



Redevelopment of the Sydney Football Stadium

*State Significant
Development
Modification Assessment
(SSD-9249-MOD-2)*

August 2019

August 2019

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Glossary

Abbreviation	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AAIS	Addendum Archaeological Impact Statement
Consent	Development Consent
Council	City of Sydney
Department	Department of Planning, Industry and Environment
DSI	Detailed Soil Investigation Report
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
EESG	Environment, Energy and Science Group of the Department of Planning, Industry and Environment
Minister	Minister for Planning and Public Spaces
PSI	Preliminary Soil Investigation Report
RAP	Registered Aboriginal party
RtS	Response to Submissions
Secretary	Planning Secretary of the Department of Planning, Industry and Environment
SEPP	State Environmental Planning Policy
SLEP	Sydney Local Environmental Plan 2012
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
TfNSW (RMS)	Transport for NSW (Roads and Maritime Services)
TfNSW	Transport for NSW
UFP	Unexpected Finds Procedure



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1. Introduction

This report is an assessment of an application seeking to modify the State significant development (SSD) approval (SSD-9249) for the redevelopment of Sydney Football Stadium (SFS), located at 40 - 44 Driver Avenue, Moore Park within the City of Sydney Local Government Area (LGA). The application has been lodged by Infrastructure NSW (the Applicant) pursuant to section 4.55 (1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The approved concept development application for the redevelopment of the SFS comprises:

- the Concept Proposal for maximum building envelope, design and operational parameters for a new rectangular stadium with up to 45,000 seats (55,000 patrons in concert mode).
- Stage 1 works including the demolition of the existing SFS down to the slab / existing ground level, associated works and identification of the demolition and the construction compound.

The modification application seeks approval to amend the scope of the Stage 1 works by demolishing the on-ground slab of existing SFS, removing of the top of the existing piles (up to 1.5 metres below ground) and diverting an existing stormwater infrastructure within the site.

1.1 Site description

The SFS is located in the northern corner of the property at No. 40 – 44 Driver Avenue, Moore Park (refer to **Figure 1**). The project area (site) comprises the northern half of this property and is legally described as part Lots 1528 and 1530 DP 752011 and Lot 1 DP 205794. The site is located approximately 3 kilometres (km) south-east of the Sydney Central Business District (CBD).

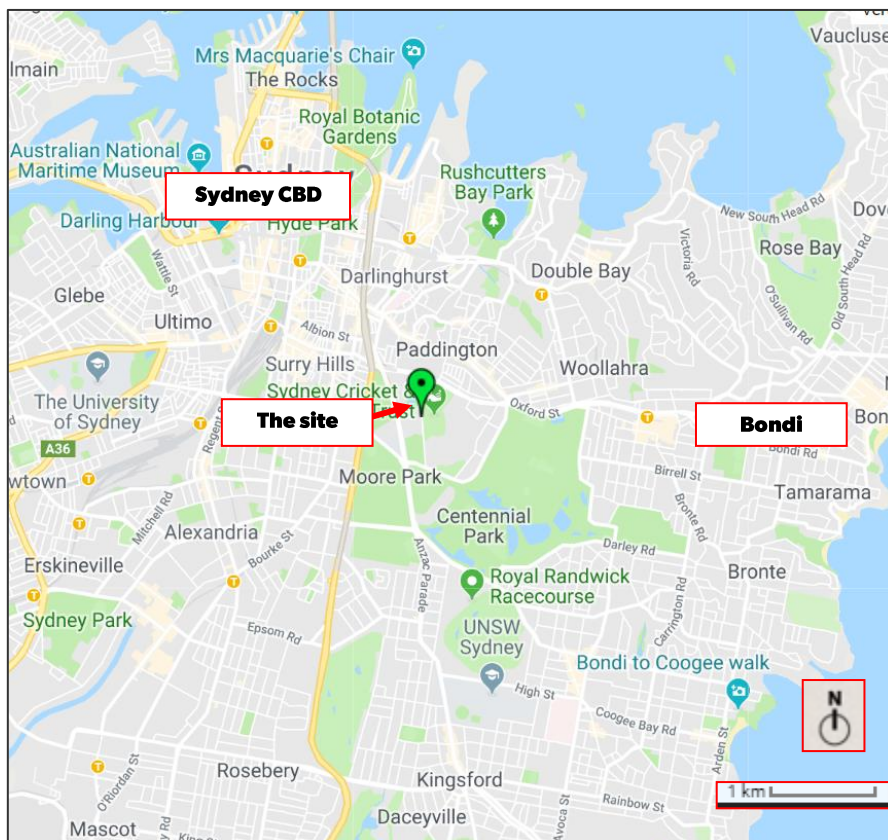


Figure 1 | Regional Context Map (Source: Nearmap 2019)

The site has an area of 8.7 hectares (ha) and is Crown land, with the Sydney Cricket and Sports Ground Trust designated as the sole trustee under the *Sydney Cricket and Sports Ground Act 1978*. The site has a frontage to Moore Park Road to the north, Paddington lane to the east and Driver Avenue to the west. The Sydney Cricket Ground (SCG) abuts the site to the south. The site forms part of a larger entertainment and recreation precinct shared with Centennial and Moore Parks, Fox Studios, and the Entertainment Quarter (**Figure 2**).

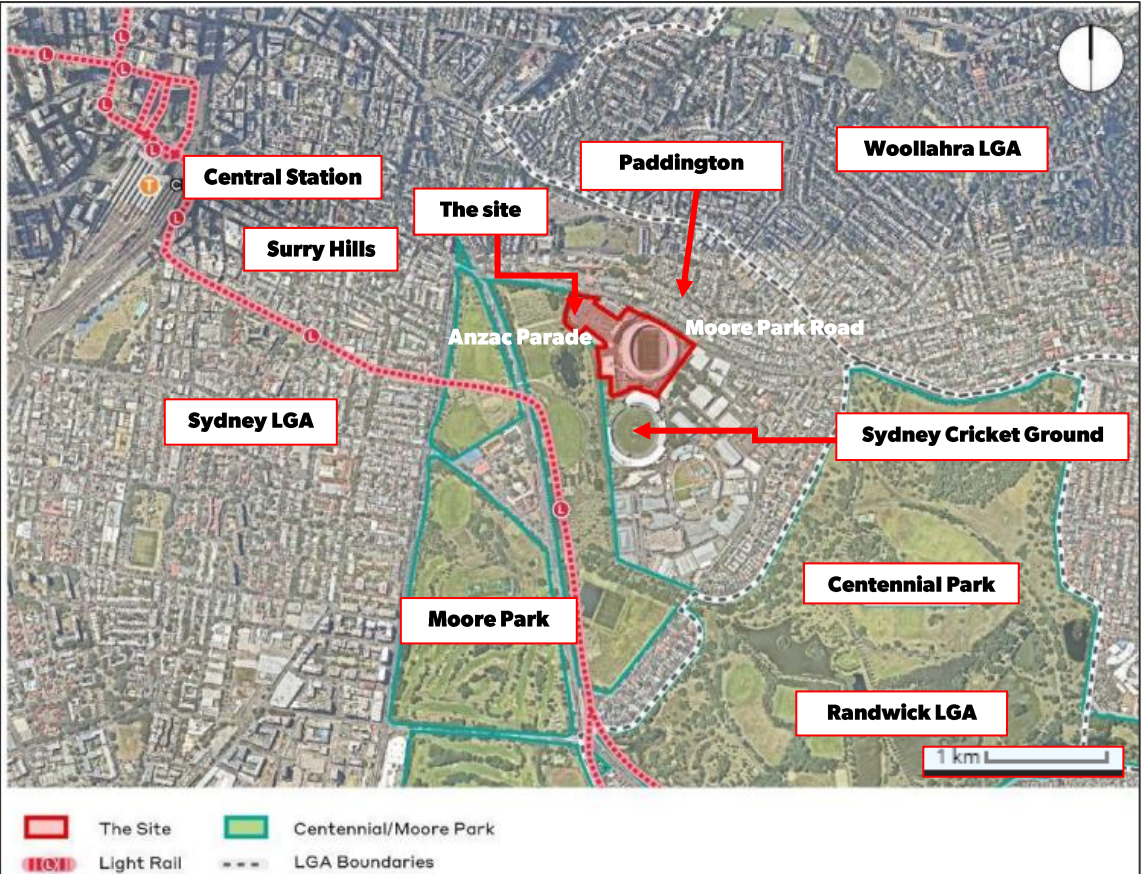


Figure 2 | Local Context Map identifying the site and the surrounding local government areas (Source: EIS for SSD-9249)

The property at No. 40 – 44 Driver Avenue, Moore Park also accommodates the following additional existing buildings, structures and facilities, which do not form a part of the site:

- the Australian Rugby Development Centre (ARDC) and the Rugby League Central Building (RLCB), located along the north and south of the Moore Park Carpark 1 (MP1), respectively.
- the SCG, comprising a mix of stands and buildings, with a capacity for 48,000 spectators.
- Cricket NSW Outdoor Wickets.

The Stage 1 works pursuant to SSD-9249 are currently being undertaken on the site.

1.2 The Heritage Context
Historic heritage

The SFS is located within a Heritage Conservation Area (HCA) of local heritage significance listed under the Sydney Local Environmental Plan 2012 (SLEP). There are several HCAs and individual heritage items in the immediate vicinity of the site.

Historic archaeology - The Busby's Bore

A section of the State heritage listed archaeological item, the Busby's Bore (SHR #00568, SLEP #11) runs across the site, with four of the Shafts likely to be located within the site. Busby's Bore is also listed on Sydney Water section 170 Heritage and Conservation Register. The Applicant has undertaken investigations in relation to Busby's Bore within the site and identified the locations of Shafts 9 and 10. The Shafts 9 and 10 are sited beneath cast iron access plates, which overlay a cast concrete collar sitting on top of hand dressed masonry from the Bore Shaft. However, the exact trajectory, depth below ground level of the Bore or the locations of Shaft 11 and 4 are not accurately known. The Applicant indicated that the top of the Bore is likely to be 11.8 metres (m) below the existing ground surface.

Aboriginal cultural heritage

The SFS site is registered as a Potential Archaeological Deposit (PAD) site on the former Office of Environment and Heritage Aboriginal Heritage Information Management System (AHIMS) database ('SFS PAD', AHIMS #45-6-3645), on the basis of its natural soil profiles located below the historic fill on the site.

1.3 Approval History

On 6 December 2018, the then Minister for Planning granted consent for the concept development application for the redevelopment of the existing Sydney Football Stadium comprising:

- A Concept Proposal comprising:
 - a maximum building envelope for the stadium including basement and a roof over permanent seats.
 - maximum stadium capacity of 45,000 seats (55,000 patrons in concert mode).
 - member areas, premium box/terrace, function lounge and corporate suite operations.
 - flood lighting, stadium video screens and ancillary fittings.
 - team, media and administration facilities, food and beverage areas.
 - new playing pitch and provision for ancillary uses.
 - public domain works and landscaping.
 - identification of the existing MP1 as the demolition and construction compound.
- Concurrent Stage 1 works comprising:
 - demolition of the existing stadium including the existing Sheridan, Roosters, Waratahs, Cricket NSW Administration Building and Indoor Wickets to ground level (existing slab level).
 - removal of 26 trees.
 - use of the existing MP1 as the demolition compound.

The development consent has been modified on two occasions as detailed in **Table 1**.

Table 1 | Summary of Modifications

Mod No.	Summary of Modifications	Approval Authority	Type	Approval Date
MOD 1	Amend the project boundary to exclude a small area from the site, comprising two tennis courts at the south-western corner of the site.	Department	4.55(1A)	05/06/2019
MOD 3	Amend condition C8 of Schedule 2 to delete the numeric requirement (percentage) regarding new or replaced vegetation within the site and replace with "predominantly native species".	Department	4.55(1A)	28/06/2019



2. Proposed Modification

The modification application (SSD-9249-Mod-2) seeks to modify the scope of the Stage 1 works. The key components, as refined in the Response to Submissions (RtS), are provided below and are shown in **Figures 3 to 5**:

- removal and disposal of the existing ground slabs, pavements of the existing stadium.
- removal of existing piles and footings up to a depth of RL 27.8 (1.5m) below the level of the existing playing pitch).
- diversion of two existing stormwater pipes which traverse the existing stadium structure.

Demolition of slabs and piles

The Applicant proposes to undertake the removal of the ground slabs, pavements, footings and piles concurrently with demolition works already approved under SSD-9249.

The Modification Report and supporting documents indicate that to remove the piles, the ground surrounding the piles would be excavated typically within a 2m radius of each pile. The top of the piles would then be removed and disposed to a licenced waste facility. The location of the piles proposed to be removed are identified in **Figure 3**.

Diversion of stormwater infrastructure

The modification involves the diversion of the existing Sydney Water stormwater main, under the stadium to the northwest of the subject site. This would involve the installation of a new main to the west of the future stadium envelope and its connection to an existing stormwater pit (W1 in **Figure 4**). The existing stormwater drain through the site would be decommissioned and removed following installation and commissioning of the new drain.

The new stormwater main would be installed via trenching along the orientation of the new main, up to 3m in width and to a depth of approximately 6m – 6.5m below the current ground surface (**Figure 5**).

The Modification Report indicates that these works are required to ensure the demolition works do not impact on the existing stormwater infrastructure within the site, which will be diverted after the installation of the new main.



Figure 3 | Location of the former SFS in the local context and the piles that are proposed to be removed (Source: Applicant’s Modification Report)

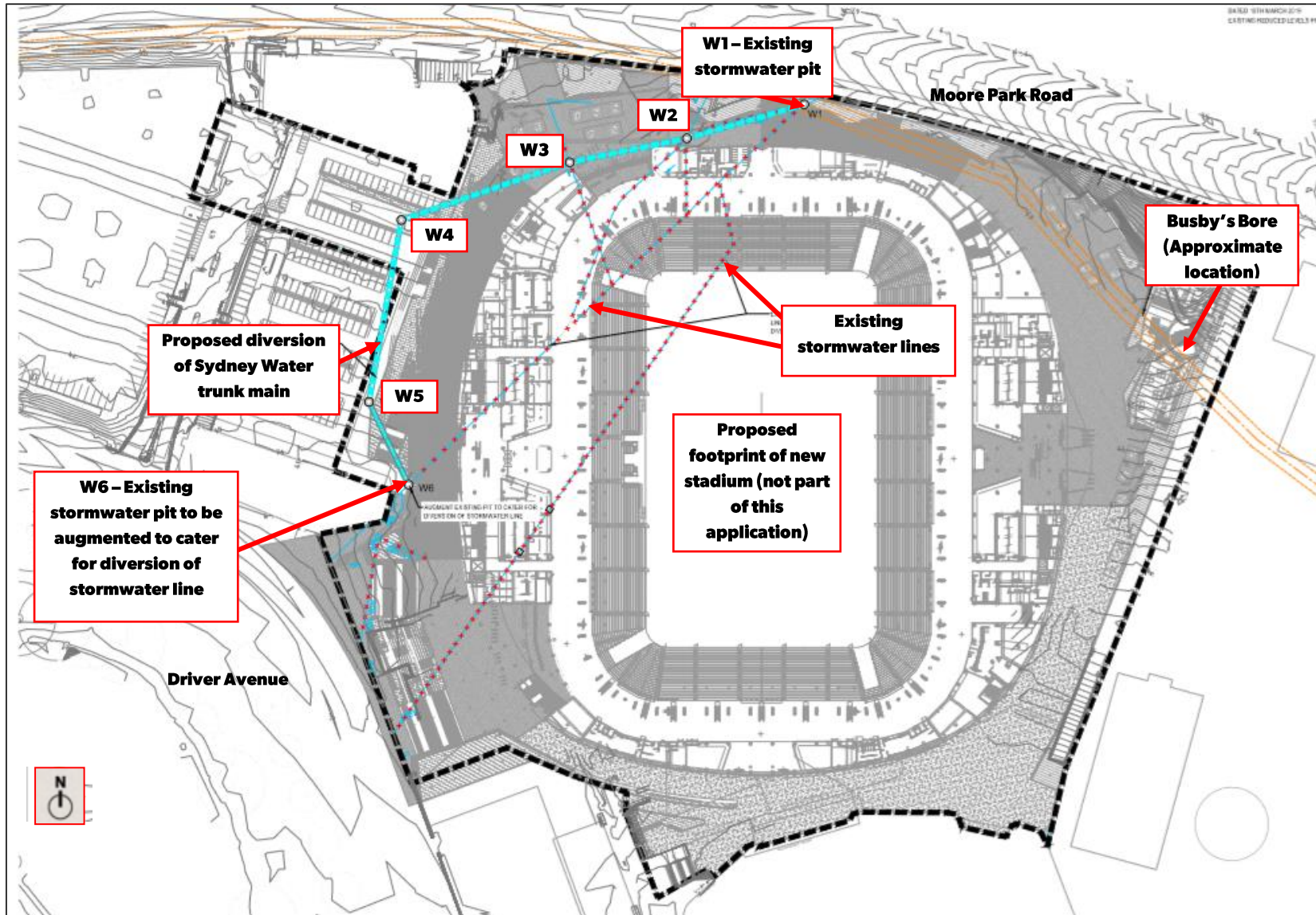


Figure 4 | Stormwater infrastructure diversion plan (Source: Applicant's Modification Report)

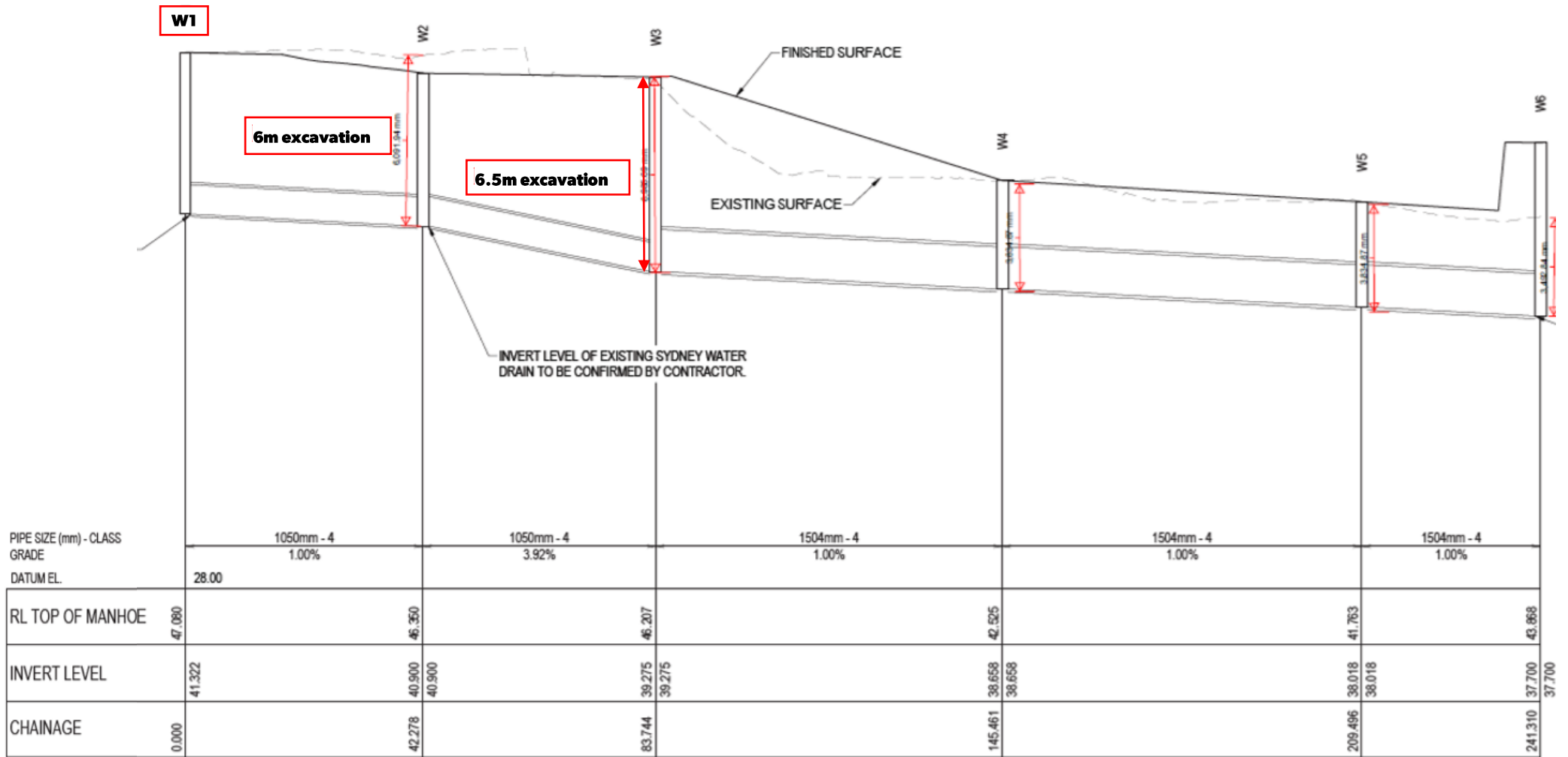


Figure 5 | Stormwater diversion – Longitudinal section (Source: Applicant’s Response to Submissions)



3. Strategic Context

The development, as modified, continues to be consistent with the following as the minor amendment to the plant species does not alter the key components or outcomes of the proposal:

- the NSW Stadia Strategy 2012 and 2015 Preliminary Sydney Cricket Ground Master Plan.
- Greater Sydney Commission's (GSC) A Metropolis of Three Cities - The Greater Sydney Plan.
- the vision outlined in the GSC Eastern City District Plan.
- the State Infrastructure Strategy 2018– 2038 Building the Momentum.
- the City of Sydney's Sustainable Sydney 2030.
- the NSW Future Transport Strategy 2056.
- the TfNSW Sydney's Cycling Future 2013.

The development, as modified, also continues to provide direct investment in the region of approximately \$674 million, which would support 30 jobs for Stage 1 demolition works and up to 300 additional operational jobs upon completion.



4. Statutory Context

4.1 Scope of Modification

The Department has reviewed the scope of the modification application and considers that the application can be characterised as a modification involving minimal environmental impacts as the proposal:

- would not significantly increase the environmental impacts of the project as approved.
- is substantially the same development as originally approved.
- would not involve any further disturbance outside the already approved disturbance areas for the project.

Therefore, the Department is satisfied the proposed modification is within the scope of section 4.55(1A) of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(1A) of the EP&A Act rather than requiring a new development application to be lodged.

4.2 Environmental Assessment Requirements

Section 4.55 of the EP&A Act requires the following matters to be assessed in respect of all applications which seek modifications to approvals (**Table 2**):

Table 2: Matters to be considered under section 4.55 of the EP&A Act

Matter	Consideration
Whether the proposed modification is of minimal environmental impact	The proposed modification seeks to vary the scope of the Stage 1 works by amending the extent of approved excavation and diverting existing stormwater pipes to avoid the infrastructure being damaged due to the demolition works. The Applicant has submitted satisfactory information to demonstrate that the proposed additional excavation is not likely to impact on historic or Aboriginal cultural heritage. The Applicant's assessment of soil contamination also demonstrates that the proposed works of ground disturbance would not require remediation of the land to mitigate soil contamination. The modification does not propose any physical changes or alter the uses envisaged under the Concept Proposal. Consequently, the proposed modification would result in minimal environmental impacts.
Whether the development to which the consent as modified relates is substantially the same development	The proposed modification does not seek to significantly amend the development. The approved development, as proposed to be modified, will remain substantially the same.
Whether notification has occurred, and any submissions have been considered	In accordance with the EP&A Act, the modification application was made publicly available on the Department's website, publicly exhibited in newspapers for 15 days, referred to City of Sydney Council (Council) and other public authorities. The

Matter	Consideration
	landowners / occupiers adjoining the site were notified of the development via letters whereby one public submission was received in the form of objection. Council initially objected to proposed modification, but subsequently withdrew the objection following consideration of the Response to Submissions. The comments / objection from the public authorities and the public submission have been considered in Section 5 and 6 of this report.
Any submission made concerning the proposed modification has been considered.	The Department's consideration of the submissions is discussed in Section 5 and 6 of this report.
Any relevant provisions of section 4.15(1) of the EP&A Act	The relevant provisions of section 4.15(1) of the EP&A Act are considered in this section and Section 6 of this report. The modification would not alter the development's existing compliance with the relevant planning instruments.
Consideration of the reasons for the granting of the consent that is sought to be modified	The Department has considered the findings and recommendations in the Department's Assessment Report for SSD-9249, including the key reasons for granting consent outlined in the Notice of Decision. The Department is satisfied that the key reasons for the granting of consent continue to be applicable to the development, as modified.

4.3 Consent Authority

The Minister for Planning and Public Spaces is the consent authority for the application under section 4.5(a) of the EP&A Act. However, under the Minister's delegation dated 11 October 2017, the Executive Director, Social and Infrastructure Assessments, may determine the application as:

- the relevant local council has not made an objection.
- a political disclosure statement has not been made.
- there are less than 25 public submissions by way of objection.

4.4 Biodiversity Conservation Act 2016

The Applicant's Environmental Impact Statement (EIS) for SSD-9249 included a Biodiversity Development Assessment Report (BDAR) in accordance with the requirements of the *Biodiversity Conservation Act 2016*. The former Office of Environment and Heritage (OEH) reviewed the proposed development in this regard and raised no concerns subject to recommended conditions. The proposed new Stage 1 works (under the modification application) would not increase impacts on the biodiversity values assessed in the BDAR.

The Department's Environment, Energy and Sustainability Group (as the former OEH) reviewed the modification application in this regard and raised no concerns or required the submission of a modified BDAR.



5. Engagement

5.1 Department's Engagement

Clause 117(3B) of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) specifies that the notification requirements of the EP&A Regulation for section 4.55(1A) applications do not apply to State significant development.

However, considering the scope of the proposed modification and the impact on the adjoining landowners, the Department exhibited the application from 30 May 2019 until 13 June 2019 inclusive (15 days) in accordance with clause 10 of Schedule 1 to the EP&A Act and clause 118 of the EP&A Regulation. The application was exhibited on the Department's website, at the NSW Service Centre and at the offices of City of Sydney Council and Woollahra Municipal Council.

The Department placed a public exhibition notice in the Southern Courier, Sydney Morning Herald, Daily Telegraph, and Wentworth Courier on Tuesday 28 May 2019 and Wednesday 29 May 2019, and notified nearby affected landholders and relevant public authorities in writing. Given that the scope of the modification was restricted to additional below ground works only, all previous submitters were not notified of the application.

Following the exhibition of the application the Department placed copies of all submissions received on its website and requested the Applicant provide a response to the issues raised in the submissions. The Department has considered the comments raised in the public authority and public submissions during the assessment of the application (**Section 6**) and by way of recommended conditions in the instrument of approval of modification at **Appendix B**.

5.2 Summary of Submissions

The Department received a total of eight submissions during the exhibition of the modification, including one objection from Council, comments from six other public authorities and one public submission in the form of objection.

Public Authority key issues

A summary of the issues raised in the public authority submissions is provided at **Table 3** below and copies of the submissions may be viewed at **Appendix A**.

Table 3 | Summary of public authority submissions to the Modification Report exhibition

City of Sydney Council (Council)

Council objected to the proposed modification based on the following concerns:

- inadequate assessment of additional impacts of construction noise on the nearby affected landowners, in particular, the nearby child care centre and educational receivers.
- unsatisfactory details regarding noise intrusive appliances to be used for excavation / removal of piles.
- predicted exceedances of the noise management levels above the background noise levels by 20dB.

Additionally, Council recommended that:

- dilapidation reports be provided for impacted properties prior to the commencement of works.
- the proposed stormwater works ensure that the demolition of buildings approved by SSD-9249 do not impact the existing stormwater servicing within the site.
- a Construction Soil and Water Management Plan be provided including details of the testing methodology for water within the detention / settling ponds prior to discharge into the stormwater infrastructure in Driver Avenue, to ensure that that the water quality meets applicable standards.
- a Dewatering Management Plan (DMP) be prepared to ensure that there are no contaminants prior to being released into the stormwater infrastructure.
- the Site Auditor's advice letter be amended to confirm that the site is suitable for the future use.
- an updated Construction Traffic and Pedestrian Management Plan be provided in consultation with the Council to ensure that that any traffic / transport impacts due to the demolition work in the surrounding road network be managed appropriately.

Council raised no concerns regarding the addendum Archaeological Impact Statement.

Environment, Energy and Science Group of the Department of Planning, Industry and Environment (former NSW Office of Environment and Heritage or OEH) (EESG)

EESG raised no concerns regarding the proposed modification application and considered that the application is unlikely to increase the impacts on the biodiversity values.

Heritage Division of the Department of Premier and Cabinet (former Heritage Division of the OEH) (Heritage Division)

Heritage Division reviewed the addendum Archaeological Impact Statement and considered that the report adequately addressed the additional impacts due to the excavation works.

Heritage Division recommended conditions to be adhered to prior to the commencement of works pursuant to the Stage 2 application.

Sydney Water

Sydney water raised no objections to the proposed diversion of the stormwater infrastructure subject to the following matters being addressed by the Applicant, prior to the commencement of the stormwater works:

- preparation of a hydraulic capacity feasibility study to demonstrate that the hydraulic capacity and performance of the existing stormwater system would not be impacted upon due to the proposed works.
- clear description of the methodology of connecting to / disconnecting the Sydney Water assets.
- preparation of an Interim operating procedure to ensure that the Applicant owns, operates and maintains the temporary stormwater assets after disconnecting the Sydney Water assets.
- preparation of risk management procedures and emergency response plan in the event of assessment and / or embankment failure or flooding.
- provision of details of backfilling any redundant pipes.
- consultation with Sydney Water, should any impacts occur on the Busby's Bore due to the proposed works.

Sydney Water advised that the Applicant has lodged applications with Sydney Water (separate to the modification application) to divert the Sydney Water stormwater infrastructure as well as regarding wastewater.

Environment Protection Authority (EPA)

The EPA provided the following comments:

- the unexpected contamination procedure in relation to soil contamination be reviewed by the appointed Site Auditor and a copy submitted with the application.
- the management plans for demolition works and waste management be reviewed by the accredited Site Auditor and any recommendations by that auditor be implemented.
- the existing underground petroleum storage system at the eastern end of the development site be managed in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014.
- the previous recommendations regarding noise management and mitigation measures be adhered to.

The EPA also requested the Applicant to confirm whether crushing of the concrete (on ground slab and piles) were proposed to be undertaken on the site.

Transport for New South Wales (Roads and Maritime Services) (former Roads and Maritime Services) TfNSW (RMS)

TfNSW (RMS) advised that the proposed modification is unlikely to have impacts on the surrounding roads.

Transport for New South Wales (TfNSW)

TfNSW advised that the Construction Pedestrian and Traffic Management Plan be updated to include the amended scope of works and be endorsed by the Coordinator General, Transport Coordination within TfNSW prior to the commencement of the relevant works.

Community key issues

The objection from the member of community raised concerns in relation to:

- the loss of 26 trees as part of the Stage 1 works.
- works being undertaken outside the standard construction hours.
- demolition of the stadium and an unsatisfactory business case from the Applicant.

Submission after close of exhibition

EESG provided an additional submission after the close of exhibition period, raising concerns regarding the following aspects of the Aboriginal cultural heritage assessment:

- no justification provided for not undertaking test excavations or salvage excavations on the site.
- inadequate test excavation methodology not complying with the relevant requirements of EESG.
- inconsistency between the Archaeological Impact Statement for Stage 1 and the Aboriginal cultural heritage assessment report (ACHAR) for Stage 2, which is currently on exhibition (SSD-9835).
- inadequate information regarding post excavation reporting.
- inadequate information regarding salvage excavation methodology and the extent of excavation to identify the significant Aboriginal objects.

The Water group of the Department of Planning, Industry and Environment (former Department of Industries) also provided comments after close of the exhibition period and raised no concerns regarding the modification application.

5.3 Response to Submissions and supplementary information

Following the exhibition of the application the Department placed copies of all submissions received on its website and requested the Applicant provide a response to the issues raised in the submissions.

On 28 June 2019, the Applicant provided a Response to Submissions (RtS) (**Appendix A**) on the issues raised during the exhibition of the proposal. The RtS outlined responses to the key issues raised in the submissions from both agencies and the public.

The RtS documentation included a copy of the unexpected finds procedure in relation to soil contamination and a letter from the Site Auditor confirming that the procedure is satisfactory. The RtS confirmed that the proposed modification does not seek consent for the future use of the land and therefore further confirmation from the Site Auditor in this regard was not necessary. The RtS also confirmed that concrete crushing was not proposed to be undertaken on site and therefore no additional mitigation measures were required.

On 12 July 2019, the Applicant submitted a supplementary Response to Submissions (SRtS) which included an addendum to the Archaeological Impact Statement in response to the concerns raised by EESG (**Appendix A**). The SRtS included additional information regarding the Aboriginal archaeological excavation methodology and salvage, additional mitigation measures and reasons for not undertaking test excavation on the site.

5.4 Submissions to RtS

The RtS and SRtS were made publicly available on the Department's website and referred to EPA, EESG and Council for comments.

EPA raised no concerns but reiterated that the unexpected finds protocol be appropriately complied with during the works and that the underground petroleum storage tank be managed. The EPA emphasised that if unexpected contamination is found during site works at levels that may pose a risk to human health or environment, the Site Auditor should be engaged to provide a Section A Site Audit Statement and accompanying Site Audit Report at the completion of works, to audit any further contamination investigations and remedial works, and to certify suitability of the land for the proposed land use.

Council commented that the RtS generally addressed their concerns expressed in the previous objection and subsequently withdrew their original objection to the modification application.

However, Council indicated that a detailed Construction Soil and Water Management Plan should be prepared prior to the commencement of the works pertaining to this modification application. The plan must include details regarding water quality testing and monitoring during construction works.

EESG raised no concerns regarding the amended information regarding Aboriginal archaeology and test excavation methods.

The Department has not placed the public authority submissions received outside the statutory exhibition period, on the website. However, the Department has reviewed all submissions and recommended appropriate conditions to address any residual issues.



6. Assessment

The Department has considered the Modification Report, the issues raised in submissions and the Applicant's RtS and SRtS in its assessment of the proposal. The Department considers the key issues associated with the proposed modification are:

- historic and Aboriginal cultural heritage.
- soil contamination.

Each of these issues is discussed in the following sections. Other matters are discussed in **section 6.3** of this report.

6.1 Historic and Aboriginal Heritage

The modification proposes the removal and disposal of the ground slabs, pavements, footings, and piles from the existing SFS. The proposed disturbance of ground due to the above works are likely to impact on the archaeological potential (both Aboriginal and historical) of the site. The Modification Report was supported by an addendum Archaeological Impact Statement (AAIS), which included an assessment of the archaeological impact of the Stage 1 works (as modified) and provided a series of recommendations regarding historical / Aboriginal archaeological monitoring and management of the unexpected finds during the works of ground disturbance. The AAIS was refined following comments from EESG during the exhibition of the Modification Report.

The impacts of the ground disturbance work on the Aboriginal and historic heritage (archaeology) and the reasons for supporting the proposed modification are discussed below.

Impacts of the proposed additional works on historic archaeology

The revised AAIS states that the site is considerably disturbed due to historic uses in six phases. Therefore, only the south-east and north-east corners of the site are considered to have **moderate** potential for a remnant historical archaeological resource (including Busby's Bore). The western section of the site has been assessed as having **very low to low** archaeological potential where extant structures are not present, and **low to nil** archaeological potential where structures are present.

Figure 6 provides the location of the piles, slabs and the stormwater infrastructure in the context of the approximate location of the Busby's Bore as well as the overall historical archaeological potential of the site.



Figure 6 | Proposed below ground works overlaid on archaeological potential of the site and Busby's Bore (Source: Applicant's Modification Report)

The Applicant's assessment of the impacts of the proposed below ground works on the historic heritage concludes that:

- the footprint of the existing SFS is a zone with no archaeological potential due to the excavation that was undertaken for the construction of the stadium in 1987. Therefore, the removal of the existing piles under the SFS footprint, are unlikely to have any historical archaeological impact on Busby's Bore or other relics, despite their proximity to the Bore. Notwithstanding, archaeological mitigation measures are recommended to be implemented during the removal of the existing piles at the north-eastern corner, near the Shafts.
- the removal of concrete slabs and paving across the remainder of the site (i.e. outside the footprint of the former stadium) have a low potential to uncover remnant historical features but should not pose direct or significant impact to any potential features, due to the minimal level of ground surface disturbance associated with these works. However, if unexpected archaeological material is encountered during the proposed development, archaeological investigation and recording would be necessary, and procedures for such should be developed.
- due to the presence of a modern concrete collar and the cast iron cover on top of the Bore Shafts, removal of the concrete slab in the vicinity would have no impact to the Bore Shafts themselves. However, mitigation measures are recommended at these locations, for implementation during slab removal.
- the trenching required for the diversion of the stormwater main would be conducted generally in an area of very low archaeological potential, with a small section in the east of the trench located within an area of low to moderate archaeological potential.
- the location of W1 in **Figure 6** marks an existing stormwater pit and it is assumed to have no archaeological potential (both the pit and immediate surrounds), due to previous works at this location. However, given that this is the area of low to moderate archaeological potential, some archaeological management would be required for this part of the new stormwater main trench. This would ensure mitigation of any potential archaeological relics or features at this location.
- mitigation measures are also required during trenching works in the vicinity of W1, to ensure that the stormwater trenching does not impact on Busby's Bore.

The recommended measures in the revised AAIS, regarding historical archaeology include:

- **unexpected finds procedure** for areas assessed to have very low to no potential for intact archaeological fabric or resources: Archaeological monitoring across these sections of the site is proposed to commence only if an unexpected archaeological resource is encountered during ground disturbance works (**Figure 7**).
- **supervision** for areas with low to moderate potential for a remnant archaeological resource or relics to be present: Archaeological monitoring would allow for the incidental recording of relics, should they be exposed through the activities. It would also ensure that works in the vicinity of Busby's Bore are undertaken with no impact to the Bore.

Historical archaeological monitoring within the SFS site are proposed be conducted according to accepted Australian Historical Archaeological Best Practice guidelines, as endorsed by the Heritage Division, under the supervision of a nominated Excavation Director. The procedure would involve: manual clean – up and excavation of exposed relics; exposure of the relic to the full extent; preparation of annotated site plans to plot the location of features photographic and written recordings as part of the salvage programme; and removal of the relic so that works can continue (**Figure 7**).

- **research questions** to provide a contemporary research framework, should any significant historical archaeological resource be encountered during excavation.



Figure 7 | Below ground works overlaid on the proposed archaeological zones (Source: Applicant's Modification Report)

During the exhibition of the Modification Report, the Heritage Division advised that due to the extensive modifications for the current stadium, the study area retains a low potential for archaeological remains associated with the former Engineers / Military Depot and the Sydney Sports Ground. The Heritage Division supported the Applicant's approach regarding the assessment of impacts and raised no concerns, subject to the appropriate implementation of the proposed historical archaeological management and mitigation measures.

The Department has carefully reviewed the Applicant's AAIS and the proposed management and mitigation measures. Based on the comments from the Heritage Division, the Department considers that the proposed ground disturbance works are unlikely to have a significant impact on the archaeological potential of the site. A satisfactory methodology is recommended by the AAIS to ensure that any significant historical archaeological resource is salvaged, recorded and removed, if identified during the works. The Department is also satisfied that the proposed removal of piles or the trenching works would not have any additional impacts on Busby's Bore. Additional conditions of consent are recommended as part of this modification application requiring the Applicant to implement suitable measures on the site, appoint an Excavation Director and develop an unexpected finds procedure in accordance with the submitted revised AAIS.

The development consent for SSD-9249 includes a number of conditions to ensure that the Bore and its Shafts are protected from noise and vibration during construction works. These conditions would be applicable to proposed additional works and would ensure protection of the State Heritage listed item.

Impacts of the proposed additional works on Aboriginal cultural heritage

The subject site is located on Tuggerah Soil Landscapes, which are a major ecological unit of Sydney, often referred to as the Botany Sands. Due to the known soil landscape identified through previous boreholes, the SFS site is registered as a PAD site in the AHIMS database ('SFS PAD', AHIMS #45-6-3645).

The submitted AAIS assesses the impacts on the Aboriginal archaeological potential of the site due to the additional ground disturbance works only. It does not include an assessment of Aboriginal cultural or social values and significance. The AAIS indicates that:

- the proposed removal of the concrete slab, footings and paving would only impact on the upper fill layers.
- the excavation to enable removal of the existing piles (1.5m below RL 39.3), would likely encounter natural soil profiles in certain sections of the building footprint.
- the trenching for stormwater diversion would involve excavation up to a depth of 6 – 6.5m and therefore encounter and impact natural soil profiles ((i.e. AHIMS #45-6-3645, SFS-PAD).

The AAIS acknowledges that due to unavailability of geotechnical data surrounding stormwater pits W4 – W6, the natural soil profiles at these locations have not been mapped. Based on the available data and the analysis of the soil, the AAIS includes an indicative natural sand profile impacts zone map (**Figure 8**). The AAIS confirms that this level of ambiguity surrounding the depths of natural soil profiles at the site can be addressed via the application of archaeological management and mitigation measures.

The AAIS includes a brief overview of the steps undertaken prior to finalising the Stage 2 ACHAR including the names of the fourteen registered Aboriginal parties (RAPs) who were consulted during the preparation of the ACHAR and would be part of on-going consultation in the future.

A letter from an archaeologist appointed by the Applicant confirms that the methodology, recommendations and management measures relating to Aboriginal archaeology and cultural heritage in the AAIS, are consistent with those prepared for the ACHAR supporting the Sydney Football Stadium Redevelopment Stage 2 application (SSD-9835). The ACHAR for SSD-9835 is appended to the Modification Report for information.



Figure 8 | Below ground works overlaid on the indicative natural sand profile impact zones (Source: Applicant's Modification Report)

During the exhibition of the Modification Report, EESG raised concerns regarding various aspects of the AAIS (discussed in **Section 5**). In response to the concerns raised by EESG, the Applicant submitted a revised addendum to the AAIS with: additional methodologies for test excavation in relation to Aboriginal archaeology; additional mitigation measures; unexpected finds procedures for skeletal remains; details of the post excavation report; and recommendations regarding a research framework.

Having regard to the scale of the additional below ground works, the revised AAIS recommends targeted Aboriginal archaeological monitoring, for the piles within the zone of natural soil profile and the stormwater trenching works. The Applicant advises that the monitoring would be undertaken under the supervision of a suitably qualified and experienced archaeologist, to be accompanied by representatives from identified project RAPs acknowledged as being cultural knowledge holders for the SFS region.

The revised AAIS states that in case intact natural sands are encountered during the archaeological monitoring phase, works would cease and test excavations (in consultation with the RAPs) would be undertaken following confirmation that the soil comprises a remnant profile. The revised test excavation methodology in the AAIS includes a combination of mechanical and hand excavation. The AAIS states that salvage archaeological expansion would be undertaken where an Aboriginal archaeological deposit is found, and hand excavation is possible.

The SRtS acknowledged that the proposed test excavation methodology for the site is not fully consistent with the relevant requirements of the EESG (Code of Practice). In response to the concerns raised by EESG, in this regard, the Applicant advised that a site-specific methodology, being a combination of mechanical and hand excavation, has been developed responding to the site context. The reasons for non-compliance with the Code of Practice include: the depth of historic fill across the site overlaying the natural soils; the low level of stability of the Botany sand profiles which may endanger workers; and the presence of water table within the natural sand profiles and the probability of seepage causing the test units to be unstable.

The SRtS advised that the excavation methodology has been undertaken in consultation with the project RAPs (in accordance with the former OEH Guidelines). Similar methodologies have been proposed and approved previously for Aboriginal archaeological test excavation for the CBD and South East Light Rail project.

The EESG have reviewed the revised AAIS and raised no further concerns regarding the Aboriginal archaeological monitoring and excavation methodology or need for test excavations.

The Department has assessed the impact on the proposed additional works on the Aboriginal archaeological potential for the site. The Department is satisfied that the Applicant has undertaken reasonable steps to investigate, monitor, excavate and salvage the significant deposits, noting the site constraints and sensitivity.

While no separate consultation has been undertaken with the RAPs for the modification application, the processes are generally consistent with the Stage 2 ACHAR which has been prepared in consultation with the RAPs. As such, the proposed works are well within the scope of the works for the Stage 2 application which would involve bulk excavation and piling to greater depths and involving more impacts.

The Department also agrees with the Applicant that excavation up to the culturally sterile soils for the purpose of this application is not necessary, as the works would not involve bulk excavation which may lead to compaction of objections underneath the impact zone.

Having regard to the assessment and comments from EESG, the Department considers that the potential impacts on Aboriginal archaeology, due to the proposed ground disturbance works, can be appropriately mitigated and managed by implementing the recommended measures in the Applicant's AAIS, in consultation

with the identified project RAPs. Additional conditions of consent, as part of this modification application have been recommended to this effect by the Department.

6.2 Soil contamination

The EIS for SSD-9249 included a Preliminary Site Investigation report (PSI) which identified that the main contamination risks on the site were associated with previous filling works and the demolition of structures prior to the construction of the existing SFS.

At the time of assessment of SSD-9249, a detailed investigation of the site was not considered necessary as demolition works were approved to the ground level only (no ground disturbance). However, the modified proposal would extend the works below the ground level and therefore consideration of soil contamination and any remediation is required. The Modification Report includes a Detailed Site Investigation Report (DSI) which concludes that:

- during investigations, detectable concentrations of the carcinogenic Polycyclic aromatic hydrocarbons (PAH), reported as Benzo(a)pyrene, were encountered in the soils. The carcinogenic PAH concentration falls within the assessment criteria for commercial sites.
- based on sampling results, it is considered that asbestos containing materials (ACM) may be encountered during site works.
- the collected groundwater samples reveal that the concentrations of Copper and Zinc are marginally above the adopted investigation levels in one sample, which is insignificant.
- the filling on the site is classified as general solid waste (non-putrescible) and this material would be disposed to a licensed landfill, if needed.
- the natural soils and rock underlying the filling can be described as virgin excavated natural material (VENM) upon excavation, provided that it is not cross-contaminated during construction activities.
- the site is suitable for its proposed continued use as a sporting stadium without the requirement for remediation, provided that unexpected finds are managed appropriately during the construction works.
- the existing underground petroleum storage system at the eastern end of the site should be managed in accordance with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014.

The Applicant has appointed an NSW Environment Protection Authority (EPA) accredited Site Auditor to conduct an audit of the DSI, who generally agreed with the Applicant's conclusions. The Site Auditor's Report concluded that the PSI and DSI have sufficiently characterised the potential contamination status of the site and that a remedial action plan is not required to be developed at this stage for the proposed development, subject to a number of recommendations including the preparation of a Construction Environmental Management Plan (CEMP) with an Unexpected Finds Procedure (UFP).

During the exhibition of the modification application, EPA commented that a copy of the UFP and the Site Auditor's review of the UFP be submitted. The EPA recommended that the Site Auditor should continue to be engaged throughout the future phases to provide: Section A Site Audit Statement on the suitability of the site; and Section B Site Audit Statement (appropriateness of the management plans).

Council also requested that the Site Auditor's Statement should confirm the site suitability for the land use.

In response to the above comments, the Applicant advised that the modification application does not seek consent for changing the approved use of the land, but only seeks to alter the scope of the Stage 1 works to ensure timely completion of the demolition activities. The Applicant's RtS included an unexpected contamination finds procedure incorporating EPA's comments and the Site Auditor's letter agreeing to the UFP.

EPA agreed with the Applicant's RtS which indicated that 'additional site audit statements' are not necessary, subject to compliance with EPA's recommendations regarding the management procedures on site and adherence to the UFP. The recommendations regarding compliance with SEPP 55, engagement of a Site Auditor throughout the duration of the works and management of the underground petroleum storage system were reiterated.

The Department has reviewed the Applicant's Modification Report, the DSI, the Site Auditor's reports and the EPA comments in detail. In the light of the conclusions of the DSI and the agreement from the Site Auditor and the EPA, the Department is satisfied that the site would not require remediation due to the level of soil contaminants present.

Subject to the implementation of the unexpected finds procedure, the ground disturbance works would not lead to any adverse environmental impacts in terms of soil contamination. As concluded in the DSI, the Department is satisfied that the proposed development as modified complies with the provisions of clause 7(1) of SEPP 55 in that it has:

- considered whether the land is contaminated.
- it has provided satisfactory evidence to justify that the land does not require remediation to be made suitable for the purpose for the for which the development is proposed to be carried out.

Given that no change of use is proposed, the Department is satisfied that no further assessment of the other subclauses in clause 7 are necessary.

6.3 Other Issues

Table 4 | Summary of other issues raised

Issue	Findings	Department's consideration and recommended condition
Construction noise and vibration	<ul style="list-style-type: none"> • The modification application is supported by a supplementary Acoustic Statement which states that excavators fitted with hammers and pulverisers would be needed for the additional works. The noise and vibration impact of these machinery have already been assessed under SSD-9249 and determined to be acceptable from a noise and vibration perspective, subject to the implementation of management and mitigation measures. • Given the above, the procedures / mitigation measures for construction noise management within the approved Construction Noise and Vibration Management Sub-Plan (CNVSMP), would be applicable to the revised scope of works. • Council reviewed the modification application and raised concerns regarding 	<ul style="list-style-type: none"> • The Department assessed construction noise and vibration impacts in detail during assessment of the Stage 1 application. The proposed trenching works and removal of the top of the piles would not require any additional noise generating equipment. • The recommended conditions in the development consent for Stage 1 (SSD-9349 Schedule 3) include the requirement for the implementation of a CNVMSP along with additional restrictions on noise management levels, monitoring procedures, respite periods, consultation requirements and submission of pre-construction and post-construction dilapidation reports. • The Department's Compliance Branch is actively monitoring the demolition

the inadequacy of the previous noise assessment report and the construction management measures already implemented on the site. Council initially objected to the proposed modification due to this reason and indicated that the noise generated by the proposed works would result in adverse impacts on the surrounding sensitive noise receivers, especially the Kira child care centre.

- Council also required that dilapidation reports be prepared prior to the commencement of works.
- EPA sought confirmation regarding the concrete crushing activities on the site and the implications of additional noise generated due to this.
- In the RtS, the Applicant confirmed that concrete crushing activities were not proposed to be undertaken on the site.
- The Applicant's RtS clarified that the daytime ambient noise level at Moore Park Road is 2dB higher than the highest predicted construction noise levels due to the demolition works with all equipment working simultaneously.
- Council or EPA did not raise further concerns regarding noise generation. Council formally withdrew their objection subject to the implementation of the recommended conditions in SSD-9249.

works to ensure that the Applicant's CNVMSP addresses the conditions of consent and the impacts on the neighbouring sensitive receivers is minimised.

- The elimination of concrete crushing would eliminate the most significant noise generating activity and would result in lesser impacts than originally assessed in the Stage 1 application.
- The Applicant has indicated that no additional machinery would be used for the proposed below ground work. Consequently, the Department is satisfied that the proposed conditions regarding vibration management and dilapidation reports would cater for the additional works. The Department has recommended an additional condition in the modified application requiring vibration monitoring (with set criteria) near Busby's Bore, as recommended by the Heritage Division.
- The Department is satisfied that subject to the implementation of the noise and vibration related conditions of SSD-9249, and the additional vibration management condition for Busby's Bore, the noise management levels would not exceed 75dB(A) and vibration impacts would be managed adequately (including the additional works).

Construction traffic

- The modification application is supported by a supplementary Transport Impact Statement which confirms that the proposed modification would not result in any increase in the daily number of vehicle movements to and from the site beyond those which have been previously assessed and determined to be acceptable under SSD-9249.
- Vehicles accessing and exiting the site for supporting the additional demolition works would continue to be regulated by the
- The Department has reviewed the proposed modification and considers that subject to no increase in the truck movements or the number of construction workers on the site, the additional works would have no additional traffic impacts on the locality.
- The Department has recommended that the CTPMP be amended to include the additional

Construction Traffic and Pedestrian Management Plan (CTPMP) which has been prepared in accordance with the requirements of the development consent for SSD-9249.

- TfNSW and TfNSW (RMS) reviewed the Modification Report and raised no concerns regarding the traffic impacts subject to the Applicant updating the approved CTPMP to reflect the additional scope of works in consultation with the Coordinator General, Transport Coordination within TfNSW.

scope of demolition and stormwater trenching works.

Stormwater diversion works

- Sydney Water has reviewed the proposed stormwater diversion works and acknowledged that the Applicant is currently consulting with the public authority regarding these works. Sydney Water raised no concerns regarding the proposed works subject to a number of reports being completed by the Applicant prior to the commencement of these works (discussed in **section 5**).
- Sydney Water also advised that these reports may be reviewed by the authority during the statutory approval process of obtaining an approval to adjust the Sydney Water Infrastructure.
- In its review of the proposed stormwater management works, Council recommended that a Dewatering Management Plan (DMP) be prepared to ensure that there are no contaminants prior to being released into the stormwater infrastructure.
- In response, the Applicant stated that this would not be required, considering the low scale of the works proposed.
- Council agreed to the Applicant's response subject to the testing of the quality of water discharging from the site into the Driver Avenue, against the applicable standards for turbidity, suspended solids and contaminants.
- Council requested that this requirement be incorporated in a Construction Soil and Water Management Plan (CSWMP).
- The Department has recommended that Sydney Water's requirements be complied with, prior to the commencement of the stormwater works as part of the "Adjustment to Sydney Water Infrastructure" approval process.
- In relation to the comments from Council, the Department notes that the development consent for SSD-9249 required the Applicant to prepare a CSWMP, prior to the commencement of works. A copy of this plan was submitted to the Department in January 2019.
- The CSWMP includes details of the water quality standards to be maintained within the sediment ponds and also states that water quality would be tested prior to discharging from the site. Details of the testing methods have not been provided in the plan.
- Consequently, the Department has recommended that the CSWMP be amended to include the following:
 - monitoring techniques of water quality within the detention / settling ponds.
 - methods for testing of the water prior to discharging from the site in relation to

suspended solids, turbidity and contaminants to ensure compliance with the Blue Book.

- certification of the water quality testing results by a suitably qualified water quality expert.

Other demolition impacts

- The other impacts of the demolition works have been considered in detail in the assessment of SSD-9249. In order to mitigate the impacts, the development consent required the preparation of a satisfactory CEMP prior to the commencement of works. The CEMP included the following sub-plans:
 - Air quality management.
 - Dust management.
 - Waste Management.
 - Hazardous materials management.
- The modified proposal does not include any works that would require additional mitigation measures on amendments to the above sub-plans.
- The Department notes that the Applicant would not conduct concrete crushing on the site. In this scenario, the dust generation would be much less than that was previously anticipated in relation to the approved Stage 1 works.
- The Department is satisfied that the available dust management measures on the site would be sufficient to cater for the air quality impacts due to the on-ground slab removal, removal of the piles and the stormwater trenching works proposed on the site.

Other issues raised in submissions

- One public submission raised concerns regarding loss of trees, works outside standard construction hours and the demolition of the stadium.
- The Applicant does not propose works outside standard construction hours or additional loss of trees under this modification application.
- These matters are not relevant to the modification application and no further assessment is considered necessary.



8. Recommendation

It is recommended that the Executive Director, Infrastructure Assessments, as delegate of the Minister for Planning and Public Spaces:

- **considers** the findings and recommendations of this report.
- **determines** that the application SSD-9249-Mod-2 falls within the scope of section 4.55(1A) of the EP&A Act.
- **forms the opinion** under section 7.17(c) of the *Biodiversity Conservation Act 2016* that a biodiversity development assessment report is not required to be submitted with this application as the modification will not increase the impact on biodiversity values of the site.
- **accepts and adopts** all of the findings and recommendations in this report and the Notice of Decision as the reasons for making the decision to grant approval to the application.
- **modify** the consent SSD-9249.
- **signs** the attached instrument of approval of the modification (**Appendix B**).

prepared by

Aditi Coomar

Principal Planner

Social and Infrastructure Assessments

Recommended by:

David Gibson

Team Leader

Social and Infrastructure Assessments

Recommended by:

Karen Harragon

Director

Social and Infrastructure Assessment



9. Determination

The recommendation is **Adopted** / Not Adopted by:

 5/8/19.

David Gainsford

Executive Director

Infrastructure Assessments



7. Evaluation

The Department has reviewed the Applicant's Modification Report, RtS, and assessed the merits of the proposal, taking into consideration advice from the public authorities, including Council. Issues raised in public submissions have been considered and all environmental issues associated with the proposal have been thoroughly addressed.

The Department is satisfied that that environmental issues associated with the proposed modification have been thoroughly addressed.

The approved Stage 1 works would not significantly change due to the proposed modification to the scope of works. The proposed modification is unlikely to impact on the environmental amenity of the surrounding area.

The Department considers that the application is consistent with the objects of the EP&A Act and continues to be consistent with strategic directions for the State.

The Department concludes that the impacts of the proposed modification are acceptable. Consequently, the Department considers the development is in the public interest and the modification application should be approved, subject to the recommendation of the additional conditions regarding Aboriginal cultural heritage management, and soil and water management during the below ground works.



Appendices

Appendix A – List of Documents

1. Modification Report

<https://www.planningportal.nsw.gov.au/major-projects/project/12241>.

2. Submissions

<https://www.planningportal.nsw.gov.au/major-projects/project/12241>.

3. Response to Submissions (RtS)

<https://www.planningportal.nsw.gov.au/major-projects/project/12241>.

4. Additional Information

<https://www.planningportal.nsw.gov.au/major-projects/project/12241>.

5. Public Authority Submissions to RtS

Provided separately (as electronic copies).

Appendix B – Instrument of Approval of Modification