PastTraces Heritage Consultants

Stromlo District Playing Fields

Aboriginal Cultural Heritage Assessment and Statement of Heritage Effect.

Report Prepared for CMTEDD

25/08/2022

www.pasttraces.com.au

email: office@pasttraces.com.au

Document Control

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Restricted Information

Under Part 9 of the Heritage Act 2004 information contained within this report is restricted and should not be made publicly available. The information that is restricted includes (but is not limited to):

- 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
- Kelsey Brown – King Brown Tribal Group

Abbreviations

CHA – Cultural Heritage Assessment

CMT – Culturally Modified Tree

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 Sport and Recreation, Chief Minister's, Treasury and Economic Development Directorate (CMTEDD), to prepare an Aboriginal Cultural Heritage Assessment (CHA) for the proposed Stromlo District Playing Fields. The CHA covers the areas of the proposed playing fields, associated buildings and access roads of the Stromlo District Playing Fields.

The proposed works are located within the following land parcels:

- Stromlo Block 511

The project area is shown in Figure 1 in a regional context and in detail in Figure 2.

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. One previously identified site (SFP6) is located within the Project Area, with 26 sites within 1km, three of which are associated with potential archaeological deposits.

A field survey was undertaken across the project area in June 2022 which identified two new heritage sites within the area of works. The field survey covered the approximate area of 16.10ha of the proposed playing fields.

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 2022 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:

- A total of three Aboriginal heritage sites are located within the project area (SFP6, Stromlo 1 and Stromlo 2). These sites are listed in Table 9. As these sites have the potential to be impacted by the proposed works the following mitigation measures must be applied:
- Surface collection (salvage) of sites directly impacted by the proposed works should be salvaged in line with the methodology in section 5.2.1. This applies to sites SFP6, Stromlo 1 and Stromlo 2.
- If unrecorded heritage items are located during works, then the process outlined in the Unanticipated Discovery Plan (Appendix 2) should be implemented.
- This CHA and Statement of Heritage Effect should be submitted to the ACT Heritage Council for approval prior to any works commencing. No works can commence in the vicinity of any heritage sites until approval has been granted by the ACT Heritage Council.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Past Traces Pty Ltd has been engaged by Sport and Recreation, Chief Ministers, Treasury and Economic Development Directorate (CMTEDD), to prepare an Aboriginal Cultural Heritage Assessment (CHA) for the proposed Stromlo District Playing Fields. The CHA covers the areas of the proposed playing fields, associated buildings and access roads of the Stromlo District Playing Fields.

The proposed works are located within the following land parcels:

- Stromlo Block 511

The project area is shown in Figure 1 in a regional context and in detail in Figure 2.

The purpose of this heritage assessment is to identify if any Aboriginal Cultural Heritage sites are present within the project area and review previously recorded sites within the vicinity of the project area. Several previous assessments have been undertaken over Stromlo Block 511, in which the current project area is located. The project area lies in the southeast corner of the block, bordered by Uriarra Road and Cotter Road. Further field survey will be undertaken to confirm desktop findings.

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 will review heritage registers, previous work in the area to gain background information, inform predictive modelling and complete 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 would result in the following impacts:

- Removal of topsoils and land clearing for playing fields
- Building construction and associated infrastructure
- Construction of access roads
- Facilities, such as toilet blocks, car parking, lighting and change rooms.

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

The proposed works are shown in Figure 3.

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 2.

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.

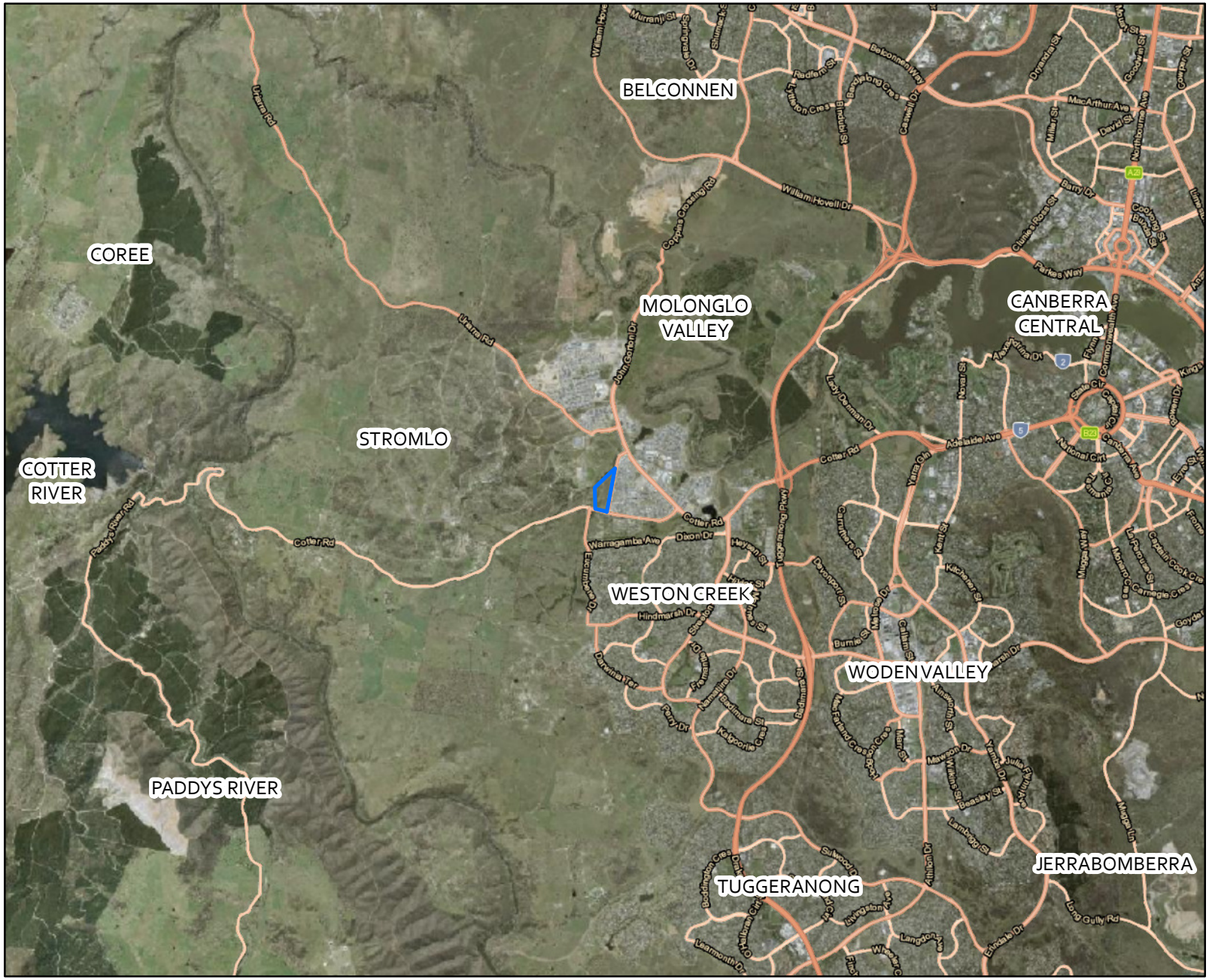

Figure 1: Regional Context

Legend

Project Area

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Kilometers
Coordinate System:
GDA2020 MGA Zone 55

Imagery: © Nearmap

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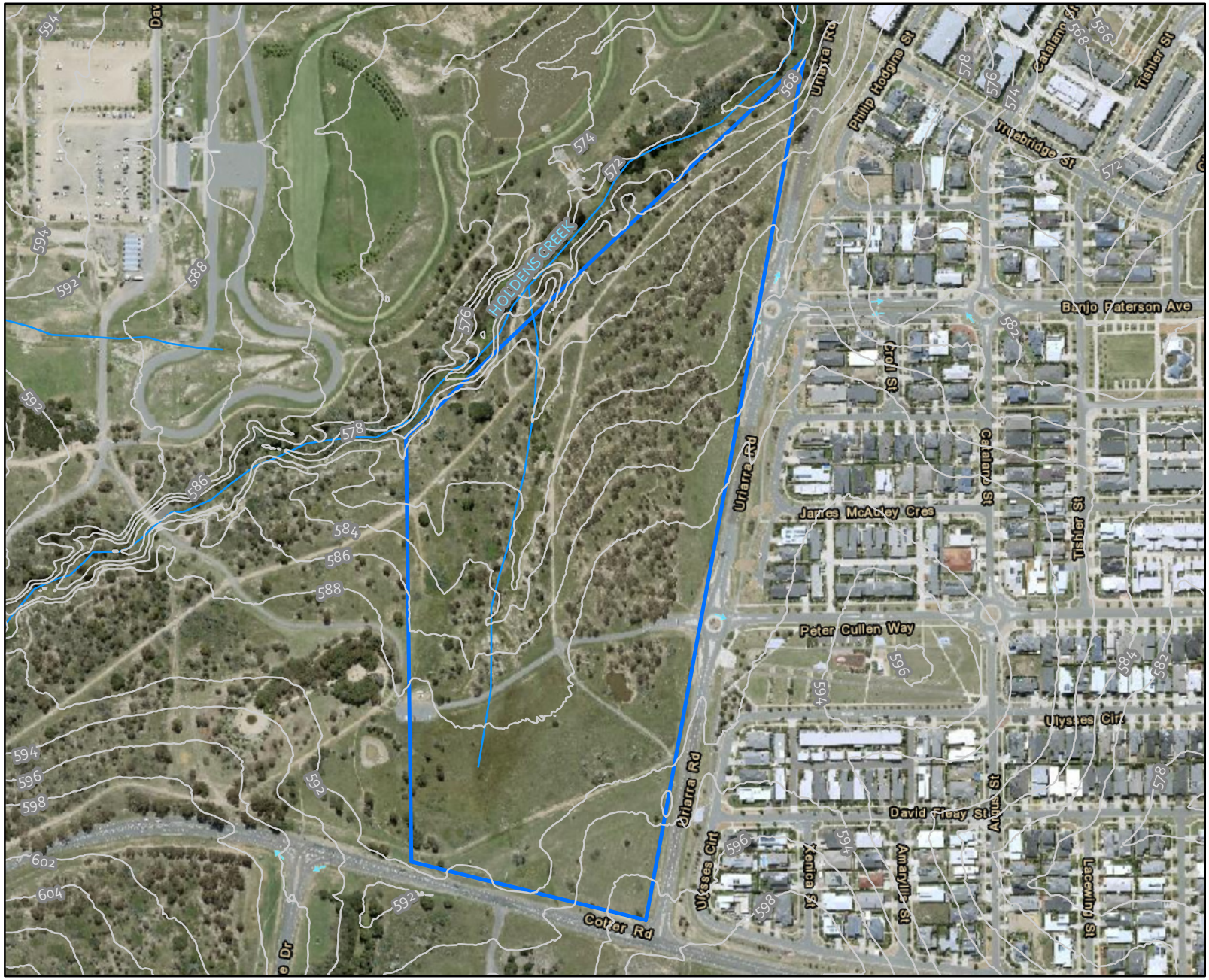

Figure 2: Study Area

Legend

- Contour -2m
- Watercourse
- Project Area

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Meters
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Imagery: ©Australian Capital Territory and MetroMap

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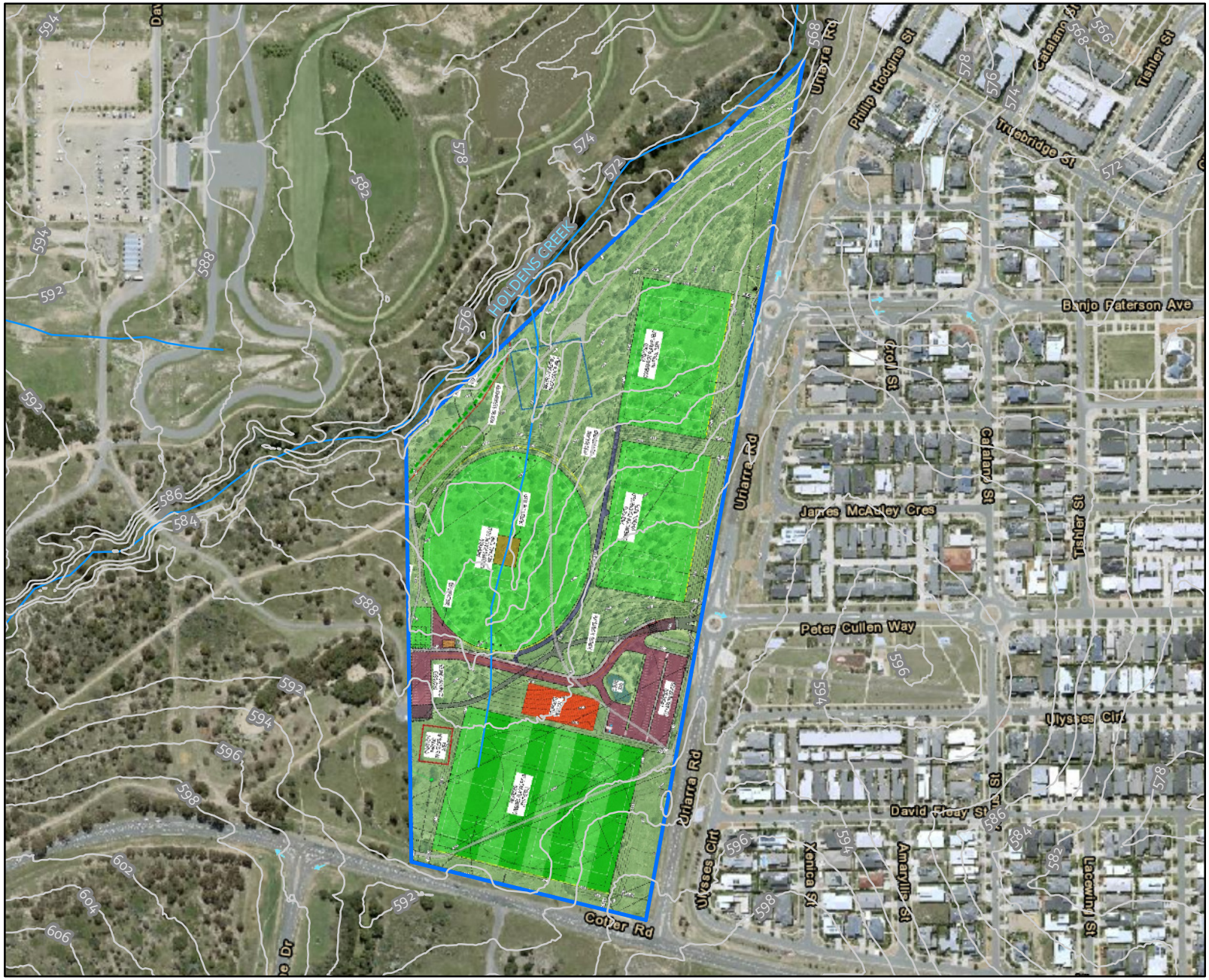

Figure 3: Proposed Works

Legend

- Contour -2m
- Watercourse
- Project Area

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Coordinate System:
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Imagery: ©Australian Capital Territory and MetroMap

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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 Mt Stromlo project area is underlain by the Walker, Deakin and Laidlow Volcanics. These late Silurian volcanic systems consist mainly of rhyolitic and dacitic tuffs. Quartz will be present naturally within this formations along with shales. A common geological feature of the area is highly weathered bedrock. Thin shallow soils characterise the area, highly acidic and easily erodible. A duplex soil system overlaying clay bedrock appears in profile across the area. The majority of the soil landscapes within the project area belong to the Burra group with areas also being comprised of the Campbell Variant C and Williamsdale groups, 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.
- Campbell Variant C group – This group is present on the steeper mid to upper slopes and is comprised of very shallow, well-drained Hypocalcic Paralithic Tenosols (Lithosols) on crests and slopes associated with rock outcrops, and well-drained stony Red Chromosols (Red Podzolic Soils) on slopes.
- Williamsdale group – The Williamsdale Group contains moderately deep well drained Yellow Chromosols on Red and Brown Kandosols on upper rises and fan elements. Moderately to very deep Sodosols on lower rises and fan elements (Jenkins 2000: 132). These soils are hard setting and erodible and also part of a transferral landscape. The topsoils are typically acidic.

The geology of the project area is shown in Figure 4 with soil landscapes shown in Figure 5.

The topography of the area consists of undulating to rolling hills with generally long to moderately inclining waning slopes (Jenkins 2000:132). Steep slopes are present on the upper slopes of Mt Stromlo and in association with creek lines, with the project area following the natural drainage line from the upper levels to the lower slopes. The topography of the drop in elevation from the summit to the lower slopes has determined the placement of the existing fire trail network which follows minor spur lines and contours.

The landform elements that are present within the project area consist of level crest and steep upper slopes, steep to gentle middle and gentle gradient lower slopes and level to gently sloping creek flats. The landform elements of level elevated areas along creek lines are assessed to hold high archaeological sensitivity based on previous site modelling and recorded site location. The potential of different landforms is discussed in the predictive model in Section 2.4.

2.1.2 *Flora and Fauna*

The natural vegetation across the project area has been almost totally cleared with areas cleared for Eucalypt plantings in the northern section. Historically the entire area was covered by Pine plantations. Since the removal of pine forestry the natural vegetation has been allowed to regenerate, intermixed with plantings of native eucalypts. 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 and a Casuarina dominated riverine environment near to the Murrumbidgee and Molonglo Rivers. The grassy woodland 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.

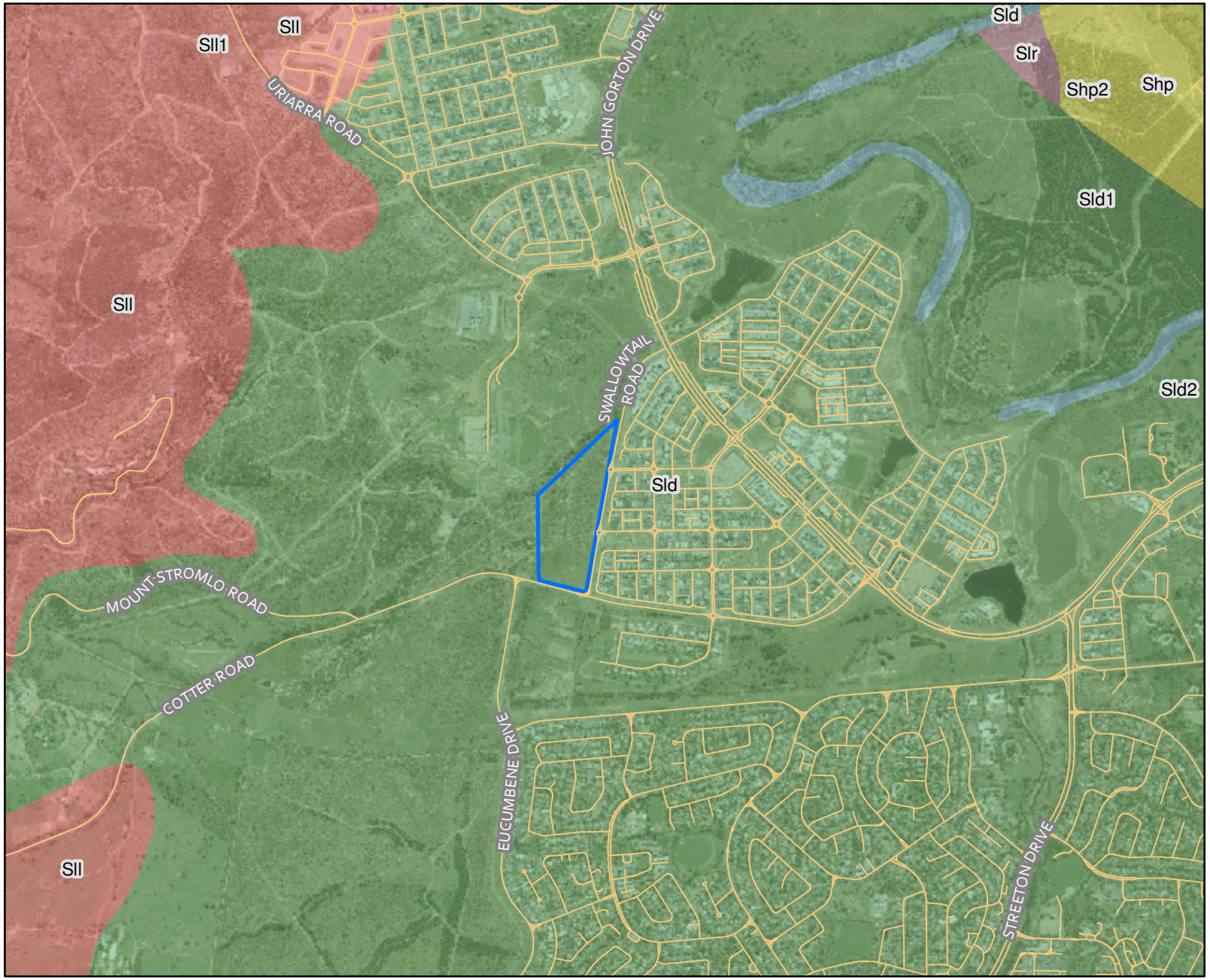

Figure 4: Geology

Legend

Project Area

ALL_STRAT

- Deakin Volcanics
- Laidlaw Volcanics
- Mount Painter Volcanics
- Unnamed
- Water

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Coordinate System:
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Imagery: ©Australian Capital Territory and MetroMap

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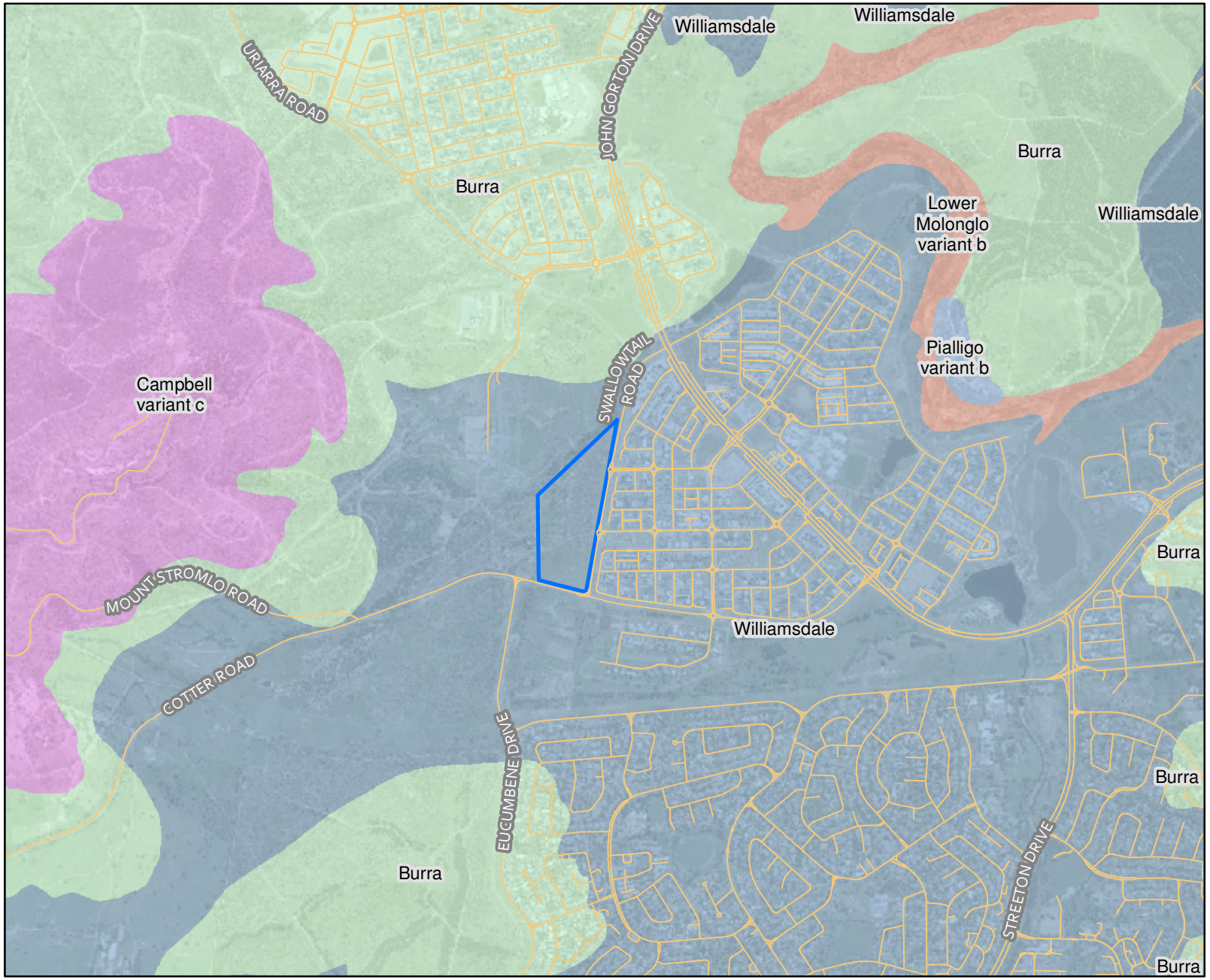

Figure 5:Soils

Legend

- Project Area

Soil Landscape

- Burra
- Campbell variant c
- Lower Molonglo variant b
- Pialligo variant b
- Williamsdale

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Coordinate System:
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Imagery: ©Australian Capital Territory and MetroMap

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2.1.3 *Historic Land Use*

The area was first explored by Europeans in 1820 when Charles Throsby crossed the area. Following the opening of the region selectors took up leases for grazing, including Joshua John Moore and James Ainslie, Terence Murray selected land at Yarralumla and developed one of the largest holdings in the Canberra Region which included the project area. With the passing of the Robertson Land Acts in the 1860s numerous smaller holdings resulted in the area.

Following this period of use of the area for grazing and agriculture the area has been developed as a softwood plantation under the control of ACT Forests. Forestry began in 1913 with one aim to cover the deforested slopes of the surrounding hills of the new capital. At this time then, the slopes had been cleared of all native vegetation for some period. The forest at Mt Stromlo was opened as a recreational area to the public in 1967 and was highly popular. In 2003 the Canberra bushfires destroyed the Stromlo forest and the decision was made to cease forestry operations and to allow native regeneration and development of the Stromlo Forest Park Recreational Area. As a result of these bushfires it is considered unlikely that any historical heritage associated with the past periods has survived. No historic heritage sites have been located by previous surveys and as works are confined to the previously graded fire trails no potential impacts to historic heritage will occur as a result of the maintenance program.

The Stromlo Forest Park facility includes a network of mountain bike trails and fire trails, picnic and toilet facilities at several locations, equestrian trails and is highly popular with recreational walkers and runners.

New residential developments are now occurring adjacent to the project area on the northern and northeastern verges with the construction of Denman Prospect, Coombs and Wright.

2.2 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

2.2.1 *Ethnohistoric Setting*

The project area is within a region identified as part of the Ngunnawal language group. This is an assemblage of many small clans and bands speaking a number of similar dialects (Howitt 1996, Tindale 1974, Horton 1994). The borders were however, not static, they were most likely fluid, expanding and contracting over time to the movements of smaller family or clan groups. Boundaries ebbed and flowed through contact with neighbours, the seasons and periods of drought and abundance.

The southern section of Canberra represents the boundary between Ngunnawal and Ngarigo language groups. Currently descendants of both Aboriginal groups hold cultural affiliation with the project area.

The small family group (called Bands by anthropologists) was at the core of Aboriginal society, forming the basis for their hunting and gathering life. These small groups camped, sourced food, made shelter and performed daily activities together. The archaeological evidence of these activities are likely to be small campsites, characterised by small artefact scatters across the landscape. Places that were visited

more frequently would develop into larger site complexes with higher numbers of artefacts and possibly more diverse archaeological evidence.

Prior to European settlement, the tablelands supported dense woodlands, which provided habitat for a broad range of plant and animal species that formed the core of Aboriginal dietary items prior to contact with early European explorers and settlers. The Molonglo River was a focus of occupation and utilisation and has an important cultural role to the Aboriginal community. Many sites are located along its banks.

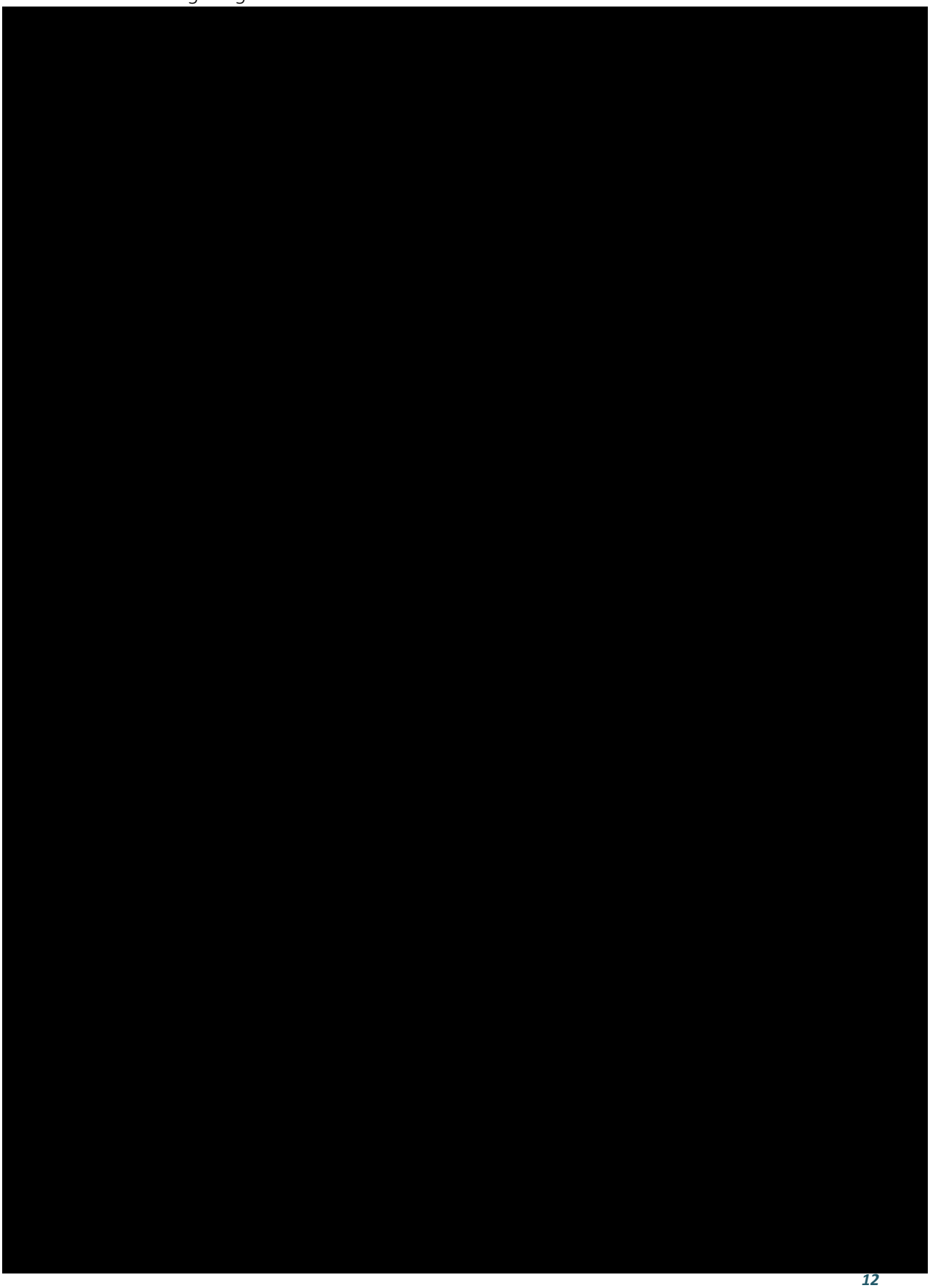
Aboriginal traditional lifestyles were disrupted by the spread of European settlement by the 1840s. European disease and violence by early settlers lead to a decline in the local population, with some remaining families finding employment on the large pastoral stations that had become established in the region, including Yarralumla and Woden.

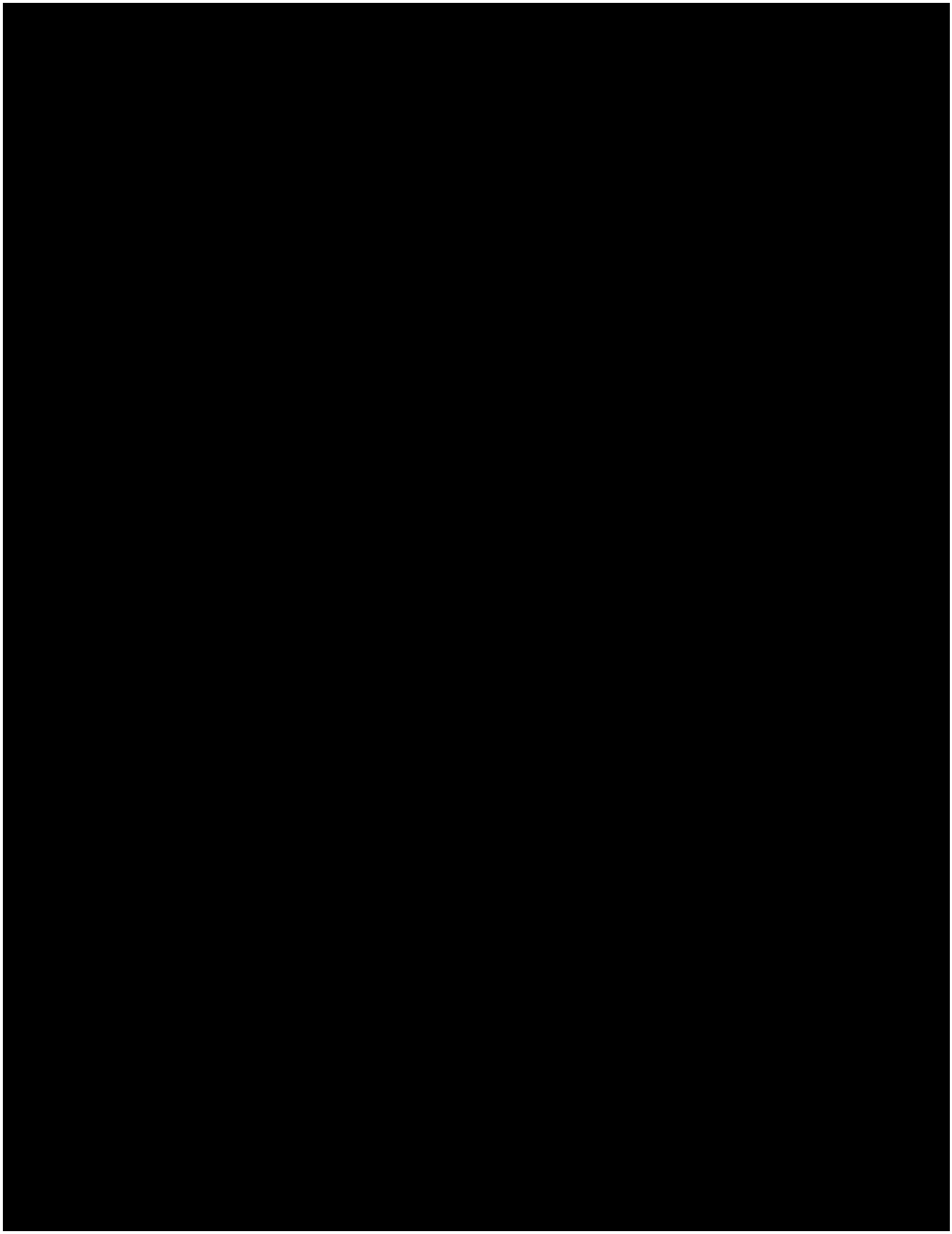
2.2.2 *ACT Heritage Register Search*

A request for a search of the ACT Heritage Register and relevant reports was submitted to ACT Heritage on the 14/01/2022. This information was supplied on the 7/07/2022, although the data was incomplete and did not include the more recent data from CHMA's 2022 report and several sites from Biosis in 2014.

As a result of the review, there is one previously recorded site (SFP6) and no areas of Potential Archaeological Deposits recorded within the project area, with 26 sites within 1km, three of which are associated with potential archaeological deposits. Details of the previously recorded sites within 1km of the Project Area are provided in Table 1 and the location of these sites are shown on Figure 6.

Table 1. ACT Heritage Register Sites within 1km GDA94 MGA55





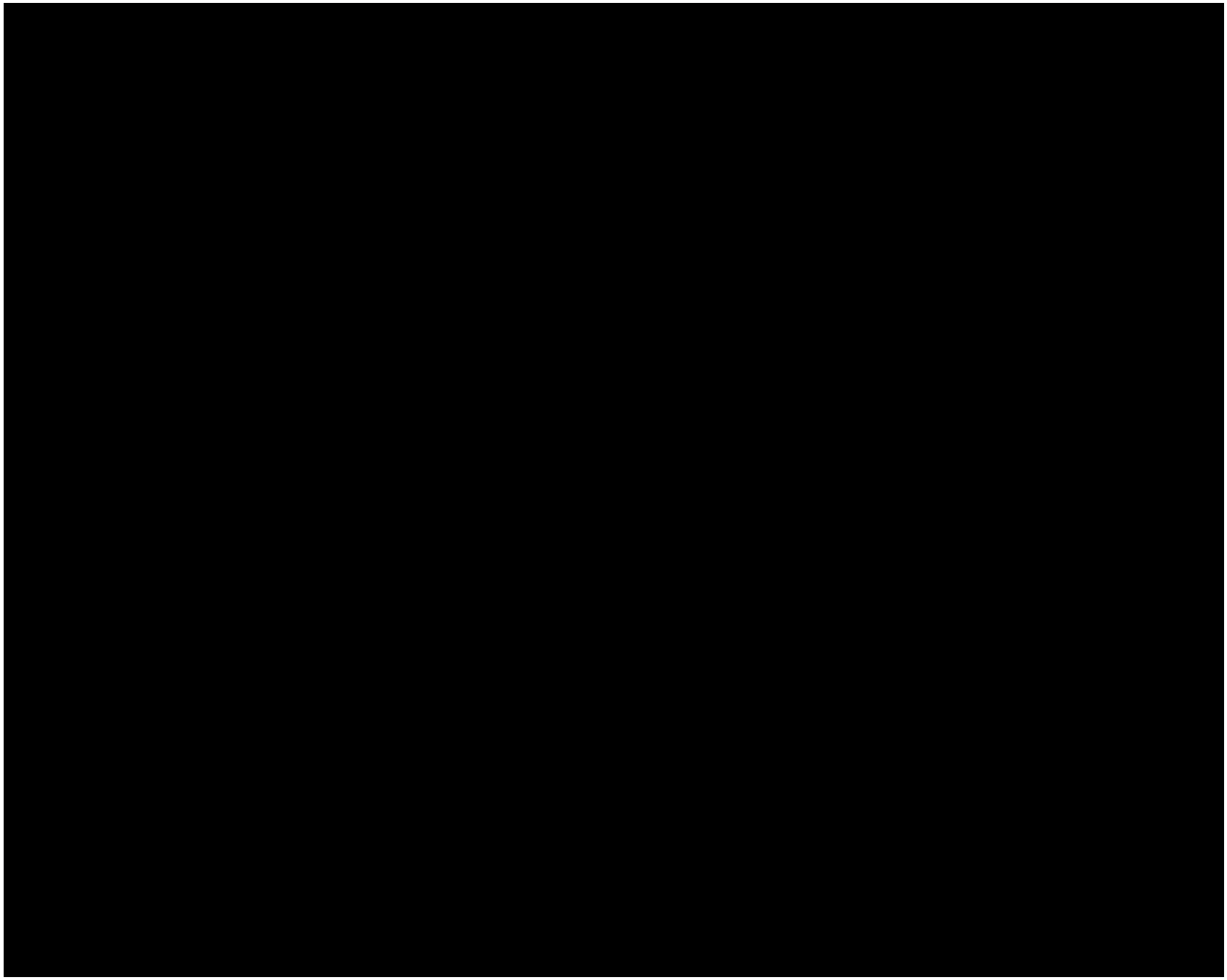


Figure 6: Previously Recorded Sites

Legend

- Previously recorded site
- Project Area
- Mt Stromlo Block

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Meters
Coordinate System:
GDA2020 MGA Zone 55

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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 25, 000 years (Flood et al 1987). No regional synthesis of archaeology for the Stromlo region has been undertaken with most assessments being small scale and development focused, however research has been undertaken for the adjacent high country by English (1985), Argue (1991) and recently by Theden-Ringl showing Holocene occupation of the high ranges (2016:33).

A number of archaeological heritage assessment have been undertaken in the vicinity of the project area. A brief overview of the most relevant studies are provided below.

In 1985, English completed a survey of the Molonglo Gorge Area to determine if the river pools were a focus of winter refuge and Aboriginal site location. The survey resulted in the identification of 27 Aboriginal heritage sites – consisting of artefact scatters or isolated finds. Only two large sites were located with all other sites consisting of low densities.

The first major study was completed by Bulbeck and Boot in 1990 for ACT Forests over the Stromlo Pine Forest. The field survey resulted in the identification of 62 Aboriginal sites. A site location model was developed that favoured the occupation of lower spurs overlooking water courses. Intermediate slopes were also used also located close to water. Artefact densities were lowers in steep terrain and distance from creek lines. No historical sites were identified.

Saunders in 1995 undertook survey of the lower Molonglo River Corridor for ACT Parks and Conservation Services. Aboriginal sites were located across all landforms and Saunders concluded that sites would be present in low density across the landscape with the exception of very steep terrain.

The most relevant of all work was completed by Heritage Solutions (2005a & b) who was engaged to conduct an investigation of Aboriginal places within Block 447 Stromlo including the current project area. This investigation identified 12 artefact scatters and four isolated finds. Sites were distributed over spur crests, level spur lines and open slopes. Surface collection, relocation and subsurface testing was completed in 2006(a) followed by additional surveys for the proposed Mountain bike trails across the lower slopes and salvage of surface sites (2006b).

Aboriginal Archaeology Survey Consultants (AASC) completed a synthesis of previous archaeological work for the Molonglo Valley in 2006. A locational model was developed with the conclusion being that sites would be focused on elevated landscapes near water sources. Over the wider Molonglo Valley, a total of 79 Aboriginal sites were recorded and 27 historical sites. The Molonglo Valley is located directly adjacent to the north of the project area.

In 2008 Cultural Heritage Management Australia (CHMA) compiled a cultural heritage assessment of the area of North Weston and Weston Creek. This is to the east of the project area. The assessment located an additional four Aboriginal sites and one historical sites from the 1940s period. They concluded that sites should be located on level landscape features within 100m of the Molonglo River.

In 2010 Biosis Research completed a heritage assessment for the Molonglo Stage 2 Residential Development which covered the majority of the Molonglo Valley. Field survey and subsurface testing resulted in the identification of 38 Aboriginal sites and two historical sites. The assessment concluded that the patterning of Aboriginal site location conformed to the model devised by Bulbeck and Boot and refined by later researchers such as Heritage Solutions (A. Grinbergs), AASC and CHMA.

Biosis completed the field survey and assessment of the Molonglo Stage 3 Residential development in 2012 covering the area from William Hovell Drive to the Molonglo River. 22 Aboriginal heritage sites were located and nine areas of PAD were investigated. The nine areas of PAD were located on level landscapes within 100m of the Molonglo River. The surface sites conformed to the model of site location, but the results of subsurface testing were inconclusive with no large subsurface deposits identified.

In 2013 Navin Officer Heritage Consultants (NOHC) were engaged to undertake the heritage assessment of a gas pipeline along the south side of Uriarra Road to the north of the current project area. This assessment identified numerous heritage sites which were then impacted by the construction of the pipeline and subject to emergency salvage.

Biosis in 2013 completed a heritage assessment over the section of fire trails proposed for upgrade as part of the master planning process in the north eastern and eastern sections of Stromlo Forest Park. This area is located directly adjacent to the north and east of the current project area. The field survey resulted in the identification of 39 Aboriginal sites consisting of low density scatters and isolated finds and include site SFP6, located within the current Project Area. No historical sites were identified. Recommendations of surface collection and sub surface testing of PAD were made. A collection of surface sites was completed in 2014. Artefacts were deposited with ACT Heritage for curation.

Following the assessment of this section of the fire trails a further assessment over Block 514 Stromlo was undertaken by Biosis in 2015 which resulted in the identification of 6 sites and re - identification of one site originally identified by Bulbeck and Boot in 1990. A review of this work was undertaken by Past Traces in 2016. Recommendations of surface collection prior to any works on the fire trails was made. No surface collection of these sites has been undertaken to date. Block 514 is part of the current project area proposed for regrading and upgrading of trails.

In 2017 Past Traces undertook an assessment of the Stromlo Forest Park fire trails. The desktop survey identified 48 previously recorded sites within the Stromlo area. A field survey was undertaken to confirm the findings of the desktop assessment which located 24 additional heritage sites consisting of artefact scatters and isolated finds, as well as one new area of PAD.

As part of an upgrade of 2.2km of Cotter Road, CHMA (2022) undertook a CHA of the southern boundary of Stromlo 511 and along the upgrade area of Cotter Road. This assessment identified three Aboriginal heritage sites, with one being a possible culturally modified tree (SF31). This study recommended the fencing of site SF31 during works, and the collection and movement of sites SF32 and SF33 further south as part of a return to country, away from the proposed impacts.

2.3 ABORIGINAL LAND USE/PREDICTIVE MODEL

The results of previous archaeological surveys in the region indicates that the potential for sites is present in a range of landforms. A pattern of site location that relates to the presence of potential resources for Aboriginal use appears to be present, based on site locations recorded from the studies described in the previous section. 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, 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.

Based on this body of previous heritage work and more recent studies (Biosis 2014, Past Traces 2017, CHMA 2022), the landscape context and previous disturbance to the area a site prediction model has been developed for the project (Table 2). 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
- Opportunities for movement through the landscape

Table 2 Site Prediction Model

Probability	Site Type	Definition	Landform
Moderate	Isolated finds and surface scatters of stone artefacts	Stone artefacts ranging from single artefact to high numbers	Creek lines and river flats. These features are present within the study area.
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 – project areas are highly disturbed reducing potential.
Low	Culturally Modified Trees (CMTs)	Trees which have been modified by scarring, marking or branch twining	Wherever old remnant trees remain - some 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

Probability	Site Type	Definition	Landform
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
Low	Aboriginal places	A place that hold spiritual, traditional or historical significance to Aboriginal people	Any landform, identified through consultation with RAPs and historical sources - none previously identified

2.4 DESKTOP ASESSMENT SUMMARY

The desktop assessment and review of previous studies has shown that one registered Aboriginal heritage site (SFP6) and no areas of PAD are present in the current project area, with 26 sites within 1km, three of which are associated with potential archaeological deposits. 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 most of the project area. The proposed works cover a range of landforms with areas of potential present along a creekline tributary and descending spurlines. Areas of disturbance are present throughout the project area, due to the construction of fire trails, mountain bike trails and plantation plantings as well as previous pastoral grazing.

Areas of high potential are present in along the creekline tributary that runs from south to north through the centre of the Project Area. An aim of the field survey will be to confirm the desktop findings and determine previous disturbance levels and proximity to proposed works.

3 ARCHAEOLOGICAL FIELD SURVEY

Field survey over the project area was undertaken on the 21/6/2022 by Lyn O'Brien (Past Traces) and three representative members of the RAOs. Results of the survey, the impacts from works, cultural significance and appropriate mitigation strategies were discussed through the survey with the RAOs. Mr Wally Bell could not participate on the day, with the results communicated to him for his comments. Feedback and RAO comments have been incorporated into the management recommendations for the project.

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 to identify landforms and levels of previous disturbance.
- Complete pedestrian survey of the Project Area focused on areas of construction impacts 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. With a team of four members, each transect covered an area of approximately 20-25m in width. 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. Previously recorded site locations were also inspected to allow for a current condition assessment and potential for disturbance as a result of the proposed works to be determined.

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 day in June vegetation coverage (grass coverage, pine trees, blackberry) was moderate to high across the majority of landforms. The northern area within the planted forest held high levels of GSV with sparse grass coverage in the plantation. This resulted in a general rating of moderate GSV across the project area away from the vehicle access tracks, creek line erosion areas fence lines, bike trails, walking tracks and gate entrances.

Areas of exposure were frequent with disturbed soils across most of the project area. The northern section is highly disturbed with planted trees, constructed mountain bike trails and walking trails. Erosional exposures are present on both banks of Holden's Creek and in patches under the plantation trees and on dam banks. A section in the south, consists of 'boggy' soils, with reeds and blackberries present throughout.

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 within the proposed impact areas. The conditions at the time of field survey are shown in Plates 1 to 6.

Plate 1. Area of gentle slope with moderate overall GSV.

Plate 2. Exposure along vehicle tracks running across the area.

Plate 3. Recent native regeneration, moderate exposure rate.

Plate 4. Previous impacts from constructed pathway.

Plate 5. Example of low GSV across the Project Area.

Plate 6: Mountain bike track exposure.

3.4 PREVIOUSLY RECORDED SITES IN VICINITY

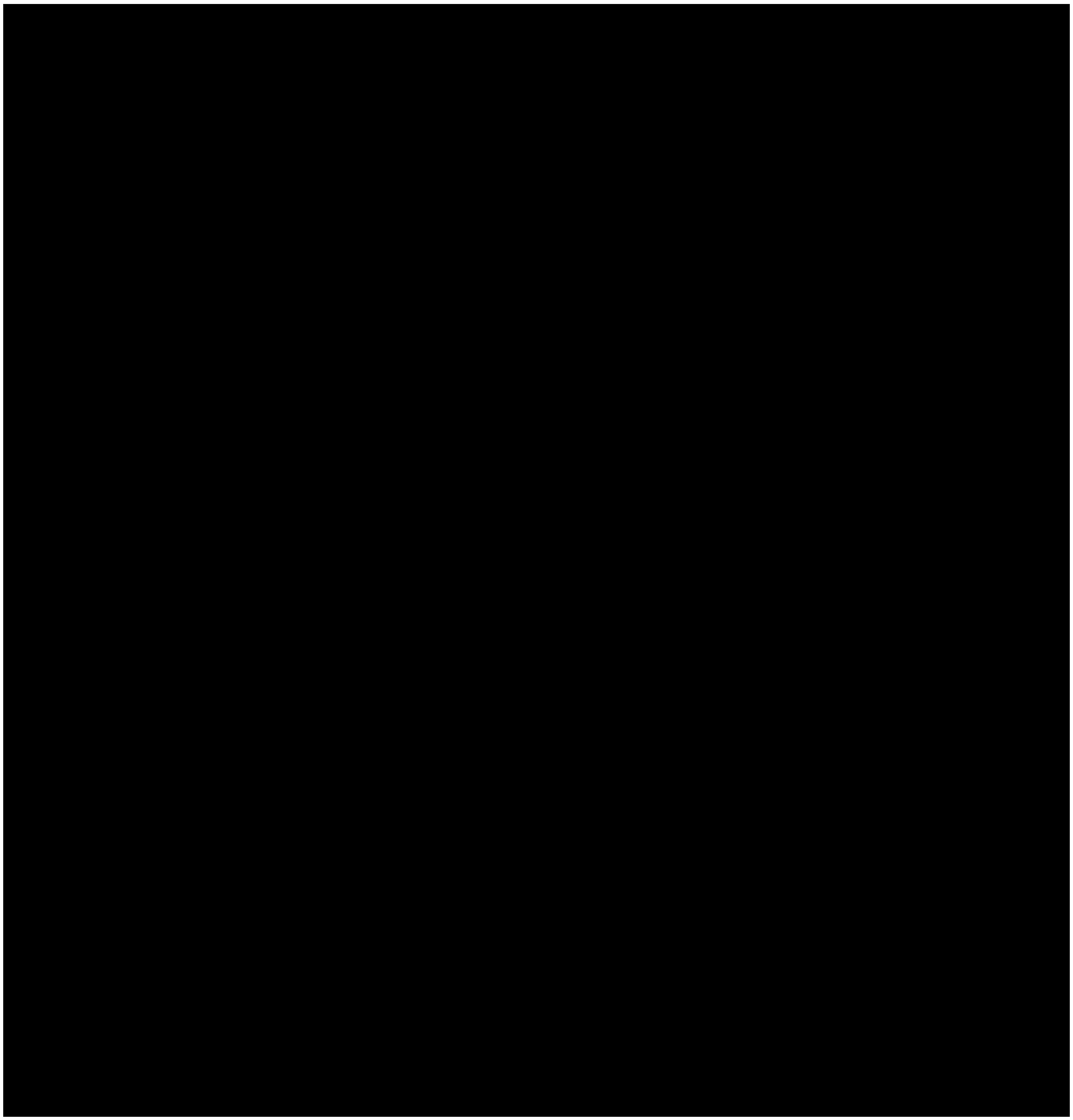
Following a review of heritage mapping, and previously completed reports for the area, one heritage site (SFP6) has been recorded in the close vicinity of the project area.

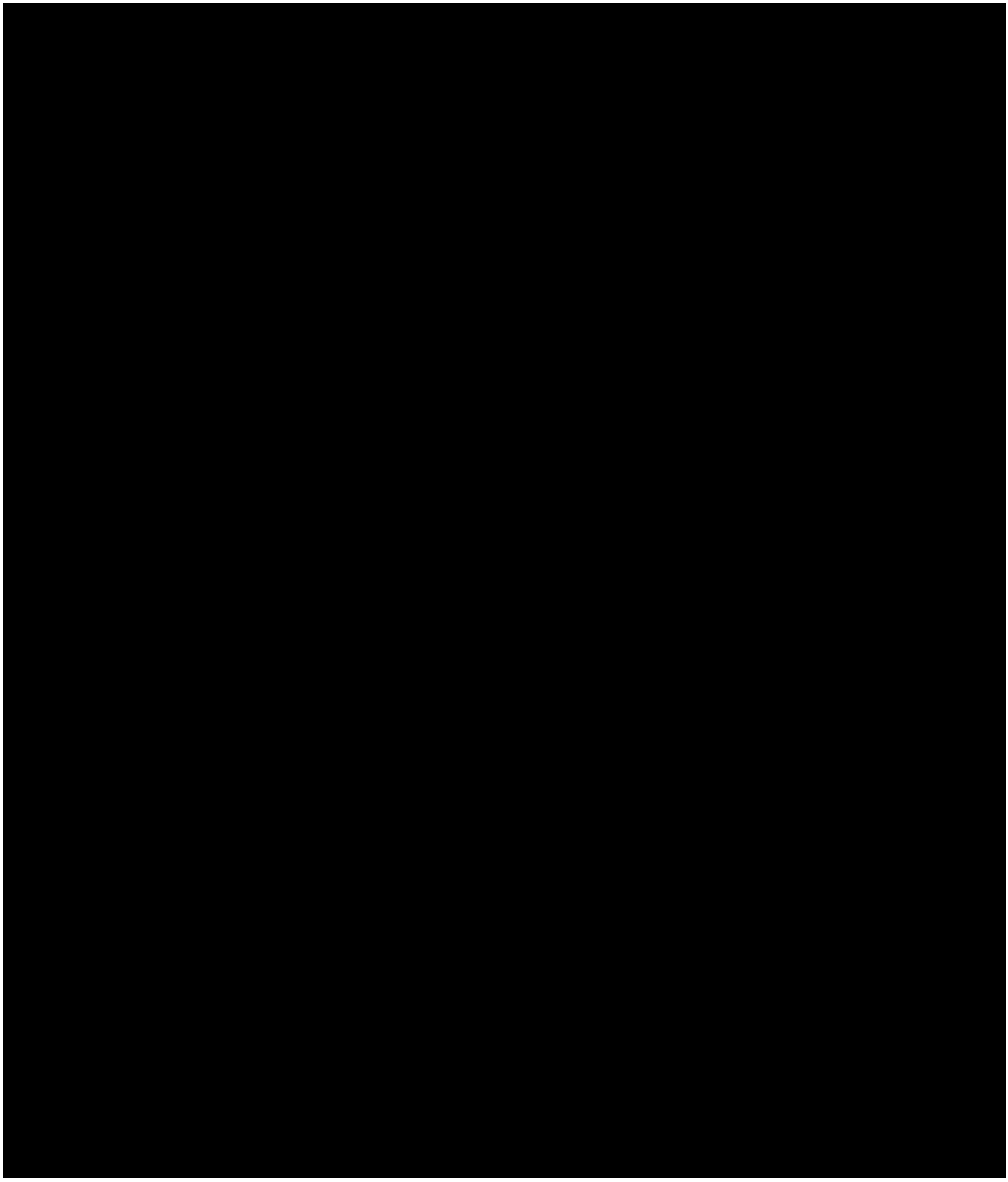
An aim of the field survey was therefore to assess the distance from the proposed works to the heritage sites, if impacts were likely, and to address these concerns if present. The location of the previously recorded sites in relation to the proposed works are shown in Figure 6.

This location was visually inspected to determine if any additional artefacts were present at the recorded locations and to assess their current condition and degree of risk from direct and indirect impacts resulting from the project. The details of the previously recorded heritage sites in the vicinity of the proposed works, and the current field assessment of each site are provided below in Table 3.

3.5 NEWLY IDENTIFIED HERITAGE SITES

The field survey identified two heritage sites within the areas of the proposed redevelopment. The locations of the recorded heritage sites are shown on Figure 7 and detailed in the following sections.





3.6 IDENTIFIED AREAS OF PAD

Predictive modelling was undertaken for the project area based on the results from previous work undertaken in the area (add references). This predictive model was based on the extensive review of previous work undertaken in the region and incorporated factors of landform, degree of slope, proximity to water resources and proximity to identified heritage sites. The designation of areas as PADs would be based on the following factors:

- Landform –level terrace, hill crests, spur line terminations or gently sloping areas,
- Proximity to sites –close proximity to identified sites, showing utilisation of the area by past Aboriginal groups and possibly extending into PAD areas.
- Proximity to water resources – shown to be co-related to site location in the region.
- Disturbance – this area has suffered little disturbance and hold potential for *insitu* deposits

This modelling did not identify any areas of PAD within the project area.

3.7 SUMMARY OF SURVEY RESULTS

The desktop review over the project area identified one previously recorded site (SFP6) in the vicinity of the project area. The field survey identified an additional two sites consisting of an isolated find (Stromlo 1) and an artefact scatter (Stromlo 2). No areas of PAD were also recorded within the project area.

These site types are in conformance with the landform and predictive modelling for the region and are regularly recorded throughout the region.

Due to the location of these sites impacts will occur as a result of the project. Currently all of the sites are located within disturbed deposits on edge of mountain bike and walking trails. The impacts from the project are discussed in Section 5.

Conservation of these sites should be undertaken where possible and all impacts avoided. However due to the widespread nature of the construction of the District Playing Fields impacts may be unavoidable. Any impacts would require the approval of the ACT Heritage Council. Impact assessment for the project and proposed mitigation measures are provided in Section 5.

The locations of all heritage sites in relation to the Project Area is provided in Figure 7.

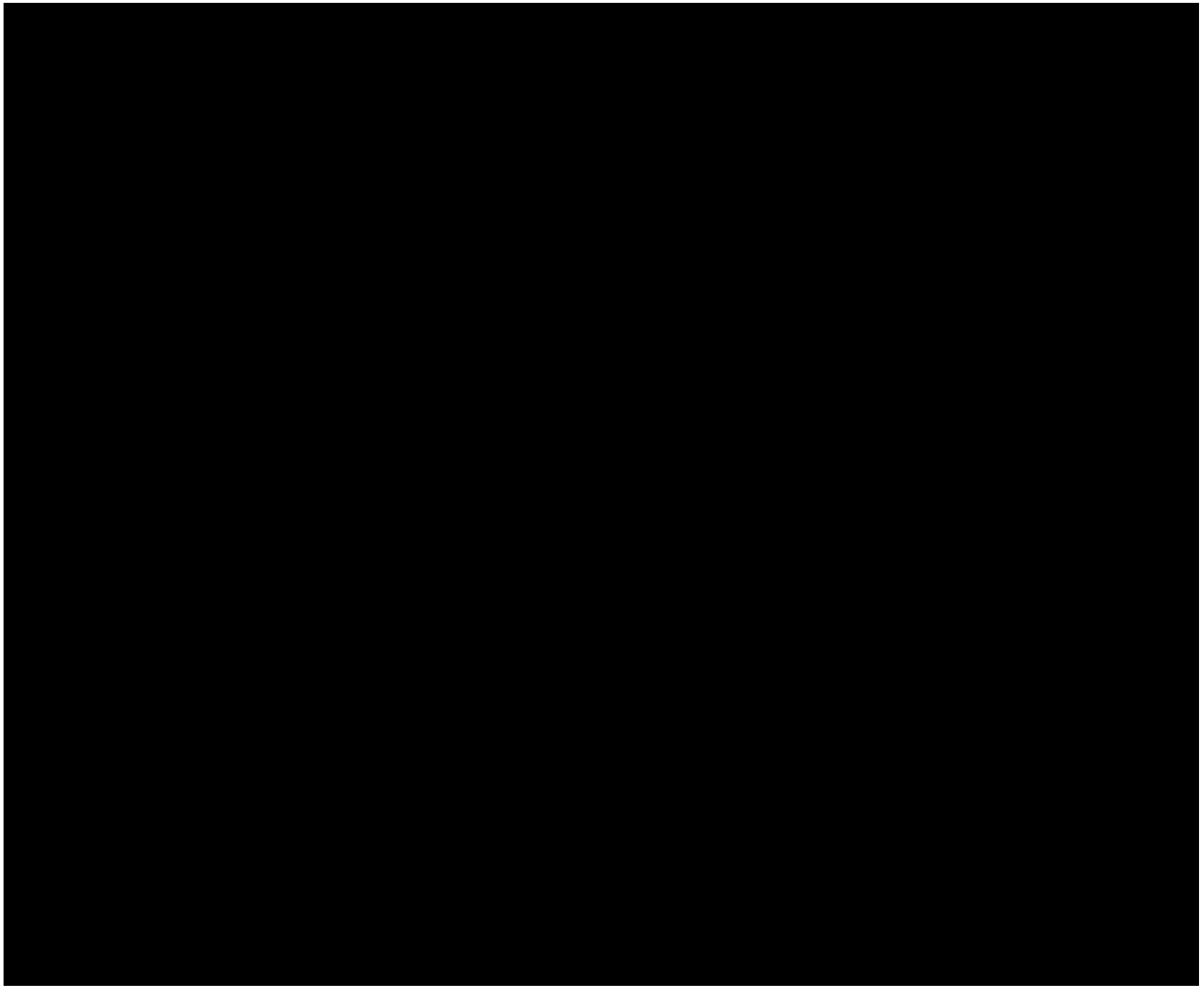


Figure 7: Survey Results

Legend

- Previously Recorded Site
- Heritage Site
- Watercourse
- Project Area

N

1:5,000

0 50 100 200

Meters
Coordinate System:
GDA2020 MGA Zone 55

Imagery: ©Australian Capital Territory and MetroMap

PastTraces Heritage Consultants

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 7.

Table 7. 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, 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.

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 return of artefacts to "country" is of utmost importance to maintain their connection to the landscape.

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 results of the analysis are provided in the following table.

Table 8. Scientific values

Stromlo District Playing Fields

4.2.3 *Heritage Act 2004 criteria*

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;

Partially Applicable – the sites can provide further data to support, overturn or strengthen theories of Aboriginal occupation.

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 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, provide evidence of an aspect of the past that provides a source of identify, group cohesion and pride. The sites meet this criterion.

(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 meet the criteria for listing to the ACT Heritage Register. The sites are protected under the *Heritage Act 2004* and can only be impacted with approval granted by the ACT Heritage Council.

5 STATEMENT OF HERITAGE EFFECTS

5.1 IMPACT ASSESSMENT

The project area extends over the proposed Stromlo District Playing Fields. The Project Area covers an approximate area of 16.10ha. The proposed works are located within the following land parcels:

- Stromlo Block 511

The project area is shown in Figure 1 in a regional context and Figure 2 with the details of each section, and the proposed playing fields and associated buildings, infrastructure and roads are depicted in Figure 3.

The surface and subsurface impacts from the project are thus widespread. Design of the playing fields will be undertaken to minimise impacts to any heritage values whenever possible. However, due to the redevelopment of the total area, sites located the project area will be impacted.

Areas of the playing fields have been previously disturbed by the construction of fire trails, mountain bike trails and plantation plantings. As a result, the area is not considered to hold significant subsurface potential.

Review of previous reports identified one site (SFP6) within the project area. Field survey undertaken for this assessment identified two heritage sites (Stromlo 1 and Stromlo 2) and no areas of PAD within the project area. All of these sites are at risk of impact from the project, either directly or indirectly. Location of the previously recorded site and the newly identified sites are shown in Figure 7.

The previously recorded sites and 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 9. Details of the mitigation measures to be undertaken at each site are provided in Section 5.2.

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. Throughout the preparation of the preliminary design, a range of site constraints were assessed before finalising the proposed configuration that as a minimum, needed to include four (4) rectangular fields, one (1) oval, site access and parking and a sportsground pavilion.

The identified minimum scope allows the sportsground to function appropriately. Site constraints included site topography and the available space, ecological and environmental considerations (including the impact on Holden's Creek), existing service locations (and future connections), coordination within the broader precinct (including a connection with the Bicentennial Trail) and compliance with sportsground design standards. As a result of these site constraints, alternate reconfigurations are not possible to avoid impacts to the identified heritage sites.

The sites that will be impacted, consist of isolated finds of stone artefacts or small artefact scatters. These sites do not warrant exclusion from the area of impact in the form of a conservation area, as they are representative of a common site type in the region. These sites also consist of common artefact types and materials and hold low to moderate significance. Due to their low significance, they do not warrant this class of treatment to ensure their preservation. A mitigation strategy of collection, analysis and return to country should be undertaken for these sites.

To ensure avoidance or minimisation of any harm resulting from works the following mitigation measures should be applied for the project.

5.2.1 Surface collection of sites

Based on the use current proposal, sites located within the proposed works area will be impacted and require salve works. This applies to sites SFP6, Stromlo 1 and Stromlo 2.

While previous site SFP6 has been salvaged in the past (Biosis 2014) it is recommended that another surface collection be conducted of the site, as not all of the previously recorded artefacts were relocated.

The surface collection should be undertaken in accordance with the following methodology:

- Returning to GPS location and flagging all surface artefacts within a 10m radius of site location
- Each artefact to be collected, given a number and bagged individually with their GPS location
- Artefacts to be analysed (noting materials, basic technological attributes)
- Artefacts to be returned to country (RTC) by a process of reburial in a location agreed upon by the RAOs, ACT Heritage and the appropriate land managers. Prior to the RTC being completed, a methodology with reburial location will be submitted to the ACT Heritage Council for their approval. In the interim, curation of recovered artefacts will be at the Canberra Offices of Past Traces in a fire proof safe for their protection.

- Following completion of the surface salvage a Salvage Compliance works report will be completed and submitted to ACT Heritage detailing the results of the surface collection, analysis and RTC methodology and location.
- Following completion of RTC, a completion letter will be submitted to ACT Heritage detailing the completion of the RTC.

5.3 MANAGEMENT RECOMMENDATIONS

The following management recommendations have been developed to minimise the potential heritage impacts from the project. The recommendations are based on the following information and considerations:

- Results of the ACT Heritage register search and locations of recorded sites in the vicinity of works
- Consideration of results from other local archaeological studies
- Results of the field survey
- Consultation with RAOs to ensure recommendations are culturally appropriate.

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

- A total of three Aboriginal heritage sites are located within the project area (SFP6, Stromlo 1 and Stromlo 2). These sites are listed in Table 9. As these sites have the potential to be impacted by the proposed works the following mitigation measures must be applied.
- Surface collection (salvage) of sites directly impacted by the proposed works due to their location along access fire trails should be salvaged in line with the methodology in section 5.3.1. This applies to sites SFP6, Stromlo 1 and Stromlo 2.
- If unrecorded heritage items are located during works, then the process outlined in the Unanticipated Discovery Plan (Appendix 2) should be implemented.
- This CHA and Statement of Heritage Effect should be submitted to the ACT Heritage Council for approval prior to any works commencing. No works can commence in the vicinity of any heritage sites until approval has been granted by the ACT Heritage Council.

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Appendix 1. Aboriginal consultation

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.