PastTraces
Heritage Consultants

Block 1582 Belconnen (Partial)

– Updated Aboriginal Cultural Heritage Assessment.

Report Prepared for Suburban Land Agency

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- Maps, Mapping Grid Reference Co-ordinates or images for Aboriginal heritage sites, places and objects.
- Location or detailed information regarding places of Aboriginal cultural significance, as expressed or directed by Representative Aboriginal Organisations, Aboriginal elders, or members of the wider Aboriginal community.
- Other culturally appropriate restricted information as advised by Aboriginal representatives and traditional knowledge holders.

Information in the report covered by the above categories should be redacted before being made available to the general public. This information should only be made available to those persons with a just and reasonable need for access.

Acknowledgements

This report would not have been possible without the assistance of the following people and organisations in the preparation of this report:

- Paul House - Mirrabee
- Wally Bell – Buru Ngunawal Aboriginal Corporation
- James Mundy – Ngarigu Currawong Clan
- Adrian Brown – King Brown Tribal Group

Abbreviations

CHA – Cultural Heritage Assessment

RAO – Representative Aboriginal Organisation registered under *Heritage Act 2004*

PAD – Potential Archaeological Deposit

SHE – Statement of Heritage Effects

UDP – Unanticipated Discovery Plan

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EXECUTIVE SUMMARY

Past Traces Pty Ltd has been engaged by the Suburban Land Agency, to prepare an Aboriginal Cultural Heritage Assessment (CHA) for the south western portion of Block 1582 Belconnen. The block is being assessed for use as a green waste recycling and composting facility. The CHA covers the areas of the southwestern section of Block 1582, covering an area of approximately 35 hectares. Of this 35ha, only 7.45ha is not under vineyard cultivation. This 7.45ha is in the northern section and is the site of most of the current infrastructure including buildings, access roads, and water tanks. None of the proposed works (impact footprint) are placed within this section and no impacts will occur as a result of the development. The entire southwest portion of Block 1582 was assessed to allow for assessment of siting options despite only a small portion of the block being impacted by works. The proposed works will cover an area of approximately 4.6ha.

The project area is shown in Figure 1 in a regional context and in detail in Figure 2. The selected option for the proposal, and the impact footprint resulting is provided in Figure 3.

Vineyard cultivation has been undertaken over the area of the impact footprint and the southern remainder of Block 1582. Viticulture is a highly invasive activity, which through the removal of all vegetation, deep insertion of irrigation facilities, fencing, trellising and planting of vines removes heritage sites within these areas of high impact. As a result, field survey over the area of cultivation was not undertaken and a desktop assessment only was completed for these sections. This was confirmed by the field survey team and any additional areas where impacts have not removed all potential were subject to visual inspection.

A review of the information available on the ACT Heritage Register and in previous assessments was undertaken to determine if heritage sites were recorded in the vicinity. The CHA also reviewed previous work in the area to gain background information and to inform predictive modelling. No Aboriginal heritage sites or areas of PAD were identified in the vicinity of works from the desktop review and landforms accorded low potential.

Field survey was undertaken across the project area in 3/12/21 which identified two isolated finds, both distant to the proposed impact footprint. These sites have been designated Stockdill Isolated Find 1 and 2. These sites are not at potential risk from the project and no mitigation measures will be required.

Consultation with the Aboriginal Representative Aboriginal Organisations (RAOs) has been undertaken in accordance with ACT Heritage guidelines and the *Heritage Act 2004*. The RAOs were provided with report details, participated in the 2021 field survey and provided guidance in regards to significance and appropriate management strategies. Details of consultation are provided in Appendix 1.

As a result of the assessment completed for the project the following findings and recommendations apply:

- Two Aboriginal heritage sites (SIF1, SIF2) are located within the project area. These sites are listed in Table 6. As these sites are distant to works, no mitigation measures are required. The site locations must communicated to the project manager prior to works and be avoided. It is an offense to impact heritage sites without approval from the ACT Heritage Council.
- The broad locations of SIF1 and SIF2 are to be identified, with conditions, on relevant plans for construction and/or the project's Construction Environment Management Plan (CEMP) if applicable. The location and nature of SIF1 and SIF2 is sensitive information. To ensure that the information about these heritage places is not distributed or shared, the location of SIF1 and SIF2 should be included in relevant plans and the CEMP (if applicable) with a 20m radius buffer and noted only as a 'no-go environmental protection area' or similar.
- In the event of any alteration in development footprint additional assessment would be required.
- If unrecorded heritage items are located during works, then the process outlined in the Unanticipated Discovery Plan (Appendix 2) should be implemented.
- As no heritage sites will be impacted by the development, approval of a Statement of Heritage Effect by the ACT Heritage Council is not required to allow the works to progress.
- This CHA should be submitted to the ACT Heritage Council for endorsement prior to any works commencing.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Past Traces Pty Ltd has been engaged by the Suburban Land Agency, to prepare an Aboriginal Cultural Heritage Assessment (CHA) for the south western portion of Block 1582 Belconnen for use as a green waste recycling and composting facility. The CHA covers the areas of the southwestern section of Block 1582, covering an area of approximately 35 hectares. Of this 35ha, only 7.45ha is not under vineyard cultivation. This 7.45ha is in the northern section and is the site of most of the current infrastructure including buildings, access roads, and water tanks. The entire southwest portion was assessed to allow for assessment of siting options despite only a small portion of the block (approximately 4.6ha) being impacted by works.

Vineyard cultivation is a highly invasive activity which through the removal of all vegetation, deep insertion of irrigation facilities, fencing and trellising, levelling of landforms to provide optimal planting and water provision and planting of vines removes heritage sites within these areas of high impact. As a result, field survey over the area of cultivation was not undertaken and a desktop assessment only was completed for these sections. This level of disturbance was confirmed by the field survey team and any additional areas where impacts have not removed all potential were subject to visual inspection.

The project area is shown in Figure 1 in a regional context and in detail in Figure 2. The selected option for the proposal, and the impact footprint resulting is provided in Figure 3.

The proposed development will involve limited areas of ground disturbance that has the potential to impact on unidentified Aboriginal and historic heritage sites (places and/or objects), which are protected under the ACT *Heritage Act 2004.* This CHA has reviewed heritage registers, previous work in the area to gain background information, inform predictive modelling and completed a field survey across the project area to determine if any heritage constraints apply to the project area or the potential to impact on any heritage sites is present.

1.2 PROPOSED WORKS AND IMPACTS

The proposal to temporality site the Canberra Sand and Gravel Green Waste Recycling and Composting facility within Block 1582 would result in the following impacts:

- Removal of current vineyard infrastructure in areas
- Construction of a new entrance from Stockdill Drive
- Upgrade and/or construction of new internal roads
- Composting and green waste processing facility

Any heritage sites in the vicinity of works would be impacted by the proposed construction. As the project is at a design phase, it is anticipated that if any sites are located in the proposed impact area, the project will be re-designed to avoid impacts wherever possible.

1.3 ABORIGINAL CONSULTATION

Consultation with the Aboriginal community has been undertaken in accordance with ACT Heritage guidelines and the *Heritage Act 2004*. The four Representative Aboriginal Organisations (RAOs) participated in the field survey of the project area and provided guidance in regards to significance and appropriate management strategies. The RAOs consulted are:

- Mirrabee
- King Brown Tribal Group
- Buru Ngunawal Aboriginal Corporation
- Ngarigu Currawong Clan

In addition to the discussions held on site with the RAOs, a draft of this report was supplied for comments and follow up phone calls made to each of the RAOs to determine if they had any concerns with the management outcomes. The process of consultation is provided in Appendix 1. RAO views on significance are provided in section 4.1.1 and management outcomes reflect their views.

1.4 REPORT AIMS AND FORMAT

The CHA consisted of the following steps:

- Review of location of previously recorded sites in relation to works
- Review of previous reports in area to develop predictive model of site location
- Consultation with Aboriginal RAOs
- Assess landforms present in project area against predictive model to determine potential for heritage sites
- Complete field survey across project area.
- Record and assess sites identified during the survey as well as areas of Potential Archaeological Deposits (PADs)
- Identify potential impacts to all identified Aboriginal heritage sites and places as a result of the proposed works
- Complete CHA report with management recommendations to avoid or minimise impacts within the project area.

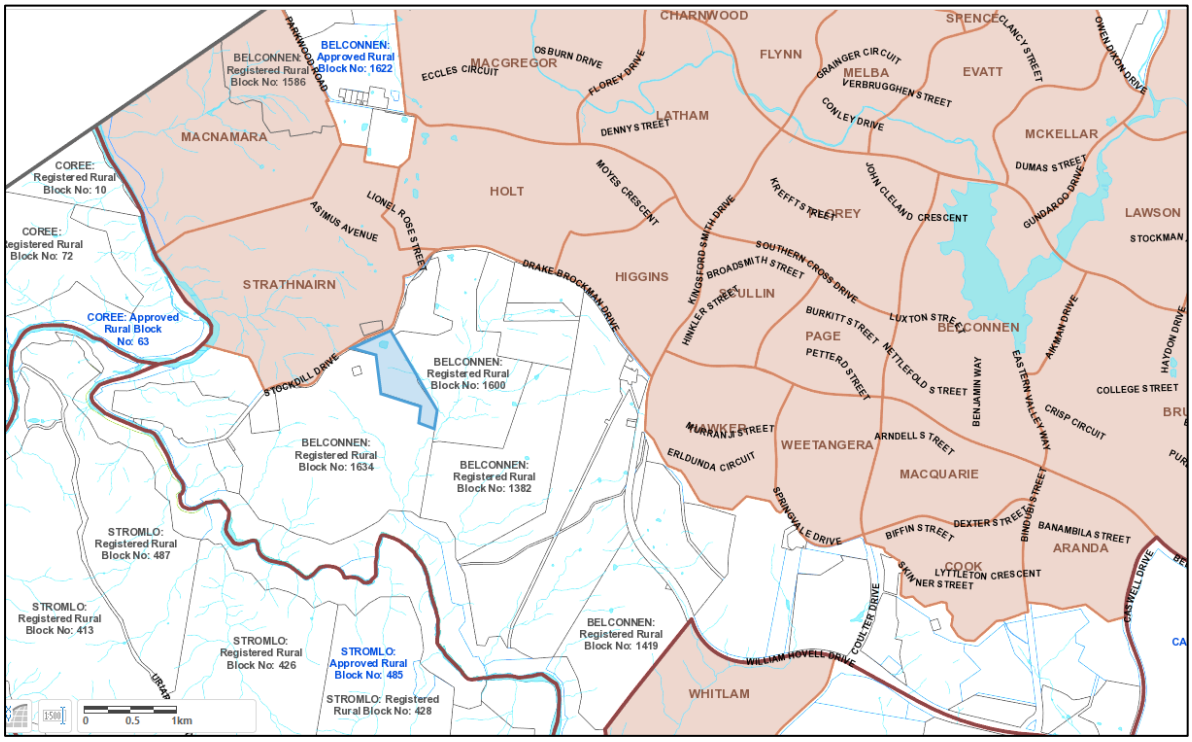

Figure 1. Regional context (Base Map ACTMAPi)

Figure 2. Project Area (Base Map ACTMAPi)

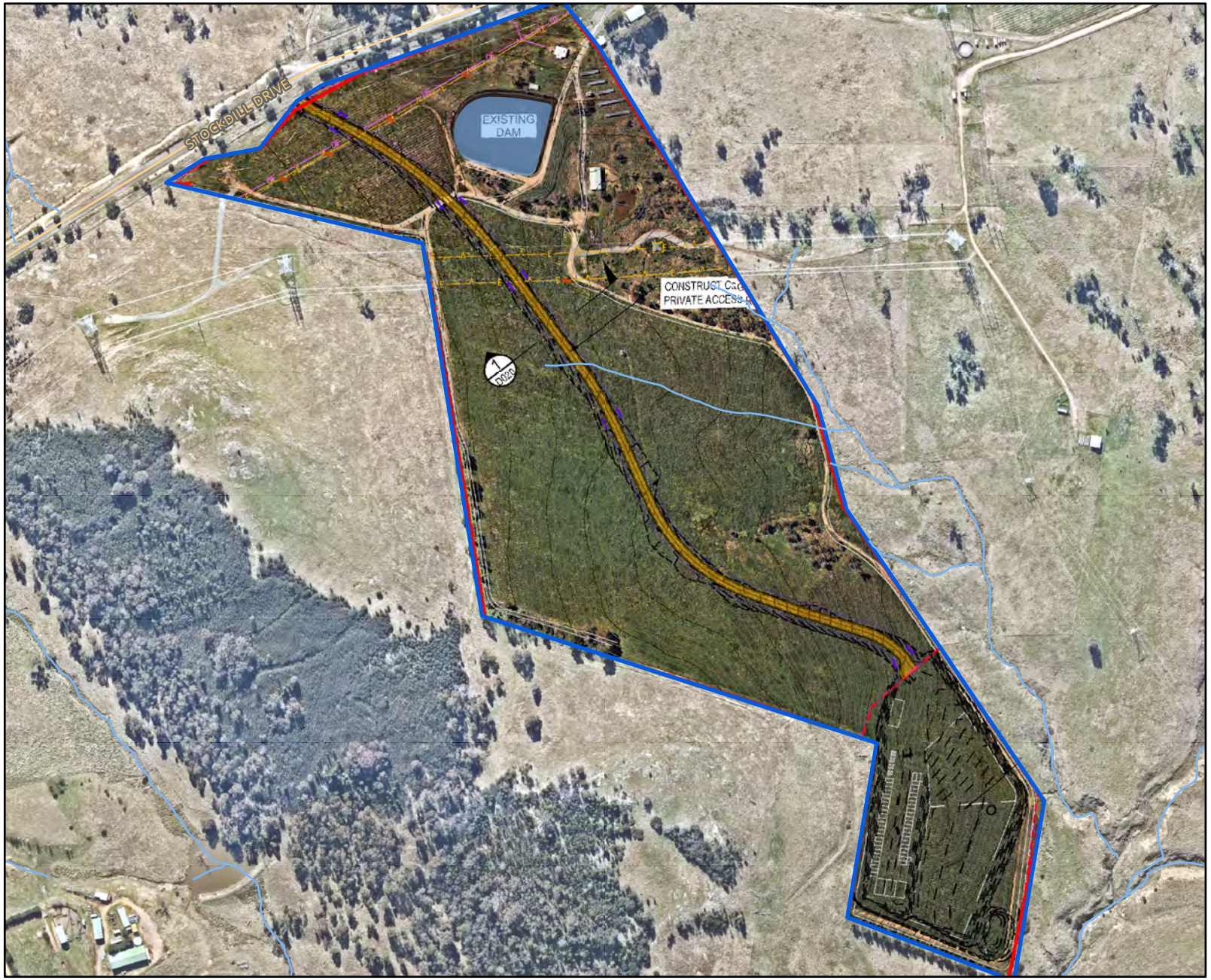

Figure 3: Impact Footprint

Legend

- Watercourse
- Road
- Project Area
- Waterbody

N

1:6,200

0 75 150 300

Meters

Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

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2 BACKGROUND INFORMATION

The following section briefly summarises the geology and landforms, flora and fauna of the project area. The discussion focuses on those elements of the natural environment that may have influenced past human behaviour and archaeological site formation processes.

2.1 REVIEW OF LANDSCAPE CONTEXT

2.1.1 Geology and Topography

The project area is underlain by the Walker and Mt Painter Volcanics. These late Silurian volcanic systems consist mainly of rhyolitic and dacitic tuffs. Quartz will be present naturally within this formation along with shales. Thin shallow soils characterise the area, highly acidic and easily erodible. A thin duplex soil system overlaying clay bedrock appears in profile across the area. The soil landscapes within the project area belong to the Burra group, consisting of the following:

- Burra group – The Burra Group contains shallow, well drained rudosols on the crests and upper slopes, grading to moderately deep, well drained red Podzolic soils on the mid-slopes and lower slopes. Brown Chromosols are present along drainage lines (Jenkins 2000:44). Soils depth range from 20 – 50cm averages across the area.

The soil landscapes across the project area are shown in Figure 4.

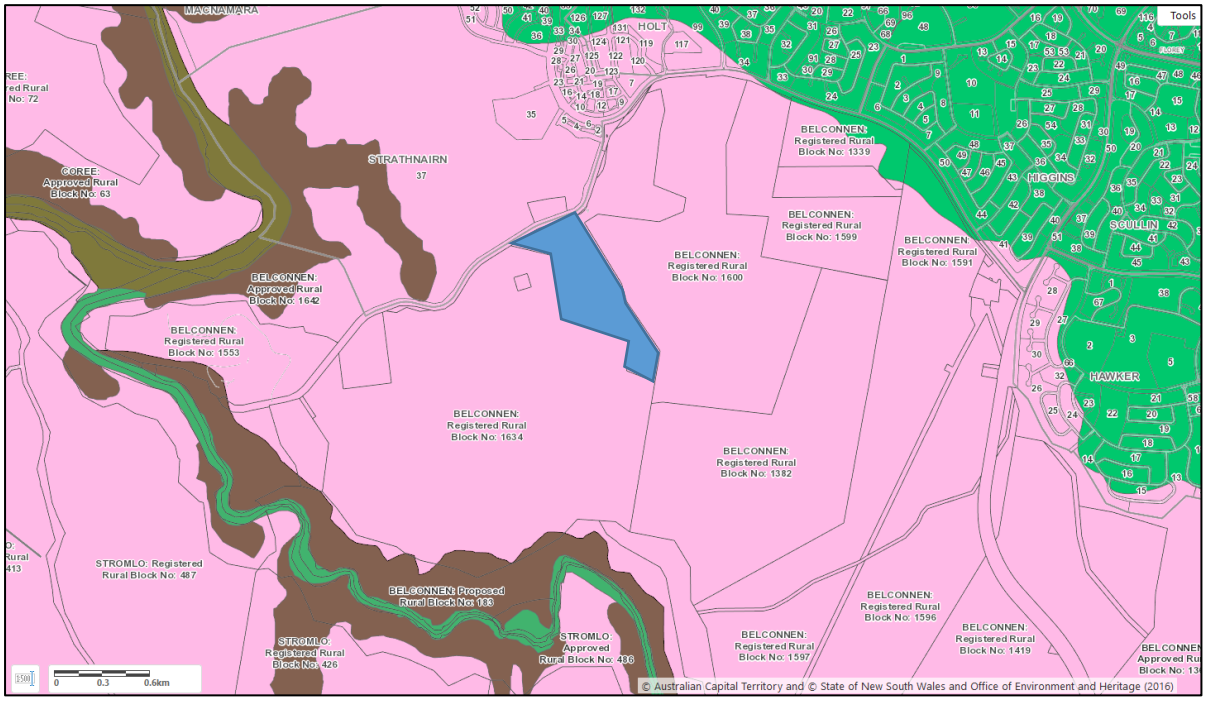

Figure 4. Soil Landscapes of the Project Area

The topography of the area consists of undulating to rolling hills with generally long to moderately inclining waning slopes (Jenkins 2000:132). Natural drainage lines through the area lead to the area of the Molonglo River in the south.

The landform elements that are present within the project area consist of gentle middle and lower slopes. These landform elements of gently sloping middle and lower slopes are assessed to hold low archaeological sensitivity based on previous site modelling and recorded site location. The landforms present are shown in Figure 5.

Slope gradients across the project area have been assessed as ranging between 0.1 – 10 degrees. This results in areas of almost level ground to gently sloping undulating surface. Slope gradients increase in the southern area of the impact footprint with slopes reaching in section 15 degrees. The slope gradients across the project area are shown in Figure 6. The potential of different landforms and slope are discussed in the predictive model in Section 2.4.

2.1.2 Land Use Impacts

Block 1582 has been subject to a high level of prior disturbance with infrastructure concentrated in the north east, near the main entrance gate and running to the south on the eastern side. Within this area are present dwellings, a pump station, constructed dam, graded and gravelled roads, site sheds, and a solar farm, with underground electricity connections. Underground electricity lines are also present, along with water and sewerage lines in this northern section.

The installation of vines across the remainder of the Block has involved vegetation removal, deep ripping of ground, underground irrigation and above ground fencing. The installation of a vineyard consists of the following impacts:

- Deep ripping for vine installation - Soil strength is a function of the soil's bulk density to bear weight whilst wet without suffering compaction. Vine roots are highly susceptible to compaction and as a result the soils in a vineyard must be cultivated to increase soil strength and reduce compaction (Clarke 2015:13). Prior to planting, the ground vegetation (consisting of weeds and grass coverage) are removed by stripping. Deep ripping, or subsoiling, is then completed along the planting rows. This results in the disturbance of soil levels down to 100cm by tynes with wings or points attached (Clarke 2015:25) breaking subsoils.
- Trellising and irrigation lines – underground irrigation lines are then installed along with trellis poles.
- Planting – the young vines are then planted into the rows,using a post hole digger or similar to achieve depth and soils redeposited around roots.
- Midrows – it is unclear if this has been undertaken at the vineyard as it has not been maintained. Mounding is the working up of midrow soil into a friable tilth which is then pushed under vine using a mounding blade, creating a "V" profile in the soil. The total amount of topsoil within the vine row is the same, however the depth of soil at the vine is significantly deeper (Clarke 2015:18). This middle area is then planted with a coverage species suited to local condition to reduce water loss and provide nitrogen.

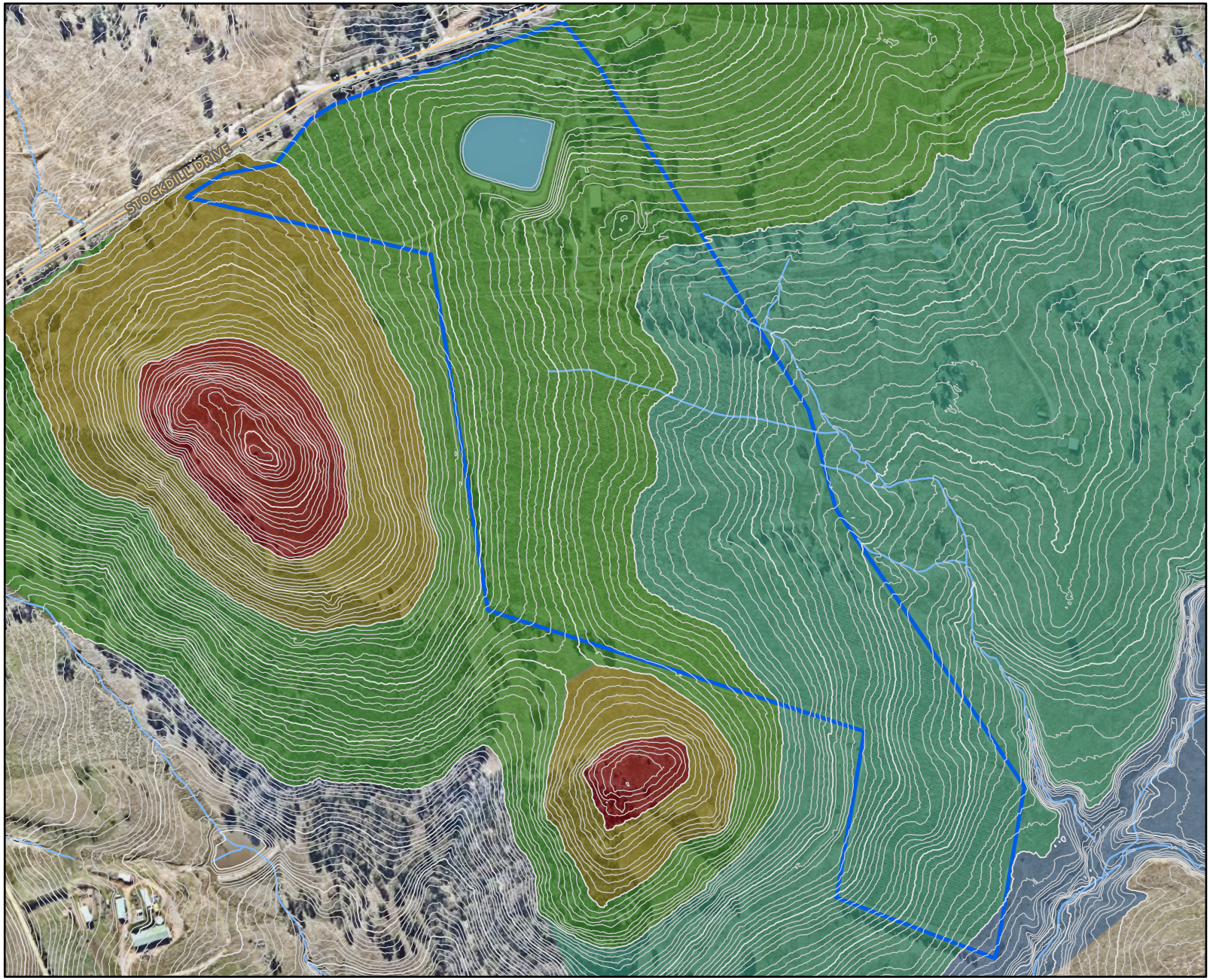

Figure 6: Landforms

Legend

- Contour - 1m
- Contour - 5m
- Watercourse
- Road
- Project Area
- Waterbody

Landform

- Crest
- Upper Slopes
- Middle Slopes
- Lower Slopes
- Creek Flat

N

1:6,500

0 80 160 320

Meters

Coordinate System:
GDA 1994 MGA Zone 55

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Figure 7: Slope

Legend

- Contour - 1m
- Contour - 5m
- Watercourse
- Road
- Project Area
- Waterbody

Slope

- 0.001 - 5°
- 5.001 - 10°
- 10.001 - 15°
- 15.001 - 60°
- >60.001°

N

1:6,500

0 80 160 320

Meters

Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

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As a result, there are no areas of soils within the planted vineyard which have not been subject to topsoil removal, deep ripping and soil inversion by tynes between rows. Installation of irrigation and trellises further impact and then final planting of coverage species occurs. This high level of disturbance removes all potential for heritage sites to be present. Due to this high level of impact, no pedestrian survey was undertaken in these areas.

In summary, the level of disturbance and the effect on archaeological site preservation is assessed as high throughout the sections of the block under assessment from desktop review.

2.1.3 *Flora and Fauna*

The natural vegetation across the project area has been totally cleared for pastoral use historically, and then replaced with vineyards. The natural vegetation of the area would most likely have consisted of Tableland grassy woodland prior to clearing with native grasses under an understory of Eucalypts on the higher elevations.

The grassy woodland environments supported a wide range of edible plant and fauna species. Fauna present would range from small marsupials (i.e. possums), to avian species and macropods. A range of lizards also inhabit this environment that would have been utilised by Aboriginal groups. The NSW OEH lists over 200 flora and fauna species as present within these woodlands, the majority of which had some utilisation in traditional Aboriginal lifeways.

The Molonglo River to the south of the project area would have focused activity including camping sites with a variety of resources, such as fish, yabbies, turtles and in the past platypus. Tributary creeks also focused mammal and birdlife providing hunting opportunities and access to water supplies. Creek lines also supplied fibrous material for weaving into twine for use in a range of activities as well as providing edible tubers and reeds (Percival and Stewart 1971).

The riverine environment is known to be rich in resources, providing reed species for fibres and fishing equipment in addition to wood resources. The dominant Casuarina species were used for spears, but did not have a bark that was amenable to utilisation. As a result of the density of resources, the area of the Molonglo River would have been a focus of the area and would have provided a wide variety of fish and resources throughout the year for utilisation.

2.2 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

2.2.1 *Ethnohistoric Setting*

The major language group identified in the Canberra region by Norman Tindale in his seminal work on Aboriginal tribal boundaries are the Ngunnawal people. The Ngambri people hold affiliation with the central area of Canberra, where early accounts of settlers often refer to the group as the Ngambri or Ngamberry. Both groups hold cultural connections through the Canberra Region.

The boundaries of the Ngunawal according to Tindale ran to the south east where they met the Ngarigo at the Molonglo and the Gundungara to the north of Lake George (Tindale 1974). This distribution with minor amendments is still widely accepted and the review of tribal boundaries undertaken in the 1990s (Horton 1996) confirmed these earlier linguistic divisions. These findings are not accepted by all members of the Aboriginal community and it is beyond the scope of this report to determine connection to country. Currently the ACT Government accepts the ACT to be Ngunnawal/Ngambri Country.

The Molonglo River and the Murrumbidgee River represent the boundary between Ngunnawal and Ngarigo nations. Currently descendants of both Aboriginal groups hold cultural affiliation with the project area and have been consulted for the project.

The traditional lifeways of the Aboriginal people were disrupted by the arrival of European settlers in the 1830's. The impact of new disease, displacement from traditional lands and disruption of hunting practices lead to a decline in the local population, with some remaining families finding employment on the large pastoral stations that had become established in the region. Blanket distribution lists from this period show a continuity of presence with recognised members of Ngambri and Ngunnawal families. How people identified during this period is difficult to know, but in the face of the European presence, the connections between Aboriginal people would have been strengthened into a picture of Aboriginal identity.

2.2.2 *ACT Heritage Register Search*

A request for a search of the ACT Heritage Register and relevant reports was submitted to ACT Heritage on the 25/11/21. This information was supplied by ACT Heritage in April 2022, with no heritage sites located within the project area.

Heritage sites located in the area, consist of small artefact scatters or isolated finds with one scarred tree recorded to the north in the Ginninderry Development. [redacted].

A review of the Heritage Map overlay for the ACTmapi software on the 10/12/21 was completed for the assessment with no recorded heritage sites within the boundaries of Block 1582 Belconnen. As a result there are no known heritage constraints on the block.

Figure 5: Previously Recorded Sites

Legend

- Previously Recorded Sites
- Watercourse
- Road
- Project Area
- Waterbody

N

1:10,000

0 125 250 500

Meters

Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

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2.2.3 *Previous archaeological studies.*

Archaeological evidence has shown that Aboriginal people have occupied the Australian continent for at least 40,000 years and perhaps 60,000 years and beyond (Mulvaney and Kamminga 1999). Excavations at Birrigai Rock shelter show evidence of occupation of 32, 000 years (Flood et al 1987). No regional synthesis of archaeology for the West Belconnen region has been undertaken with most assessments being development focused.

Navin Officer in 1991 undertook preliminary archaeological surveys and assessment for the proposed West Belconnen Urban Release Area, which included the current project area. This study comprised three areas A, B & C and covered a large area for field survey. Predictive modelling reflected a concentration on the drainage and creek lines within the undulating slopes. This model was supported by the results of the field survey. Historical heritage sites were identified to the east of the project area consisting of the Weetangera cemetery and early remains of European settlement of the region.

The 1992 archaeological assessment undertaken by Packard identified two artefact scatters and three isolated finds across the proposed extensions of the Lower Molonglo Water Quality Control Centre. Of these scatters 13 artefacts were situated to the north of the LMWQCC along a steep ridge, with the scatter of three artefacts being identified to the west of the LMWQCC.

Navin Officer Heritage Consultants (NOHC) in 2007 completed a survey along Stockdill Dr for a water main, which was to be placed along the road reserve. The area was assessed as holding low potential for Aboriginal heritage sites, although one small area of PAD was identified along the crest on the southern side of Drake Brockman Drive. Recommendations for the area of PAD was monitoring and/or test excavations prior to completion.

The MacGregor West Estate 2 was assessed by Biosis Research in 2009a. The field survey in 2009 resulted in the identification of five low density scatters and seven areas of potential archaeological deposit located on mid and upper slopes. These seven areas of PAD were subsequently test-excavated (2009b) to determine their potential. No high artefact densities were located with findings reflecting low density and sparse distributions.

In 2013, NOHC undertook a cultural heritage assessment of Block 1622 Belconnen regarding a proposed solar panel farm. The assessment did not identify any Aboriginal sites within the project study area, however the study area was noted as having archaeological potential due to particular landforms.

In 2015, OzArk Environmental & Heritage Management performed a cultural heritage assessment of Block 1559 Belconnen regarding the potential impacts of the planned Canberra 330/132 kV substation project. This desktop survey identified no recorded Aboriginal sites within the study area and did not identify any landforms with potential.

With the development of the Ginninderry Residential Development, a CHA (Biosis 2015) was undertaken over the entirety of the large project area and Murrumbidgee conservation corridor, which included a summary of all previous work undertaken in the region. This synthesis of previous work indicated a model of past occupation focused on level areas in proximity to the Murrumbidgee River

and Ginninderra Creek, with smaller sites being located on the verges of creek lines. This model was developed into a detailed GIS predictive model and shown as a coloured map of the development, with each colour denoting the level of archaeological sensitivity. Further works completed in 2015 (Biosis 2015b) consisting of additional field survey and sub surface testing supported and confirmed the predictive model.

Block 1606 Belconnen, on the northern side of Stockdill Drive was assessed by Biosis in 2015(c) for a further residential development. This block has been subject to high degree of disturbance with the construction of the golf course, landscaping and dumping of building materials and other rubbish over the site. The field survey identified no heritage sites or areas of potential within the block boundaries and no further works were recommended.

NOHC in 2016 undertook a survey along Drake Brockman Drive for a gas pipeline. They categorised the area as holding low potential based on landforms and distance to water. The field survey did not identify any Aboriginal sites and reassessed the area of PAD identified in 2007 within the road reserve corridor as not holding any future potential due to the impacts from the installation of the water main. They classified the remnant area of PAD outside of the road corridor on the southern side of Drake Brockman Drive as potentially holding value. Approvals were granted for the work to be undertaken with no heritage constraints.

Past Traces in 2017a completed a further survey for the duplication of Drakeford Drive. The survey identified one isolated find on the road verge, which was subject to surface collection prior to works commencing. The road corridor was considered to hold low potential based on the landforms of mid and upper slopes, but to extend into the area of PAD across a low crest identified by NOHC in 2016, south of the current road easement in Block 1600. Subsurface testing was undertaken with nil findings and the Ginninderry model of crests holding low potential was confirmed. Basal clay levels were reached at a shallow level of 30cm on average (Past Traces 2017b).

Field survey and subsurface testing was undertaken in 2019 by Past Traces for the Murrumbidgee trunk sewer running across the Stage 1 Conservation Corridor. No additional surface sites were identified but two areas of subsurface artefacts were located at site locations RC29 and RC3. Both of these locations are on level areas overlooking tributary creek lines and in accordance with the site location model. Basal clay levels were reached at an approximate depth of 30-40cm and showing duplex soils. Artefact bearing levels were shallow up to a depth of 25cm.

NOHC (2018) completed an assessment for the Molonglo Substation Site on the southern side of Stockdill Drive (Block 1635) and the easement connecting the new substation to the Parkwood Road substation. This easement runs north east through the current project area of Block 1582 before heading north across the Ginninderry Residential Development. The field survey identified no heritage sites within Block 1582, with one site near the Stockdill Substation and the remaining two distant on the northern section of the transmission line. All of these sites consisted of small artefact scatters which conforms to the predictive model of small sites away from water sources.

Past Traces in 2018 completed an assessment for Stage 1 Walking trail network at Ginninderry. The survey covered all landforms, covering creek flats, simple slopes, crest and differing gradients. From the survey results it was clear that sites were present in a variety of landforms, with larger sites on level areas near creeks or river flats with smaller sites or isolated finds amongst gently sloping areas of lower slopes, decreasing on middle slopes and not present on steep gradients or areas, distant to water. This survey was later refined to cover just one section of track, the Strathnairn Residents Track located to the north of Stockdill Drive. Additional isolated finds were located and a scarred tree, amongst the undulating lower and middle slopes. The location of these sites, sometimes in displaced locations along access trails where water movement and vehicle impacts were present are in conformance with the model that artefacts may be located in all landforms, but were allocated low significance in these locations (Past Traces 2020).

NOHC (2021) completed the assessment for the mega battery at Block 1634, adjacent to the current project area. The battery location was on a crest amongst the undulating terrain, amongst a steeper section of upper slopes. No heritage sites were identified and the landforms consisting of crest and upper slopes were considered to hold low potential for any deposits.

2.3 ABORIGINAL LAND USE/PREDICTIVE MODEL

The results of previous archaeological surveys in the region indicates a pattern of site location that relates to the presence of potential resources for Aboriginal use. The recorded sites, mainly consisting of small artefact scatters tend to be present due to the occurrence of small drainage or creek lines with their access to water resources and the presence of level surface, an essential factor for Aboriginal people. This model is based on stream order (Strahler 1952) and is considered applicable to a wider area of NSW (White and McDonald 2010) based on the similarity of Aboriginal landscape use and the need for base resources.

The landforms present within the project area consist of gently sloping middle and lower slopes with some areas of almost level ground. However no water source is present. Based on previous results for the area, any sites located on these simple slopes would consist of isolated finds or small artefact scatters holding low significance. The low level gradients and level areas amidst these slopes would be allocated as holding some potential for sites, but due to the high level of disturbance resulting from the vineyard, this has been reduced. The most southern portion of the Block, where the construction footprint will occur is located amidst a steeper slope, further reducing potential. This section, in addition, has been extensively utilised for viticulture, with no original in situ soils present.

Based on this body of previous heritage work, the landscape context and previous disturbance to the area a site prediction model has been developed for the project (Table 1) in conformance with the previous models developed by NOHC (1991) and Biosis (2015). This site prediction model is based on:

- landscape features within the project area
- Probability of site type to be present within the project area

- Natural resources that may have been present and of use to Aboriginal people within the project area

Table 1 Site Prediction Model

Probability	Site Type	Definition	Landform
Low	Isolated finds and surface scatters of stone artefacts	Stone artefacts ranging from single artefact to high numbers	All landforms, but concentrated on level areas near creek lines and river flats. These features are not present within the study area which consists of middle and lower slopes.
Low	Potential Archaeological Deposits (PADS)	Area considered on landform to hold higher potential for unidentified subsurface deposits	Varies, but most frequent on elevated terraces along creek lines and river frontage – not present in project area. Level areas on lower slopes are not present and level areas on middle slopes are highly disturbed reducing potential.
Nil	Culturally Modified Trees (CMTs)	Trees which have been modified by scarring, marking or branch twining	Wherever old remnant trees remain - none remain within project area
Nil	Rock Engravings	Images engraved on flat rock surfaces	Escarpments, rock platforms or rock shelters - not present
Nil	Stone arrangements	Arrangements of stones by human intention, including circles lines or patterns.	All landforms have been impacted by forestry and pastoral activities – none would survive
Nil	Stone quarries/Ochre sources	Quarry sites where resources have been mined.	Any landform. – none previously recorded. Not present based on geology.
Nil	Axe grinding grooves	Grooves in stone caused by the grinding of stone axes	Usually in creek lines, as water is used as abrasive with sand - N/A to project areas
Nil	Burials	Burials of Aboriginal persons	Usually requiring deep sandy soils on eastern facing slopes – relevant soils not present and project area previously disturbed

2.4 DESKTOP ASESSMENT SUMMARY

The desktop assessment and review of previous studies has shown that no registered Aboriginal heritage sites or areas of PAD are present within the project areas. The recorded sites in the region consist of culturally modified trees, artefact scatters, and isolated finds of lithic artefacts. The majority of these artefact sites were allocated low significance by the report authors on both scientific and cultural values.

The review of previous studies and landforms present within the project area indicate low potential for the project area. The proposed works cover areas of middle and lower slopes rising to the west, which are considered to hold low potential, due to the lack of level areas and water courses. In addition, high levels of disturbance are present throughout the project area, due to its past use for vineyard horticulture and processing, removing the potential for any heritage sites to be present in most areas.

3 ARCHAEOLOGICAL FIELD SURVEY

Field survey over the project area was undertaken on the 3rd December 2021 by Tom Knight and three members of the RAOs. Mr Wally Bell was unable to attend on the day. Results of the survey, the impacts from works, cultural significance and appropriate mitigation strategies were discussed through the survey with the RAOs. Feedback and RAO comments have been incorporated into the management recommendations for the project and are provided in the relevant sections for the field survey.

3.1 ARCHAEOLOGICAL SURVEY AIMS

The principle aims of the survey were to:

- Provide the heritage team an opportunity to assess visually the Project Area and surrounds to identify landforms and levels of previous disturbance.
- Complete pedestrian survey of the Project Area focused on areas of construction impacts (impact footprint) and visually inspecting areas and landforms with the potential for Aboriginal heritage.
- Identify and record any heritage sites visible on the ground surface.
- Identify and record areas of potential archaeological deposits (PADs).

3.2 FIELD SURVEY METHODOLOGY

Field survey consisted of pedestrian transects across the project area. The project area was walked by all participants at an approximate spacing of 5 – 10m, depending on landforms and vegetation coverage. Any areas of exposure were closely examined for any cultural material. The spacing for the field survey is based on Burke and Smith (2004) who concluded that effective survey coverage extends 2m to the side of each field survey participant. Any areas of high exposure, were visually inspected for any signs of cultural material. With a team of four members, each transect covered an area of approximately 20-25m in width.

Two main factors contribute to the effectiveness of a field survey, ground surface visibility and rate of exposures.

Ground Surface Visibility (GSV) is the proportion of ground surface visible during the field survey. GSV is affected by conditions of grass coverage, leaf litter, imported gravels and fallen timber. A percentage rating of GSV is applied to each survey area (Terry and Chillinger 1955) based on the proportion of bare soil visible through the surface conditions. Exposures are defined as areas where bare soil is present due to erosional or disturbance factors and is separate and distinctive from the background GSV of the surrounding area. Exposures show the potential subsurface as well as surface contexts as they represent disturbed areas of soils. As GSV is high within any area of exposure, most sites are located in these exposed contexts.

3.3 FIELD SURVEY CONDITIONS

On the field survey days in December vegetation coverage (grass coverage) was moderate to high across the majority of landforms. This resulted in a general rating of low GSV across the project area away from the vehicle access tracks and gate entrances.

The project area has also been subject to a high degree of modification with infrastructure concentrated in the north east, near the main entrance gate and running to the south on the eastern side. Within this area are present dwellings, a pump station, constructed dam, graded and gravelled roads, site sheds, and a solar farm, with underground electricity connections. Underground electricity lines are also present, along with water and sewerage lines in this northern section. No viticulture has been undertaken within this area classified as survey unit 1. The surface conditions in the long grassed paddocks is shown in Plate 1 - 8. Whilst these areas of survey unit 1 had not been impacted by viticulture, they have been impacted from vegetation clearance, pasture improvement and stock grazing in areas away from infrastructure.

No areas of survey unit 1 are within the impact footprint and no impacts from the proposed works will be present within survey unit 1.

Areas of erosion exposure, disturbed soils and long areas of linear vehicle tracks were also present throughout much of the project area (estimated at 25-35%). GSV within these areas of exposure was high at 90% only reduced by the presence of quartz gravels. Examples of exposures are shown in Plates 5 and 6. Survey Unit 1 and prior impacts are shown in plates 1 – 8.

Plate 1. Upper slopes, looking SW

Plate 2. Nth West Cnr of Block – upper slopes

Plate 3. Edge of vineyard, looking NE, note areas of impact

Plate 4. Water tanks SU1

Plate 5. Constructed infrastructure

Plate 6. Access road, high GSV. Roads throughout project area providing long linear exposures

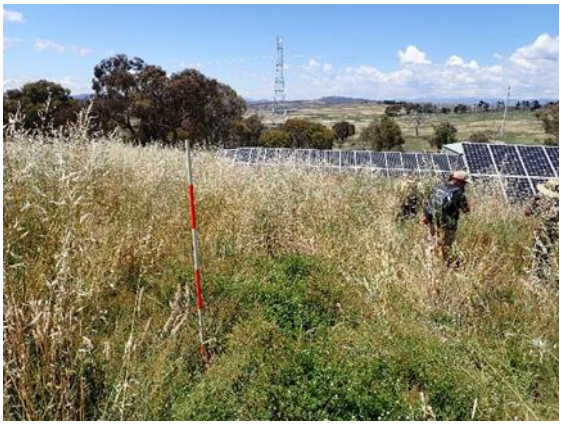

Plate 7. Solar Panels

Plate 8. Access roads SU1

Survey Unit 2 covers the remainder of the project area and within this survey unit the impact footprint is present, with the access road from Stockdill Drive crossing slopes south to the proposed compound in the most southern section on the lower slopes (see Figure 3). The area of the main paddocks have all been utilised for viticulture. Infrastructure is present throughout in the form of viticulture windrows (plantings), trellises, between row ploughing and planting of vegetation coverings, underground irrigation system, water pumps and the graded and gravelled access roads.

GSV within the planted windrows was low with vines and grass cover obscuring any areas of visibility. On the outskirts of vines were vehicle tracks with erosional impacts displaying subsoils. These exposures (estimated to occur at a rate of 5%) held high GSV within the overall low to negligible visibility amongst the rows (see Plate 9).

Within survey unit 2, the field team visually inspected all the access roads as they held high GSV, and small areas on the road verges that had not been highly impacted. Visual inspection was undertaken where any small areas of unimpacted land or trees were still present. GSV within these areas was limited due to high grass coverage. (Plate 12). The survey transects and survey units are provided in Figure 8.

Plate 9. Old vinyard infrastructure

Plate 10. South west corner looking south.

Plate 11. Disused track, eastern boundary, SU2.

Plate 12. Area of vegetation, eastern border, SU2

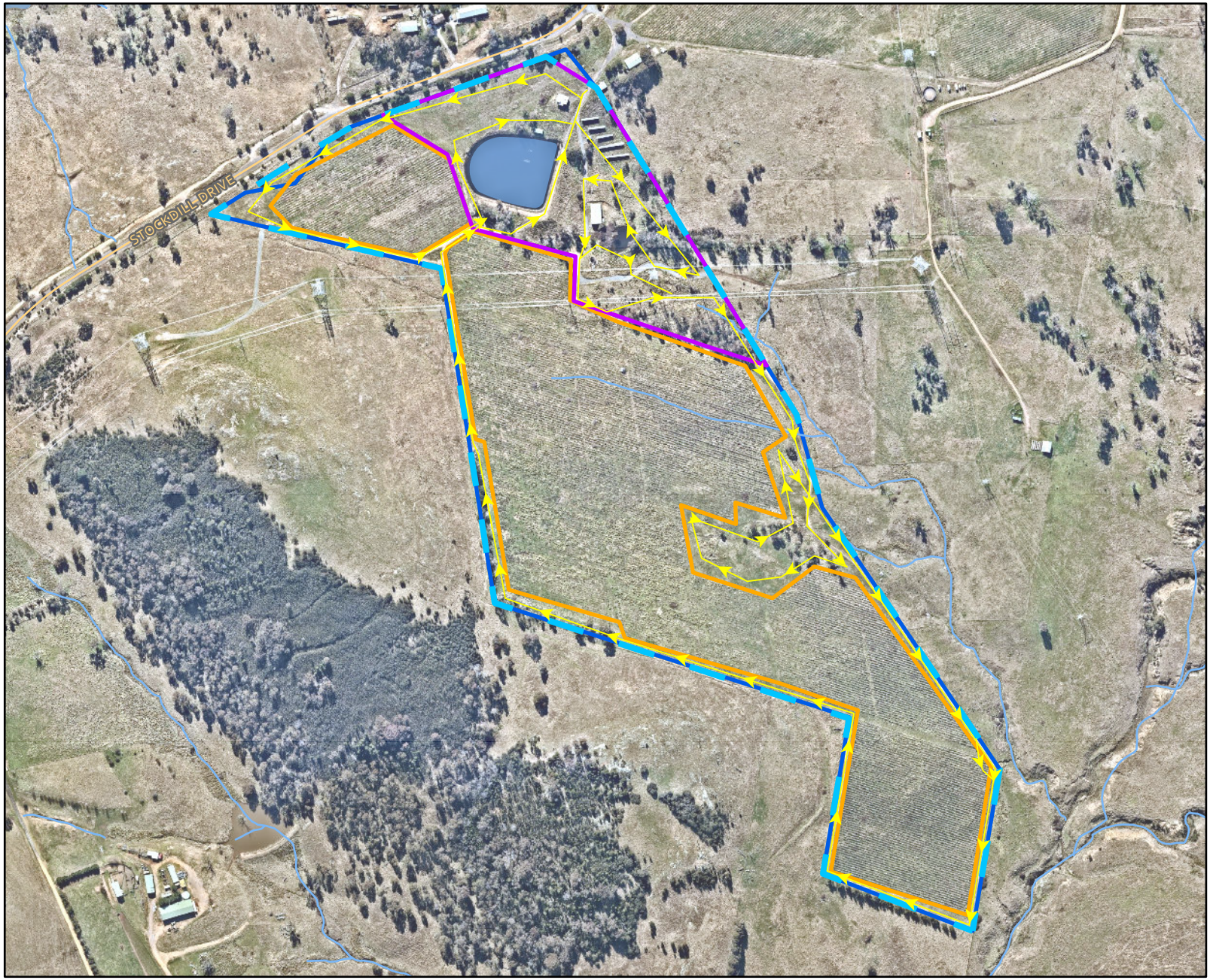

Figure 8: Survey transects

Legend

- Watercourse
- Road
- Waterbody
- Survey Transect
- SU 1
- SU 2
- Vineyard Boundary
- Project Area

N

1:6,905

0 85 170 340

Meters

Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

PastTraces Heritage Consultants

The conditions within the vineyard are shown in plates 9-12. The entire impact footprint from the project is confined within this area of prior disturbance within survey unit 2 (see figure 3).

Although GSV and exposures varied throughout the different landforms overall the field survey is considered to have held a moderate degree of survey coverage and effectiveness, due to the high levels of exposures around the proposed impact areas and the high level of prior disturbance due to the viticulture process within the proposed impact footprint.

RAOs whilst on site agreed with the general discussion as to the high degree of impact within the site, the neglected state of the block with high grass coverage, weed coverage and general disregard for landscape. The general view was that it was highly unlikely that any sites would have survived the historical impacts and that the area did not have high potential being on slopes with no water.

3.4 NEWLY RECORDED HERITAGE SITES

The field survey identified [redacted] Aboriginal heritage sites within the project area, with neither within or close to the impact footprint. As a result, neither will be impacted by the project in any manner. The locations of the recorded heritage sites are shown on Figure 9 and detailed in the following sections.

3.4.1 [redacted]

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

3.5 SUMMARY OF SURVEY RESULTS

The field survey was considered to be moderately effective due to the high level of prior disturbance identified within survey unit 2 and the frequency of exposures in survey unit 1 due to previous infrastructure placement. The access roads that are present throughout the project area provided long areas of linear exposure with high GSV throughout, allowing for visual inspection of topsoils and subsoils. In places, imported gravels and road base are present eroding into the natural surface.

[redacted] These roads have been subject to grading and the importation of gravels and road base in highly trafficked or wet areas. Both of the identified sites are highly likely to be in disturbed contexts. No areas of PAD were recorded within the project area, due to the presence of sloping landforms and the high level of disturbance throughout survey unit 2.

Isolated finds may be present in all areas of the landscape as they are by-products of the long occupation of the region by Aboriginal people and are described as 'background scatter'. Whilst there is no formal definition for 'background scatter' it is commonly taken to mean the absence of focused activity. An example would be the discard of an artefact (either accidental or deliberate) whilst travelling.

[redacted]. Predictive modelling as described in section 2.3 does not indicate high potential for large or significant Aboriginal sites in these gently sloping landforms and none were located by the field survey. Surveys and subsurface testing undertaken in the area and described in Section 2.2.3 have resulted in low instances of single artefacts across similar sloping middle and lower slopes (Past Traces 2018, 2020, NOHC 2018).

Both of the identified sites (IF1 and IF2) are located outside of all areas of impact and due to the location of these sites, no impacts will occur as a result of the project. The impacts from the project are discussed in detail in Section 4 and as single finds are in accordance with the predictive model being located on level areas within the gently middle slopes.

No sites or areas of potential were identified within the viticulture areas. The high degree of tillage and placement of infrastructure for viticulture involved disturbance to a depth of 100cm and repeated disturbance to the surface layers. Subsurface testing undertaken in the region (Past Traces 2017, 2019) has identified shallow duplex soils, terminating on basal clays and shales at a depth of approximately 30cm. At this level, the high tillage would have impacted and displaced any deposits, resulting in loss of any scientific information.

The south eastern portion of Block 1582, where the impact footprint is planned is located on a steeper section of slopes, with slopes increasing to 10-15 degrees in areas. This increased gradient results in a lowered potential for site location. In addition, due to the high degree of impact, any potential in this area has now been removed.

The RAOs on site agreed with this high level of impact and that the vineyard would have removed the potential for any sites to be present.

The locations of the newly identified heritage sites are provided in Figure 9.

Figure 9. Heritage Sites

4 SIGNIFICANCE ASSESSMENT

4.1 SIGNFICANCE CRITERIA

Management of a heritage place or object is guided by the 'significance' or heritage value of the item or place. To assess this significance the Burra Charter (Icomos 2013) defines a 'best practice' and widely accepted methodology for assigning significance. The cultural heritage values of a site or place are broadly defined in the Burra Charter as the 'aesthetic, historic, scientific, or social values for past, present or future generations' (Marquis-Kyle and Walker 1992: 21).

In the assessment of Aboriginal heritage places or objects, although a range of values may be present, the primary criteria are scientific/archaeological values and social/Aboriginal cultural values. The definition of both of these terms as applied in the assessment process to the Aboriginal, historical and natural heritage sites present within the project area is provided below.

4.1.1 Social Significance

Social or cultural significance refers to items or places which are valued by the Aboriginal community. The level of social or cultural significance can only be decided by the Aboriginal community and is assessed through communication with community representatives. In the ACT these representatives are the Representative Aboriginal Organisation (RAO) who have been consulted for the project. Cultural values to the community may be the result of historical events, orally transmitted cultural knowledge, or archaeological sites that by demonstrating the past occupation of the landscape, provides a linking connection from the past to the present.

4.1.2 Scientific Significance

Scientific values are assessed on the potential of the heritage place or object to provide additional significant knowledge or data on the history, occupation or traditional lifeways of past Aboriginal people in all its forms. This knowledge or data can include past historical occupation of the landscape, activities (including European farming or Aboriginal hunting, fishing and gathering) and technology (including weaving, wood working and lithics). Scientific significance can be summarised as research potential, which is based on the occurrence rate of the site (representativeness) and its state of preservation (intactness or level of disturbance) within its local context. This system is shown in Table 4.

Table 4. Scientific Significance Matrix

Representativeness		Research potential			
	Rare	Moderate	High	High	High
	Occasional	Low	Moderate	Moderate	High
	Common	Low	Low	Low	Moderate
	State of Preservation	Highly disturbed	Partially disturbed	Slightly disturbed	Intact

4.2 ASSESSMENT OF SIGNIFICANCE

The newly identified sites when assessed against the criteria and in accordance with the Heritage Assessment Policy (*ACT Heritage Council 2018*) resulted in the following designations of significance.

4.2.1 Social values

Following discussions with the RAOs on site (see Consultation log), the significance of the sites to the Aboriginal community has been assessed as generally low but still significant to the community. All sites hold heritage significance to the Aboriginal community, providing information and evidence of the past usage of the landscape by Aboriginal people. Larger and rarer site types hold higher levels due to the ability to educate the younger generation and the wider population as to the depth of Aboriginal culture, isolated finds such as present here cannot help in this function.

The RAO view is that the sites are probably in a disturbed context along the graded road and are single flakes with low importance. They have no role in teaching or display as they are primary flakes with no retouch or tool form.

It is the view of the RAOs that all sites should be respected, either by avoidance of impacts or if impacts are unavoidable by mitigation strategies, such as recording and salvage collection. The project by not impacting on these sites will have no impact on Aboriginal heritage.

4.2.2 Scientific values

Based on the criteria in Section 4.1.2 rankings of scientific significance have been allocated to the known heritage sites. The classification places the two artefacts within the low and common categories and as a result holding no potential to provide new or significant information as to traditional Aboriginal lifeways. The results of the analysis are provided in Table 5.

Table 5. Scientific values

Site Name	Site Type	Representative rating	Preservation rating	Scientific value
IF1	Isolated Find	Common	Fair	Low
IF2	Isolated Find	Common	Fair	Low

4.2.3 *Heritage Act 2004 criteria (Update the below sections as required)*

When assessed against the *Heritage Act 2004* criteria the following results:

(a) importance to the course or pattern of the ACT's cultural or natural history;

This criterion does not apply for any of the sites

(b) has uncommon, rare or endangered aspects of the ACT's cultural or natural history;

This criterion does not apply for any of the sites

(c) potential to yield important information that will contribute to an understanding of the ACT's cultural or natural history;

Not Applicable – the sites can provide further data to support, overturn or strengthen theories of Aboriginal occupation but provides no important additional data.

The Heritage Assessment Policy (2018) defines the inclusion threshold for this criterion to be that:

> "The information that might be obtained through the investigation of the place or object is likely to provide a *substantial* contribution to an understanding of an important aspect of the ACT's cultural or natural history (p18)".

While the sites can provide additional information as to site location within the ACT, the practise and purpose is understood and no substantial new information can be gained from further study. They do not meet this criteria.

(d) importance in demonstrating the principal characteristics of a class of cultural or natural places or objects;

This criterion does not apply as the sites whilst characteristic example of a class of artefacts are not important in demonstrating artefact features. Better examples are existing within the ACT.

(e) importance in exhibiting particular aesthetic characteristics valued by the ACT community or a cultural group in the ACT;

This criterion does not apply

(f) importance in demonstrating a high degree of creative or technical achievement for a particular period;

This criterion does not apply

(g) has a strong or special association with the ACT community, or a cultural group in the ACT for social, cultural or spiritual reasons;

This criterion does not apply

The Heritage Assessment Policy (2018) states that evidence that the association between the place or object and the ACT community or a cultural group in the ACT is 'strong' or 'special' must be shown rather than asserted to fulfil this criterion. For an association to be 'strong' or 'special the following must apply:

- the community or cultural group has a deep sense of ownership/stewardship and/or connectedness to the place or object
- the site symbolically represents some aspect of the past which contributes to a sense of identity for the community or a cultural group
- the community or a cultural group gathers for ritual or ceremonial purposes or for social or cultural (including recreational) interaction.

Feedback from consultation with the RAOs has demonstrated that the sites, do not provide evidence of an aspect of the past that provides a source of identify, group cohesion and pride. The site does not meet the threshold criteria.

(h) has a special association with the life or work of a person, or people, important to the history of the ACT.

This criterion does not apply.

4.2.4 *Summary*

As a result of the assessment against the criteria and the Heritage Assessment Policy (ACT Heritage Council 2018) the identified heritage sites do not meet the criteria for listing to the ACT Heritage Register. Despite this finding, all Aboriginal sites are protected under the *Heritage Act 2004* and can only be impacted with approval granted by the ACT Heritage Council.

5 IMPACT ASSESSMENT AND MANAGEMENT RECOMMENDATIONS

5.1 IMPACT ASSESSMENT

The redevelopment of the proposed southwestern section of Block 1582 Belconnen into a green waste recycling and composting facility extends over an area of approximately 4.6 hectares in the most southern section with an access road from Stockdill Drive (Figure 3). To determine impacts and allow options for siting, survey and assessment was undertaken over the wider boundary of Block 1582.

Review of previous reports identified no sites or areas of PAD within the project area. Field survey undertaken for this assessment identified two isolated finds within Block 1582, but distant to the proposed impact footprint, with no resultant impacts. Locations of the newly identified sites are shown in Figure 9.

The newly identified sites have been assessed as holding low cultural and scientific significance.

The degree of impact at each of the recorded sites within or close to the project area are listed in Table 6.

Table 6. Site Impact Assessment Heritage Sites

Site Name	Site Type	Potential for impact	Mitigation measures
IF1	Isolated find	Nil	Not Required
IF2	Isolated find	Nil	Not Required.

Due to the small footprint within the block, and being confined to areas previously used for viticulture there are no known heritage impacts from the proposed construction and the potential for unrecorded sites to be present is assessed as very low.

5.2 MITIGATION MEASURES

Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable. As the project is at a design stage and following preliminary discussions with the proponent, the option selected for construction has no known heritage impacts and as a result, no mitigation measures are required. The project should proceed with caution and with adherence to the unanticipated discovery plan provided in Appendix 2.

5.3 MANAGEMENT RECOMMENDATIONS

The following management recommendations have been developed to minimise the potential heritage impacts from the project:

- Two Aboriginal heritage sites (SIF1, SIF2) are located within the project area. These sites are listed in Table 6. As these sites are distant to works, no mitigation measures are required. The site locations must communicated to the project manager prior to works and avoided. It is an offense to impact heritage sites without approval from the ACT Heritage Council.
- The broad locations of SIF1 and SIF2 are to be identified, with conditions, on relevant plans for construction and/or the project's Construction Environment Management Plan (CEMP) if applicable. The location and nature of SIF1 and SIF2 is sensitive information. To ensure that the information about these heritage places is not distributed or shared, the location of SIF1 and SIF2 should be included in relevant plans and the CEMP (if applicable) with a 20m radius buffer and noted only as a 'no-go environmental protection area' or similar.
- In the event of any alteration in development footprint additional assessment would be required.
- If unrecorded heritage items are located during works, then the process outlined in the Unanticipated Discovery Plan (Appendix 2) should be implemented.
- As no heritage sites will be impacted by the development, approval of a Statement of Heritage Effect by the ACT Heritage Council is not required to allow the works to progress.
- This CHA should be submitted to the ACT Heritage Council for endorsement prior to any works commencing.

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Appendix 1. Aboriginal consultation

RAO	Date and type of contact	Response
All RAOs	26/11 – pers comm. With RAOs on site provided details and project and booked 3/12/21 for field work.	Can attend
All RAOs	3/12/2021 – Field survey	The following attended the field survey Paul House Adrian Brown James Mundy
	On site discussions as to the high amount of impact within the vine areas and likelihood of site survival	All RAOS agreed that the area had been 'trashed' and that the current state was appalling and has been totally neglected. All agreed that vineyard had destroyed any potential.
	On site discussion as to significance of isolated finds and management	All agreed that isolated finds low significance and possibly displaced by cars etc. Suggested salvage if going to be impacted or just left.
ALL	12/12/2021 - Draft report circulated	No responses to date
ALL	22/12/2021 – Draft report circulated with updated impact footprint and recommendations	
ALL	18/01/2022 – Discussions with all RAOS as to report recommendations and feedback with Georgia Scully	James Mundy, Wally Bell, Adrian House and Paul House.

RAO	Date and type of contact	Response
		Wally Bell – not present on field survey but does not disagree with findings, will review and contact if issue All others, present on survey and agree with recommendations and high impact of previous use.
All	10/10/22 – Email to all to request any additional feedback on report and recommendations	

Appendix 2. Unexpected Discovery Plan

The possibility of Aboriginal artefacts (items/objects) being present within the area of works has been assessed as low. However, due to the long occupation of the country the possibility of Aboriginal items remaining within the work area is still present.

If any items are uncovered during the course of works, which are considered to possibly be of Aboriginal or historical significance the following unanticipated discovery plan should be activated. All Aboriginal and significant historical heritage places or objects are protected under the *Heritage Act 2004*. Offence provisions (Section 74 and Section 75) of the Act apply to impacting heritage sites. If any items are identified, then the following process outlined below should be followed to avoid breaching obligations under the Act.

6.1 1. UNEXPECTED DISCOVERY OF ABORIGINAL CULTURAL HERITAGE

If suspected Aboriginal Heritage items (including but not limited to isolated stone artefacts, artefact scatters, archaeological deposits or scarred trees) are found then the following management process must be implemented:

1. Work must immediately stop in the area within a buffer zone of 10 metres from the primary grid coordinate.
2. ACT Heritage (132281) must be informed of the suspected find asap and within 5 working days.
3. A suitably qualified heritage advisor and the Representative Aboriginal Organisation (RAOs) must be engaged to assess the potential site.
4. If the items are not considered to be Aboriginal, activity may recommence.
5. If the items are considered to be Aboriginal, all steps will be taken to avoid and minimise harm to the Aboriginal cultural heritage item, and the Proponent must avoid or minimise harm whenever possible.
6. If the items are considered to be Aboriginal, an assessment report will need to be prepared and submitted to the ACT Heritage Council. After approval from the ACT Heritage Council, the artefacts should be recorded and salvaged in accordance with the approved methodology.
7. After approval of the salvage report, works can recommence.

2. UNEXPECTED DISCOVERY OF HISTORICAL CULTURAL HERITAGE

If suspected historical items are found then the following management process must be followed:

1. Work must immediately stop in the area within a buffer zone of 10 metres from the primary grid coordinate.
2. ACT Heritage must be contacted on 13 22 81 for advice.
3. A suitably qualified heritage advisor needs to be engaged to assess the potential site.

4. If the items are not considered to be historically significant, activity may recommence.
5. If the items are considered to be historically significant, a management recommendation should be given by the heritage advisor.
6. Following approval by ACT Heritage Council and completion of the management recommendation, the activity may then recommence.

3. UNEXPECTED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is a rare event and has not occurred on an ACT worksite. If any suspected human remains are discovered during any works, all activity in the areas must cease immediately. The remains may be heritage items or the remains of current crime.

The following actions must be taken when human remains or suspected human remains are discovered.

1. If any suspected human remains are found during any activity, works in the vicinity must cease.
2. The Project Manger must be contacted immediately
3. The ACT Federal Police must be notified immediately. All details of the location and nature of the human remains must be provided to the relevant authorities.
4. All unnecessary personnel should leave the area immediately (as directed by Federal Police)
5. If there are reasonable grounds to believe that the remains are Aboriginal, ACT Heritage must be contacted immediately on 13 22 81.
6. The remains must be left in place, and protected from harm or damage (as directed by Federal Police).
7. If the remains are considered to be Aboriginal by the AFP control of the site will pass to ACT Heritage.
8. An assessment or salvage strategy will be implemented following consultation with the RAOs and ACT Heritage Council through ACT Heritage.