required and Recommended Mitigation Measures

The following measures are required:

- In the event that vegetation clearing and earthmoving activities expose archaeological or paleontological materials, such activities must stop and Heritage Western Cape must be notified immediately.
- If archaeological materials are exposed through earthmoving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer(s) and/or property owner(s).
- Unmarked human burials may occur anywhere in the landscape and are often exposed during earthmoving activities. Human remains are protected by law and, if older than 60 years, are dealt with by Heritage Western Cape (Mr. Nick Wiltshire 021 483 9685) or the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

It is recommended that;

- Archaeological monitoring be conducted during vegetation clearing and earthmoving activities in order to avoid or minimize impact on potential subsurface archaeological materials.

References

Nilssen, Peter. 2009a. Archaeological Impact Assessment, Proposed Sand Mine on a portion of Bovenlange Valley 189, Sedgefield, District George, Western Cape Province, prepared for Alan Cave, Cave Klapwijk Associates, Tel: 012 3624654

Nilssen, 2009b. Archaeological Impact Assessment, Sedgefield Water Supply Augmentation Scheme: Erf 3517, Galjoen Road, Erf 1634, Erf 2445, Bitou Street, Oestervanger Road, Melkhout Street, Erf 3859, Erf 3858 and Erf 3518, Sedgefield, Knysna Municipality, Western Cape Province, prepared for Knysna Municipality, P.O. Box 21, Knysna, 6570, tel 044 302-6383, c/o Ms Melissa Mackay (Cape EAPRAC)

Figures and Plates (on following pages)

Figure 1. General location of study area relative to Sedgefield, Western Cape Province. Map courtesy Surveys and Mapping.

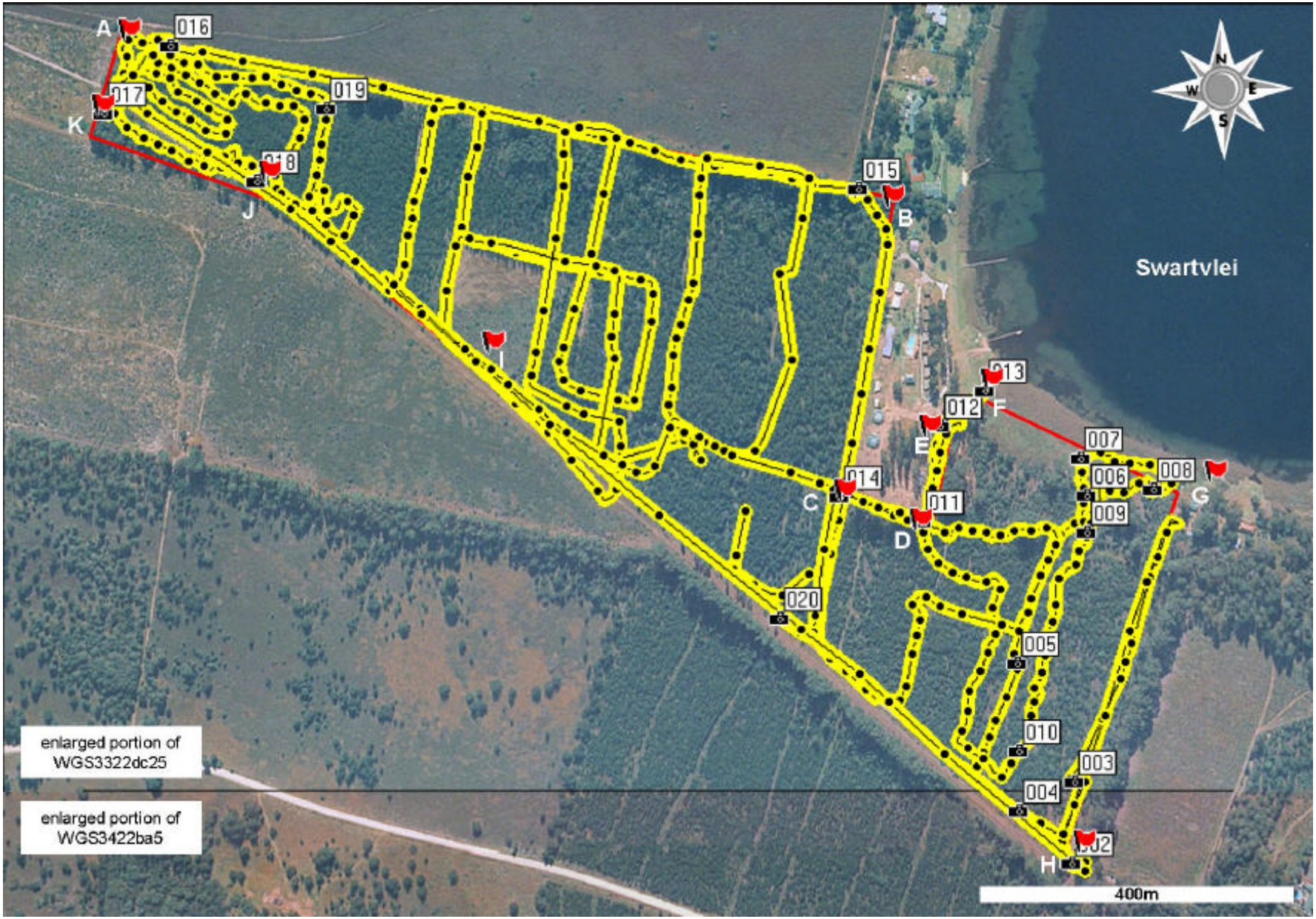

Figure 2. Enlarged area indicated in Figure 1 showing the study area, boundary points, waypoints and survey tracks. Courtesy Surveys & Mapping.

Plate 1. Examples of the surrounding environment, topography and vegetation cover (see Figure 2 and Table 1).

Plate 2. Examples of the surrounding environment, topography and vegetation cover (see Figure 2 and Table 1). Note mole heaps in 16.

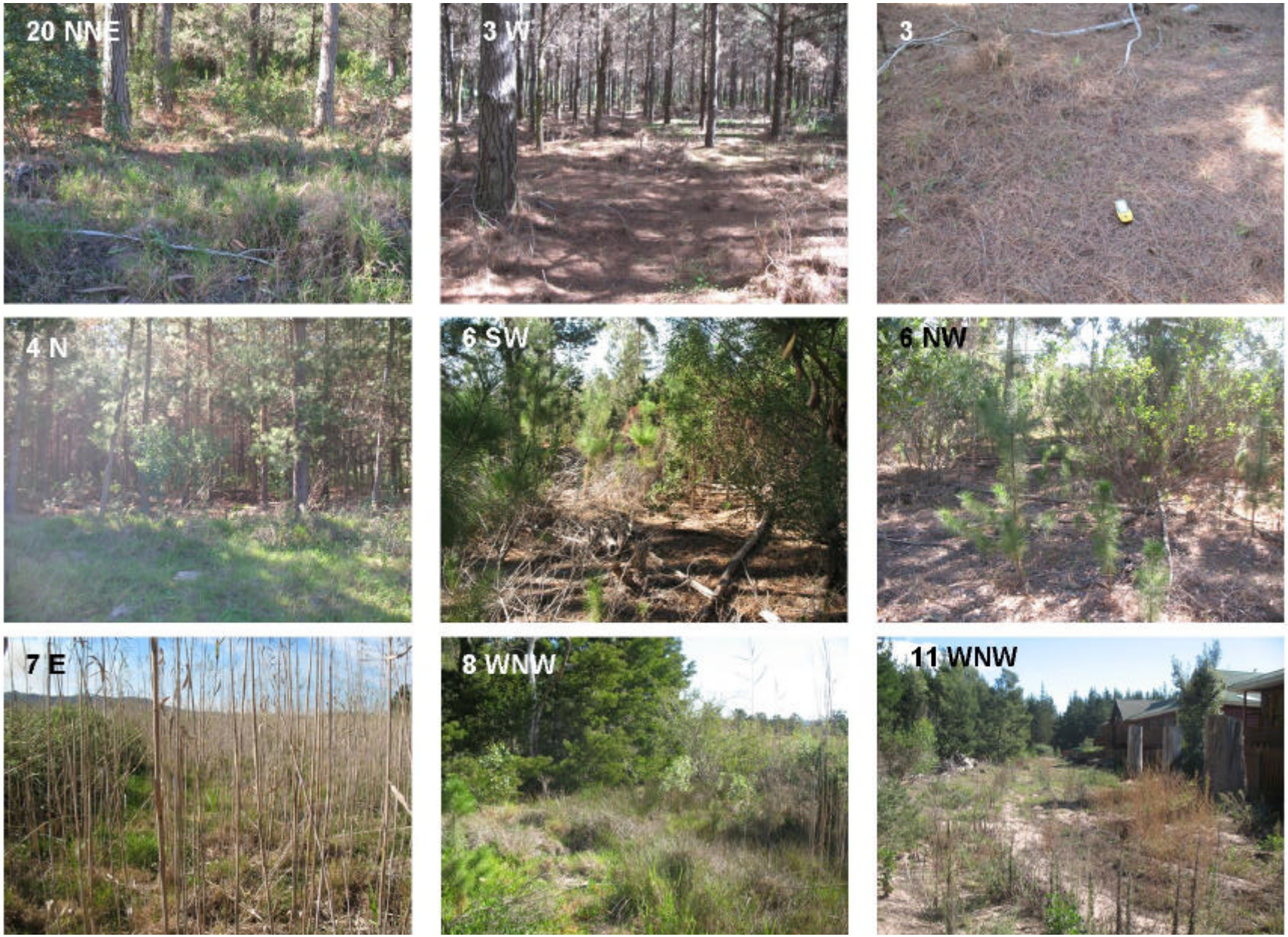

Plate 3. Examples of Examples of the surrounding environment, topography and vegetation cover (see Figure 2 and Table 1).

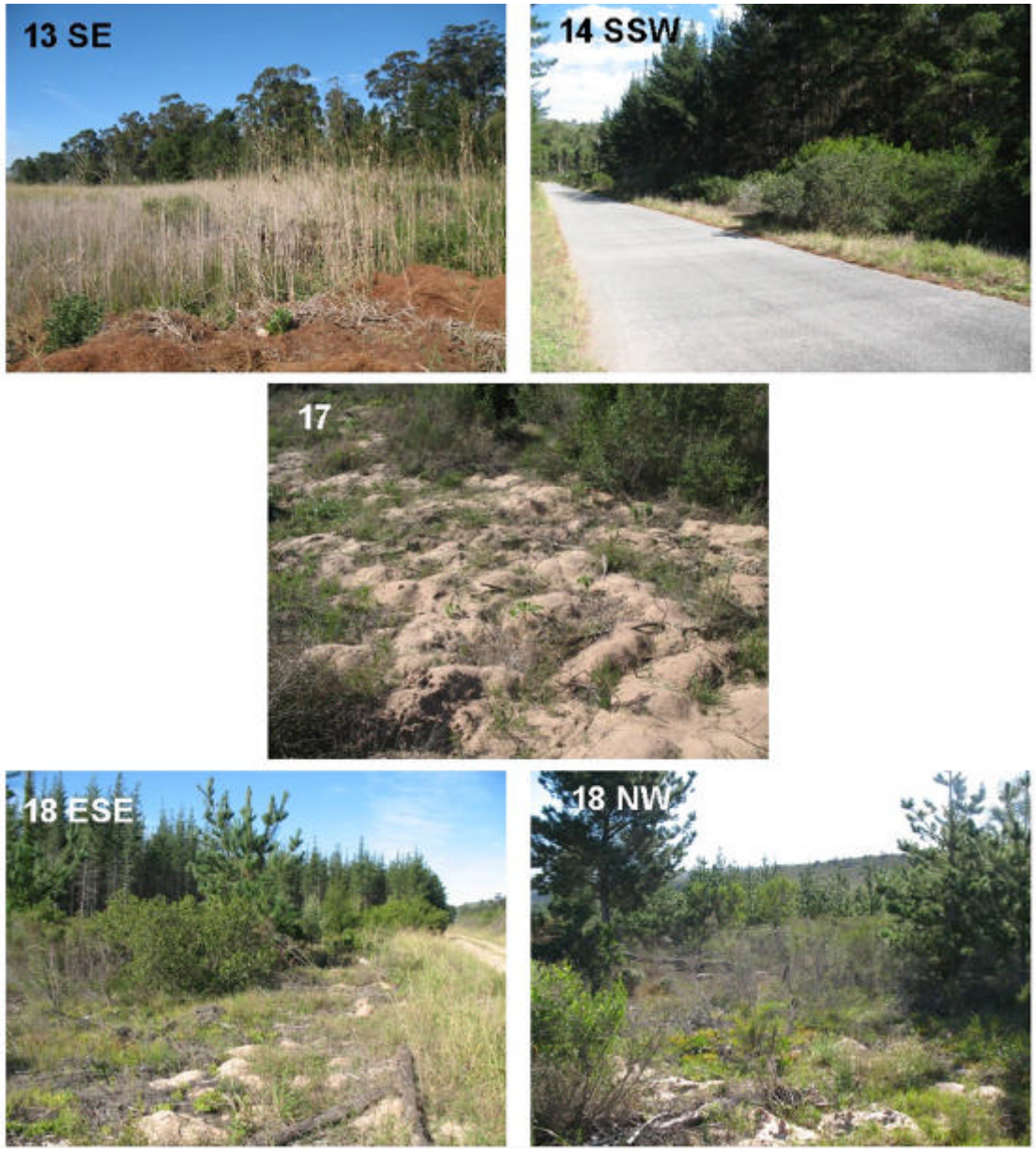

Plate 4 Examples of the surrounding environment, topography and vegetation cover (see Figure 2 and Table 1). Note mole heaps in 17 & 18.