Aboriginal Cultural Heritage Assessment Report

SYDNEY FOOTBALL STADIUM, REDEVELOPMENT
STAGE 2 SSDA

AUGUST 2019

Prepared by Curio Projects for Infrastructure NSW

REVISED FINAL REPORT

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Curio *noun* cu·rio \kyur-ē-ˌō\: any unusual article, object of art, etc., valued as a curiosity

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Former Sydney Football Stadium (Curio 2018)

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This report has been prepared based on research by Curio Projects specialists. Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and/or in figure captions.

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Executive Summary

Curio Projects Pty Ltd was commissioned by Infrastructure NSW (INSW) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for Stage 2 of the redevelopment of the Sydney Football Stadium (SFS), located at 40–44 Driver Avenue, Moore Park (the study area).

This ACHAR documents the process of investigation, consultation and assessment with regards to Aboriginal cultural heritage and Aboriginal archaeology, as undertaken for the SFS Redevelopment project and study area, specific to the Stage 2 development application. This includes background research and assessment of evidence and information about material traces of Aboriginal land use in the study area and surrounds, significance assessment of potential Aboriginal sites, places, landscapes and/or other values, as well as an impact assessment and management recommendations to assist INSW with their future responsibilities for Aboriginal cultural heritage within the study area.

In general, the subject site has the potential for Aboriginal archaeological deposits to be present within deeper natural sand profiles that exist beneath the layers of historical fill. Without the ability to archaeologically investigate the natural soil profiles prior to site redevelopment (and the presence of deep historical fill across the entire site), the whole SFS Redevelopment Site has been assessed to have a low to moderate level of Aboriginal archaeological potential, identified as a Potential Archaeological Deposit (PAD) site, 'SFS PAD', registered with AHIMS (AHIMS #45-6-3645).

The SFS Redevelopment site as a component of the southeastern Sydney peninsula, has high social significance. The study area and surrounds are particularly noted as having high social (cultural) and spiritual significance to the La Perouse Aboriginal community, who maintain an unbroken connection to the land, whose ancestors lived in study area and surrounds (the wider southeastern peninsula region) right up until forced removal to La Perouse mission in the 1880s due to the establishment of the Aborigines Protection Board

The site also holds moderate historical significance for its landscape positioning within the eastern Sydney peninsula as part of a wider significant Aboriginal landscape, as well as for its significant Aboriginal sporting history.

The site also holds moderate historical significance for its landscape positioning within the eastern Sydney peninsula as part of a wider significant Aboriginal landscape, as well as more contemporary significance to the Aboriginal community for its significant Aboriginal sporting history.

While it is not yet possible to determine the nature and extent of any Aboriginal archaeological deposit at the study area without investigating the site physically, should an Aboriginal archaeological deposit be present, it would potentially be of moderate research potential (high research potential should post-contact sites be present), with low to moderate education potential, and potentially moderate significance as part of the wider Aboriginal landscape of Sydney's southeastern peninsula.

The cultural significance of the study area and surrounds is likely to be more related to the intangible values over the aesthetic values of the SFS site. However, landscape features outside of, but in close proximity to the study area, such as Moore Park and the wider Centennial Parklands, still contribute to the aesthetic values of the SFS site in its wider landscape positioning. Therefore, the study area is considered to have moderate aesthetic significance related to its general landscape positioning in the

continuing location of public recreation and sporting activities, with parklands retained (albeit highly modified) in areas of tradition Aboriginal resource zones.

The Stage 2 development works that will include below ground impacts include: bulk earthworks (cut and fill across the site, and basement excavation); piling for substructure supports; drainage/service installation and realignment; contamination works; and other minor works such as landscaping and public domain modifications. Three main types of development impacts have been identified to have potential to impact any potential Aboriginal archaeological resource at the site—basement excavation; piling works; and installation of services and OSD Tanks.

The main development impact with a potential to impact natural sand profiles is the excavation for the new basement services level, to feature as a 'ring level' surrounding the field of play. This will require excavation for the basement level, particularly focused in the west/northwestern side of the SFS site (due to differing surface elevations across the SFS site). Detailed analysis has been undertaken of potential for development impacts to extend to, or require excavation into, natural sand profiles, through comparison with geotechnical information with projected excavation required across the site.

The SFS Redevelopment site has therefore been zoned according to locations with moderate and high potential for impacting natural sands through proposed Stage 2 development excavation works, to be the subject of appropriate archaeological investigation and mitigation strategies.

Recommendations

- The main impact that the Stage 2 SFS Redevelopment works may have, are to any potential Aboriginal archaeological deposit that may be retained within the natural sand profiles beneath the subject site. Where development impacts have been identified to be likely to encounter or require impact to natural sands, it is appropriate for archaeological mitigation measures to be implemented in order to investigate the nature of any potential archaeology, and to salvage this deposit (if identified) in areas requiring development impact.
- The physical nature of the development works (i.e. piling to support the substructure, excavation across the site to facilitate the basement services level) are required for the viability of the development, however, do not require excavation of all remnant natural sands within the site. Therefore, while the development has the potential to impact some natural sands (with the potential to retain and Aboriginal archaeological deposit), the development will also conserve areas of natural sands beneath the redevelopment.
- The development works have the potential to directly impact potential Aboriginal deposits located within natural soil profiles (if encountered and requiring impact through development works).
- Following approval of the Stage 2 SSDA, the proposed archaeological investigation (Management Strategy One), including targeted monitoring, and archaeological test excavation, should be undertaken, to be coordinated with the Stage 2 development works, prior to any potential impact to natural sand profiles.
- With regards to Aboriginal intangible heritage values (social and cultural), the SFS Redevelopment the opportunity for a positive impact, to be achieved via the installation of

Aboriginal cultural heritage interpretation elements within the site, to celebrate and communicate the significance of the site and landscape to the Gadigal (Darug) people, and local Aboriginal community.

- Future stages of development of the Heritage Interpretation Plan (IP) prepared by Curio Projects (2019b) as part of the Stage 2 SSDA for the SFS Redevelopment should continue to develop the interpretation initiatives to be implemented at the site regarding Aboriginal cultural heritage, in consultation with the project RAPs, and La Perouse LALC.
- Continuing consultation with the project RAPs should be undertaken through subsequent development stages of the project.
- Prior to commencement of Stage 2 construction at the site, an Unexpected Aboriginal Finds Policy should be prepared for the site.
- The La Perouse LALC should be consulted with reference to the Heritage Interpretation Plan being prepared for the SFS Redevelopment site (Curio Projects 2019b), in order to seek input into the plan with regards to Aboriginal cultural heritage significance to the La Perouse community and their ancestors.

1. Introduction

1.1. Purpose of this Report

Curio Projects Pty Ltd was commissioned by Infrastructure NSW (INSW) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for Stage 2 redevelopment of the Sydney Football Stadium (SFS), located at 40–44 Driver Avenue, Moore Park (the study area).

This report supports a State Significant Development (SSD) Development Application (DA) for the redevelopment of the Sydney Football Stadium, which is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The redevelopment is being conducted in stages comprising the following planning applications:

- Stage 1—Concept Proposal for the stadium envelope and supporting retail and functional uses as well as development consent for the carrying out of early works, including demolition of the existing facility and associated structures.
- Stage 2—Detailed design, construction and operation of the stadium and supporting business, retail and functional uses.

Development consent was granted for the Concept Proposal and detailed approval to carry out early works and demolition (SSD 18_9249) by the Minister for Planning on 6 December 2018.

This report relates to the Stage 2 application and considers the detailed design, construction and operation of the new Sydney Football Stadium pursuant to the approved Concept Proposal. Infrastructure NSW is the proponent of the Stage 2 DA.

This ACHAR documents the process of investigation, consultation and assessment with regards to Aboriginal cultural heritage and Aboriginal archaeology, as undertaken for the SFS Redevelopment project and study area, specific to the Stage 2 development application. This includes background research and assessment of evidence and information about material traces of Aboriginal land use in the study area and surrounds, significance assessment of potential Aboriginal sites, places, landscapes and/or other values, as well as an impact assessment and management recommendations to assist INSW with their future responsibilities for Aboriginal cultural heritage within the study area.

This report has been prepared following the requirements for reporting as established in DECCW *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (24 September 2010) (Code of Practice), and OEH 2011a *Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Guide to Investigating).

This report has been updated as of August 2019 in response to the Response to Submissions (RtS) from the Department of Planning, Industry and Environment to the Stage 2 SSDA ACHAR.

1.2. Project Background

The Sydney Football Stadium (SFS) is a significant component of the sports facilities that comprise the Sydney Cricket and Sports Ground. Completed in 1988, the SFS has hosted numerous sporting events in its 30 years of operation for a number of sporting codes including football (soccer), rugby league and rugby union as well as occasional music concerts.

The NSW Stadia Strategy 2012 provides a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key action of the strategy included development of master plans for Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and entertainment provision. SFS is one of three Tier 1 stadia within NSW, the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground.

In order to qualify for Tier 1 status, a stadium is required to include:

- Seating capacity greater than 40,000;
- Regularly host international sporting events;
- Offer extensive corporate facilities, including suites, open-air corporate boxes and other function/dining facilities; and
- Be the home ground for sporting teams playing in national competitions.

On 6 December 2018, development consent was granted for the Concept Proposal and Early Works/ Demolition stage of the SFS redevelopment (SSD 18_9249). This consent permitted the completion of demolition works on the site and established the planning and development framework through which to assess this subsequent Stage 2 application. Specifically, State Significant Development Consent SSD 18_9249 encompassed:

1. A Concept Proposal for:

   - A maximum building envelope for the stadium with capacity for 45,000 seats (55,000 patrons in concert mode) and 1,500 staff.
   - Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the stadium at Stage 2.
   - General functional parameters for the design and operation of the new stadium, including:
     - Range of general admission seating, members areas, premium box/terrace, function/lounge and corporate suite options;
     - Administration offices;
     - New roof with 100% drip-line coverage of all permanent seating;
     - Flood lighting, stadium video screens and other ancillary fittings;
     - Food and beverage offerings;
     - Facilities for team, media, administration and amenity such as changing rooms, media rooms and stadium; and
     - Provision for ancillary uses within the stadium and surrounds.
   - Principles and strategies for transport and access arrangements.
   - Indicative staging of the development.

2. Details consent for the following works:

- The demolition of the existing SFS and ancillary structures, including the existing Sheridan, Roosters, Waratahs and Cricket NSW buildings down to existing slab level.
- Site and construction management, including use of the existing MP1 car park for construction staging, management and waste processing, and provisions for temporary pedestrian and vehicular access management.
- The protection and retention of Tree 125 (Moreton Bay Fig adjacent to Moore Park Road) and Tree 231-238 cluster (Hills Weeping Fig and others near Paddington Lane) and all existing street trees located outside of the site boundary, with the removal of all other vegetation within the proposed future building footprint.
- Works to make the site suitable for the construction of the new stadium (subject to this separate Stage 2 application).

1.2.1. Stage 1 SSDA Modification

In May 2019, INSW submitted a Section 4.55 Modification Application for SSD 9249 to allow the removal and disposal of the ground slabs, pavements, footings, and piles from the former Stadium as part of the Stage 1 works. This Modification was accompanied by an Addendum Archaeological Impact Statement (Addendum AIS) prepared by Curio Projects, which assessed any potential impacts the additional ground impacts may have presented to archaeological potential and significance of the study area (both Aboriginal and historical).

With respect to Aboriginal archaeology, the Addendum AIS identified that excavation of existing piles and trenching for a stormwater diversion in the northwest of the site had the potential to impact Aboriginal archaeology (if present), and therefore provided recommendations for mitigation measures associated with the modification works. The mitigation measures included a methodology for monitoring excavation of existing piles, and Aboriginal archaeological test excavation where possible.

A Request for Additional Information (RFI) was received from DPE on 4 July 2019, relating particularly to the archaeological methodology contained within the Addendum AIS. In response to the RFI, Section 6 (*Archaeological Mitigations and Recommendations*) of the Addendum AIS was revised and provided to the DPE (Curio Projects 2019, *Response to Request for Additional Information- Archaeological Methodology*, July 2019), which provided further clarification on proposed Aboriginal archaeological methodology and mitigation for the Stage 1 Modification works.

~~1.2.1.~~1.2.2. Stage 2 Assessment Requirements

The Department of Planning and Environment have issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement (EIS) for the proposed development. This report has been prepared having regard to the SEARs (Aboriginal Heritage) as presented in Table 1.1 below.

In addition, this report addresses the future assessment requirements set out in Schedule 2 Part B of the Concept Plan State Significant Development Consent SSD 9249, Condition 49 of which states that:

> *The future development application must be accompanied by the following:*

b) an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared by a suitable qualified professional in accordance with the relevant guidelines.

Finally, this ACHAR has also been prepared with reference to the mitigation measures attached to the condition of consent for the Concept Plan SSD (SSD 9249) as per the following:

CP-HER5

An Aboriginal Cultural Heritage Assessment Report is to be prepared in consultation with local Aboriginal stakeholders and be submitted with the Stage 2 Development Application.

Table 1.1: SEARs (SSD 9835)—Aboriginal Heritage

SEARS—DESCRIPTION	REPORT REFERENCE
19. Aboriginal Heritage	
Identify and describe the Aboriginal cultural heritage values that exist across the site and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR).	Section 4
Identify and address the Aboriginal cultural heritage values in accordance with the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (OEH, 2010).	Section 4 *This report has been prepared in accordance with both the 'Guide to Investigating', and the 'Code of Practice'.*
Undertake consultation with Aboriginal people and document in accordance with Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values of Aboriginal people who have a cultural association with the land are to be documented in the ACHAR.	Section 2
Identify, assess and document all impacts on the Aboriginal cultural heritage values in the ACHAR.	Section 5
The EIS and the supporting ACHAR must demonstrate attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR and EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.	Section 5 and 6

1.2.3. Response to Submissions

In August 2019, a submission was received from DPE in response to the Stage 2 SSDA ACHAR. The following table summarises the response, and details the relevant sections of this ACHAR that have been revised or updated accordingly.

RTS EXTRACT	REPORT REFERENCE
DPIE12 Aboriginal Cultural Heritage Assessment Report • *The ACHAR submitted with the EIS for the Stage 2 application should be updated to be consistent with the mitigation measures proposed under the SSD-9249-Mod-2 (as refined by the response to submissions dated July 2019). The amendments should include (but not be limited to):*	This Report, August 2019 Revision
a. detailed justification for not conducting test excavation.	Section 5.4.1
b. details regarding depth of test excavation.	Section 6.1.4
c. additional details of methodology for hand and mechanical excavation.	Section 6.1.4- *Hand Test Excavation* and *Mechanical Test Excavation*
d. confirmation that a sensitive archaeological feature would be explored to its full extent, not to the extent of the development impact zone only.	Confirmed. Section 6.1.2
e. confirmation that the sensitive archaeological feature would be fully recorded, notwithstanding whether partial or full impact is expected.	Confirmed. Section 6.1.2, 6.1.4 and 6.1.5
f. confirmation that significant feature excavation or a salvage excavation within a test unit would be undertaken to the depth of the culturally sterile soil.	Confirmed. Section 6.1.4 and 6.1.5
g. commitments to submit a post-excavation report including the following information: *– where the development works are going to occur* *– the basis on which the natural soil profile was identified in these areas* *– on what basis was testing not undertaken if this is the decision and what other options were explored to test.*	Section 6.1.9
h. additional details regarding the unexpected finds procedure including confirmation that the protocol would comprise the removal of displaced Aboriginal objects within historical archaeological deposits.	Section 6.1.7

1.3. Site Identification

The site is located at 40-44 Driver Avenue, Moore Park within the Sydney Cricket Ground Precinct. It is bound by Moore Park Road to the north, Paddington Lane to the east, the existing SCG stadium to the south and Driver Avenue to the west. The site is located within the City of Sydney local government area.

The site is legally described as Lots 1528 and 1530 in Deposited Plan 752011 and Lot 1 in Deposited Plan 205794. The site is Crown Land, with the SCSGT designated as the sole trustee under the Sydney Cricket and Sports Ground Act 1978. The site is wholly contained within designated land controlled by the Sydney SCSGT under Schedule 2A of the Sydney Cricket and Sports Ground Act 1978.

In a broader context, the site is largely surrounded by Centennial and Moore Parks, the Fox Studios and Entertainment Quarter precincts and the residential suburb of Paddington. Located approximately 3km from the Sydney CBD and approximately 2km from Central Station, the site is connected to Sydney's transport network through existing bus routes and will benefit from a dedicated stop on the soon to be completed Sydney CBD and South East Light Rail.

The locational context of the Site is shown in Figure 1.1, whilst the site boundaries and existing site features are shown in Figure 1.2.

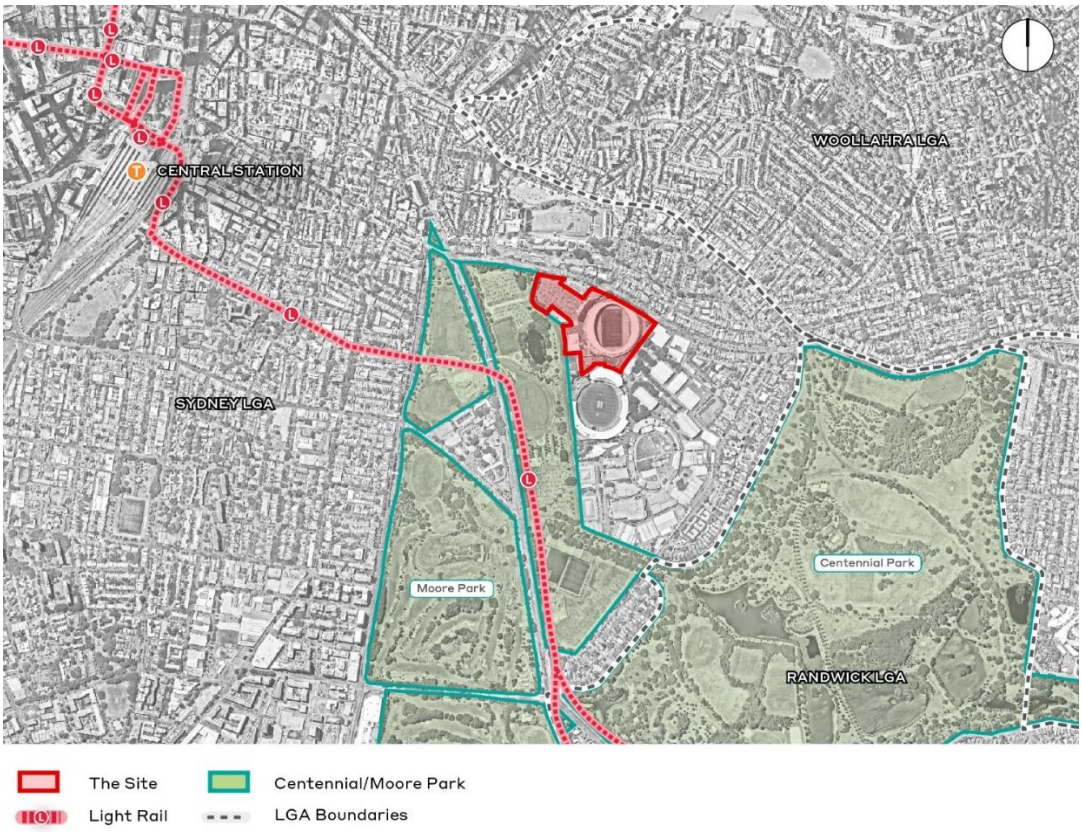

Figure 1.1: Regional site context (Source: Ethos Urban)

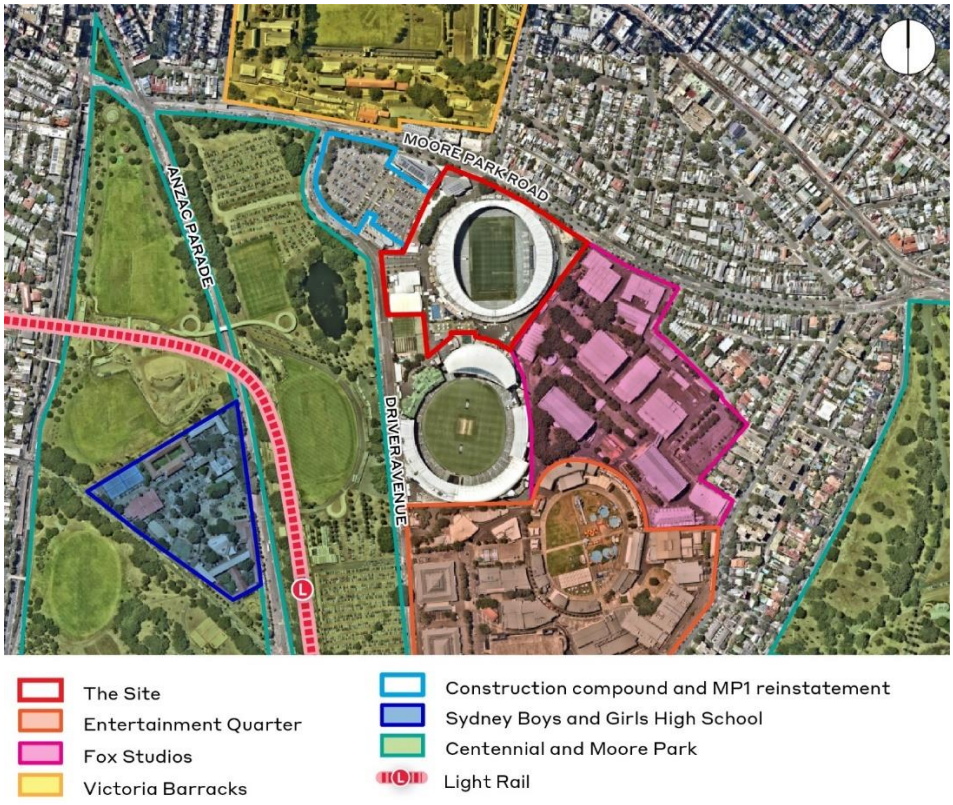

Figure 1.2: Site Area and Local Context (Source: Ethos Urban)

1.4. Relevant Statutory Controls

Aboriginal cultural heritage is governed in NSW by two principles pieces of legislation:

- *National Parks and Wildlife Act 1974 (NSW)* (NPW Act); and
- *Environmental Planning and Assessment Act 1979* (NSW) (EPA Act);

1.4.1. Environmental Planning and Assessment Act 1979

The EP&A Act is an 'Act to institute a system of environmental planning and assessment for the state of NSW' (EP&A Act). Dependent upon which Part of the EP&A Act a project is to be assessed under, differing requirements and protocols for the assessment of associated Aboriginal cultural heritage may apply.

Part 4, Division 4.1 of the EP&A Act identifies and defines State Significant Development projects (SSD) as those declared under Section 89C of the EP&A Act. SSD and State Significant Infrastructure projects (SSI), replace 'Concept Plan' project approvals, in accordance with Part 3A of this Act, which was repealed in 2011.

Where a project is assessed to be an SSD, the process of development approval differs, with certain approvals and legislation no longer applicable to the project. Of relevance to the assessment of Aboriginal heritage for a development, the requirement for an AHIP in accordance with Section 90 of the NPW Act is removed for SSD projects (EP&A Act, Section 89J).

1.4.2. NSW National Parks and Wildlife Act 1974

The NSW National Parks and Wildlife Act 1974 (NPW Act), administered by the NSW Office of Environment and Heritage (OEH), is the primary legislation that provides statutory protection for all 'Aboriginal objects' (Part 6, Section 90) and 'Aboriginal places' (Part 6, Section 84) within NSW.

An Aboriginal object is defined through the NPW Act as:

> *"any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains."*[1]

The NPW Act provides the definition of 'harm' to Aboriginal objects and places as:

> *"...any act or omission that:*
>
> *(a) destroys, defaces or damages the object or place, or*
>
> *(b) in relation to an object-moves the object from the land on which it had been situated, or*
>
> *(c) is specified by the regulations, or*
>
> *(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),* (NPW Act 1974)

The NPW Act also establishes penalties for 'harm' to Aboriginal objects and declared Aboriginal places, as well as defences and exemptions for harm. One of the main defences against the harming of Aboriginal objects and cultural material is to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act, under which disturbance to Aboriginal objects could be undertaken, in accordance with the requirements of an approved AHIP.

1.4.3. Native Title Act 1993

The *Native Title Act 1993* provides the legislative framework to recognise and protect native title, which recognizes the traditional rights and interests to land and waters of Aboriginal and Torres Strait Islander people. Under the *Native Title Act*, native title claimants can make an application to the Federal Court to have their native title recognised by Australian law.

No native title claimants are registered to include the study area.

1.4.4. OEH Guidelines

In order to best implement and administer the protection afforded to Aboriginal objects and places as through the NPW Act, and EP&A Act, the OEH have prepared a series of best practice statutory guidelines with regards to Aboriginal heritage. These guidelines are designed to assist developers, landowners and archaeologists to better understand their statutory obligations with regards to Aboriginal heritage in NSW, and implement best practice policies into their investigation of Aboriginal

[1] NPW Act 1974, Part 1: 5

heritage values and archaeology in relation to their land and/or development. This report has been prepared in accordance with these guidelines, including:

- DECCW 2010a, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. (the Due Diligence Code of Practice)
- OEH 2011a, *Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW*. (the Guide to Investigating)
- DECCW 2010b, *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*. (the Code of Practice)
- DECCW 2010c, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. (the Consultation Guidelines)
- OEH 2011b, *Aboriginal Heritage Impact Permits, a Guide for Applicants*.

1.5. Objectives of Aboriginal Heritage Assessment:

The objectives of the Aboriginal heritage assessment for the SFS Redevelopment, Stage 2, were to:

- identify Aboriginal community members who can speak for the Country within which the project is located;
- involve the Aboriginal community in the cultural heritage assessment process, including consultation to determine their opinions with respect to the project and its potential 'harm' to their cultural heritage;
- understand the number, extent, type, condition, integrity and archaeological potential of any potential Aboriginal heritage sites and places that may be located within the study area;
- determine whether the potential Aboriginal sites and places are a component of a wider Aboriginal cultural landscape;
- understand how the any potential physical Aboriginal sites relate to Aboriginal tradition within the wider area;
- prepare a cultural and scientific values assessment for all identified aspects of Aboriginal cultural heritage associated with the SFS study area;
- determine how the proposed project may impact any identified Aboriginal cultural heritage;
- determine where impacts are unavailable and develop a series of impact mitigation strategies that benefit Aboriginal cultural heritage and the proponent (in close consultation and discussion with the local Aboriginal community); and
- provide clear recommendations for the conservation for Aboriginal heritage and archaeological values and mitigation of any potential impacts to these values.

1.6. Limitations and Constraints

This report has been prepared using the extensive historical data and documentation available for the SFS/Moore Park area, including relevant Conservation Management Plans, and archaeological reports and assessments. No further historical research has been undertaken.

This report does not include assessment of non-Aboriginal heritage values or archaeology, nor any non-heritage related planning controls or requirements.

1.7. Investigators, Contributors and Acknowledgements

This report has been prepared by Sam Cooling, Senior Archaeologist of Curio Projects, with review by Natalie Vinton, Director of Curio Projects. Table 1.2 presents a complete list of the project team, including qualifications, affiliation and role in the project. Details of all project RAPs are presented in Section 2.

Curio Projects would also like to acknowledge the ongoing assistance throughout the project of Tom Kennedy, Director at GTK Consulting, as well as Phillip Heads, General Manager- Comms, Heritage and Government Relations, of the SCG Trust. Curio Projects would also like to thank all the project RAPs for their advice and input into this report, as detailed further in Section 2.0.

Table 1.2: Investigators and Contributors

PERSON (QUALIFICATION)	AFFILIATION	ROLE
Sam Cooling, Senior Archaeologist (BA, M Archaeological Science)	Curio Projects	Project Manager, Author
Natalie Vinton, Director (BA (Hons) Archaeology and Palaeoanthropology)	Curio Projects	Report Reviewer
Andre Fleury, Archaeologist (B. Hist, M Archaeological Science)	Curio Projects	GIS, Mapping

2. Aboriginal Community Consultation

Aboriginal community consultation is required for assessment of Aboriginal cultural heritage, and should be undertaken in the early stages of project planning in order to best guide the development process. This section documents the process of Aboriginal community consultation that has been undertaken for the Aboriginal cultural heritage assessment of the SFS Redevelopment study area, both ongoing, and specific to the Stage 2 phase of the development application.

Aboriginal community consultation in accordance with OEH statutory guidelines *Aboriginal cultural heritage consultation requirements for proponents 2010*, was initiated for the overall SFS Redevelopment project in April 2018, approached with the intent to apply the one process of consultation to subsequent development stages going forward for the project. Therefore, Stages 1 to 3 of the Aboriginal Community Consultation process as described in this chapter are mostly common to all development stages of the overall SFS Redevelopment project (i.e. identification of project RAPs and presentation of project information), with Stage 4 being specific to Stage 2 of the development.

Aboriginal people are recognised as the determinants of their own heritage. Therefore, the ongoing process of Aboriginal community consultation for the SFS Redevelopment project seeks to identify social and cultural values of the study area and its surrounds to the local Aboriginal community and will incorporate the assessment and acknowledgement of this significance into any future development stages and mitigation measures for the project.

The objectives of Aboriginal Community Consultation, as stated in the OEH Consultation guidelines is to:

> *'ensure that Aboriginal people have the opportunity to improve assessment outcomes by:*
>
> - *Providing relevant information about the cultural significance and values of the Aboriginal object(s) and/or place(s)*
> - *Influencing the design of the method to assess cultural and scientific significance of Aboriginal object(s) and/or place(s)*
> - *Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal object(s) and/or place(s) within the proposed project area*
> - *Commenting on draft assessment reports before they are submitted by the proponent to the OEH.' (DECCW 2010a)*

A complete log of all communications between Curio Projects and registered Aboriginal parties (RAPs) for the project, as well as all written responses (unless requested by RAPs to be not directly included) has been provided as Appendix A.

The Aboriginal Community Consultation process in accordance with OEH Guidelines consists of four main stages:

Stage 1—Notification of project proposal and registration of interest

Stage 2—Presentation of Information about the Proposal Project

Stage 3—Gathering Information about Cultural Significance

Stage 4—Review of Draft Cultural Heritage Assessment Report

2.1. Stage 1—Notification of project proposal and registration of interest

The first step in undertaking the Aboriginal Cultural Heritage Assessment process for the subject site, is the identification of the Aboriginal community members who can speak for Country in the area of the project (Stage 1).

On behalf of Infrastructure NSW, Curio Projects initiated a process of Aboriginal Community Consultation in accordance with OEH in April 2018. In accordance with Stage 1.2 of the consultation guidelines, letters were sent to the relevant statutory bodies on 20 April 2018 (NSW Office of Environment and Heritage, La Perouse Local Aboriginal Land Council, the Registrar Aboriginal Land Rights Act 1983, the National Native Title Tribunal, Native Title Services Corporation Limited, Sydney City Council, and the Greater Sydney Local Land Services), requesting names of Aboriginal people who may have an interest in the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and places relevant to the SFS Redevelopment site.

A public notice advertising the SFS Redevelopment project was also placed in the Wentworth Courier on 11.4.18 (consistent with Stage 1.3 of the Consultation Guidelines), advising of the project location and proposed development, and inviting registration from local Aboriginal people.

All names compiled from Stage 1.2 of the process were then written to via email and/or registered post on 7 May 2018, inviting registration in the process of community consultation for the SFS Redevelopment. Response was requested within 14 days of the date of the letter (i.e. 21 May 2018).

2.1.1. Registered Aboriginal Parties

As a result of Stages 1.2 and 1.3, fourteen Registered Aboriginal Parties (RAPs) were identified for the SFS Redevelopment project (in alphabetical order):

- Biamanga;
- Butucarbin Aboriginal Corporation;
- Cullendulla;
- Darug Land Observations;
- Darug Aboriginal Cultural Heritage Assessments;
- Darug Boorooberongal Elders Aboriginal Corporation;
- Didge Ngunawal Clan;
- Goobah;
- Gulaga;
- La Perouse Local Aboriginal Land Council;
- Murramarang;

- Thoorga Nura;
- Tocomwall; and
- Wailwan Aboriginal Digging Group.

2.2. Stage 2 and Stage 3

Each project RAP was provided with written details of the proposed project and the draft proposed Aboriginal cultural heritage assessment methodology for the project (Stage 2 of the consultation guidelines). This letter was sent to all project RAPs in June 2018. Request was made for comment and/or review within 28 days of provision of the methodology document. A copy of the methodology document is provided in Appendix A.

All project RAPs were invited to a site visit and meeting to discuss the overall project and proposed methodology on 27 June 2018. This meeting was attended by Gordon Workman and Lynne Marlow (DLO), Scott Franks (Tocomwall), and Phil Boney and Brayden McDougall (Wailwan Aboriginal Digging Group). Sam Cooling (Curio Projects) facilitated the meeting, which was also attended by Phil Heads (SCG Trust), Tom Kennedy (INSW) and Fee Chemke Dreyfus (Ethos Urban). The meeting provided INSW with an opportunity to present the proposed SFS Redevelopment project to the project RAPs, as well as presentation and discuss of the draft Aboriginal cultural heritage methodology for the project, and for project RAPs to ask any question or raise any concerns or queries they may have regarding the Aboriginal cultural heritage management and proposed process for the project, or provide any comment on social or cultural values of the site location and project, if they wished.

A second meeting was organised for Monday 10 December 2018, to which all project RAPs were invited, in order to discuss the commencement of Stage 2 of the development, with respect to this draft ACHAR. However, no RAPs were able to be in attendance.

Due to their inability to attend the 10 December 2018 meeting, a meeting was held between Sam Cooling (Curio Projects) and Chris Ingrey (La Perouse LALC) on 19 December 2018, at the La Perouse LALC offices. Mr Ingrey voiced concern about what might have remained (Aboriginal cultural material and sites) at the SFS site in areas of limited disturbance, as this would be of the highest significance for the project. Additional information was also provided regarding traditional use and significance of the SFS site and surrounds to the La Perouse community and their ancestors, however Mr Ingrey requested that the details of this information to be omitted from reporting for cultural sensitivity reasons. However, the information regarding significance provided by Mr Ingrey, has been incorporated into the Aboriginal cultural heritage significance assessment within this ACHAR, with specifics redacted.

While an opportunity was made for project RAPs to visit the project site, no archaeological survey was able to be undertaken, due to the nature of the subject site as a highly developed and urbanised site, completely covered with existing structures, building, hardstand, landscaping, and the stadium itself, therefore presenting with no potential for surface artefacts nor landscape/landform features capable of informing Aboriginal archaeological assessment, to be visible.

2.3. Stage 4—Review of Draft Cultural Heritage Assessment Report

This draft ACHAR was provided to all project RAPs on 29 January 2019 for review and comment. Request was made for comments and submissions by 26 February 2019 (28 days from date of provision of draft ACHAR).

The following key points were received from the review of the Stage 2 SFS Redevelopment draft ACHAR by the project RAPs:

- General support for the proposed methodology and approach to the Aboriginal cultural heritage and archaeological assessment for the SFS Redevelopment project.
- Request that attention be paid to any areas with potential Aboriginal archaeological deposits (i.e. natural intact sand profiles), and archaeological investigation be undertaken where necessary.
- That areas where sands may remain across the site, but do not require impact through the development, should remain conserved in situ without impact.
- The SFS area and surrounds are a significant location to the La Perouse Aboriginal community, known by the elders to have specific uses and function prior to arrival of white colonists in 1788, and used well into the 1800s, until the Aboriginal people in the southeastern peninsula of Sydney were forcibly relocated to La Perouse mission in 1883.

2.4. Submissions Received from Aboriginal Community

Table 2.1 provides a summary of submissions received from RAPs with regards to the Stage 2 SFS Redevelopment project. This table has been revised and updated following RAP review of the draft ACHAR. Comments as summarised below have generally been paraphrased from verbal comment, or indicated where they are a direct quote from a written response. Full details of all comments, feedback and copies of written submissions are included in Appendix A.

Table 2.1: Summary of Key RAP Submissions/comments

#	DATE	FORMAT	COMMENT
1	27.6.18	In Person	Ok with proposed methodology, wherever it says 'Aboriginal', it should make reference to Darug specifically.
2	27.6.18	In Person	Noted the ballast found at Alison Road Randwick stabling yards. Ok with everything in methodology. Fairly standard.
3	19.12.18	In Person	Happy with approach. La Perouse LALC community have ongoing connections to the area, ancestors of La Perouse community used the area. View that LPLALC community are only group with specific traditional cultural knowledge of this region of Sydney, unbroken connection, ancestors moved from the study area surrounds, to the La Perouse Mission in the 1880s. Elders in the community still know the stories. Also provided further details regarding the cultural significance and history of the study area, but asked that this information remain confidential, not to be circulated. Site is in a very disturbed area with development, but main concerns surround what has remained in areas with limited disturbance.

#	DATE	FORMAT	COMMENT
4	29.1.19	Email	'Happy with all proposals and holds no restraints'
5	4.2.19	Email	'We agree with the conclusions and recommendations made in this report.'
6	7.2.19	Email	'… taken the time to review and understand the report you have prepared. …supports that Draft report in its current form. Once again thank you and your team for providing a detailed report.'
7	20.2.19	Email	'supports the methodology' Long-term storage of any recovered artefacts should be reburied on Country (Study area), would like a copy of the AHIP, would like to be involved in fieldwork.
8	26.2.19	Email	▪ 'Impressed that inappropriate terminology has not been used in this report' ▪ 'although the ethnohistory does mention there are Indigenous personal accounts regarding 'food and camping', it may be worthwhile to mention these accounts in the report.' ▪ 'It is essential that the ethnohistory contains first-hand indigenous perspectives instead of perspective's reiterated by non-indigenous people, especially since this is an ACHAR.' ▪ 'it is known that Indigenous histories have been passed down through generations. It could be beneficial to employ an Indigenous person/s who can reiterate their histories in order to obtain a more accurate history, which contains both colonial and Indigenous perspectives.'

2.5. Curio Responses to Submissions

Table 2.2 provides a summary of Curio responses to RAP submissions. This table has been revised and updated following RAP review of the draft ACHAR. All written responses received were replied to, directly addressing any comments, acknowledging how they had been addressed within ACHAR if relevant, or explaining if otherwise.

Table 2.2: Summary of Curio Responses to RAP submissions

#	CURIO RESPONSE
1	Methodology document revised to make reference to 'Darug (Cadigal)' where previously only stated 'Aboriginal'
2	Noted presence of ballast at Randwick Stabling Yards. Addressed in Section 3.4.3 of this ACHAR, and considered in the development of archaeological methodology.
3	Sensitive information provided contributes to the overall significance assessment as presented within this ACHAR, however details of knowledge provided are not disclosed within this report. LPLALC to be consulted with on an ongoing basis for the SFS Redevelopment project, notably for input into/advice regarding opportunities and initiatives within the future development for Aboriginal cultural heritage interpretation. Noted concern with regards to remnant undisturbed sands that have potential to be present within the study area. Addressed through the archaeological methodology proposed in Section 8.0.

#	CURIO RESPONSE
4	N/A
5	N/A
6	N/A
7	Noted. Section 7.3 (Management of Aboriginal Objects) updated to acknowledge comment.
8	Curio email response 1.3.19. Very relieved to know inappropriate terminology has not been used. Intention to consult with La Perouse LALC on an ongoing basis for the project and to seek meaningful input into Aboriginal heritage interpretation initiatives.

3. Summary and Analysis of Background Information

This section summarises the environmental and archaeological background and context for the study area, including previous work undertaken in the proximity. This summary serves to place the study area and proposed development into an appropriate regional context, as well as provide a current archaeological predictive model for the region. This will assist to determine the nature and significance of any potential Aboriginal archaeology that may be present, as well as assist in the development of appropriate management mechanisms. Through a desktop assessment, a general understanding of any potential archaeology at the site can be formed, and appropriate measures developed, prior to any non-reversible impact to the site and Aboriginal archaeology and cultural values.

3.1. Aboriginal Ethnohistory

The Moore Park area of Sydney is part of the traditional lands of the Gadigal people, which stretches along the southern side of Sydney Harbour from South Head, west to approximately Darling Harbour, and south towards Botany Bay. The Sydney region has two main language groups: Darug–with two main dialects, one spoken along the coast, and another in the hinterland/Cumberland Plain region of western Sydney; and Tharawal–spoken to the south of Botany Bay (Attenbrow 2002). Within the Darug language group, people belonged to smaller family/territorial groups or clans, through which they were connected to, and occupied, different areas of land across Sydney, of which the Gadigal people are one.

At the time of arrival of the First Fleet and Captain Arthur Phillip in January 1788, it is estimated that at least 1500 Aboriginal people would have lived along the coastal region between Broken Bay and Botany Bay. While there is limited ethnographic records of the use of the Moore Park area by Aboriginal people upon arrival of colonists in the late 1700s, the dune and wetlands of the Botany Basin in this area would have provided the local Aboriginal people with a rich and diverse resource zone to utilise. Elders from the La Perouse community have provided personal accounts of the collection of food and camping in Centennial Park in the 1930s, due to the presence of the Lachlan Swamps and the resources this landscape provided (Conybeare Morrison & Partners, 2003).

3.2. Brief Historical Summary

A brief history of the use of the SFS site and surrounds post 1788 has been provided here for context, particularly in consideration of historical impacts and ground disturbance that have the potential to have impacted Aboriginal archaeological deposits and sites. A more detailed history is available within the *Archaeological Assessment* report for the SFS Redevelopment (Curio Projects 2018a).

3.2.1. Sydney Common (1811)

In the early 1800s, the SFS site and surrounding area (including Moore Park, Centennial Park, Sydney Showground, SCG etc) was part of the 'Sydney Common', a 1000 acre area of land dedicated by Governor Macquarie in 1811 as a public recreation area (Figure 3.1), primarily created in order to discourage people from taking animals into Hyde Park and other public lands to graze. Early on, the Sydney Common began to be further allocated and divided for different uses, with the eastern side including large swamp lands (Lachlan Swamps) declared and protected as a fresh water reserve in the

1820s (now Centennial Park), while the western portion of Sydney Common is generally consistent with the location of Moore Park today.

In 1841, the northern part of the Sydney Common was allocated for the Victoria Military Barracks (along the present day Oxford Street), while the majority of the Sydney Common has been retained in public ownership, as parklands (Moore Park, Centennial Park, Queens Park) and sporting and recreational facilities, since its establishment.

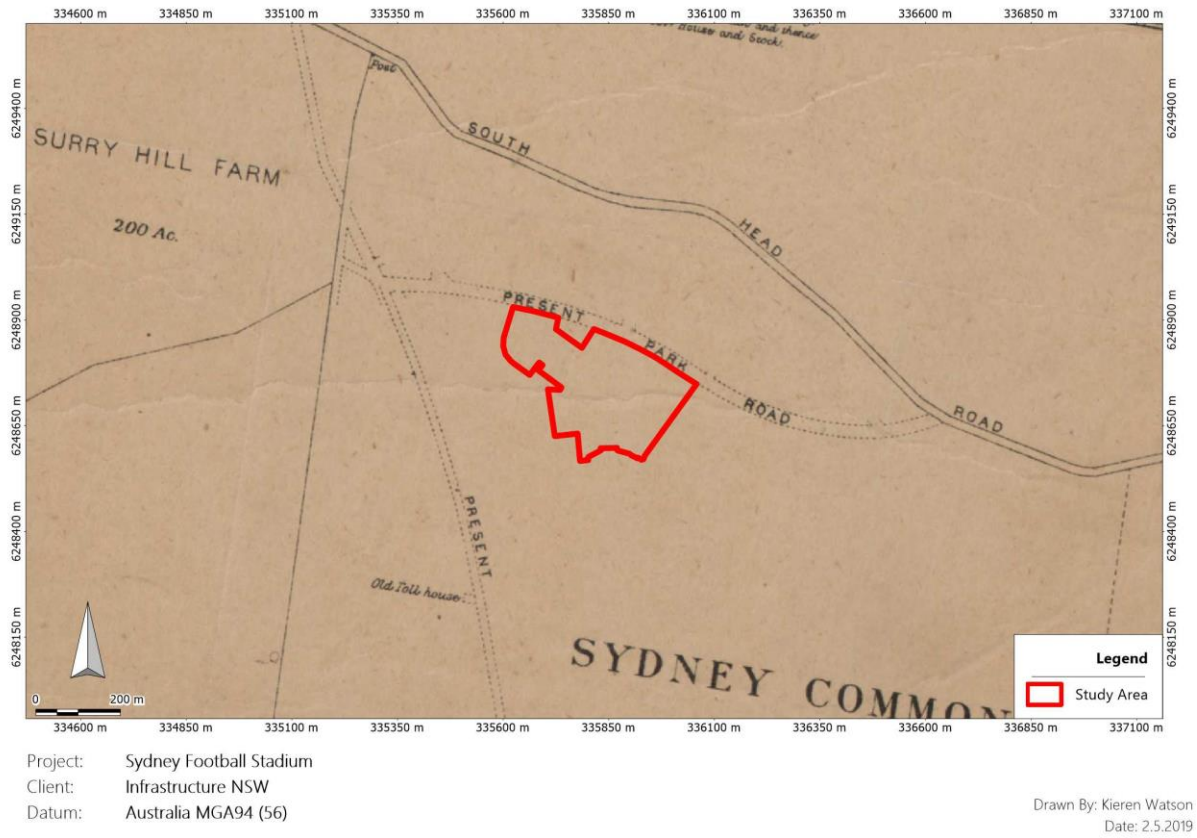

Figure 3.1: Plan of Town Of Sydney, Shewing Common, 1811

(Source: NLA Map F 868 with Curio Additions)

3.2.2. Busby's Bore (1827)

Busby's Bore is a 3.6km long gravity fed tunnel from the Lachlan Swamps (now Centennial Park) to Hyde Park. Constructed by convict labour between 1827 and 1837 as a replacement water supply for Sydney once the fresh water stream known as the Tank Stream had been fouled by the 1820s, Busby's Bore crosses the northern side of the SFS site (Figure 3.2). Most of the bore was cut through the sandstone bedrock, with limited locations cut as open trenches laid with sandstone masonry and slab roof. Busby's Bore was Sydney's sole fresh water source from 1837 to 1859, at which time the growth of the city required additional water options to be investigated. Thereafter, Busby's Bore was initially supplemented by the Botany Swamps scheme from 1859, and completely superseded by other schemes by 1890 (including the Upper Nepean Scheme), at which time it was used only to flush creeks and ponds in the Botanic Gardens (Sydney Water Corporation, 2004).

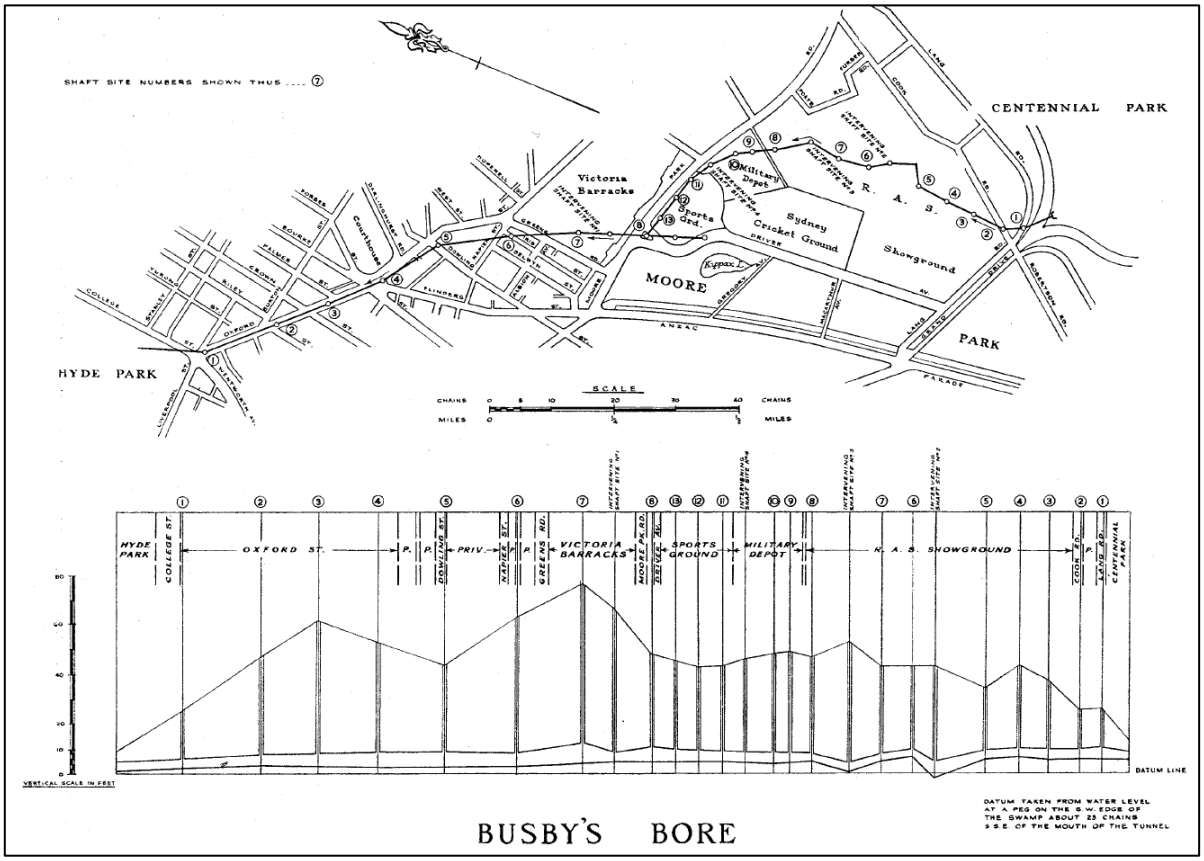

Figure 3.2: 1892 Plan Of Busby's Bore (N.B. Proven To Have Many Locational Inaccuracies) (Source: Sydney Water Archives, Ref: A1029)

3.2.3. Military Use (1849-1970)

Following the establishment and completion of construction of the Victoria Park Barracks, it became apparent that additional land was required for both a rifle range, as well as recreational facilities for the troops. Thus in 1849, additional land from the Sydney Common was set aside for a professional military rifle range, followed in 1852 by an additional 25 acres for a 'military garden and cricket ground' (the location of which eventually became the Sydney Cricket Ground) (Figure 3.3). In 1862, an additional seven acres was converted into a rifle range for volunteer forces, adjacent to the professional range which served as the principle rifle range in Sydney until 1890.

The Sydney Cricket Ground (SCG) was formally established and constructed in 1882, around which time it was identified too dangerous to have a rifle range in such close proximity to public recreation. In 1890, a new range was established at Maroubra, and the existing range closed.

In 1861, all of Sydney Common came under control of Sydney Council, who in turn established Moore Park in 1866 (dedicated 378 acres of northwest section of Sydney Common as recreation ground for public to help alleviate growing pressure of outdoor activities, particularly organized sports). Moore Park was named for the then Mayor of Sydney City Council, Charles Moore.

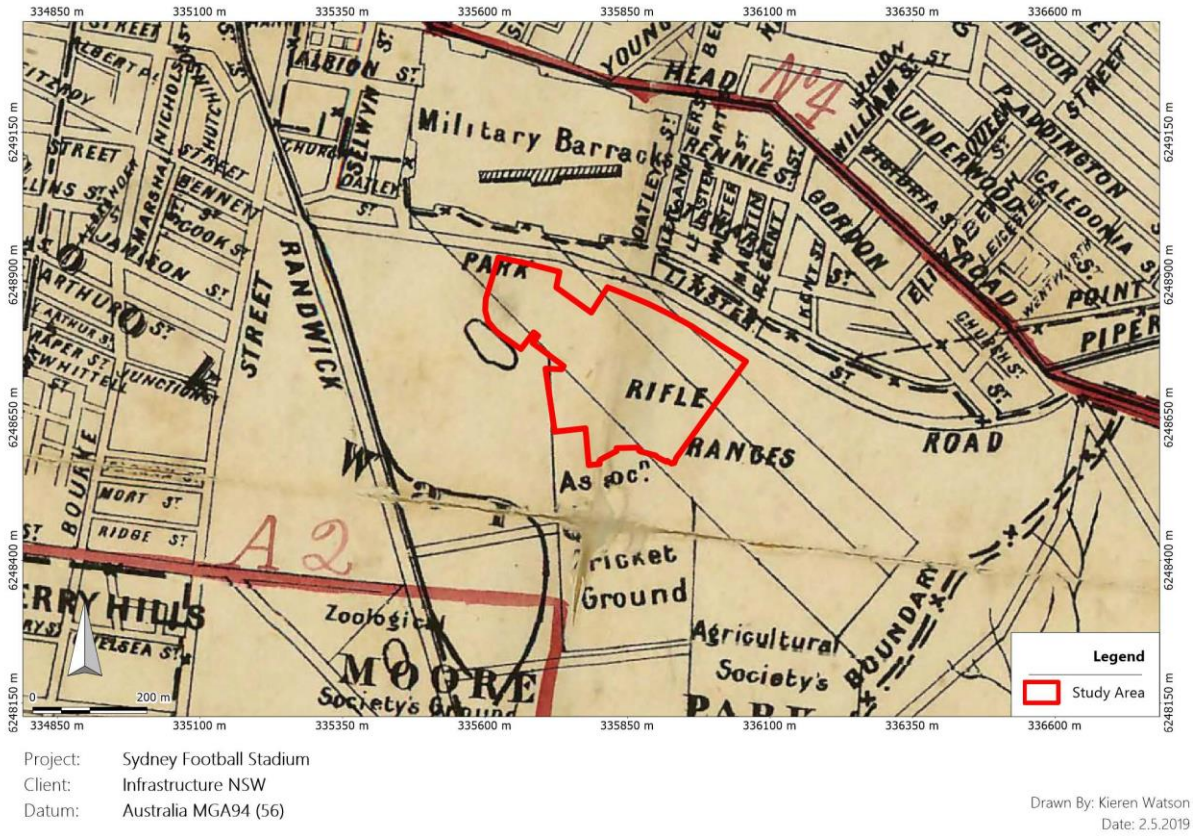

Figure 3.3: Sands' Directory Map of The City of Sydney And Suburbs, 1887.

Military Rifle Range at study area (Source: Historical Atlas of Sydney)

Upon closure of the rifle range in 1892, the former range was converted to the headquarters for the NSW Field Engineer Corps (relocated from within the Victoria Barracks itself), land which was then later transferred to the Commonwealth of Australia when the Engineer Corps were integrated into the Commonwealth Military Force. Immediately prior to the transfer to the Commonwealth, approximately 6 acres of the military reserve (depot) land had been allocated by the NSW Government as land for an 'Athletic Sports Ground', which became the Sydney Sports Ground. An additional 6 acres of the military land was also transferred at this time under lease to the Sydney Cricket Ground, which eventually became the location of Oval 2 (Figure 3.4).

While the military depot continued to function through WW1, by the 1920s, only nine acres remained as military land, with the eastern section transferred after WW1 to the Royal Agricultural Society, eventually developed into the Royal Agricultural Society Showgrounds (i.e. now known as 'The Entertainment Quarter'). WW2 saw substantial redevelopment of the depot, including the erection of a series of pre-fabricated huts, the establishment of the National Emergency Service and the construction of anti-aircraft trenches in Moore Park and other surrounding parklands in response to the increased threat of enemy attack (Figure 3.5).

The pre-fabricated huts were eventually removed in the 1970s and the military depot was finally transferred to the NSW Government in 1986, with all structures demolished at that time to make room for the construction of the SFS.

Project: Sydney Football Stadium
Client: Infrastructure NSW
Datum: Australia MGA94 (56)

Drawn By: Kieren Watson
Date: 2.5.2019

Figure 3.4: Map of The City Of Sydney, NSW, 1903. (Source: Historical Atlas of Sydney)

Project: Sydney Football Stadium
Client: Infrastructure NSW
Datum: Australia MGA94 (56)

Drawn By: Kieren Watson
Date: 2.5.2019

Figure 3.5: 1943 Historical Aerial, Sydney Sports Ground In Northwest, Military Depot In The Right SCG Oval 2 visible to the south. (Source: Historical Atlas of Sydney)

3.2.4. Sydney Sports Ground (1902)

The Sydney Sports Ground (SSG) functioned in the northeast of the SFS site from 1902 until the late 1980s when it too was removed for the construction of the SFS. Preparation of the SSG facilities in the early 1900s included the survey and fencing of the boundaries in 1901, followed by partial filling of the site in order to level the playing field area, and form an embankment along the Moore Park Road frontage and along the eastern boundary.

The SSG was used for a wide range of sports including cricket, cycling, athletics, football and rugby, as well as for events such as scout rallies, brass band contests, dog shows, and dirt track racing. However, it was mainly the rugby union that early on facilitated the ongoing financial success of the ground, providing income for the roofing and fitting of seats in the grandstand, construction of a dressing shed for players, and rooms for the trustees and office support in the early 1900s. By 1907, the SSG had a capacity of 20,000, with a second grandstand constructed in 1908.

Figure 3.6: Black And White Photograph Of Sydney Sports Ground, 1919 (Image: Courtesy Of The SCG Museum)

3.2.5. Sydney Football Stadium (1988)

The Sydney Football Stadium officially opened in January 1988 as one of Sydney's major Bicentennial projects. The construction of the SFS included the removal of all remnant structures from the Sydney Sports Ground and former military Engineers Depot, as well as the levelling and development of the former SCG Oval 2 (originally located to the north of the main SCG oval).

The SFS was the main competition venue for the Soccer during the Sydney Olympic Games in 2000, is home to the Sydney Roosters, Sydney Football Club, and NSW Rugby Union from 2001, as well as

hosting qualifying games for the Rugby World Cup in 2003. Since its opening in 1988, the SFS has hosted many international football matches, including rugby league and rugby union tests, Bledisloe Cup matches, World Cup Football, as well as hosting boxing bouts, and many concerts and events such as the Edinburgh Military Tattoo. Other buildings adjacent to the SFS include the NSW Cricket Centre (constructed in 1997), the Waratahs and Roosters Building (constructed in 2007), and the Sheridan building (constructed in 2008).

On 24 November 2017, the NSW Premier announced the SFS Redevelopment, which will include demolition of the existing facility and replacement with a modern, globally competitive stadium that achieves the requirements for a Tier 1 stadium to meet future requirements.

Figure 3.7: SFS Construction, 1987, View West (Source: SCG Museum Collection 12/123)

3.3. Landscape Context

3.3.1. Soils and Geology

The subject site is located on the Tuggerah Soil Landscape (Figure 3.8), underlaid by Quaternary marine sands, deposited by marine and Aeolian actions during the Holocene, over sandstone bedrock. The landscape of Tuggerah soils is characterized by gently undulating to rolling coastal dunefields, and extends from the northern edge of Moore Park, east to the coast, west to Surry Hills, and south to Botany Bay. Tuggerah soils are a major ecological unit of Sydney, forming what is often referred to as the Botany Sands or Botany Lowlands, located across the Botany Aquifer. Tuggerah soils tend to be

relatively deep (>200cm) and generally consist of fine to medium grained quartz sand (Chapman & Murphy, 1989). The northeast corner of Moore Park originally contained exposed Hawkesbury Sandstone formations, however these have since been removed by modern development and landscaping.

Geotechnical investigations have found that the depth to the top of the sandstone bedrock differs across the SFS site, higher in the southwest of the site (c.15m bgl), rising to approximately 50m below ground level in the northeast (Figure 3.9), while the top of natural sands are present between 4.0m to 23.0m below ground level within the SFS site.

The combination of deep sandy soil profiles, as well as the lack of remnant sandstone outcrops within the study area, has implications for the types of Aboriginal sites that have the potential to be present within the SFS Redevelopment site.

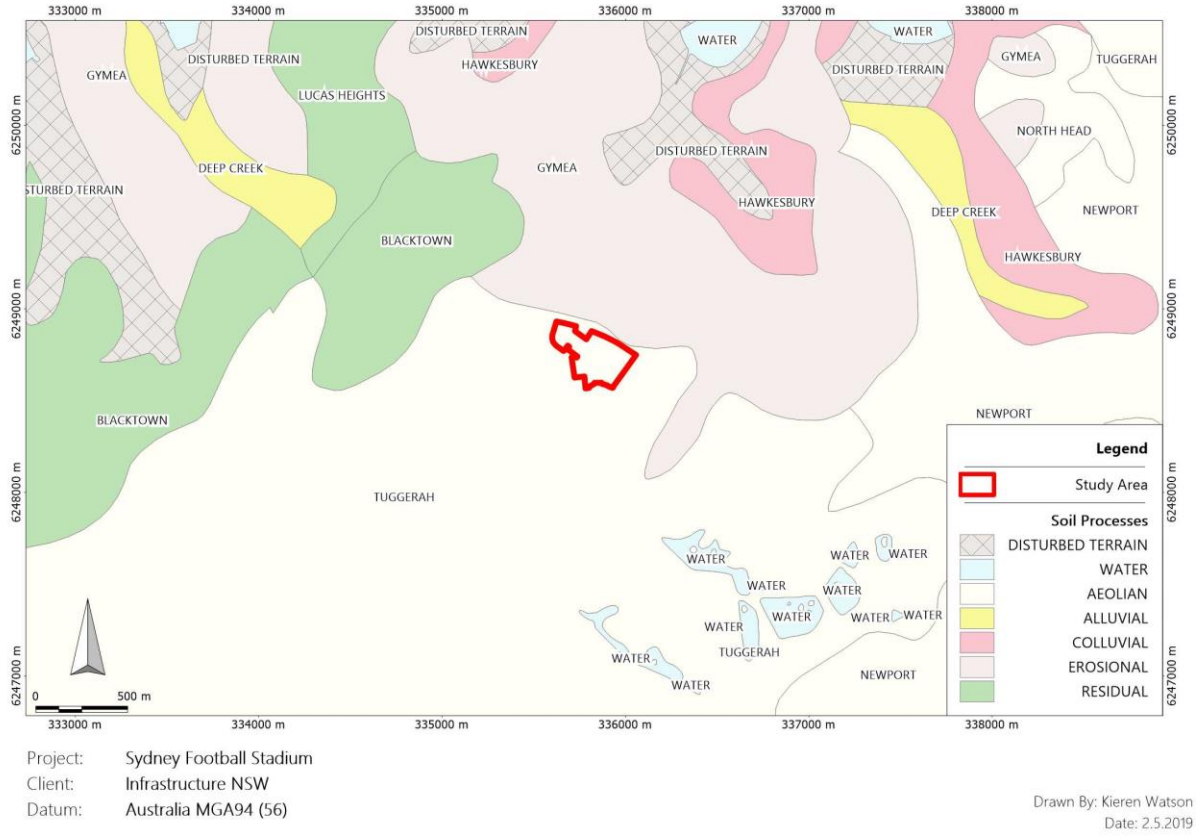

Figure 3.8: Soil Landscapes, Study Area and Surrounds

(Source: Curio 2019)

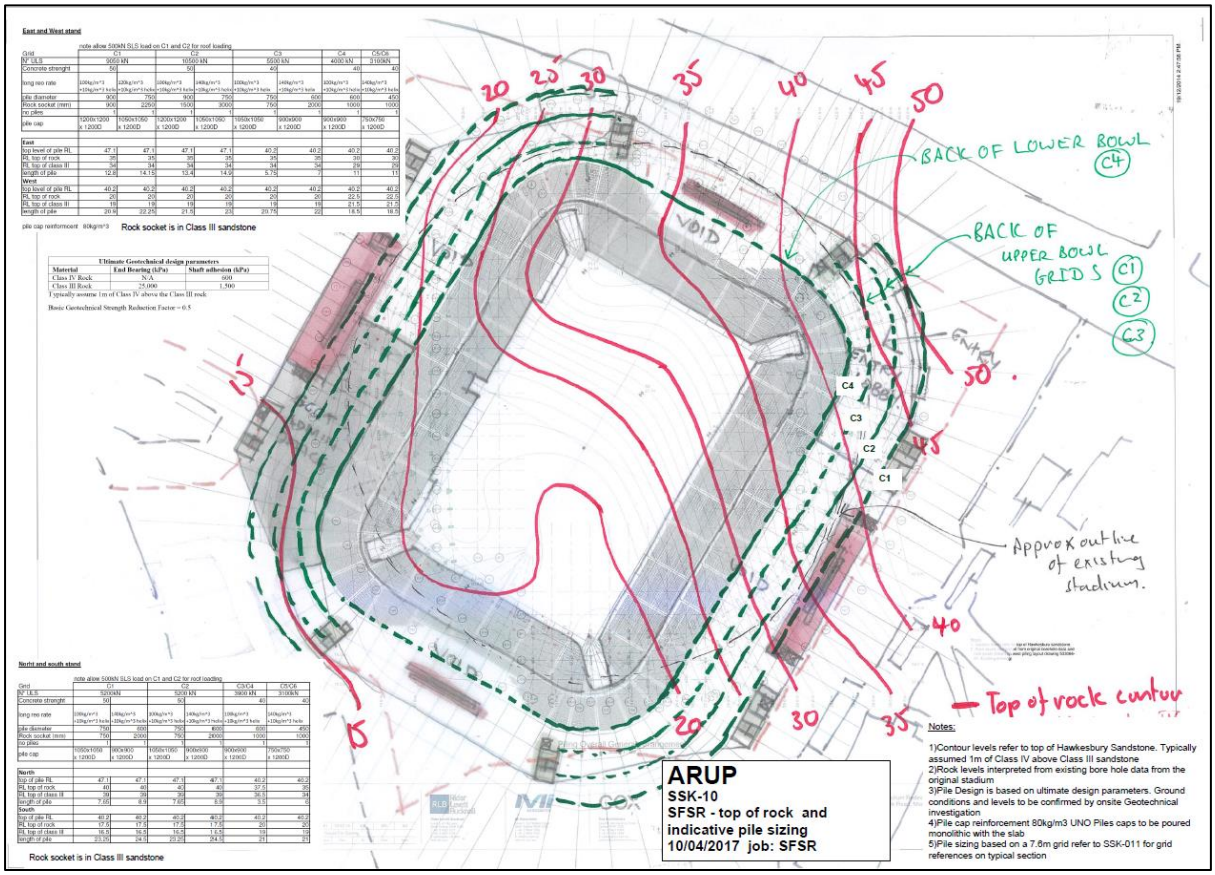

Figure 3.9: Approximate Contours of Sandstone Bedrock Depth Across SFS Site. (Source: Arup 2018)

3.3.2. Hydrology

The subject site is located to the northwest of Centennial Park, which while now landscaped and utilised as a public park, is part of a wider complex of natural wetlands in this area. Centennial Park is located on the Botany Aquifer, a large volume of underground water that is present in the sandy ground that connects as a series of ponds from the upper catchment in Centennial Park, to the Botany wetlands, before eventually flowing into Botany Bay. The aquifer effectively acts like a sandy sponge, retaining rainwater which trickles through the sand and sandstone layers which in turn act as natural filters for solid material, silt and the like. The Botany Wetlands are the largest freshwater wetlands in inner-metropolitan Sydney and would have been a very important freshwater and resource zone for the Gadigal people.

The subject site is located on the upstream end of the Botany Aquifer, and groundwater is understood to be c.3m below the existing playing field surface in the current SFS.

3.3.3. Landscape and Landforms

The landscape of the subject site and surrounds tends to predominantly comprise of rounded sand dunes and expanses of gentle slopes with local depressions and exposed water table which is expressed as ponds and marshes. However, the original topography of the extensive sand dune system has been greatly altered by modern development.

Natural ground levels within the study area slope downwards to the south-west (with a difference of c.12m between the northeast corner and western boundary of the site), likely a reflection of its location on the rounded sand dune formations. However, the site has also been progressively subject to cutting and filling, particularly during the construction of the SFS in the late 1980s, and therefore the ground surface has been significantly altered from its original elevation.

3.3.4. Flora and Fauna

The vegetation of the wetland and sand dune landscape of the study area and surrounds was originally characterised by eastern banksia scrub vegetation communities (such as *Banksia aemula* and *Xanthorrea resinosa*) on extensive wind-blown sand dunes, and freshwater sedge swamp communities on wetlands. The wetlands would have been more marginal to the study area location (extending to the east), and would have also supported certain trees such as Casaurina glauca and Eucalyptus robusta (Benson and Howell 1990). These vegetation communities in turn would have supported a wide range of faunal species including kangaroos, wallabies, possums, bandicoots, fruit bats, and varieties of snakes, lizards and birds. Wetland areas would have supported freshwater species including waterbirds, eels, tortoises, mussels, shellfish, and numerous fish.

3.3.5. Modern Land Use and Disturbance

Historical disturbance and modern land use has the ability to impact the potential for Aboriginal archaeological deposits to remain in a location, depending on the nature and extent of the impacts, as well as the nature and depths of the natural soil profiles. As described in the historical summary above, the study area has been subject to a number of different historical uses since 1788, including use as grazing land (Sydney Common), military use as a rifle range and Engineers Military Depot, the Sydney Sports Ground and finally, the SFS and associated structures.

However, the majority of these historical activities would have been relatively low impact in their ground disturbance, suggesting that the deeper natural sands could still be intact and capable of retaining an Aboriginal archaeological signature.

It is understood that the construction of the SFS in the late 1980s was undertaken predominantly via piling, as well as some targeted excavation/cutting to establish the playing field level, therefore while the piles and excavation would have impacted potential Aboriginal archaeological deposits in the direct footprint of each pile, the majority of the natural soil/sand profiles surrounding the piles and outside of excavation into natural sands, could still be intact and retain their potential for Aboriginal archaeology.

Existing piles from the extant SFS number somewhere in the hundreds, mainly placed in a roughly circular form around the outer footprint of the existing stadium to support its bulk. The original substructure plans indicate that other subsurface features such as retaining walls are also likely to intrude into the fill layer across the site. These existing piles would have partially impacted, but completely removed, the natural sand profiles beneath the SFS site.

Geotechnical Investigations

Geotechnical investigation was initially undertaken at the subject site in 1985 (ARUP 1985), prior to construction of the SFS. The investigation boreholes identified the soil profiles across the site to

generally consist of fill (up to 7m depth in some locations), over quaternary sands, over alluvial clays, residual clayey sands, and Hawkesbury Sandstone. The geotechnical report recommended that the proposed footprint for the SFS (i.e. the extant building) would require cutting on the northwest side, and filling to the southeast.

Further geotechnical investigation was undertaken in 2018 and 2019 by Douglas Partners across the SFS Redevelopment site. This included the coring of a total of 24 boreholes which identified the soil profile across the site of fill (0.7m to 4.2m in depth), overlying natural sands (4.0m to 23.0m in depth), over deeper natural clays, and sandstone bedrock. The natural sand layer was identified as being thicker towards the south-western portion of the site. Using the results of both the 2018/2019, and the 1985 geotechnical investigations, Douglas Partners extrapolated the data to produce indicative soil sections across the SFS site (Figure 3.10).

While this geotechnical cross section is indicative only- using boreholes across the site as the main source of data - this can provide information regarding likely depths of natural soil profiles across the SFS site, which can then be compared with proposed subsurface development impacts, to identify the likelihood of disturbance of natural soil profiles with the potential for Aboriginal archaeological deposits. These cross sections however should be applied with caution, especially in acknowledgement of the high level of localised variation in the depth of fill across the site. For example, while fill across the northern boundary of the site is up to 4m in depth in some locations, fill over the SFS playing field surface is less than 1m deep.

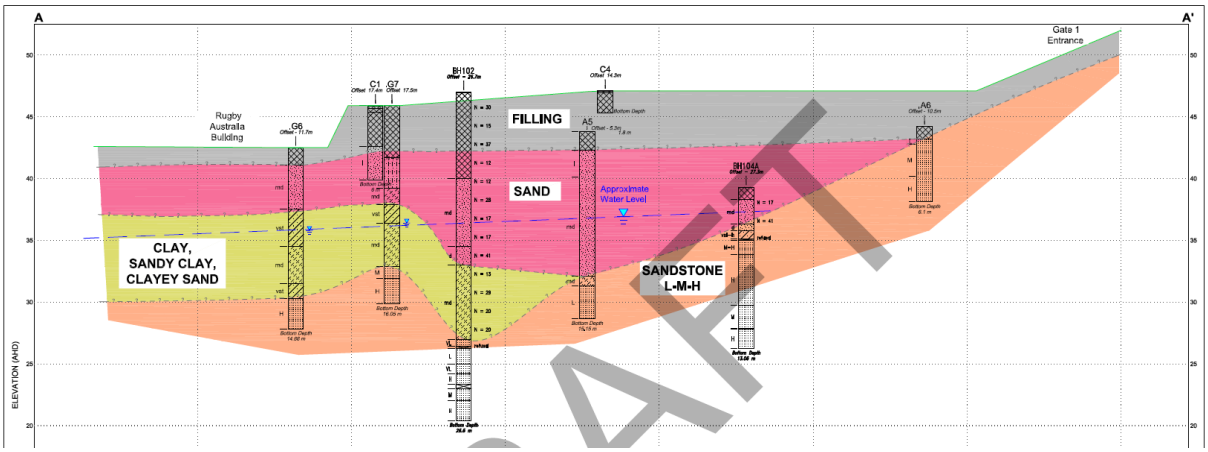

Figure 3.10: Interpreted Soil Profile Section, c. East to West along Northern Side of SFS Site

(Source: Douglas Partners 2019: DWG G103, 4.4.2019)

3.3.6. Summary of Environmental Context

The study area is located along the edge of the Botany Wetlands and Tuggerah Sand Dunes system, which would have provided a rich resource zone for hunting, fishing, and gathering food, among other activities. In addition, the SFS study area would have been immediately along the fringe of the Centennial Park wetlands area, potentially providing land that was dry enough for short term camps in close proximity to the wetlands.

Geotechnical investigations have identified that intact natural sand profiles exist across the development site, beneath levels of historical fill that vary in depth by location. While historical

activities across the SFS study area since 1811 has served to cause some ground disturbance, and cause large scale alteration of the landscape presentation and form of the area, the use of fill to create usable surfaces, as well as the significant depths of the sand profiles in this region, suggests that there could be potential for Aboriginal archaeological evidence to survive in a deeper subsurface context, regardless of historical use and disturbance.

3.4. Material Evidence of Aboriginal Land Use

3.4.1. Archaeological Evidence of Aboriginal Occupation in Sydney Region

The diversity of the geology and landforms of the Sydney region landscape means there is a wide range of existing Aboriginal archaeological evidence and sites in existence all across the region. The presence of Aboriginal archaeological sites in Sydney were first noted by the First Fleet officers upon their arrival in Sydney, where Governor Phillip commented on the rock engravings in the sandstone around Sydney Cove, Botany Bay and Broken Bay (Attenbrow 2010). Each geographical element of the Sydney landscape provides different conditions for the survival of physical reminders of the long term Aboriginal habitation and occupation of the Sydney region, including shell midden sites along the coast and sand dunes, rock engraving and art sites in sandstone shelters and surfaces, occupation sites in remnant soils containing Aboriginal stone tools, remains of hearth and cooking sites, remnant scarred and carved trees, and other archaeological evidence preserving the pre-1788 history of the Gadigal people.

Early researchers in Sydney's colonial history (late 19th Century) recorded and published a range of information regarding Aboriginal sites in the Sydney region, such as palaeontologist and museum director Robert Etheridge Jr, who (along with Thomas Whitelegge) documented an early archaeological excavation of Aboriginal stone tool sites along the coast, including the first identification of an artefact type that has come to be known as a 'bondi point', a type of small pointed stone tool that is common to the Sydney region (Attenbrow 2010: 6). Hundreds of Aboriginal archaeological sites have been excavated across Sydney, especially from the 1960s onwards.

Sand sheets are well known to have the potential for deeper stratified geomorphological profiles (e.g. an Aboriginal archaeological deposit preserved in the Parramatta Sand Sheet along the Parramatta River was dated to 30,735+- 407BP, one of the oldest dates for Aboriginal occupation in the Sydney region). Sand body systems including beach sand, dunes and estuarine sands are also often associated with Aboriginal burial sites (Donlon 1995).

Other Aboriginal archaeological sites in the south Sydney region have been scientifically dated, including Discovery Point in Tempe (a hearth dated to c.9376BP), the Prince of Wales Hospital site (a hearth dated to c.8400BP), and Captain Cooks Landing Site at Kurnell (dated to c.1330BP) (Attenbrow 2010).

3.4.2. AHIMS Search

The OEH guidelines for Aboriginal cultural heritage management require a current extensive search of the Aboriginal Heritage Information Management System (AHIMS) database, managed by OEH (i.e. current within the last 12 months). The AHIMS search was undertaken on 28th March 2018, centred on the subject site with a buffer of 1km, and returned 18 results. The extensive AHIMS search is

attached as an Appendix A to this report. No registered sites were located directly within the current subject site.

AHIMS search results always require a certain amount of scrutiny in order to acknowledge and accommodate for things such as inconsistencies in the coordinates (differing datums between years of recording), the existence of, and impact to, registered sites (impact to a registered site technically requires the submission of a Heritage Impact Recording form to be submitted to the OEH, however these forms are not always submitted), and other database related difficulties. It should also be noted that AHIMS database is a record of archaeological work that has been undertaken, and registered with OEH in the region. The AHIMS database is therefore a reflection of recorded archaeological work, the need for which has likely been predominantly triggered by development, and not a representation of the actual archaeological potential of the search area. AHIMS searches should be used as a starting point for further research and not as a definitive, final set of data.

Therefore, the above AHIMS search result has been synthesized as best possible within the scope of this current report to determine the most likely nature and location of previously registered sites in proximity to the current subject site.

Summary descriptions of Aboriginal site features as identified by OEH, and as relevant to this report are presented in Table 3.1. The 18 results from the current AHIMS search included five different site types, some in combination with each other. These sites are summarised in Table 3.2. The general location of each of these registered sites in relation to the study area is depicted in Figure 3.11. The most common site types registered in the area are Potential Archaeological Deposit (PAD) sites, followed by artefact sites.

Table 3.1: Aboriginal Site Features referred to in this report.

SITE FEATURE	DESCRIPTION/DEFINITION BY OEH
Art Site	Art is located in shelters, overhangs and across rock formations. Techniques include painting, drawing, scratching, carving, engraving, pitting, conjoining, abrading and the use of a range of binding agents and the use of natural pigments obtained from clays, charcoal and plants.
Artefact Site (Open Camp Sites/artefact scatters/isolated finds)	Artefact sites consist of objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating physical evidence of use of the area by Aboriginal people. Registered artefact sites can range from isolated finds, to large extensive open camp sites and artefact scatters. Artefacts can be located either on the ground surface or in a subsurface archaeological context.
Potential Archaeological Deposit (PAD)	An area where Aboriginal cultural material such as stone artefacts, hearths, middens etc, may be present in a subsurface capacity. Evidence for Aboriginal cultural material may not be present on the ground surface, but still may be present at a location.
Shell Midden	A shell midden site is an accumulation or deposit of shellfish resulting from Aboriginal gathering and consumption of shellfish from marine, estuarine or freshwater environments. A shell midden site may be found in association with other objects like stone tools, faunal remains such as fish or mammal bones, charcoal, fireplaces/hearths, and occasionally burials.

SITE FEATURE	DESCRIPTION/DEFINITION BY OEH
	Shell midden sites are often located on elevated, dry ground close to the environment from which the shellfish were foraged, and where fresh water resources are available. Shell middens may vary greatly in size and components.

Table 3.2: AHIMS Sites in Vicinity of Study Area

SITE TYPE	NUMBER OF SITES	PERCENTAGE OF SITES (%)
Art Site (Engraving)	2	11%
Artefact	5	27%
Artefact and Potential Archaeological Deposit (PAD)	1	6%
Artefact and Shell Midden	1	6%
Habitation Structure and Potential Archaeological Deposit (PAD)	1	6%
Potential Archaeological Deposit (PAD)	7	38%
Shelter with Art	1	6%
TOTAL	***23***	***100***

The distribution of the AHIMS sites (i.e. with the majority located within the Central Sydney CBD) is more a reflection of a higher density of archaeological survey and excavation work due to urban development, than an indication of the occupation patterns of Aboriginal people. The closest registered sites to the subject site include Moore Park AS1 (#45-6-1355; Artefact site); Centennial Park (#45-6-0647; Rock Engraving Site); Doncaster Ave PAD (#45-6-3245; PAD site); and RSY 1 (#45-6-3246; Artefact site). It is presumed that the Doncaster Ave PAD and the RSY 1 artefact site are related (in relation to the Randwick Stabling Yards works, see Section 3.4.3 below).

Of the 18 registered sites, only one has been updated on the AHIMS register as destroyed, however it is most likely that other sites have also been subject to impact, without the appropriate update in the AHIMS database. For example, it is known that the Centennial Park engraving site (#45-6-0647), which was once located on a slab of sandstone just outside of Centennial Park has been destroyed by roadworks (Irish & Goward 2014).

It is possible that other site results from this AHIMS search have already been subject to harm or have been destroyed under AHIPs or through authorized site works, and have not been updated in AHIMS. However, as none of these sites are located within the current subject site, this is not of a direct concern for this project, and the location of all sites, regardless of their current status, will inform the Aboriginal archaeological potential assessment for the current subject site.

Assessment of AHIMS Search

The AHIMS results, combined with the landforms and geology of the subject site suggest that the most likely site types to be present within the study area and surrounds would be limited to stone artefact sites, PAD sites, as the required geology for other site types such as art sites, grinding grooves and scarred trees etc is not present. Where sandstone outcroppings occur in the area, there is also the potential for engraved Aboriginal art sites.

The site 'Moore Park AS1' (AHIMS Site #45-6-3155) was located within the paved carpark area at the Moore Park Tennis Centre, and was subject to salvage excavation (and subsequently destroyed) following approved archaeological test excavation of the site. The presence of sites such as this indicates that despite historical disturbance to surface deposits, Aboriginal archaeological deposits may still be present.

The 'Doncaster Ave PAD' site was originally registered as a Potential Aboriginal Deposit due to the presence of a remnant sand dune that was identified and excavated at site 'RSY1', and was presumed to extend into the 'Doncaster Ave PAD' site area. The stone artefact site identified at 'RSY 1' was located at the top of an intact sand dune, below approximately 1m of historical fill.

All these sites demonstrate the potential for intact Aboriginal archaeological sites to be present in the area, particularly beneath layers of historical fill.

Figure 3.11: AHIMS Search Results Sites (Source: Curio 2019)

3.4.3. Previous Archaeological Investigations

Review of relevant previous archaeological work is a highly informative and necessary step in identifying the likely nature of the potential archaeology at a site. The investigation of previous work undertaken in the region, on similar sites, and on similar landscape or landforms, can inform our understanding of a site by providing a proxy against which a newly investigated site can be measured (albeit with caution). That is to say, understanding the archaeological record at a general location can provide us with an indication of the nature and level of potential of archaeology that may be present at a site, prior to any subsurface investigation. As archaeology is by its very nature, a destructive

discipline, it is important to acquire as much information and understanding of a site as possible prior to undertaking fieldwork (as once evidence has been excavated, its context is effectively destroyed), and also to avoid any unnecessary fieldwork at a site.

Research into archaeological investigations undertaken in proximity to the current subject site indicate the types of archaeology that may survive in the area, and the environment that has allowed it to survive.

Centennial, Moore and Queens Park Assessment (AMBS 2002)

In 2002, in order to inform the preparation of the Conservation Management Plan (CMP) for Centennial, Moore and Queens Parks, AMBS prepared an assessment of the historical and archaeological evidence for Aboriginal land and resource use in the region. AMBS identified the potential for Aboriginal archaeological evidence to survive at depth beneath areas of fill and previous development and other ground disturbance. Using this model, AMBS developed an assessment of Aboriginal archaeological sensitivity for the parklands, based on the analysis of soil groups. Notably for Tuggerah soils (upon which the SFS Redevelopment site is located), AMBS identified low to moderate potential for Aboriginal archaeological deposits to be present beneath the level of disturbance, assuming that the disturbance does not extend to bedrock or pre-human land surface.

Moore Park Tennis Centre (Artefact 2014)

In 2014, an Aboriginal campsite was uncovered beneath the Moore Park Tennis Centre carpark, as a result of archaeological investigative works ahead of the construction of the Sydney Light Rail. The excavation uncovered natural sands below nineteenth and 20th C fill varying in depth between 0.5m to over 2m in depth. The top of the original sand dune had been removed previously due to historical disturbance, and some of the natural soil sand profile had undergone mixing with the fill layer, however intact sands below retained a small number of Aboriginal stone artefacts. The test excavation was undertaken within a buried sand body at the site and yielded five Aboriginal stone artefacts (made from silcrete and mudstone). The stone material that these artefacts were made from is not found in the local area (Irish & Goward 2015).

The site was registered with AHIMS as #45-6-3155 (Moore Park AS1) and was subsequently subject to salvage excavation by Artefact in 2014, however the post excavation report was not publicly available at the time of writing.

CSELR ACHAR and ATR (GML 2015a)

In 2015, GML prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) and Aboriginal Archaeological Technical Report (ATR) for the Sydney Light Rail. GML established precincts along the path of the light rail, one of which was the Moore Park Precinct (Figure 3.12)

The ACHAR concluded that upper stratigraphic layers across the precinct were likely to have been subject to some level of historical disturbance, but this was likely to be highly variable, and mostly retain potential for deeper subsurface deposits. It also concluded that:

> *As a consequence of non-focused long-term low-density Aboriginal occupation of the entire dune, moderate historic period impacts and limited archaeological investigations in the surrounding area, no specific Aboriginal archaeological patterning can be determined for the Moore Park precinct. However, deeper intact soil profiles may have*

> *potential for Aboriginal archaeological evidence to be present, such as stone objects and/or hearths.* (GML 2015: 52)

Therefore, the whole of the Moore Park precinct was assigned to have a high level of Aboriginal archaeological potential for dispersed low frequency sites, and was identified as 'Moore Park PAD 1' (although this PAD was not registered with AHIMS).

In addition, Registered Aboriginal Parties (RAPs) for the CSELR project indicated that the route of the light rail could have social significance if potential archaeological deposits were found to contain Aboriginal cultural deposits.

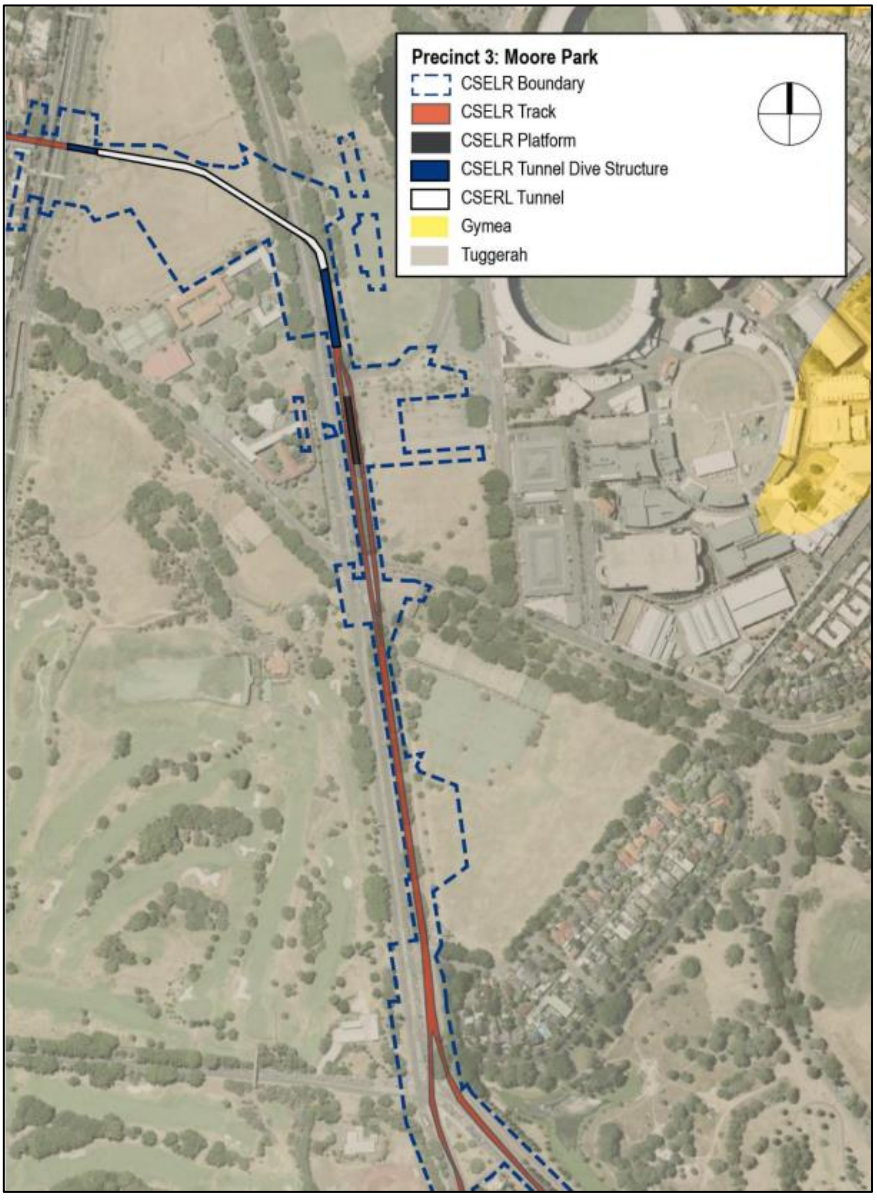

Figure 3.12: GML 2015 Light Rail Moore Park Precinct Assessment Area, SCG And Part Of SFS Visible In Top Left Of Image (Source: GML 2015: Figure 5.1], P.45)

Moore Park Tunnel (GML 2015b)

In 2015, GML prepared an Aboriginal Archaeological Research Design for the archaeological test and salvage excavation of the site proposed for the installation of the Moore Park Tunnel, for the Sydney Light Rail. Due to the nature of the deep sand profiles, presence of the water table, and safety concerns, the methodology proposed for test and salvage excavation included a technique not previously used before in Australia, using 'push tubes' with the use of a drill rig (using vibration to push a 300mm diameter metal tube into the subsurface deposit to the required depth to sample the soil in each location).

Although the Moore Park Tunnel is currently in progress/nearing completion, the results of the proposed archaeological excavation is currently unknown, with no post-excavation reports available detailing the archaeological work undertaken in relation to the CSELR, presumably due to confidentiality conditions.

Randwick Stabling Yards (GML 2016 and 2017)

In early 2016, archaeological excavation by GML Heritage at the future site of the CSELR Randwick Stabling Yard site uncovered 22,000 Aboriginal artefacts of an unknown stone material across a site area of approximately 200m2. The artefacts were generally identified between 40-60cm below the ground surface. The site has been registered with AHIMS as #45-6-3246 (RSY 1). As post excavation reporting of the results of this excavation has not yet been completed, the full results of the excavation are not able to be presented or discussed at this time. However, details from relevant press releases between 2016 and 2018 have indicated that the site may be of great significance to the Aboriginal community, as well as suggesting a level of controversy and inconsistency of results to date, which remain under investigation.

When the site was first subject to excavation, it was reported that the excavation had uncovered an Aboriginal stone tool manufacture site, using a stone that was not local to the surrounding area, with possible source locations suggested by the involved Aboriginal parties to be the Nepean, Upper Hunter or coastal areas of the Illawarra. A Plan of Management was developed in conjunction with the four Registered Aboriginal Parties (RAPs) for the Light Rail project in order to help identify the composition and origin of the artefacts, as well as to develop appropriate mechanisms for the protection and storage of the cultural materials. It was acknowledged that additional research would need to be undertaken to further identify and analyse the stone objects and their origin.

In February 2018, Sydney Light Rail issued a new press release stating that chemical analysis of the stone objects undertaken by GML Heritage since the excavation in 2016, had determined that the stones were made from a type of flint likely originating from the banks of the Thames River in London, UK. GML used the technique of pXRF (portable X-Ray Fluorescence) to find that the elemental composition of the stone objects matched that of Thames River valley flint, concluding that the flint was transported to Sydney as ballast in early colonial ships, where it was then dumped, found by Aboriginal people, and used to create stone tools (GML 2017) GML also worked together with Sydney Living Museums to discover that among the Aboriginal artefacts excavated in the 1980s and 1990s from the first Government House site, were also several tools manufactured of flint that were chemically identical to the Randwick stone, and Thames River Valley flint.

An article published by BBC News in March 2018 suggested that while over 30,000 pieces of stone were initially excavated, it is now believed that only 100-200 are culturally significant Aboriginal stone objects. The article also makes a passing reference to other stone materials being present at the site other than those made from flint, however to date no other available source has provided further information on the nature of the Aboriginal artefactual assemblage other than the suspected.

Overall, regardless of the number of artefacts recovered, their origin and composition, it is considered likely that this deposit is highly localised to the Stabling Yards location, and unlikely to be representative of a wider regional depositional pattern or potential site type for the Sydney Football Stadium study area.

3.4.4. Historical Archaeology

As part of Stage 1 of the SFS Redevelopment project, Curio Projects prepared an Archaeological Assessment, including both Aboriginal and historical archaeology (Curio Projects 2018a). The report identified the rich history of historical use of the SFS Redevelopment site, extending back to 1811, and identified that:

- The site retains low to moderate archaeological potential for an archaeological resource relating to the Engineers/Military Depot. Should this resource be present within the subject site and require impact through the proposed development, it may require mitigation via archaeological monitoring to record and remove any associated archaeological deposit (if present).
- The site retains low potential for remains associated with the Sydney Sports Ground. However, the Sydney Sports Ground is well recorded through numerous sources such as plans, maps, descriptions and photographs, and therefore, it is not considered that subsurface remains associated with the Sydney Sports Ground would be able to contribute in a meaningful way to the archaeological record.

This indicates that any Aboriginal archaeological deposit would be located below the potential historical archaeological resource at the site, and therefore Aboriginal archaeological test excavation would not be possible at the SFS Redevelopment site (although the presence of the existing stadium development and high levels of fill across the site would also preclude the site from test excavation under the OEH *Code of Practice*).

3.5. Regional Character and Archaeological Predictive Model

The following assessment of Aboriginal archaeological potential within the subject site is based on a combination of the environmental assessment, including original landform, possible levels of disturbance across the site, and original resource zones that would have been favourable to, or sustained local Aboriginal populations of the area prior to European settlement, in combination with known previous archaeological research in the vicinity of the subject site, or on comparable sites in Sydney. Consideration of these above factors determines the likelihood for Aboriginal archaeology, artefacts or physical objects to remain at the subject site in a subsurface capacity.

In general, the subject site has the potential for Aboriginal archaeological deposits to be present within deeper natural soil profiles that exist beneath the layers of historical fill, as well as potentially in a disturbed context within the layers of fill due to historical disturbance. Geotechnical investigations

within the SFS Redevelopment site have indicated that the top of natural sand is present between 4.0m to 23.0m below ground level within the SFS site, however this is based on a snapshot of boreholes, and is highly indicative and variable across the site.

While limited Aboriginal archaeological excavation has been undertaken in the vicinity of the SFS Redevelopment site, the archaeological information available clearly indicates that Aboriginal people occupied the region, and there is the potential for Aboriginal sites in the area, particularly in the form of subsurface occupation sites with deposits of Aboriginal stone artefacts, within natural sands (i.e. Moore Park Tennis Centre, Randwick Stabling Yards).

Non-focused, long-term, low-density Aboriginal occupation of the entire region (including the SFS Redevelopment site), combined with historical land impacts, landscape modification, and limited archaeological investigations in the area, makes specific Aboriginal archaeological patterning for the site difficult to develop.

Therefore, without the ability to archaeological investigate the natural soil profiles prior to site redevelopment, the whole SFS Redevelopment Site has been assessed to have a low to moderate level of Aboriginal archaeological potential, identified as a Potential Archaeological Deposit (PAD) site, 'SFS PAD', registered with OEH AHIMS (AHIMS #45-6-3645) (Appendix D).

4. Cultural Heritage Values and Significance Assessment

The Burra Charter (Australia ICOMOS 2013) defines cultural significance as:

> *…aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.* (Australia ICOMOS 2013: 2)

The five types of cultural heritage value, as presented in The *Burra Charter* (2013) form the basis of assessing the Aboriginal heritage values and significance of a site or area. Each of these cultural heritage values, as specifically relevant to Aboriginal cultural heritage, are summarised as follows (after OEH 2011a).

> **Social (Cultural) and Spiritual Value**—*spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them.*
>
> **Historic Value**—*associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.*
>
> **Scientific Value**—*the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information.*
>
> - Assessment of Scientific Value also includes assessment in terms of Research Potential, Integrity, Condition, Complexity, Archaeological Potential, Connectedness, Representativeness, Rarity, Education Potential, and Archaeological Landscapes.
>
> **Aesthetic Value**—*sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use.*

Assessment of each of the above criteria has been undertaken in consideration of the landscape and environmental context of the study area, Aboriginal history, previous archaeological work, and consultation with the project RAPs. The assessment of each criteria has then been graded (as per OEH 2011a *Guide to Investigating*) in terms of high, medium and low, in order to allow significance to be described and compared. The application of the cultural values criteria to the Aboriginal cultural heritage of the study area has also included consideration of research potential, representativeness, rarity and education potential for each criteria (as relevant).

4.1. Assessment of Aboriginal Cultural Heritage Values

4.1.1. Social (Cultural) and Spiritual Value

Throughout the course of Aboriginal community consultation for the SFS Redevelopment, project RAPs have indicated that the project site/ Moore Park area itself, as well as the study area being a

wider component of the southeastern Sydney peninsula, has high social significance. The study area and surrounds are particularly noted as having high social (cultural) and spiritual significance to the La Perouse Aboriginal community, who maintain an unbroken connection to the land, whose ancestors lived in study area and surrounds (the wider southeastern peninsula region), right up until forced removal to La Perouse mission in the 1880s due to the establishment of the Aborigines Protection Board.

Consultation with project RAPs also suggested that the SFS site may have more contemporary Aboriginal social significance as a modern centre for Aboriginal sporting history (boxing tents, football etc).

4.1.2. Historical Value

The CMP for the Centennial Parklands notes that the general region forms part of a complex of Aboriginal heritage sites, used as a natural resource for social, ceremonial, and subsistence purposes in both the pre and post contact periods. With regards to the Centennial Parklands area (including Moore Park), the CMP states that:

> *Centennial Parklands is important in the pattern of Indigenous usage of the eastern Sydney peninsula. Indigenous land management practices have helped shape the landscape of the Sydney region…. The area is representative of a complex of pre-colonial Indigenous meeting places used for social, ceremonial, and other purposes. Many physical elements of the Indigenous cultural landscape were changed after European contact in 1788, but present day Indigenous communities continue to honour the spiritual and other associations of the Gadi with this area, celebrating and encouraging interest in this history.*

Therefore, the SFS Redevelopment site can be stated to be of moderate to high historical value for its landscape positioning within the eastern Sydney peninsula as part of a significant Aboriginal landscape, as well as for its significant Aboriginal sporting history.

4.1.3. Scientific (Archaeological) Value

OEH states the scientific (archaeological) value of an Aboriginal site or place to:

> *Refer to the importance of a landscape, area, place or object because of its rarity, representativeness, and the extent to which it may contribute to further understanding and information.* (OEH 2011: 9)

Following OEH guidelines for assessing scientific value (OEH 2011), five key criteria have been considered with regards to the scientific and archaeological context of the study area in order to determine the level of scientific significance of the study area. These criteria, as they have been applied to the study area, are defined below in Table 4.1. Following the criteria above, an assessment of the potential scientific significance of the SFS Redevelopemtn study area has been undertaken, identified as relevant to the five key criteria.

Table 4.1: Archaeological significance criteria

CRITERIA	DESCRIPTION
Research Potential	Research potential describes how much potential a site has to contribute to a further scientific or archaeological understanding of a site/area/region. This should include consideration of factors such as: *integrity and condition* (the level of soil disturbance that a site has been subject to and the ability for the site to yield intact archaeological deposits); *complexity* (demonstrated or potential ability of a site to yield a complex archaeological deposit; *archaeological potential* (the potential for a site to yield an archaeological deposit or resource); and *connectedness* (the connection of a site to others in the local area or wider region, though aspects such as type, chronology, content, location etc).
Rarity	Rarity refers to the frequency of similar site types in a local or regional area/landscape.
Representativeness	Representativeness refers to the level of variability between or within Aboriginal sites in an area or region, what is already conserved, how sites relate to each other, and the condition that a particular site type may be in that is able to better present or demonstrate more clearly that specific site type through the archaeological record.
Education Potential	Education potential refers to the ability of a site to contribute to the public record and provide teaching resources in order to further understanding of Aboriginal cultural heritage and archaeology. Is the site well preserved? Are there artefacts that would be good to use in teaching? Are there recognisable site features, artefacts types, records etc, that would be productive in teaching or use within public heritage interpretation strategies?
Archaeological Landscapes	The study of Aboriginal cultural heritage and archaeological study in the context of the wider landscape (geographical and cultural/social) in which they exist.

Research Potential

The nature or extent of an intact Aboriginal archaeological deposit within the study area has not yet been able to be determined, as due to the high amount of fill, and the potential historical archaeology across the site, test excavation has not been able to be undertaken under the *Code of Practice*.

The study area has been determined to have low to moderate archaeological potential for intact Aboriginal archaeological deposits to be present where intact, in situ natural soil profiles exist.

If intact Aboriginal archaeological deposits or objects are present within the SFS Redevelopment site, these may have moderate to high research potential, particularly in connection with other nearby sites (i.e. Moore Park Tennis Centre, Randwick Stabling Yards) and could contribute further to understanding Aboriginal occupation patterns across the wider eastern Sydney peninsula, providing a clearer indication of the connection between sites in the area with regards to Aboriginal land use.

Natural soil profiles, should they be present within the study area, could also have the potential for palaeobotanical evidence of the pre-European environment of the Moore Park area, which could have

moderate to high research potential, providing opportunities to further reconstruct the ecological conditions of the area pre-1788.

Rarity

If post-contact Aboriginal objects such as Aboriginal artefacts manufactured of flaked glass, knapping of ballast/flint etc are found to be present within the study area, they would be considered rare.

A low density Aboriginal artefact deposit, consistent with a background scatter derived from general occupation and use of the surrounding area, would be unlikely to be considered rare in the wider Sydney context, however may be considered of moderate rarity, considering the paucity of Aboriginal archaeological excavations undertaken in the Moore Park region.

Representativeness

Depending on the nature and extent of the potential Aboriginal archaeological deposit at the site, there is the potential for any artefact and occupation deposits (if present) to be representative of the use of the wider Moore Park and Centennial Parklands region by Aboriginal people. However, this would depend on the presence and condition of an Aboriginal archaeological deposit in this location, which cannot at present be determined.

Education Potential

The potential Aboriginal archaeological deposit within the SFS Redevelopment study area has the potential to be of moderate to high education potential, depending on the nature, density, form and artefact types of any material recovered. Should a substantial artefact assemblage be recovered from the study area, particularly with rare or complex stone tool types, this could have education potential for both use in teaching collections by the local Aboriginal community, as well as potential for integration into the heritage interpretation plan and implementation within the new SFS Site.

However, it is not possible to grade the education potential of any potential resource within the study area at present, as the presence/nature of the potential Aboriginal archaeological resource is not known.

Archaeological Landscapes

The SFS Redevelopment site exists within a wider Aboriginal archaeological landscape that extends across Sydney's southeastern peninsula, across the surrounding parklands, as well as southeast to the Botany swamps.

Should the study area present with an intact Aboriginal archaeological deposit, this could potentially contribute further to the archaeological understanding of Aboriginal site use and occupational habits in the region. Therefore, the study area may be of moderate significance when considered as part of a wider Aboriginal archaeological landscape across the Moore Park/Centennial Parklands and surrounds region.

Summary of Scientific Significance

While no Aboriginal archaeological investigations have been able to be undertaken as yet within the SFS Redevelopment site, the potential Aboriginal archaeological deposit at the site may be of an overall moderate scientific significance, depending on the nature, extent, type and condition of the deposit (if present). Several archaeological excavations in the surrounding area have identified the

potential for Aboriginal archaeological deposits to be present within intact deeper natural sand profiles.

Overall, it is not yet possible to determine the nature and extent of any Aboriginal archaeological deposit at the study area without investigating the site physically. However, should an Aboriginal archaeological deposit be present, it would potentially be of moderate research potential (high research potential should post-contact sites be present), with low to moderate education potential, and potentially moderate significance as part of the wider Aboriginal landscape of Sydney's southeastern peninsula.

4.1.4. Aesthetic Value

The SFS Redevelopment site has been subject to numerous levels of historical disturbance, including multiple fill events, and extensive development, which has resulted in the current appearance of the study area as a highly urbanised and modified landscape, with all evidence for the original environmental context and landforms removed.

For this reason, the cultural significance of the study area and surrounds is likely to be more related to the intangible values over the aesthetic values of the SFS site. However, landscape features outside of, but in close proximity to the study area, such as Moore Park and the wider Centennial Parklands, still contribute to the aesthetic values of the SFS site. Therefore, the study area is considered to have moderate aesthetic significance related to its general landscape positioning in the continuing location of public recreation and sporting activities, with parklands retained (albeit highly modified) in areas of tradition Aboriginal resource zones.

Aboriginal archaeological deposits that have the potential to be present within the SFS Redevelopment site, may also have aesthetic significance for technological form of the artefacts, or as potentially considered useful for education and interpretative purposes. However, this would have to be identified further following Aboriginal archaeological investigation at the study area (should development impacts be shown to have the potential to impact upon natural soil profiles).

4.2. Statement of Significance

Project RAPs have indicated that the SFS Redevelopment site/Moore Park area itself, as well as the study areas a wider component of the southeastern Sydney peninsula, has high social significance. The study area and surrounds are particularly noted as having high social (cultural) and spiritual significance to the La Perouse Aboriginal community, who maintain an unbroken connection to the land, whose ancestors lived in study area and surrounds (the wider southeastern peninsula region) right up until forced removal to La Perouse mission in the 1880s due to the establishment of the Aborigines Protection Board.

The site also holds moderate historical significance for its landscape positioning within the eastern Sydney peninsula as part of a wider significant Aboriginal landscape, as well as more contemporary significance to the Aboriginal community for its significant Aboriginal sporting history.

While it is not yet possible to determine the nature and extent of any Aboriginal archaeological deposit at the study area without investigating the site physically, should an Aboriginal archaeological deposit be present, it would potentially be of moderate research potential (high research potential

should post-contact sites be present), with low to moderate education potential, and potentially moderate significance as part of the wider Aboriginal landscape of Sydney's southeastern peninsula.

The cultural significance of the study area and surrounds is likely to be more related to the intangible values over the aesthetic values of the SFS site. However, landscape features outside of, but in close proximity to the study area, such as Moore Park and the wider Centennial Parklands, still contribute to the aesthetic values of the SFS site in its wider landscape positioning. Therefore, the study area is considered to have moderate aesthetic significance related to its general landscape positioning in the continuing location of public recreation and sporting activities, with parklands retained (albeit highly modified) in areas of tradition Aboriginal resource zones.

5. Avoiding and Minimising Harm (Impacts)

As noted by the OEH, it is important that an impact assessment directly addresses the potential harm that an activity may pose, specific to an Aboriginal place, objects, site or archaeological deposit (OEH 2011: 12).

The following section provides assessment and discussion the potential impacts posed by the SFS Redevelopment project to both Aboriginal archaeological and cultural heritage values, with respect to the Stage 2 development impacts (i.e. detailed design and construction of the SFS Redevelopment).

5.1. Ecologically Sustainable Development

One of the aims of the NPW Act is to 'conserve places, objects and features of significance to Aboriginal people' (NPW Act, Section 2A(1)(b)(i)). One of the ways in which this objective can be achieved, is via the consideration of the principles of Ecologically Sustainable Development (ESD). ESD is defined in Section 6 of the *Protection of the Environmental Administration Act 1991 (NSW)*, as requiring the integration of both economic and environmental considerations (including cultural heritage) in the decision-making process for a development, with an aim to achieving, on balance, beneficial outcomes for both development, and Aboriginal cultural heritage.

ESD can be achieved with regards to Aboriginal cultural heritage, by applying the precautionary principle, and the principle of inter-generational equity, to the nature of the proposed activity, in relation to the Aboriginal cultural heritage and archaeological values of a site.

5.1.1. Precautionary Principle

The precautionary principle states that if there are threats of serious or irreversible environmental damage, lack of scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. In applying the precautionary principle, decisions should be guided by:

- *a careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and*
- *an assessment of the risk-weighted consequences of various options.*

The precautionary principle is relevant to DECC's [now OEH] consideration of potential impacts to Aboriginal cultural heritage where:

- *the proposal involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places; and*
- *there is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity, or representativeness of the Aboriginal objects or places proposed to be impacted.*

Where this is the care, a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce damage to the objects/place. (DECC 2009: 26)

5.1.2. Intergenerational Equity

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations.

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal.

Where there is uncertainty, the precautionary principle should also be followed. (DECC 2009: 26)

5.2. Description of Proposed Development

The Stage 2 application represents the next phase in the SFS redevelopment. It seeks consent for the detailed design, construction and operation of the new stadium as 'Stage 2' of the redevelopment, which includes:

- Construction of a new stadium with up to 45,000 seats (55,000 capacity in concert-mode), including playing pitch, grandstands, sports and stadium administration areas, food and drink kiosks, corporate facilities and all other aspects of a modern stadium;
- Operation and use of the stadium and surrounding site area for a range of sporting and entertainment events;
- Vehicular and pedestrian access and circulation arrangements, including excavation to deliver a partial basement level for storage, internal loading, direct vehicular connection to the Bradman-Noble Stand and servicing at the playing pitch level;
- Reinstatement of the MP1 car park following the completion of construction, including enhanced vehicle rejection facilities and direct vehicular connection to the new stadium basement level;
- Public domain improvements within the site boundary, including hard and soft landscaping, to deliver a range of publicly accessible, event and operational areas;
- Provision of new pedestrian and cycling facilities within the site;
- Signage, including building identification signage, business identification signage and a wayfinding signage strategy; and
- Extension and augmentation of physical infrastructure/ utilities for the development within the site.

The proposed development is consistent with the approved Concept Proposal pursuant to State Significant Development Consent SSD 9249.

The Stage 2 works of relevance to this ACHAR include any below ground impacts proposed for the development, that have the potential to impact natural soil profiles present beneath the site, which in turn have potential for Aboriginal archaeological deposits. The Stage 2 development works that will include below ground impacts include: bulk earthworks (cut and fill across the site, and basement excavation); piling for substructure supports; and drainage/service installation and realignment; contamination works. Each of these below ground impacts is briefly discussed in the relevant sections below.

Bulk Earthworks (Basement Excavation)

The Stage 2 development includes the introduction of basement services level, which will feature as a 'ring level' surrounding the field of play of the new stadium beneath the tiered seating (rather than a traditional basement level across the entire site) (Figure 5.1), to be integrated with the existing SCG loading dock and basement located beneath the Noble Bradman stand (to the south of the SFS site). The basement will also require the addition of an entry ramp in the northwest of the site, to exit in the location of the current MP1 carpark. Stage 2 construction works will include bulk excavation for the basement level, particularly focused in the west/northwestern side of the SFS site (due to differing surface elevations across the SFS site), as well as the partial demolition and modification of the existing reinforced concrete retaining wall within the SCG basement, to facilitate a connection between the existing and new basement levels.

A Bulk Earthworks 'heat map' has been prepared by Aurecon (Figure 5.2), specific to the Bulk Excavation works required by the Stage 2 design. This demonstrates that a significant amount of cut will be required across much of the site, particularly the western and southern areas required to create the new basement level, and to realign the field of play from existing. The eastern areas of the site will generally be filled due to the nature of the elevations across the site, with lower levels in the east and northeast.

The current proposed design includes the construction of a basement level/service road at the same level as the field of play (approximately RL 39.3), with some slightly lower areas required to the south of the field of play in order to integrate the two basements. Excavation for the basement will require a further 700-900mm excavation in order to install the base slab and pile caps to the supporting foundations below. The majority of these works would be above the water table.

Figure 5.3 to Figure 5.8 show representative sections of the cut and fill bulk earthworks across the site, representing existing site levels, in comparison with proposed.

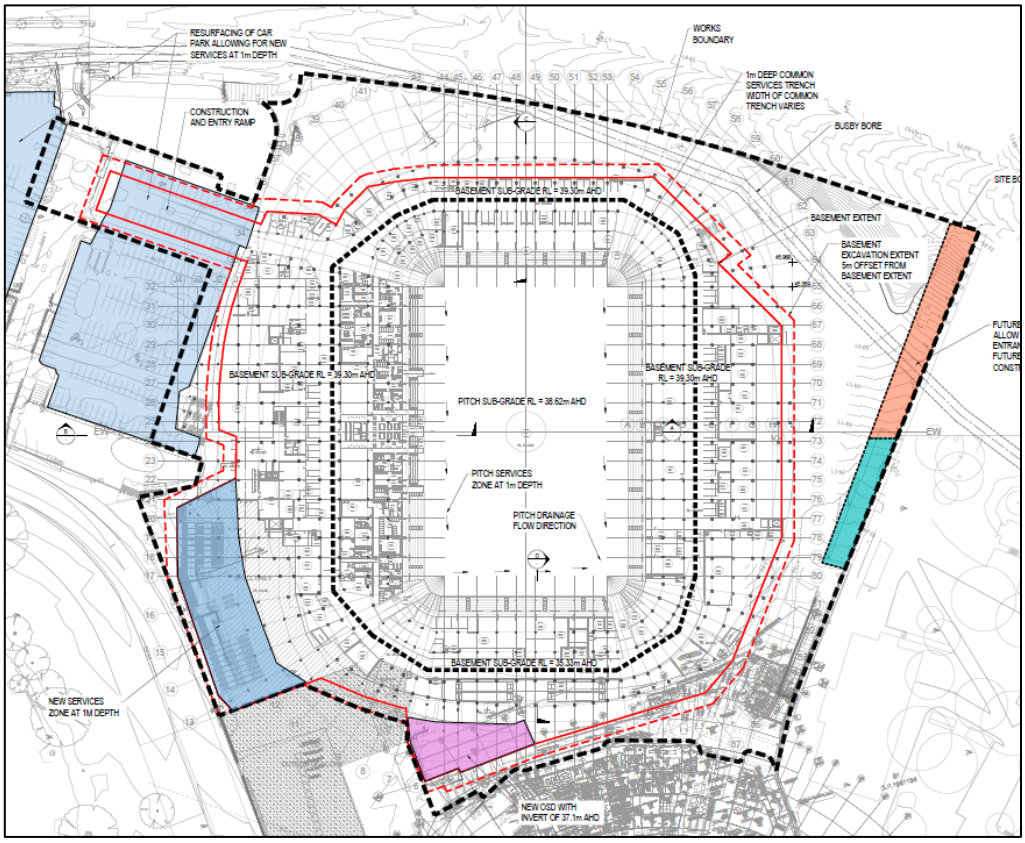

Figure 5.1: Stadium Excavation Extents. Basement Extent in Red dashed line

(Source: Aurecon 2019)

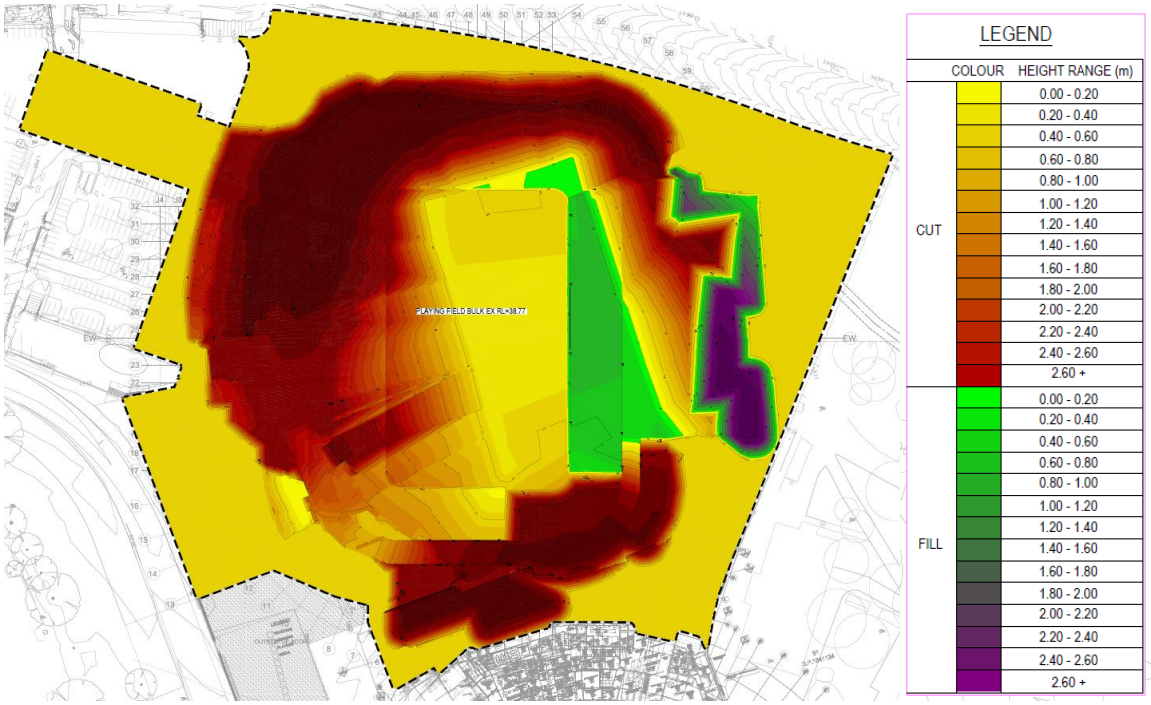

Figure 5.2: Bulk Earthworks Plan, Cut and Fill levels. (Source: Aurecon 2019)

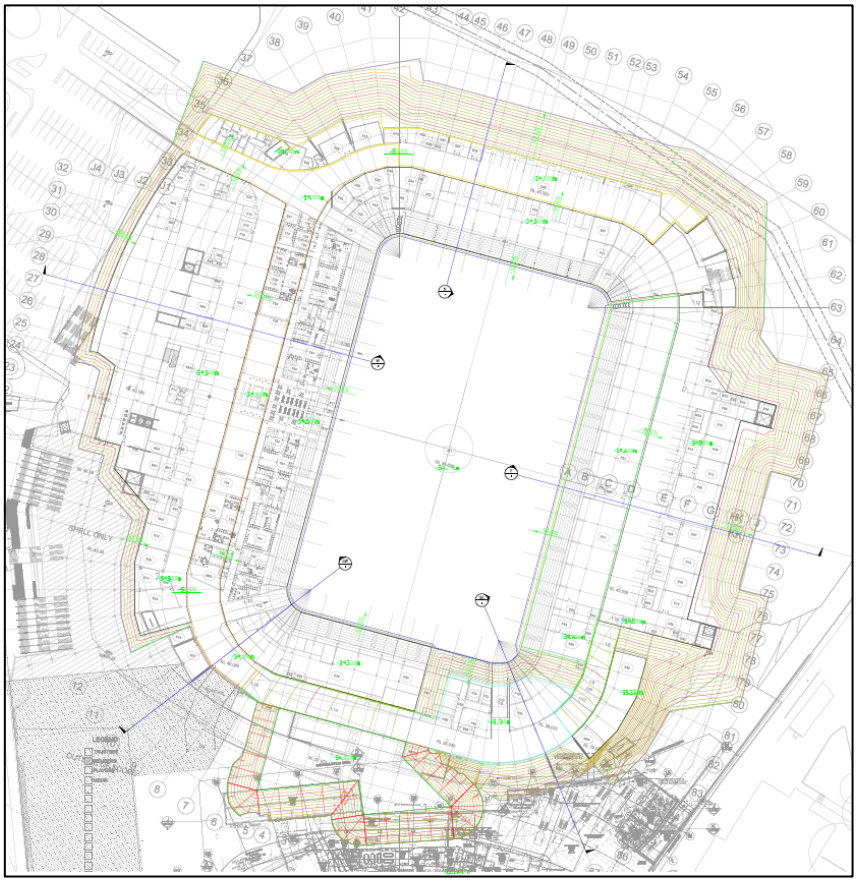

Figure 5.3: Section Locations Plans (N, E, W, SE, SW) (Source: Aurecon 2019)

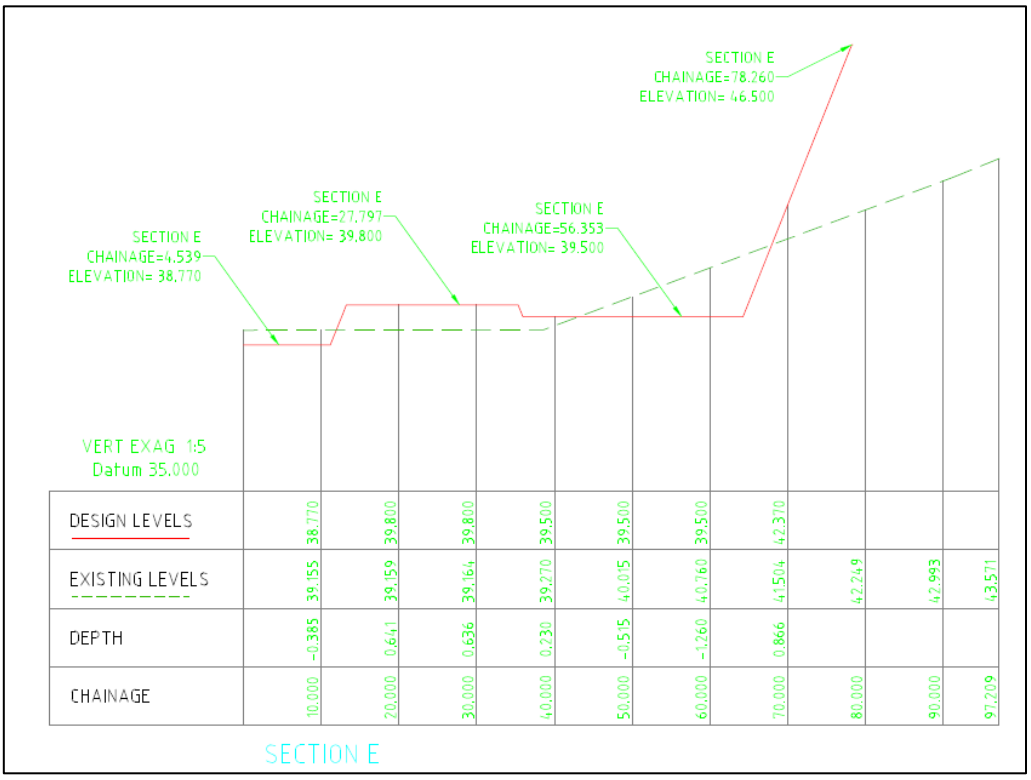

Figure 5.4: Proposed Sections—East (Source: Aurecon 2019)

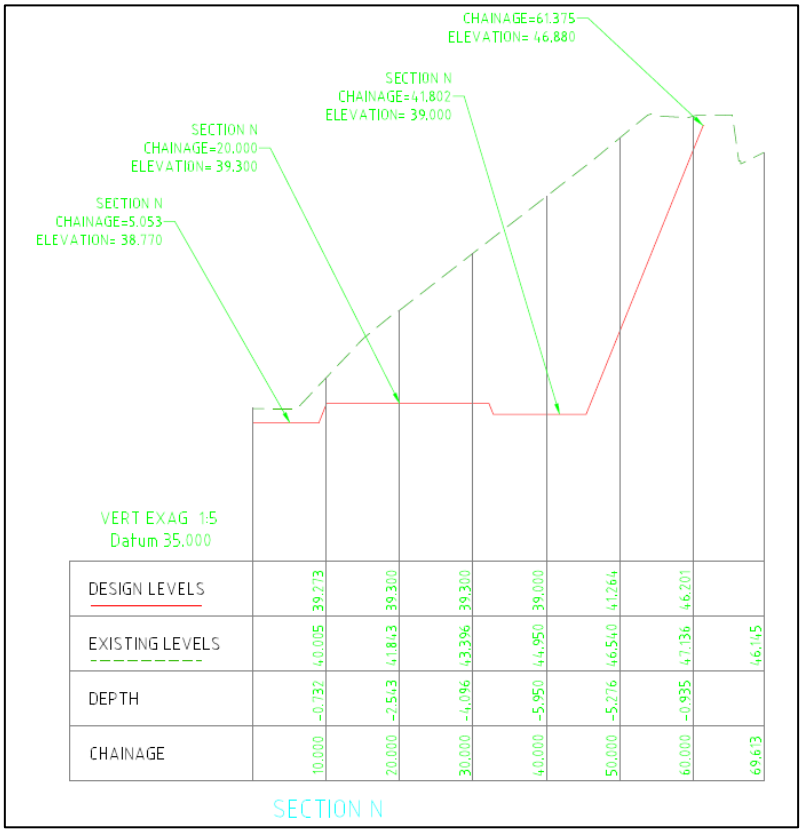

Figure 5.5: Proposed Sections—North (Source: Aurecon 2019)

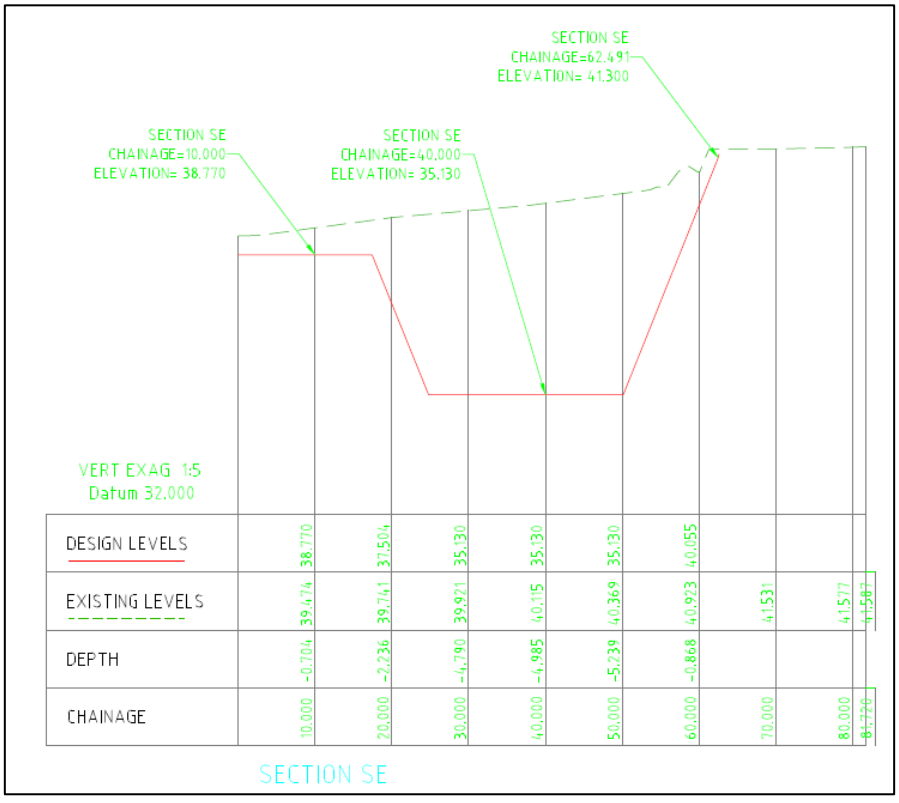

Figure 5.6: Proposed Sections—South East (Source: Aurecon 2019)

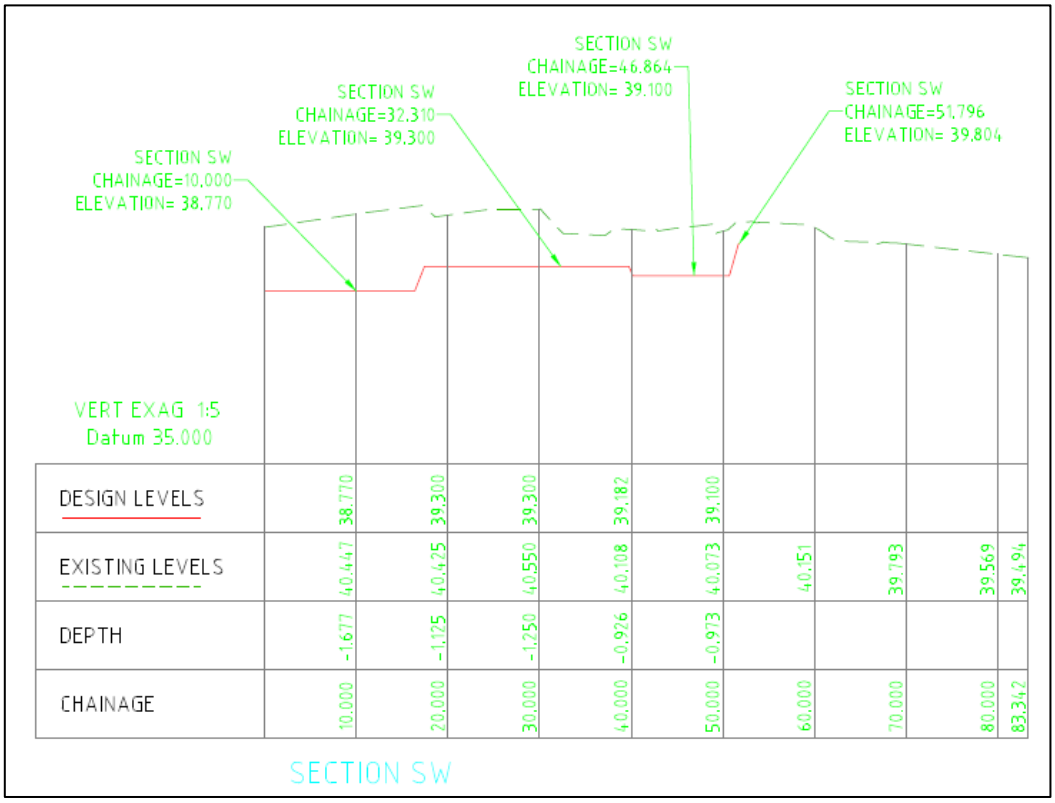

Figure 5.7: Proposed Sections—South West (Source: Aurecon 2019)

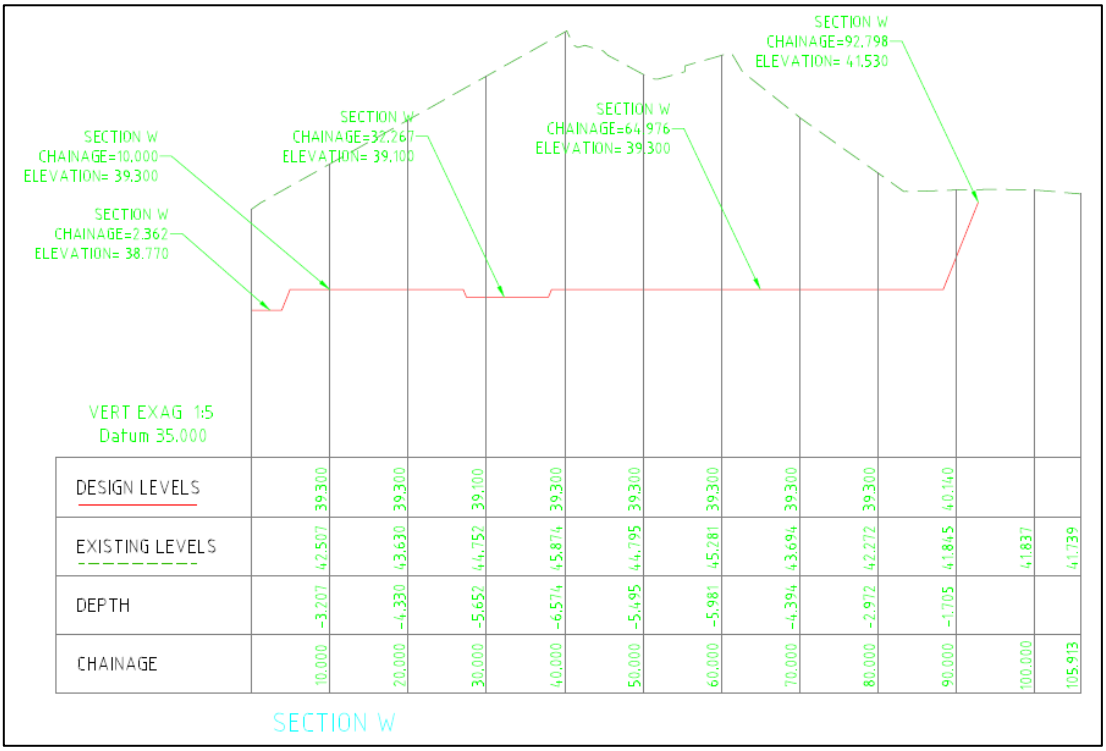

Figure 5.8: Proposed Sections—West (Source: Aurecon 2019)

Piling

As for the former stadium, the new SFS will be supported by a gridded piling system, with piles drilled into the underlying sandstone bedrock with typical pile diameters between 600-900mm in diameter, drilled up to 3m into the sandstone. Figure 5.9 presents the plan of the piling grid for the former stadium, in comparison with the proposed piling grid system.

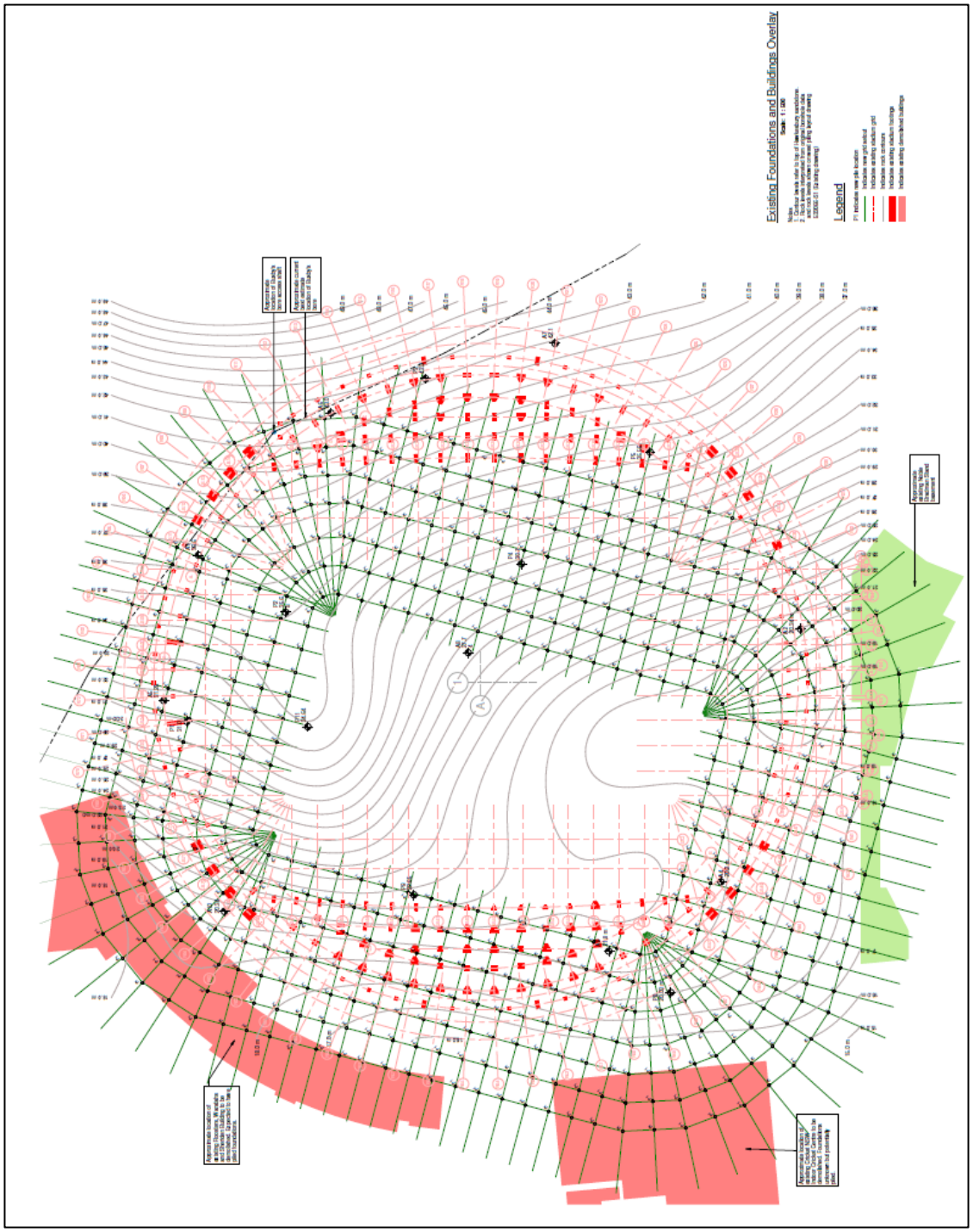

Figure 5.9: Proposed piling grid (Green) over existing piling grid (Red) (Source: Arup 2018)

Drainage/Services and Landscaping

A number of changes will be required to existing stormwater assets and networks within the SFS site in order to accommodate the new development. A Stormwater Management Plan (SWMP) has been prepared by Aurecon,[2] which provides an assessment of the existing drainage at the site, in consideration of future site requirements and relevant compliance standards, and proposes conditions and mitigations for the redevelopment of the site. In order to adequately manage future stormwater and drainage requirements for the site, Aurecon recommends:

- Regrading of the stadium plaza areas;
- Introduction of Retaining Walls/Flow barriers;
- Upgrade of Local Stormwater Drainage Network; and
- Upgrade of Existing Onsite Detention (OSD).

Therefore, the main below ground impacts required for these changes as part of Stage 2 will be the expansion of existing pipes, and addition of a second OSD (On Site Detention) Tank.[3] Additional On Site Detention required for the redevelopment will be achieved through the installation of one new sub-surface tank on the eastern side of the stadium, and the expansion of the existing Noble-Bradman Stand tank.

The introduction of the new basement services level within the SFS Redevelopment will limit deep soil areas within the site available for the planting of mature or large scale trees. Therefore, the landscaping and public domain plan will mainly reply on soft landscaping and planting which will generally be limited in below-ground impact. Minor excavation (<1m) will also be required in the northeast of the site to establish a new entrance to the site from Paddington.

Figure 5.10 presents the excavation works required across the site for drainage, services and landscaping (i.e. this figure excludes the bulk earthworks for the new basement). Zones in light blue in this figure indicate c1m excavation required for services installation/reticulation, while pink indicates the location of the new OSD tank, and the orange/teal in the east indicate minor excavation (<1m) required to establish new Paddington Lane entrance to the site. The depth of excavation required in each of these locations is summarised in Table 5.1 below.

Table 5.1: Extent of Excavation Required (Drainage, Services and Landscaping)

DESIGN FEATURE (LOCATION)	CONSTRUCTION ACTIVITY	APPROX. AVERAGE DEPTH OF EXCAVATION
MP1 Carpark (NW)	Resurfacing Carpark, excavation for Services	1m
New OSD Tank (South)	Excavation	c3.5m
Paddington Lane Entrance (NW)	Excavation/Grading	<1m

[2] Aurecon 2019, *Sydney Football Stadium Redevelopment, Stormwater Management Plan*, draft, Rev.: B, 15.4.19.
[3] The required diversion of the Sydney Stormwater Main has been addressed through a Section 4.55 Modification to Concept Plan SSDA

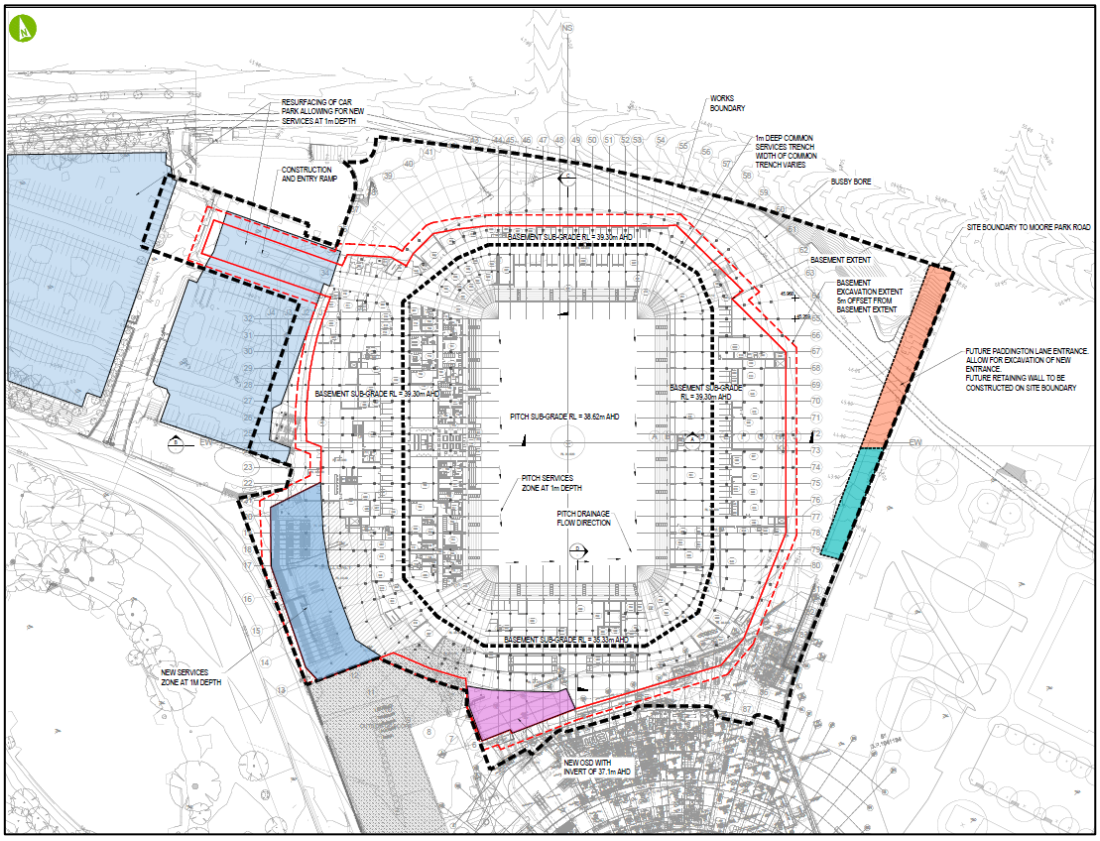

Figure 5.10: Excavation Extents—Excluding basement bulk earthworks

Light Blue= 1m excavation, Pink= c.3.5m excavation, Orange/Teal= <1m excavation (Source: Aurecon 2019)

Figure 5.11: Proposed Drainage within the study area (Source: Curio 2019)

Heritage Interpretation

As part of the Stage 2 DA of the SFS Redevelopment, Curio Projects have been working closely with ASPECT Studios to prepare a Heritage Interpretation Plan to address the overall heritage significance of the site, and identify appropriate opportunities for heritage interpretation products and locations to be implemented within the development site.

Curio and Aspect have identified five key themes to be celebrated through heritage interpretation at the SFS:

- Ever Changing Landscape
- Country as Provider
- Urban Life and Public Spaces
- From Colony to City
- Recreation, Entertainment and Leisure.

Of these themes, 'Ever Changing Landscape', and 'Country as Provider', are closely related to the Aboriginal cultural significance of the site and wider landscape. For more detail regarding the Interpretative Initiatives proposed for the site with respect to Aboriginal cultural heritage values and significance, reference should be made to the Stage 2 Heritage Interpretation Plan (Curio Projects 2019b), which itself serves as an Appendix to the EIS for the Stage 2 SSDA.

5.3. Conservation and Impact Assessment

5.3.1. Proposed Impact to Potential Archaeological Resource

Demolition and construction activities associated with Stage 2 of the SFS Redevelopment have the potential to impact on potential Aboriginal archaeological remains within the areas of impact to natural soil profiles. As ground disturbance into the natural soil profiles will vary across the site, the redevelopment will have varying impacts on the potential Aboriginal archaeological resource across the SFS Redevelopment site.

Three main types of development impacts, with reference to below ground works, have been identified across the site—basement excavation; piling works; and installation of services and OSD Tanks. Each zone is discussed below with reference to the potential for each of the categories of works to impact the potential Aboriginal archaeological resource.

Excavation

Due to the uneven surface elevations across the site, bulk excavation works will be concentrated in the west of the site, with an additional area to the south in order to link the new basement services level with the SCG basement. Excavation depths across the SFS Redevelopment site range from just over 1m, up to 9m below existing ground level (as presented in Figure 6.2). In an effort to understand the potential that the excavation works have to encounter/impact natural sand profiles, detailed analysis has been undertaken to compare proposed excavation depths, with geotechnical borehole information, in order to identify excavation locations within potential to encounter natural soil profiles. Geotechnical information for the SFS site contained within the 2018 report prepared by Douglas Partners (Douglas Partners 2018) was used in the excavation depth analysis. Analysis presented here is limited to locations requiring proposed excavation depth of 2m or greater, as fill levels across the

site indicate that excavation less than 2m in depth will not reach natural sand profiles. Based on this analysis, zones of high and moderate potential have been allocated within the SFS site, to which archaeological investigation strategies would be applied where possible (described in further detail below in Section 6.1).

The analysis presented below has been divided into two main locations: the west/north-west area of excavation, and; southern excavation (presented in Figure 5.12 and Figure 5.13; Table 5.2 and Table 5.3) (although, limited geotechnical boreholes were available for the southern excavation area and information was therefore extrapolated using Douglas Partners section profile projections). Boreholes noted in the Douglas Partners report with insufficient information regarding depth of natural soil profiles (i.e. failure of borehole before natural sand reached, or detailed geotechnical information not available) have been excluded from this analysis. Boreholes located in areas requiring no cut, or requiring fill, have not been included in this analysis.

Table 5.2: Assessment of natural soil impacts for Excavation (Deep Excavation Zones—West)

BOREHOLE (APPROX NORTH-SOUTH)	DEPTH TO NATURAL SAND	PROPOSED EXCAVATION DEPTH	POTENTIAL TO IMPACT NATURAL SOILS
C5	1-2m	3-4m	High
4	5.5m	8-9m	High
A10	5.5m	6-7m	High
C20	1m	1-2m	Moderate
C21	4.2m	3-4m	Moderate
C31	2.2m	2-3m	Moderate
A9	c.1-2m	1-2m	Moderate

Table 5.3: Assessment of natural soil impacts for Excavation (Deep Excavation Zones—South)

BOREHOLE	DEPTH TO SAND	EXCAVATION DEPTH	POTENTIAL TO IMPACT NATURAL SOILS
P7	c.5m	3-4m	Low
P6	c.4m	3-4m	Moderate

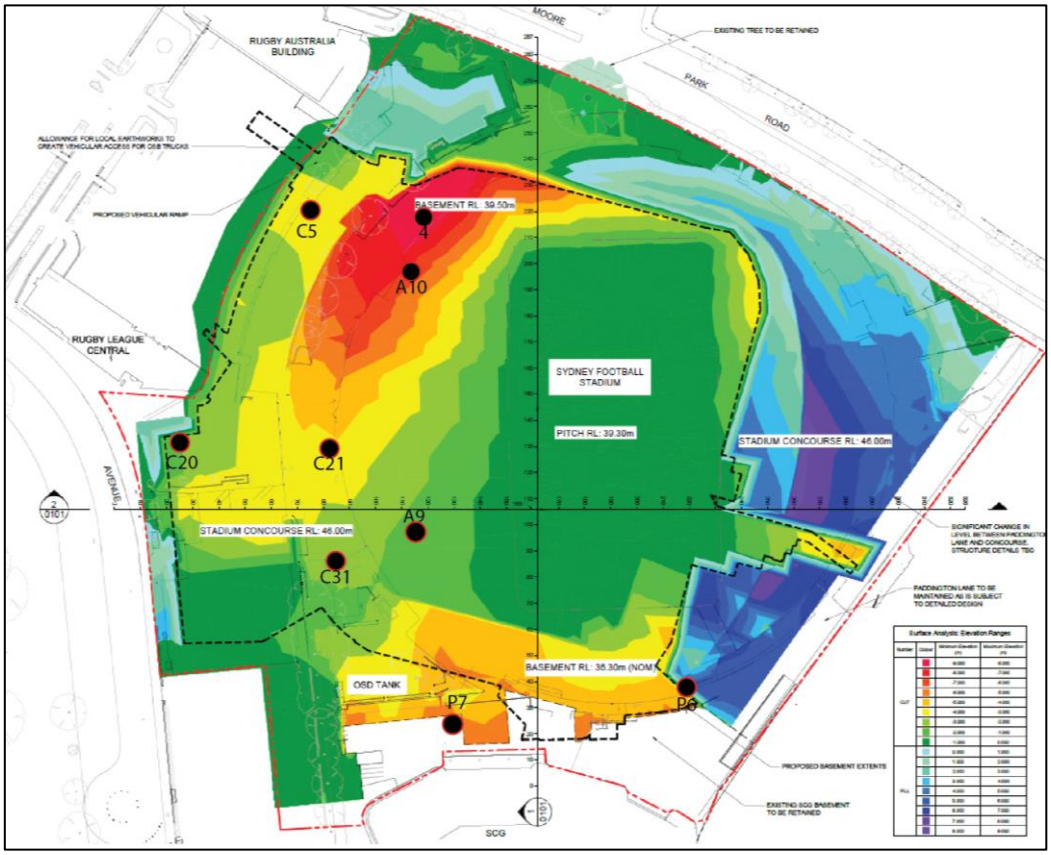

Figure 5.12: Boreholes used in analysis over excavation plan (Source: ARUP 2018 with Curio additions)

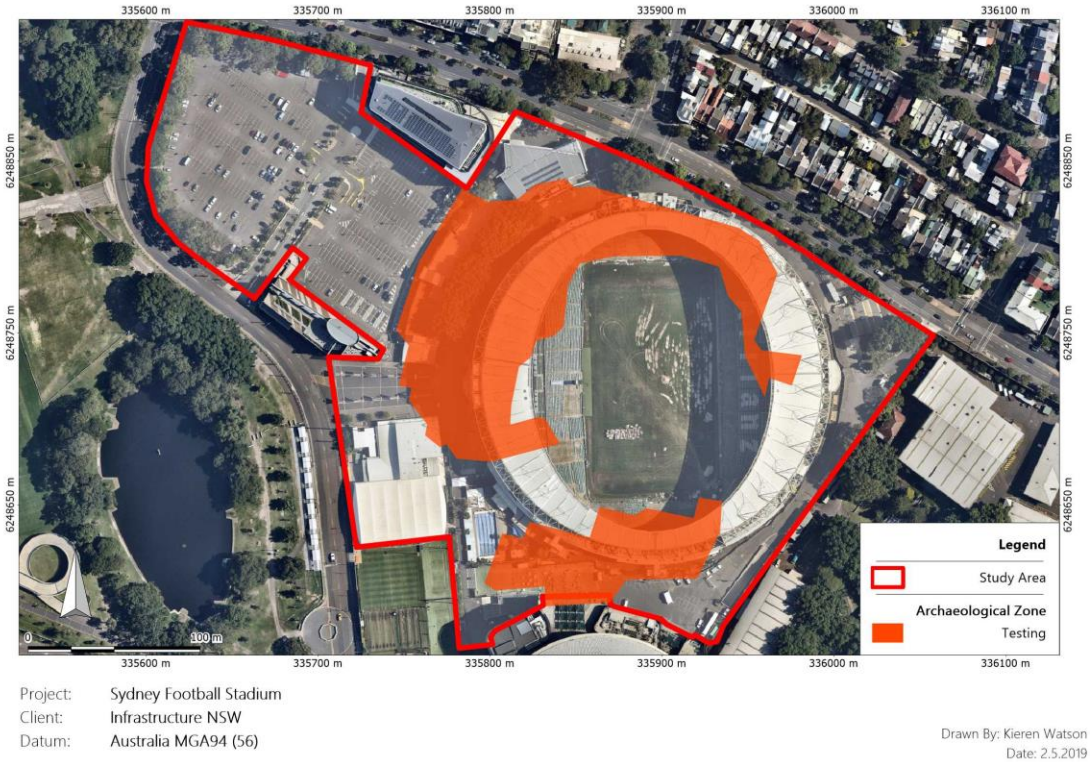

Figure 5.13: Potential Natural Sands Impact Analysis (Source: Curio 2019)

Piling

Piling works will involve the installation of a large number of discrete screw piles into bedrock. While this will pose a significant potential cumulative impact to the potential Aboriginal archaeological resource that may be present within natural sand profiles within the site, piling is the only feasible option to provide the required sub-structural support for the new stadium. In addition, due to the discrete nature of piling, and the presence of the existing piling grid, archaeological investigation and mitigation would not be a practical nor particularly feasible methodology to apply to the piling locations. Therefore, potential impact to potential Aboriginal archaeological resources as posed by the piling works, would require mitigation through other strategies, such as archaeological investigation in other locations (i.e. of bulk excavation areas), and Aboriginal heritage interpretation initiatives.

Services and OSD Tanks

Excavation for installation of new services does generally not reach the depth at which natural soil profiles are likely to be present within the study area. Excavation for the new OSD tank (and expansion of existing), may encounter natural sand profiles, however this will be addressed through the mitigation strategies to apply to the bulk excavation works.

5.4. Harm to Aboriginal Objects and Values

The above described works have the potential to impact subsurface Aboriginal artefacts, should they remain in situ within natural soil profiles. The level of physical impact across the site will depend on the varying nature of the development activities (i.e. more shallow trenching/excavation works for new services, landscaping etc, vs bulk excavation works for the new basement level), and in consideration of the varying depth of fill layer across the site (i.e. if the proposed below ground impacts will be of a great enough depth to encounter natural soil profiles). Conversely, where below ground impacts will not be deep enough to encounter natural soil profiles, the proposed works will essentially conserve any potential Aboriginal archaeological deposit in these areas.

~~Due to the level of fill across the site, archaeological test excavation under the OEH *Code of Practice* was not possible. Therefore, targeted archaeological mitigation strategies are appropriate for the site, to be applied to different impact and Aboriginal archaeological sensitivity locations within the study area, prior to commencement of Stage 2 development works in areas identified as requiring Aboriginal archaeological investigation/mitigation.~~

Due to the high level of fill and existing development across the SFS Redevelopment site, as well as the moderate potential for historical archaeological relics to be present, Aboriginal archaeological test excavation under the OEH Code of Practice has not been possible for the study area- discussed further in Section 6.1.1 below.

5.4.1. Avoiding and Minimising Harm

Firstly, it should be noted that the natural soil profiles beneath much of the SFS Redevelopment site are likely to have already been subject to relative levels of discrete disturbance, due to the existing piling (and retaining walls etc) associated with the construction of the original stadium in the late 1987. While this potentially limits the intactness of any potential Aboriginal archaeological resource,

this does not mean that all potential archaeology has been removed, and therefore, avoidance of impact to natural sand profiles, where possible, would still be a positive outcome.

While only generalised projections, the indicative sections of the soil profiles across the site, as prepared by Douglas Partners through their geotechnical investigation (Douglas Partners 2018a), provide an indication of the locations in which the proposed development activities are likely to be undertaken to a depth that may impact natural soil profiles (i.e. soils with the potential for Aboriginal archaeological deposits).

The natural soils impact analysis as presented above, has identified locations likely to impact natural soils, which are therefore appropriate for the implementation of archaeological investigations and controls, while development works outside of these impact zones will effectively conserve natural sand profiles with the potential for Aboriginal archaeological deposits beneath the site. In addition, any data and information gained from archaeological investigation of the natural sands within the site, will potentially provide a greater understanding of the nature of the conserved natural soils, facilitating more robust predictions of the archaeological nature of these locations.

With regards to Aboriginal heritage values, the SFS Redevelopment will not pose any additional or further impact to Aboriginal cultural and social values associated with the site and surrounds, in fact, it provides an opportunity to provide a positive impact to values, through the installation of Aboriginal cultural heritage interpretation elements and initiatives within the new public domain, something that is currently lacking in the existing iteration of the sporting complex.

5.5. Summary of Impact Assessment

This impact assessment has identified that the main impact that the Stage 2 SFS Redevelopment works may have, are to any potential Aboriginal archaeological deposit that may be retained within the natural sand profiles beneath the study area. Where development impacts have been identified to be likely to encounter or require impact to natural sands, it is appropriate for archaeological mitigation measures to be implemented in order to investigate the nature of any potential archaeology, and to salvage this deposit (if identified) in areas requiring development impact.

The physical nature of the development works (i.e. piling to support the substructure, excavation across the site to facilitate the basement services level) are required for the viability of the development. However, this does not require excavation of all remnant natural sands within the site. Therefore, while the development has the potential to impact some natural sands (with the potential to retain and Aboriginal archaeological deposit), the development will also conserve areas of natural sands beneath the redevelopment.

Therefore, while no other registered sites are present within the study area, and the nature, extent, and condition of identified PAD is not currently known, the development works have the potential to directly impact potential Aboriginal deposits located within natural soil profiles (if encountered and requiring impact through development works). The impacts for identified Aboriginal sites and features are summarised in Table 5.4.

With regards to Aboriginal intangible heritage values (social and cultural), the SFS Redevelopment will actually provide an opportunity to have a positive impact, with the potential for installation of

Aboriginal cultural heritage interpretation initiatives, to celebrate and communicate the significance of the site and landscape to the Gadigal (Darug) people, and local Aboriginal community.

Table 5.4: Impact Assessment

SITE NUMBER	TYPE OF HARM	DEGREE OF HARM	CONSEQUENCE OF HARM
SFS PAD (AHIMS #45-6-3645)	Direct	Partial	Partial loss of value

6. Management and Mitigation

The Stage 2 documentation for the SFS Redevelopment (detailed design) has yet to be finalised, and therefore the exact locations and depths of ground disturbing works (i.e. exact depth and extent of excavation for the new basement level, field of play, services and tanks etc) will possibly be subject to review and alteration. However, while exact locations of ground disturbing works (with the potential to impact natural soil profiles, and therein, potential to impact Aboriginal archaeology) remain open for slight modifications, the general nature of below ground impacts will not greatly alter (i.e. piling, basement excavation, filling, installation of services). Therefore, it is appropriate to develop a strategy for Aboriginal archaeological investigation for the site that will be able to applied to each location of ground impact with the potential to encounter natural soil profiles, as the Stage 2 ground impact locations and extents are confirmed. This, in combination with the high levels of fill across the entire study area means that the approach to Aboriginal heritage management (particularly with regards to archaeological strategies) must allow for flexibility, and able to be adaptive during the Stage 2 development works, in order to provide a robust management framework for Aboriginal cultural heritage and archaeology for the life of the development.

This report relates specifically to the proposed development impacts of Stage 2 of the SFS Redevelopment, in relation to potential Aboriginal archaeological and cultural heritage impacts, and provides recommendations for management and mitigation of development impacts, both archaeologically (i.e. ground disturbing works), as well as culturally (i.e. opportunities for Aboriginal cultural heritage interpretation within the site redevelopment).

Therefore, the Aboriginal cultural heritage values and Aboriginal archaeological potential of the study area are proposed to be managed and mitigated via two main strategies:

- **Archaeological investigation** tailored to specific below ground impacts of the development works; and
- **Aboriginal Heritage Interpretation** to facilitate a long term conservation outcome for Aboriginal cultural heritage values (tangible and intangible) within the proposed development, beneficial to both the development itself within the Sydney Football Stadium, as well as contributing to the acknowledgement, maintenance, and celebration of Gadigal (Darug) cultural heritage.

It is believed that the application of these strategies throughout the redevelopment of the SFS will serve to minimise the harm posed by the development to Aboriginal cultural heritage values, through the conservation of Aboriginal archaeological deposits where possible, investigation and recovery where not possible to conserve in situ, and improved acknowledgement and celebration of Gadigal (Darug) culture, history, and significant heritage values, within the future stadium complex.

6.1. Strategy One—Archaeological Investigation

Where possible, archaeological investigation is proposed within the SFS Redevelopment site, specifically to target any potential impact zones where development works may encounter or impact natural soil profiles capable of retaining an Aboriginal archaeological deposit.

Due to the high level of fill and existing development across the SFS Redevelopment site, as well as the moderate potential for historical archaeological relics to be present, Aboriginal archaeological test excavation under the OEH *Code of Practice* has not been possible for the study area.

Therefore, the proposed archaeological program in relation to the Stage 2 below ground works for the SFS Redevelopment project will consist of three main methods of archaeological investigation:

- Targeted archaeological monitoring of bulk excavation works in areas that have moderate potential to encounter natural soil profiles (with potential to trigger test excavation if natural soils are encountered);
- Targeted test excavation where geotechnical reports combined with excavation plans indicate that natural soil profiles have high potential to be encountered/impacts by the development works; and
- Salvage excavation of any identified Aboriginal archaeological deposit, in order to understand the full extent, and nature of the identified resource, to the extent of development impacts.

6.1.1. Consideration of Excavation Hazards

~~The SFS Redevelopment presents considerable challenges in terms of the nature of the site, including the significant fill layer present, as well as the need to consider safety and stability issues in the development of any archaeological excavation. The botany sand profile present within the site (i.e. with the potential to present with an Aboriginal archaeological deposit) is known to generally have a low level of stability, and therefore require careful consideration of appropriate excavation techniques that enable detailed and careful archaeological work to be undertaken, without endangering workers, nor severely compromising the integrity of the sands and the archaeology they may contain.~~

~~The intent of the Stage 2 development to undertake bulk earthworks/excavation in select areas within the site will greatly assist with access to the natural sand profiles, as they will presumably provide the required shoring, benching, and battering of the fill layers during excavation (yet another reason why test excavation in not possible at the SFS site).~~

~~In addition, the water table is known to be present within the natural sand profiles (c. 5-10m below the ground surface, varying across the site), and therefore, proposed maximum accessible work depths for archaeological excavation would be limited both by the extent of development impact, as well as by the water table (assuming that any archaeological test pits extending to the depth of the water table will have water seeping into them and become highly unstable), potentially making excavation at depth difficult.~~

~~Therefore, in consideration of the above hazards, the archaeological excavation proposed for the SFS Redevelopment site would include a combination of mechanical and hand excavation, in order to achieve the archaeological aims, while facilitating a safe and practical working environment.~~It is acknowledged that the proposed methodology presented in this ACHAR varies from that of the OEH *Code of Practice*. However, the considerable challenges presented by the SFS Redevelopment site, has meant that the development of a site-specific methodology is appropriate in response to the parameters of the site, the key constraints being:

- Depth of existing historical fill across site overlying potential natural soils (c.1–5.5m in depth)

- Instability of Botany Sands and associated WHS Considerations
- Presence of existing buildings and urban development on site
- Water table known to be present within natural sand profiles c.5-10m below ground surface (varying across site)- therefore it is assumed that any archaeological test pits extending to the depth of the water table will have water seeping into them and become highly unstable.

The methodology for the site has been developed to consider safety and stability issues in the development of any archaeological excavation. The Botany sand profile present within the site (i.e. with the potential to present with an Aboriginal archaeological deposit) is known to generally have a low level of stability, and therefore requires careful consideration of appropriate excavation techniques that enable detailed and careful archaeological work to be undertaken, without endangering workers, nor severely compromising the integrity of the sands and the archaeology they may contain

In addition, the water table is known to be present within the natural sand profiles (c. 5-10m below the ground surface, varying across the site), and therefore, proposed maximum accessible work depths for archaeological excavation would be limited both by the extent of development impact, as well as by the water table (assuming that any archaeological test pits extending to the depth of the water table will have water seeping into them and become highly unstable), potentially making excavation at depth difficult.

Therefore, in consideration of the above hazards, the Aboriginal archaeological excavation proposed for the SFS Redevelopment site will include a combination of mechanical and hand excavation, in order to achieve the archaeological aims, while facilitating a safe and practical working environment.

The archaeological methodology proposed is consistent with that developed for the Stage 1 works (as provided in Curio Projects letter dated July 2019- *Response to Request for Additional Information- Archaeological Methodology, Stage 1 S4.55 Modification (SSD-9249-Mod-2)*). Although, it is recognised that the Stage 2 development works provide a considerably larger opportunity for Aboriginal archaeological investigation than the Stage 1 development works, which has been reflected in the following methodology.

6.1.2. Methodology Rationale

While the principles of test excavation as outlined in Requirement 16 of the OEH *Code of Practice* have been taken into consideration in the preparation of this methodology, the Aboriginal archaeological test excavation proposed has necessarily deviated from that proposed in the Code of Practice (as explained in Section 6.1.1 above) and has been developed to include a combination of mechanical and hand excavation, in order to achieve the archaeological aims, while facilitating a safe and practical working environment. The proposed excavation methodology utilising a combination of mechanical and hand excavation has been developed in consultation with and approved by the project RAPs, (in accordance with OEH guidelines).

Similar methodologies to that outlined in the sections below have been proposed and approved previously for Aboriginal archaeological excavation within the similar area and soil type, for example, for the CBD and South East Light Rail (CSELR) project (ACHAR and ARD prepared by GML Heritage in

2015). GML proposed a combination of hand and mechanical excavation for the test excavation of the Moore Park precinct of the Light Rail path. While the ground impacts of the Light Rail differed from the current project, the principle challenges of soil stability and accessibility remain the same. While the results of the GML investigation are not publicly available, this demonstrates that similar site types have been required to pursue alternate archaeological methodologies other than that presented in the Code of Practice.

The Aboriginal archaeological methodology for the Stage 2 development works has been prepared in recognition of the principles of *The Burra Charter*, with respect to the recognition of archaeology as a finite resource, to be conserved and investigated via cautious approach (Article 3) 'as much as necessary but as little as possible'. Therefore, while the methodology has been designed to allow for the maximum possible recovery of archaeological data possible through the Stage 2 development works (i.e. bulk excavation for the new basement services level), archaeological investigation would mainly be focused within the extent of the development works.

However, the archaeological methodology has also been developed with allowance and flexibility for archaeological investigation of a slightly increased footprint from that of development impact, in acknowledgement of the potential for indirect development impacts to potential Aboriginal archaeology, such as compaction. Therefore, where an identified Aboriginal archaeological deposit extends further than the development impact zone (e.g. should an artefact deposit continue below the final bulk excavation level required for the development), and it is considered reasonable that development works would present an indirect impact to the deposit (i.e. through compaction), archaeological investigation would continue to the extent of the deposit (provided WHS conditions afford it safe to do so- as per Section 6.1.1 above).

This will allow for the full investigation and recording of any identified sensitive Aboriginal archaeological feature, notwithstanding whether partial or full impact is expected through development works.

~~6.1.2. Monitoring and Test Excavation~~

The proposed ground disturbing works will consist mainly of excavation for the new basement services level (focused on the northwest and west of the site), as well as installation of services, OSD Tanks, and piling. Therefore, in locations where ground disturbing works are considered likely to require impact to or excavation into natural soil profiles, targeted archaeological monitoring and/or Aboriginal archaeological test excavation is proposed. Piling involves the drilling of discrete screw piles into bedrock, and therefore will provide limited opportunity for archaeological investigation to be undertaken. However, open area excavation for the basement, particularly across the west of the site will present with opportunities to reveal the top surface of the natural sands, allowing the potential for Aboriginal archaeological test excavation in select locations (depending on development impacts). Natural soil impact analysis has identified two zones across the SFS site appropriate for archaeological mitigation, as presented in Figure 6.1.

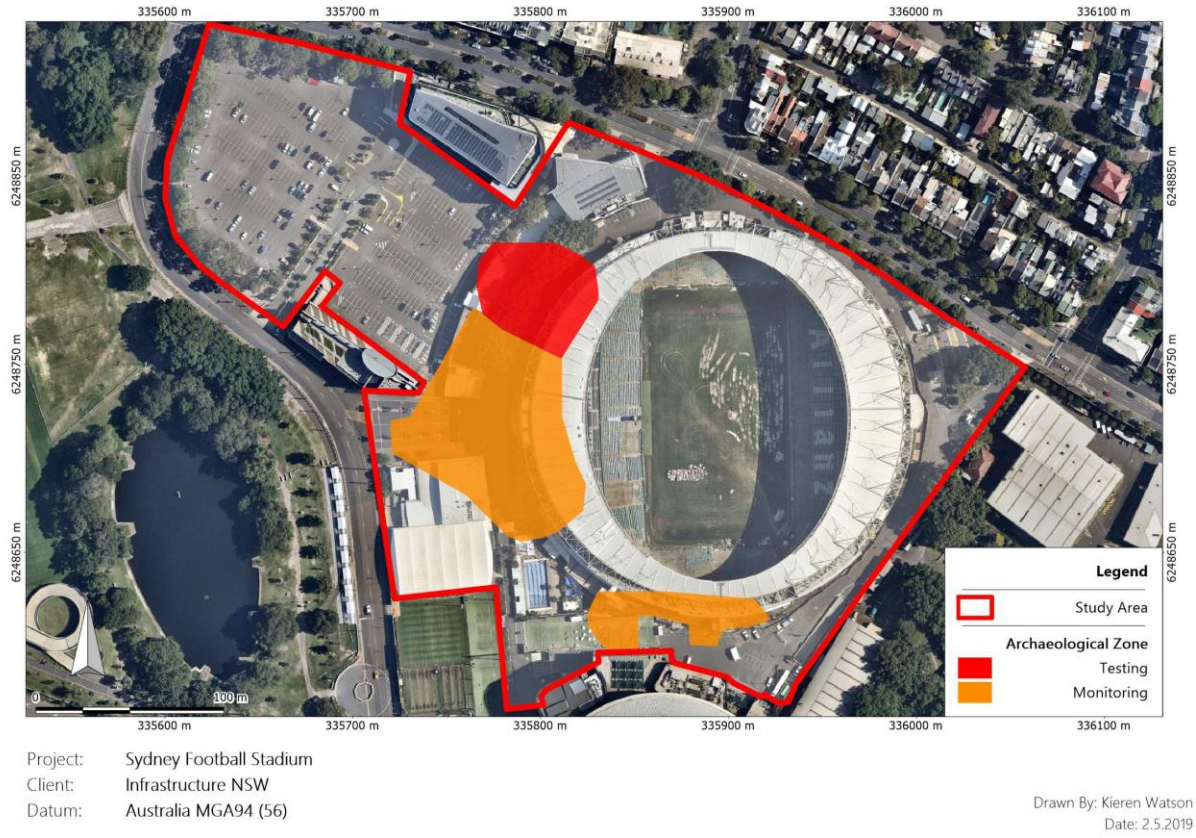

Figure 6.1: Proposed Archaeological Management Zones (Source: Curio 2019)

The following methodologies for monitoring, test and salvage excavation (as necessary) have been approved by the project RAPs, in their review of the draft ACHAR.

6.1.3. Monitoring Methodology

The monitoring of the identified locations with moderate potential (orange in Figure 6.1) for the top of natural soil profiles to be encountered through development works would be coordinated with the civil contractor during Stage 2 development works, as well as in consideration of any identified contamination constraints, and would generally involve:

- Monitoring of the bulk excavation works in identified monitoring areas (moderate potential) undertaken under the supervision of a qualified archaeologist, accompanied by representatives from project RAPs acknowledged as being cultural knowledge holders for the SFS region.
- The general stratigraphy of the soil profiles shall be recorded via field notes, photography, and preparation of stratigraphic section drawings.
- Should natural sands be identified within development impact zones, opportunity should be made (to be discussed with the project RAPs) to commence test excavation in these locations, in accordance with the test excavation methodology as presented in the section below.
- Allowance must be made for any contamination considerations or issues at the site during proposed archaeological mitigation works, should such issues become apparent, in order to ensure that all WH&S and Environmental requirements are met during site works. This may require slight

variation of proposed strategy of soil monitoring, and should this be required, would be discussed between the archaeologist, contractor, client, and RAPs in the field.

6.1.4. Test Excavation Methodology

As discussed in Section 5.4.1 above, standard Aboriginal archaeological test excavation under the OEH *Code of Practice* was not possible at the SFS Redevelopment site for the following reasons:

- The study area is completely covered by a layer of historical fill, and currently exists as a highly urbanised and developed site; and
- A historical archaeological deposit has the potential to be present within the study area, and would overlay potential remnant soil profiles with the potential to contain in situ Aboriginal archaeological deposits, prior to the commencement of any Aboriginal test excavation.

~~The principles of test excavation as outlined in Requirement 16 of the OEH *Code of Practice* have been taken into consideration in the preparation of this methodology.~~ The methodology and research design developed for the SFS Redevelopment works within the study area has been designed to cover the removal of displaced Aboriginal objects within historical archaeological deposits (if encountered), with the exception of Aboriginal skeletal remains.

Hand Test Excavation

Should intact natural sands be encountered during the archaeological monitoring phase, excavation in the immediate vicinity will be paused, and a suitably qualified and experienced archaeologist will be consulted to assess the nature of the soils, in order to confirm whether the soils are in fact remnant natural profiles with the potential to retain an Aboriginal archaeological deposit. ~~If soils are confirmed to be natural, the Curio Archaeologist/Aboriginal Excavation Director, in consultation with project RAPs, would identify if test excavation is possible within the parameters of the location (i.e. considering factors such as accessibility, WHS conditions, and the required level of ground impact for the specific development location).~~

Where natural soil profiles are confirmed, capable of and requiring archaeological test excavation, test excavation will first be attempted to be pursued via hand excavation methods, where WHS considerations make this possible (i.e. where safe working conditions are able to be established on site facilitating worker access to trenches). Where hand excavation is assessed by the Excavation Director, project RAPs, and site safety contractors to be possible, test units will be initiated as follows (in accordance with the methodology proposed in Requirement 16 of the Code of Practice, as much as possible given site-specific conditions):

- A test unit would be initialised within the identified natural soil profile, size and orientation to be established to meet with the location, with maximum continuous surface area to be no greater than 3m2.
- Excavation of the test unit would proceed in 50cm x 50cm quadrants, with the first spit of the first quadrant being undertaken in 50mm spits, with all subsequent quadrants to be excavated in 100mm spits, unless a shallower depth is defined by natural soil profiles or other stratigraphy/features are identified.

- Hand excavation would proceed in this way until culturally sterile soils are reached within the test unit, or until site conditions dictate that safe access for hand excavation can no longer be maintained.

Mechanical Test Excavation

In locations in which archaeological test excavation by hand is not possible (as dictated by WHS conditions and requirements), mechanical test excavation is proposed as per the following methodology:

- Any mechanical test excavation would be undertaken using a small excavator with a flat batter mud bucket (operated by a driver with demonstrated experience in archaeology) in identified locations appropriate for test excavation, with the purpose of testing for Aboriginal archaeological material within the natural soil profile.
- Test excavation in each identified area will commence by the initiation of a mechanical test trench of c1.5m x 1.5m (or of similar measurements to best fit the location and size of the pile excavation impact zone to be test excavated, to a maximum contiguous area of 3m2), within the identified location presenting with natural soil profiles. Machine excavation of test trenches would proceed in approximately 100mm spits.
- Mechanical test excavation would proceed to the extent of culturally sterile soils, or just above the water table, whichever comes first.
- The mechanical excavation of all test trenches will be monitored by a suitably qualified and experienced archaeologist, as well as representatives from the project RAPs.
- All other conditions for mechanical test excavation would be maintained as per the hand excavation methodology (i.e. sieving through a 5mm aperture sieve, recording, and expansion trigger points- presented in the 'General Methodology' section below).
- Should any sensitive Aboriginal archaeological features such as hearths be identified within the test trenches, mechanical excavation would cease, and hand excavation would commence to the extent of the identified feature (as possible, in consideration of accessibility and WHS conditions).

General Methodology (Both Hand and Mechanical)

~~In areas identified as having high potential for development works to impact natural soil profiles, or areas identified through monitoring as presenting with natural soil profiles, where test excavation is possible within the required development impact zone, the following methodology would be applied:~~

- ~~Should a remnant soil profile be positively identified, that is capable of being subject to archaeological test excavation, then this would be undertaken by mechanical excavation using a small excavator (operated by a driver with demonstrated experience in archaeology) in targeted locations, with the purpose of testing for Aboriginal archaeological material within the natural soil profile.~~
- ~~Mechanical excavation has been identified as an appropriate method for test excavation for the SFS Redevelopment site, due to the likely depth and nature of the natural sand profile, presence of the water table, as well as the depth of historical fill across the site.~~

- ~~Test excavation in each identified area will commence by the initiation of a mechanical test trench of 3m x 2m (or of similar measurements to best fit the location and size of location and/or impact zone to be test excavated), within the identified location presenting with natural soil profiles. Machine excavation of test trenches would proceed in approximately 200mm spits.~~
- ~~Test excavation would proceed to the depth of the required impact zone, or just above the water table, whichever comes first.~~
- ~~The mechanical excavation of all test trenches will be monitored by a suitably qualified and experienced archaeologist, as well as representatives from the project RAPs.~~
- ~~Should any sensitive Aboriginal archaeological features such as hearths be identified within the test trenches, mechanical excavation would cease, and hand excavation would commence to the extent of the identified feature (as possible, in consideration of accessibility and WHS conditions).~~
- If carbon or other features suitable for scientific dating are identified, these would be sampled for possible further analysis.
- The deposit from each expansion unit would be wet or dry sieved (depending on the nature of the sands, and any limitations of the work site at the time of excavation) through a 5mm aperture wire-mesh sieve, with any recovered objects recorded in correspondence to their test trench and catalogued appropriately.
- The location of each test trench will be recorded by GPS, and recorded in detail including stratigraphic/soil profile description and drawings, description of any relevant features, artefacts etc, and photographed using a DSLR camera and appropriate photoscale.
- If the test excavation within the identified natural soil profile in areas of high potential (i.e. targeted test excavation areas) does not identify any Aboriginal objects or archaeological deposits within an initialised test trench, then excavation will cease in this location, and the archaeological investigation will switch to monitoring.
- Should a test trench identify high numbers of Aboriginal artefacts (>2 artefacts in 1m^2), the Excavation Director will assess whether establishment of a salvage excavation undertaken by hand is possible (given site conditions), in order to understand the full extent and nature of the resource ~~within development impact zones~~. Salvage excavation methodology is presented in Section 6.1.5 below.
- Where possible, information derived from the monitoring/test excavation would be used to expand the archaeological understanding of the SFS Redevelopment site, and wider Aboriginal occupation patterns across the southeastern Sydney peninsula.
- Stone artefact recording of any recovered Aboriginal stone artefacts would follow the requirements detailed through the OEH *Code of Practice*, and in accordance with current accepted academic texts for stone artefact analysis and recording in southeast Australia (i.e. Holdaway and Stern 2004).

6.1.5. Salvage Excavation

Should an Aboriginal archaeological deposit be identified within test trenches, and hand excavation is deemed to be possible in the location (considering WHS and stability issues), the ~~mechanical~~ relevant test trench would be subject to salvage archaeological expansion, with the purpose of identifying, ~~and~~ fully understanding and salvaging the nature and extent of any identified Aboriginal archaeological deposit, within~~to~~ the extent of the development impact zone.

Archaeological salvage excavation in identified locations would proceed as per the following methodology:

- Salvage excavation would be undertaken by the nominated Aboriginal Excavation Director, accompanied by representatives from project RAPs. OEH would be notified of the commencement of any salvage Aboriginal archaeological excavation works.
- The test trench presenting with an Aboriginal archaeological deposit would be expanded through the initialisation of a 1m x 1m excavation unit, to identify the extent of any identified Aboriginal archaeological resource. If additional Aboriginal objects or features are located, the trench would continue to be expanded by 1m x 1m at a time, until the extent of the resource has been fully explored (i.e. to culturally sterile soils), or to the extent of the development impact zone (whichever comes first), assuming WHS requirements can be maintained throughout the excavation.
- All deposits will be excavated in 100mm spits, unless a shallower depth is defined by natural soil profiles, or other stratigraphy/features are identified.
- Should Aboriginal archaeological features such as a midden or hearth deposit be identified, each feature would be subject to stratigraphical hand excavation in 1m x 1m test pits (or as required if space restrictions apply), appropriate to the nature of the feature, and would be expanded by 1m x 1m excavation units in order to fully explore the extent of the resource encountered, within the extent of the development impact zone.
- If carbon or other features suitable for scientific dating are identified, these would be sampled for possible further analysis.
- The deposit from each expansion unit would be wet or dry sieved (depending on the nature of the sands, and any limitations of the work site at the time of excavation) through a 5mm aperture wire-mesh sieve, with any recovered objects recorded in correspondence to their test trench and excavation unit and catalogued appropriately.
- Where expansion units fail to yield a significant Aboriginal archaeological deposit (i.e. an artefact density of <2 artefacts/m^2, or absence of any other unusual or significant archaeological feature), excavation will cease.
- A post-excavation report detailing the results of both the monitoring and excavation phases (if required) of the investigation would be prepared following completion of the archaeological works for the Stage 2 development works. This report would be provided to all project RAPs for their information, as well as forwarded to OEH for their records

- Following the completion of all Aboriginal archaeological works, an Aboriginal Site Impact Recording Form will be completed and submitted to the AHIMS Registrar for the 'SFS PAD 1'site.

6.1.6. Research Framework

Three primary objectives have been identified for the archaeological investigation proposed for the Stage 2 development activities at the SFS Redevelopment site, with regard to the Aboriginal archaeological potential of the study area. These objectives are:

- to identify whether natural soil profiles capable of retaining an Aboriginal archaeological deposit are present within the study area (within the impact zone of the Stage 2 SFS Redevelopment works);
- to determine whether these natural soil profiles contain an Aboriginal archaeological deposit, and, if present, to undertake an assessment of the deposit within a local and regional landscape context; and
- to explore and fully understand the extent and nature of any identified Aboriginal archaeological deposit, within required development impact zones (as possible in consideration of any WHS concerns or accessibility issues at the site).

Several research questions have been developed to inform the above objectives. Key research questions for the proposed archaeological investigation of the study area include:

- Will the proposed development works within the SFS Redevelopment site impact intact natural sands?
- If natural soil profiles are encountered during development works, is an Aboriginal archaeological deposit present within these sands? If so, to what nature and extent are Aboriginal archaeological remains present?
- Can the natural soil profiles inform a geomorphological context of the study area? If so, how?
- Does archaeological test excavation provide any additional information as to whether the overall study area is likely to retain a remnant Aboriginal archaeological signature (i.e. within natural sands conserved outside of development impact zones?
- How can the Aboriginal archaeological deposit (if recovered) be interpreted in a local and regional context?
- Is there any evidence for 'post-contact' Aboriginal archaeological deposits, such as knapped glass artefacts and flaked ballast?
- Is the archaeological deposit (if encountered) culturally and/or publicly significant? To what extent?

6.1.7. Incorporation with Historical Archaeology

Due to the historical archaeological potential of the study area, the Aboriginal archaeological monitoring may potentially be undertaken concurrent with a program of historical archaeological investigation, guided by a separate historical ARD (Appendix A to the Stage 2 Heritage Impact Statement; Curio Projects 2019a).

Should historical archaeological excavation (as guided by the ARD) encounter any displaced Aboriginal objects within historical archaeological deposits, the Aboriginal archaeology Excavation Director, and project RAPs would be informed. Any displaced Aboriginal objects within historical contexts would be recorded in their location, and removed, to be catalogued and analysed in accordance with the methodology outlined above.

6.1.8. Commencement of Development Impacts

Following completion of the Archaeological Investigation within each target area (i.e. monitoring without encountering sands, test excavation without encountering an Aboriginal archaeological deposit, or salvage excavation to the extent of the identified deposit and development impact zone), the site will be deemed fully explored and development works may proceed in each location (as signed off by the project RAPs and Excavation Director).

6.1.9. Post Excavation Report

Following the completion of the Stage 2 development works, and any Aboriginal archaeological investigations undertaken as part of these works, a post excavation report would be prepared documenting the results of all archaeological works. The post excavation report would include:

- Documentation of the Stage 2 development works, their location and extent;
- The basis on which natural soil profiles were identified in these areas;
- Basis on which testing was or was not undertaken in each location; and
- Results of any archaeological works undertaken as part of the Stage 2 development works.

The post excavation report would be prepared sufficient for submission to the relevant statutory bodies (DPIE and OEH) as well as project RAPs.

6.2. Strategy Two—Aboriginal Heritage Interpretation

Opportunities to interpret any Aboriginal cultural material, archaeological deposits, and identified Aboriginal cultural heritage values have been considered as part of a holistic approach to interpreting the SFS Redevelopment site. Appropriate heritage interpretation can contribute to the conservation and celebration of the history and cultural heritage of the local Gadigal (Darug) people and wider local Aboriginal community, preserving their culture, history and stories within the development for generations to come.

As discussed in Section 5.2 above, a Heritage Interpretation Plan (IP) has been prepared by Curio Projects (2019b) as part of the Stage 2 SSDA for the SFS Redevelopment. The IP includes several themes that include Aboriginal cultural heritage, to be applied to the SFS site, notably: 'Ever Changing Landscape', and 'Country as Provider'.

Future stages of development of the IP should continue to develop the interpretation initiative to be implemented at the site regarding Aboriginal cultural heritage, in consultation with the project RAPs, and La Perouse LALC.

6.3. Management of Aboriginal Objects

There are several options when it comes to the long-term management and curation of Aboriginal stone objects, once recovered from excavations. The suitability of each option depends on a number of factors including the nature of the development, the significance and extent of the deposit, and the wishes of the Aboriginal community.

Project RAPs have indicated that the most appropriate solution for long-term management of any Aboriginal artefacts or cultural material recovered from the development site would be reburial in an appropriate location within the development site, once the redevelopment has been completed. This will be considered through the preparation of the Heritage Interpretation Strategy for the wider SFS Redevelopment site, currently in preparation by Curio Projects. Further consultation with the La Perouse LALC will be undertaken in order to seek input into appropriate Aboriginal cultural heritage interpretation strategies and initiatives for the redevelopment site.

At present, the temporary storage location for any Aboriginal artefacts recovered during development works has been nominated as the La Perouse LALC. However, this will be confirmed with the LALC as soon as possible.[4]

6.3.1. Unexpected Skeletal Remains

While not anticipated to be encountered within the SFS Redevelopment site, the discovery of any potential skeletal remains would be managed in accordance with the approved OEH protocol for the discovery of human remains which is stated as:

> *If any suspected human remains are discovered and/or harmed the proponent must:*
>
> *a) Not further harm these remains;*
>
> *b) Immediately cease all work at the particular location;*
>
> *c) Secure the area so as to avoid further harm to the remains;*
>
> *d) Notify the local police and OEH's Environment Line on 131 555 as soon as practicable and provide any available details of the remains and their location; and*
>
> *e) Not recommence any work at the particular location unless authorised in writing by OEH.*

[4] Multiple attempts via both phone and email have been made to contact the LPLALC and seek input on the draft ACHAR and management recommendations have been made January-March 2019 (detail provided in the consultation log).

7. Management Recommendations

The following management recommendations are made for the Stage 2 SSDA for the Sydney Football Stadium Redevelopment project, located at 40–44 Driver Ave, Moore Park. These recommendations are made on the basis of:

- Legislation as detailed and adhered to through this ACHAR, including the NPW Act, EP&A Act, and relevant OEH statutory guidelines, protecting Aboriginal cultural and archaeological objects and places in NSW;
- Background research and archaeological analysis of the study area in its local and regional contexts;
- Consultation with the local Aboriginal community regarding the cultural significance of the study area and surrounding Moore Par/eastern Sydney peninsula region, noting their concerns, views and requests; and
- The impact of the proposed development of the Stage 2 development works of the SFS Redevelopment project.

7.1. Conclusions

- This ACHAR documents the process of investigation, consultation and assessment with regards to Aboriginal cultural heritage and Aboriginal archaeology, as undertaken for the SFS Redevelopment project and study area, specific to the Stage 2 development application (detailed design and development works for the construction of the new stadium and associated features).
- In general, the subject site has the potential for Aboriginal archaeological deposits to be present within deeper natural sand profiles that exist beneath the layers of historical fill.
- Without the ability to archaeologically investigate the natural soil profiles prior to site redevelopment (and the presence of deep historical fill across the entire site), the whole SFS Redevelopment Site has been assessed to have a low to moderate level of Aboriginal archaeological potential, identified as a Potential Archaeological Deposit (PAD) site, 'SFS PAD', registered with AHIMS (AHIMS #45-6-3645).
- The SFS Redevelopment site/Moore Park area itself, as well as the study areas a wider component of the southeastern Sydney peninsula, has high social significance. The study area and surrounds are particularly noted as having high social (cultural) and spiritual significance to the La Perouse Aboriginal community, who maintain an unbroken connection to the land, whose ancestors lived in study area and surrounds (the wider southeastern peninsula region) right up until forced removal to La Perouse mission in the 1880s due to the establishment of the Aborigines Protection Board
- The site holds moderate historical significance for its landscape positioning within the eastern Sydney peninsula as part of a wider significant Aboriginal landscape, as well as for its significant Aboriginal sporting history.
- While it is not yet possible to determine the nature and extent of any Aboriginal archaeological deposit at the study area without investigating the site physically, should an

Aboriginal archaeological deposit be present, it would potentially be of moderate research potential (high research potential should post-contact sites be present), with low to moderate education potential, and potentially moderate significance as part of the wider Aboriginal landscape of Sydney's southeastern peninsula.

- The site is considered to have moderate aesthetic significance related to its general landscape positioning in the continuing location of public recreation and sporting activities, with parklands retained (albeit highly modified) in areas of tradition Aboriginal resource zones.
- The Stage 2 development works that will include below ground impacts include: bulk earthworks (cut and fill across the site, and basement excavation); piling for substructure supports; drainage/service installation and realignment; contamination works; and other minor works such as landscaping and public domain modifications.
- Three main types of development impacts have been identified to have potential to impact any potential Aboriginal archaeological resource at the site—basement excavation; piling works; and installation of services and OSD Tanks.
- The main development impact with a potential to impact natural sand profiles is the excavation for the new basement services level, to feature as a 'ring level' surrounding the field of play. This will require excavation for the basement level, particularly focused in the west/northwestern side of the SFS site (due to differing surface elevations across the SFS site),
- Detailed analysis has been undertaken of potential for development impacts to extend to, or require excavation into, natural sand profiles, through comparison with geotechnical information with projected excavation required across the site.
- The SFS Redevelopment site has therefore been zoned according to locations with moderate and high potential for impacting natural sands through proposed Stage 2 development excavation works, to be the subject of appropriate archaeological investigation and mitigation strategies.

7.2. Recommendations

The following management and mitigation statements are made in light of the conclusions above, following from the Aboriginal cultural heritage assessment of Stage 2 Development Application works of the Sydney Football Stadium Redevelopment project, including Aboriginal community consultation, ethnohistorical and environmental context, predictive modelling, heritage significance assessment and impact assessment, in accordance with relevant NSW OEH statutory guidelines. It is recommended that:

- The main impact that the Stage 2 SFS Redevelopment works may have, are to any potential Aboriginal archaeological deposit that may be retained within the natural sand profiles beneath the subject site. Where development impacts have been identified to be likely to encounter or require impact to natural sands, it is appropriate for archaeological mitigation measures to be implemented in order to investigate the nature of any potential archaeology, and to salvage this deposit (if identified) in areas requiring development impact.
- The physical nature of the development works (i.e. piling to support the substructure, excavation across the site to facilitate the basement services level) are required for the viability of

the development, however, do not require excavation of all remnant natural sands within the site. Therefore, while the development has the potential to impact some natural sands (with the potential to retain and Aboriginal archaeological deposit), the development will also conserve areas of natural sands beneath the redevelopment.

- The development works have the potential to directly impact potential Aboriginal deposits located within natural soil profiles (if encountered and requiring impact through development works).

- Following approval of the Stage 2 SSDA, the proposed archaeological investigation (Management Strategy One), including targeted monitoring, and archaeological test excavation, should be undertaken, to be coordinated with the Stage 2 development works, prior to any potential impact to natural sand profiles.

- With regards to Aboriginal intangible heritage values (social and cultural), the SFS Redevelopment the opportunity for a positive impact, to be achieved via the installation of Aboriginal cultural heritage interpretation elements within the site, to celebrate and communicate the significance of the site and landscape to the Gadigal (Darug) people, and local Aboriginal community.

- Future stages of development of the Heritage Interpretation Plan (IP) prepared by Curio Projects (2019b) as part of the Stage 2 SSDA for the SFS Redevelopment should continue to develop the interpretation initiatives to be implemented at the site regarding Aboriginal cultural heritage, in consultation with the project RAPs, and La Perouse LALC.

- Continuing consultation with the project RAPs should be undertaken through subsequent development stages of the project.

- Prior to commencement of Stage 2 construction at the site, an Unexpected Aboriginal Finds Policy should be prepared for the site.

- The La Perouse LALC should be consulted with reference to the Heritage Interpretation Plan being prepared for the SFS Redevelopment site (Curio Projects 2019b), in order to seek input into the plan with regards to Aboriginal cultural heritage significance to the La Perouse community and their ancestors.

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APPENDIX A—Aboriginal Consultation Log and Correspondence

APPENDIX B—AHIMS Search

APPENDIX C—Glossary of Technical Terms

Term	Definition
Aboriginal Object	"Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains" (DECCW 2010:18).
Aboriginal Place	"A place declared under s.84 of the NPW Act that, in the opinion of the Minister, is or was of special significance to Aboriginal culture" (DECCW 2010:18). Aboriginal places are gazetted by the minister.
Archaeological survey	A method of data collection for Aboriginal heritage assessment. It involves a survey team walking over the land in a systematic way, recording information about how and where the survey is conducted, recording information about the landscape and recording any archaeological sites or materials that are visible on the land surface. The activities undertaken by a survey team do not involve invasive or destructive procedures, and are limited to note taking, photography and making other records of the landscape and archaeological sites (e.g. sketching maps or archaeological features). (From DECCW 2010: 37)
Exposure	Estimates area with a likelihood of revealing buried artefacts or deposits rather than just an observation of the amount of bare ground. The percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence of the surface of the ground. (From DECCW 2010: 37)
In Situ	Anything in its natural or original position or place is said to be in situ.
Knapping	The process of manufacture of stone tools.
PAD	Potential Archaeological Deposit. Nature of potential site yet unknown, environmental, archaeological and cultural modelling suggests the location has potential for a subsurface archaeological deposit to be present.
Test Unit	Location identified for archaeological test excavation
Study Area	Development/project area to which this report, the information, discussion and assessment presented within, directly refers to.

APPENDIX D—SFS PAD AHIMS Site Card