

Moorebank Precinct East - Stage 2 Proposal

Non-Indigenous Heritage Assessment



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.1, State Significant
Development

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MPE Stage 2

Non-Indigenous Heritage
Assessment

Report to Arcadis

November 2016

Final for Public Display



EXECUTIVE SUMMARY

The Proposal

The Proposal involves the construction and operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities on the MPE site and upgrades to approximately 1.4 kilometres of Moorebank Avenue between the northern MPE site boundary and 120 metres south of the southern MPE site boundary.

Non-Indigenous Heritage Context

The majority of the construction and operational footprint of the MPE Stage 2 Proposal site (Proposal site) is situated within the former 'Defence National Storage and Distribution Centre' (DNSDC) (Lot 1, DP 1048263), a local heritage item listed under Schedule 5 of the *Liverpool Local Environmental Plan 2008* (LEP).

The Proposal site shares a boundary with the Australian Army Engineers Group/School of Military Engineering (SME), also a local heritage item listed under the Liverpool LEP and is within the view shed of Glenfield Farm which is listed on the LEP and State Heritage Register (SHR). There are a number of other heritage listed items in the vicinity of the Proposal site. These items have been assessed in the MPE Concept Design and MPE Stage 1 heritage assessment and as they will not be impacted by MPE Stage 2 they are not considered in this report.

Findings and recommendations

On the basis of background research and a site inspection and adhering to all statutory obligations, it is found that;

- The former DNSDC site is listed on the Liverpool LEP 2008.
- MPE Stage 2 would result in permanent direct impacts to all structures within the former DNSDC site and would remove all heritage values. The item would no longer retain its State heritage significance and would be delisted from the Liverpool LEP 2008.
- The SME is listed on the Liverpool LEP 2008. It has been approved for impacts resulting from the MPW Project which will result in a loss of heritage significance for the portion of the item which would be impacted by the MPE Proposal.

- MPE Stage 2 would result in minor impacts to the SME curtilage. These impacts would not result in loss of heritage values as the heritage values of the place will be impacted by the MPW Project, which are already assessed under separate applications and approvals.
- The MPE Stage 2 Proposal would result in minor indirect (visual) impacts to the Glenfield Farm SHR item.

In light of these findings the following measures are recommended:

- Archival recording of the entire former DNSDC site including relationships between structures and landscape has been recommended as part of MPE Stage 1. This should be completed prior to any impacts occurring within MPE Stage 2.
- Archaeological monitoring and recording should be conducted at potential archaeological deposits (PADs) V and W which have the potential to contain archaeological remains of local significance. Monitoring and recording should be undertaken by a suitable archaeologist with Excavation Director Criteria qualifications, who would assess the likely significance of any archaeological deposits encountered, and provide advice regarding appropriate further action. If highly significant remains were identified during monitoring, it might be appropriate to conduct further monitoring for additional sites of former structures or test excavations.
- A Heritage Interpretation Strategy should be prepared prior to the commencement of construction outlining appropriate interpretive measure for the Stage 2 site in the context of the MPE site as a whole.
- A Heritage Management Plan in adherence to NSW Heritage Council guidelines would be prepared as part of the Construction Environmental Management Plan (CEMP) for the MPE Stage 2 proposal.
- If unexpected finds are located during construction the NSW Heritage Council would be notified and an archaeological consultant engaged to assess the significance of the finds. Further archaeological work or recording may be recommended.

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

Concept Plan Approval (MP 10_0193) for an intermodal terminal (IMT) facility at Moorebank, NSW (the Moorebank Precinct East Project (MPE Project) (formerly the SIMTA Project)) was received on 29 September 2014 from the NSW Department of Planning and Environment (DP&E). The Concept Plan for the MPE Project involves the development of an IMT, including a rail link to the Southern Sydney Freight Line (SSFL) within the Rail Corridor, warehouse and distribution facilities with ancillary offices, a freight village (ancillary site and operational services), stormwater, landscaping, servicing, associated works on the eastern side of Moorebank Avenue, Moorebank, and construction or operation of any part of the project, which is subject to separate approval(s) under the Environmental Planning and Assessment Act 1979 (EP&A Act).

This Environmental Impact Statement (EIS) is seeking approval, under Part 4, Division 4.1 of the EP&A Act, for the construction and operation of Stage 2 of the MPE Project (herein referred to as the Proposal) under the Concept Plan Approval for the MPE Project, being the construction and operation of warehouse and distribution facilities.

This EIS has been prepared to address:

- The Secretary's Environmental Assessment Requirements (SEARs) (SSD 16-7628) for the Proposal, issued by NSW DP&E on 27 May 2016 (Appendix A).
- The relevant requirements of the Concept Plan Approval MP 10_0913 dated 29 September 2014 (as modified).
- The relevant requirements of the approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (No. 2011/6229, granted in March 2014 by the Commonwealth Department of the Environment (DoE)) (as relevant) (Appendix A).

This EIS also gives consideration to the MPE Stage 1 Project (SSD 14-6766) including the mitigation measures and conditions of consent as relevant to this Proposal.

This EIS has been prepared to provide a complete assessment of the potential environmental impacts associated with the construction and operation of the Proposal. This EIS proposes measures to mitigate these issues and reduce any unreasonable impacts on the environment and surrounding community.

The SEARs and the Concept Plan Conditions of Approval and Statement of Commitments relevant to this study, and the section of this report where they have been addressed are provided in Table 1 and Table 2 respectively.

Table 1: Secretary’s Environmental Assessment Requirements relevant to this Non-Indigenous heritage assessment

Section	Environmental Assessment Requirement	Where addressed in this report
9. Historic heritage	Including but not limited to: As assessment of the heritage impacts of the Proposal. The assessment shall: a. Consider impacts to historic heritage. For any identified impacts, the assessment shall:	
	i. include a statement of heritage impact	This report. Specifically, Section 9 (Statement of Heritage Impacts) .
	ii. be undertaken by a suitably qualified heritage consultant(s); and	Artefact Heritage Services is a team of industry-recognised professionals led by cultural heritage expert Dr Sandra Wallace. Dr Sandra Wallace, Director at Artefact has overseen this project, ensuring that all assessment and reporting meet ‘best practice’ standards and adheres to the relevant NSW legislation and guidelines. Dr Wallace has had over 13 years’ experience in cultural heritage management and archaeology. She is a member of the Australian Archaeological Association (AAA) and a full member of the Australian Association of Consulting Archaeologists (AACAI). She is also a research affiliate at the University of Sydney. Emmanuelle Fayolle co-authored this report. Emmanuelle is a Senior Consultant in Historic Heritage with several years’ experience in the heritage consulting industry and specialises in significance and impact assessments of proposed developments.
iii. Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or	This report, specifically Section 10.0 (Conclusion and recommendations).	

Section	Environmental Assessment Requirement	Where addressed in this report
	building elements on site). Note: Where historical excavation is proposed, the heritage consultant undertaking the assessment must meet the NSW Heritage Council's Excavation Director criteria	Section 10.0 (Conclusion and recommendations).

Table 2 Concept Plan conditions of approval and Statement of Commitments relevant to this study

Section	Environmental Assessment Requirement	Where addressed in this report
Conditions of approval - Historic heritage	Any future Development Application shall assess heritage impacts of the proposal. The assessment shall: b. consider impacts to historic heritage. For any identified impacts, the assessment shall: i. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site); ii. be undertaken by a suitably qualified heritage consultant(s); and iii. include a statement of heritage impact.	This report. i) Section 9 (Statement of Heritage Impacts) ii) Artefact Heritage Services is a team of industry-recognised professionals led by cultural heritage expert Dr Sandra Wallace. Dr Sandra Wallace, Director at Artefact has overseen this project, ensuring that all assessment and reporting meet 'best practice' standards and adheres to the relevant NSW legislation and guidelines. Dr Wallace has had over 13 years' experience in cultural heritage management and archaeology. She is a member of the Australian Archaeological Association (AAA) and a full member of the Australian Association of Consulting Archaeologists (AACAI). She is also a research affiliate at the University of Sydney. iii) Section 9, Table 13 Emmanuelle Fayolle co-authored this report. Emmanuelle is a Senior Consultant in Historic Heritage with several years' experience in the heritage consulting industry and specialises in significance and impact assessments of proposed developments.

Section	Environmental Assessment Requirement	Where addressed in this report
Statement of Commitments - Heritage	Preparing a Statement of Heritage Impact (SoHI) for submission to the Minister for Planning and Infrastructure as part of staged planning applications at State level.	This report, Section 9 (Statement of Heritage Impacts)
	Commencing discussions with the appropriate heritage bodies regarding the potential listing of the DNSDC site on the National Heritage List or the State Heritage Register.	DNSDC site is no longer listed on the CHL. See Appendix 1 for response from the NSW Heritage Council on potential listing on the SHR
	Preparing a Statement of Heritage impact for each stage, including the legal status of the site and advice on required actions depending on whether the site is listed or unlisted at the time that approval is sought.	Section 3, Section 6 and Section 9
	Undertaking further archaeological assessment and investigation or monitoring, where required in areas designated as having archaeological potential that would be impacted by the proposal. The SoHIs for each stage should address the archaeological potential within the development area for each stage. If any archaeological deposit or item of heritage significance is located within the Proposal site and is at risk of being impacted, the NSW Heritage Council should be notified and a heritage consultant/ archaeologist should be engaged to assess the item to determine its heritage significance.	Section 8

1.2 Overview of the Proposal

The Proposal involves the construction and operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities on the MPE site and upgrades to approximately 1.4 kilometres of Moorebank Avenue between the northern MPE site boundary and 120 metres south of the southern MPE site boundary.

Key components of the Proposal include:

- Warehousing comprising approximately 300,000m² GFA, additional ancillary offices and the ancillary freight village
- Establishment of an internal road network, and connection of the Proposal to the surrounding public road network
- Ancillary supporting infrastructure within the Proposal site, including:
 - Stormwater, drainage and flooding infrastructure
 - Utilities relocation and installation
 - Vegetation clearing, remediation, earthworks, signage and landscaping
- Subdivision of the MPE Stage 2 site
- The Moorebank Avenue upgrade would be comprised of the following key components:
 - Modifications to the existing lane configuration, including some widening
 - Earthworks, including construction of embankments and tie-ins to existing Moorebank Avenue road level at the Proposal's southern and northern extents
 - Raking of the existing pavement and installation of new road pavement
 - Establishment of temporary drainage infrastructure, including temporary basins and / or swales
 - Raising the vertical alignment by about two metres from the existing levels, including kerbs, gutters and a sealed shoulder
 - Signalling and intersection works
- Upgrading existing intersections along Moorebank Avenue, including:
 - Moorebank Avenue / MPE Stage 2 access
 - Moorebank Avenue / MPE Stage 1 northern access

- Moorebank Avenue / MPE Stage 2 central access
- MPW Northern Access / MPE Stage 2 southern emergency access

The Proposal would interact with the MPE Stage 1 Project (SSD_6766) via the transfer of containers between the MPE Stage 1 IMT and the Proposal's warehousing and distribution facilities. This transfer of freight would be via a fleet of heavy vehicles capable of being loaded with containers and owned by SIMTA. The fleet of vehicles would be stored and used on the MPE Stage 2 site, but registered and suitable for on-road use. The Proposal is expected to operate 24 hours a day, seven days per week.

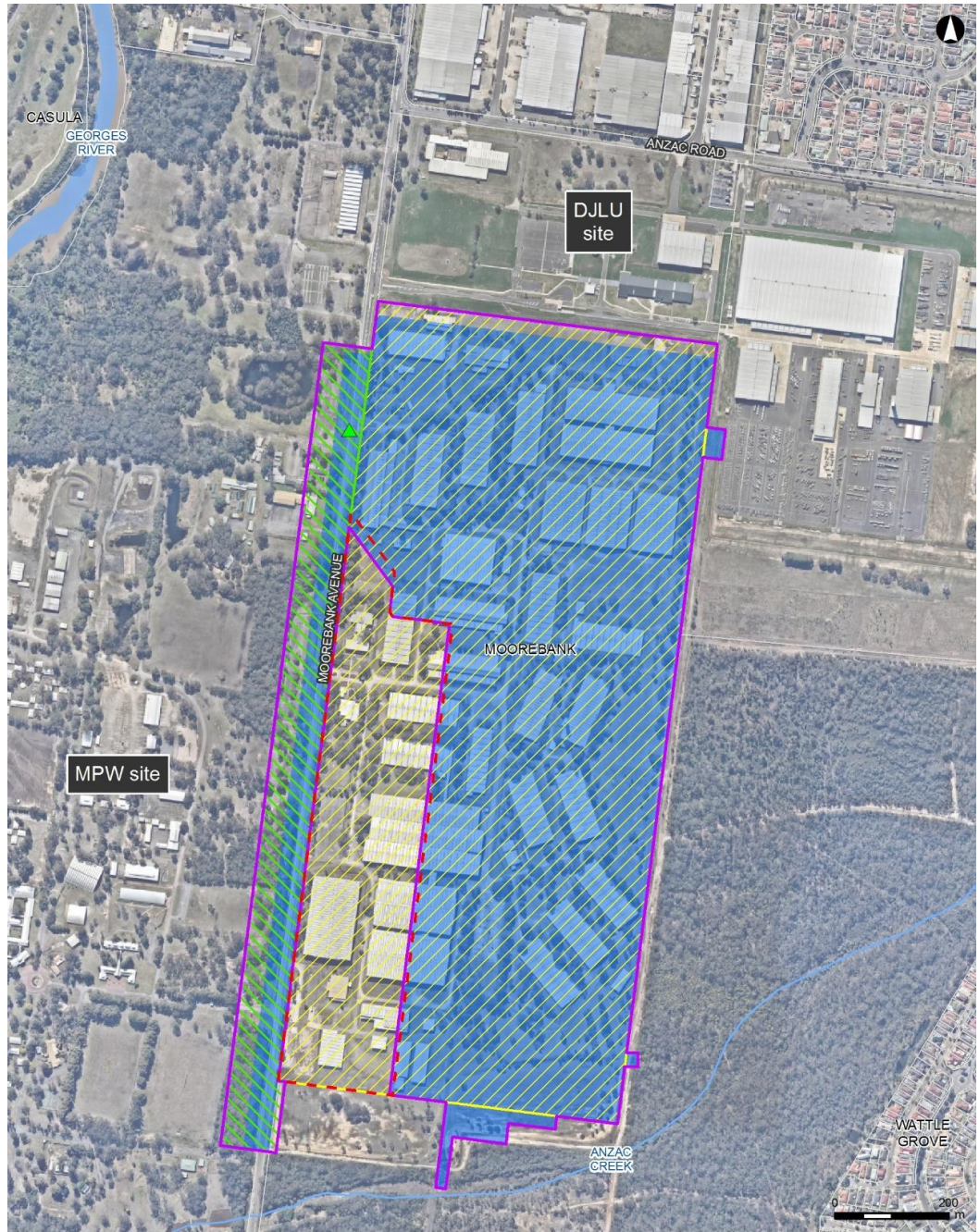
An overview of the Proposal is shown in Figure 1. To facilitate operation of the Proposal, the following construction activities would be carried out across and surrounding the Proposal site (area on which the Proposal is to be developed):

- Vegetation clearance
- Remediation works
- Demolition of existing buildings and infrastructure on the Proposal site
- Earthworks and levelling of the Proposal site, including within the terminal hardstand
- Drainage and utilities installation
- Establishment of hardstand across the Proposal site, including the terminal hardstand
- Construction of a temporary diversion road to allow for traffic management along the Moorebank Avenue site during construction (including temporary signalised intersections adjacent to the existing intersections) (the Moorebank Avenue Diversion Road)
- Construction of warehouses and distribution facilities, ancillary offices and the ancillary freight village
- Construction works associated with signage, landscaping, stormwater and drainage works.








Construction works associated with signage, landscaping, stormwater and drainage works. The Proposal would operate 24 hours a day, 7 days a week.

The footprint and operational layout of the Proposal are shown on Figure 1. More information relating to the construction and operation of the Proposal is provided Chapter 4 of the MPE Stage 2 EIS.

Figure 1 Overview of the Proposal



LEGEND

-  MPE site
-  MPE Stage 1 operational area
-  MPE Stage 2 operational area
-  MPE Stage 2 construction area
-  Moorebank Avenue Upgrade
-  Site access
-  Lot boundary
-  Watercourse

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1.3 Key terms relevant to the Proposal

Table 3 provides a summary of the key terms relevant to the Proposal, which are included throughout this report.

Table 3 Summary of key terms used throughout this document

Term	Definition
General terms	
The Moorebank Precinct	Refers to the whole Moorebank intermodal precinct, i.e. the MPE site and the MPW site
Moorebank Precinct West (MPW) Project (formerly the MIC Project)	The MPW Intermodal Terminal Facility as approved under the MPW Concept Plan Approval (SSD_5066) and the MPW EPBC Approval (No. 2011/6086).
Moorebank Precinct West (MPW) site (formerly the MIC site)	The site which is the subject of the MPW Concept Plan Approval, MPW EPBC Approval and MPW Planning Proposal. The MPW site does not include the rail link as referenced in the MPW Concept Plan Approval or MPE Concept Plan Approval.
Moorebank Precinct East (MPE) Concept Plan Approval (formerly the SIMTA Concept Plan Approval)	MPE Concept Plan Approval (SSD_0193) granted by the NSW Department of Planning and Environment on 29 September 2014 for the development of former defence land at Moorebank to be developed in three stages; a rail link connecting the site to the Southern Sydney Freight Line, an intermodal terminal, warehousing and distribution facilities and a freight village.
Moorebank Precinct East (MPE) Project (formerly the SIMTA Project)	The MPE Intermodal Terminal Facility, including a rail link and warehouse and distribution facilities at Moorebank (eastern side of Moorebank Avenue) as approved by the Concept Plan Approval (MP 10_0913) and the MPE Stage 1 Approval (14_6766).
Moorebank Precinct East (MPE) Site (formerly the SIMTA Site)	Including the former DSND site and the land owned by SIMTA which is subject to the Concept Plan Approval. The MPE site does not include the rail corridor, which relates to the land on which the rail link is to be constructed.
Statement of Commitments (SoC)	Recommendations provided in the specialist consultant reports prepared as part of the MPE Concept Plan application to mitigate environmental impacts, monitor environmental performance and/or achieve a positive environmentally sustainable outcome in respect of the MPE Project. The Statement of Commitments have been proposed by SIMTA as the Proponent of the MPE Concept Plan Approval.

Term	Definition
MPE Stage 1 specific terms	
Rail Corridor	Area defined as the 'Rail Corridor' within the MPE Concept Plan Approval.
Rail Link	The rail link from the South Sydney Freight Line to the MPE IMEX Terminal, including the area on either side to be impacted by the construction works included in MPE Stage 1.
MPE Stage 1	Stage 1 (14-6766) of the MPE Concept Plan Approval for the development of the MPE Intermodal Terminal Facility, including the rail link at Moorebank. This reference also includes associated conditions of approval and environmental management measures which form part of the documentation for the approval.
MPE Stage 1 site	Includes the MPE Stage 1 site and the Rail Corridor, i.e. the area for which approval (construction and operation) was sought within the MPE Stage 1 Proposal EIS.
MPE Stage 2 specific terms	
MPE Stage 2 Proposal/the Proposal	The subject of this EIS, Stage 2 of the MPE Concept Plan Approval including the construction and operation of 300,000m ² of warehousing and distribution facilities on the MPE site within the Moorebank Precinct.
MPE Stage 2 site/Proposal site	The area within the MPE site which includes all areas to be disturbed by the MPE Stage 2 Proposal (including the operational area and construction area). The MPE site includes the former DSND site and the land owned by SIMTA which is subject to the MPE Concept Plan Approval. The MPE site does not include the rail corridor, which relates to the land on which the rail link is to be constructed.
Construction area	Extent of construction works, namely areas to be disturbed during the construction of the MPE Stage 2 Proposal (the Proposal).
Operational area	Extent of operational activities for the operation of the MPE Stage 2 Proposal (the Proposal).

1.4 Report authorship

Senior Heritage Consultant Emmanuelle Fayolle and Director Dr Sandra Wallace prepared this report.

2.0 SITE DESCRIPTION

2.1 Regional context

The MPE site, including the Proposal site, is located approximately 27 km south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany. The MPE site is situated within the Liverpool Local Government Area (LGA), in Sydney's South West subregion, approximately 2.5 km from the Liverpool City Centre.

The MPE site is located approximately 800 m south of the intersection of Moorebank Avenue and the M5 Motorway. The M5 Motorway provides the main road link between the MPE site, and the key employment and industrial areas within Sydney's West and South-Western subregions, the Sydney orbital network and the National Road Network. The M5 connects with the M7 Motorway to the west, providing access to the Greater Metropolitan Region and NSW road network. Similarly the M5 Motorway is the principal connection to Sydney's north and north-east via the Hume Highway. The regional context of the Proposal is shown on Figure 2.

2.2 Local context

The Proposal site is located approximately 2.5 km south of the Liverpool City Centre, 800 m south of the Moorebank Avenue/M5 Motorway interchange and one kilometre to the east of the SSFL providing convenient access to and from the site for rail freight (via a dedicated freight rail line) and for trucks via the Sydney Motorway Network.

The land surrounding the Proposal site comprises:

- The MPW site, formerly the School of Military Engineering (SME), on the western side of Moorebank Avenue directly adjacent to the MPE site (subject to the MPW Concept Plan Approval), which is owned by the Commonwealth;
- The East Hills Rail Corridor to the south of the MPE site, which is owned and operated by Sydney Trains;
- The Holsworthy Military Reserve, to the south of the East Hills Rail Corridor, which is owned by the Commonwealth; The Boot Land, to the immediate east of the MPE site between the eastern site boundary and the Wattle Grove residential area, which is owned by the Commonwealth.
- The southern Boot Land, to the immediate south of the MPE site between the southern site boundary and the East Hills Rail Corridor, which is owned by the Commonwealth.

Glenfield Waste Services, south-west of the Proposal is proposing to develop a Materials Recycling Facility on land owned by the Glenfield Waste Services Group within the boundary of the current landfill site at Glenfield. The facility is proposed to recycle a maximum of 450,000 tonnes of material per year. The Glenfield Waste Services Proposal is the subject of a DA (SSD_6249) under Part 4, Division 4.1 of the EP&A Act.

A number of residential suburbs are located in proximity to the Proposal site. The approximate distances of these suburbs to the MPE Stage 2 site and the Moorebank Avenue site are provided in Table 4 below.

Table 4 Distance to residential suburbs from the Proposal site

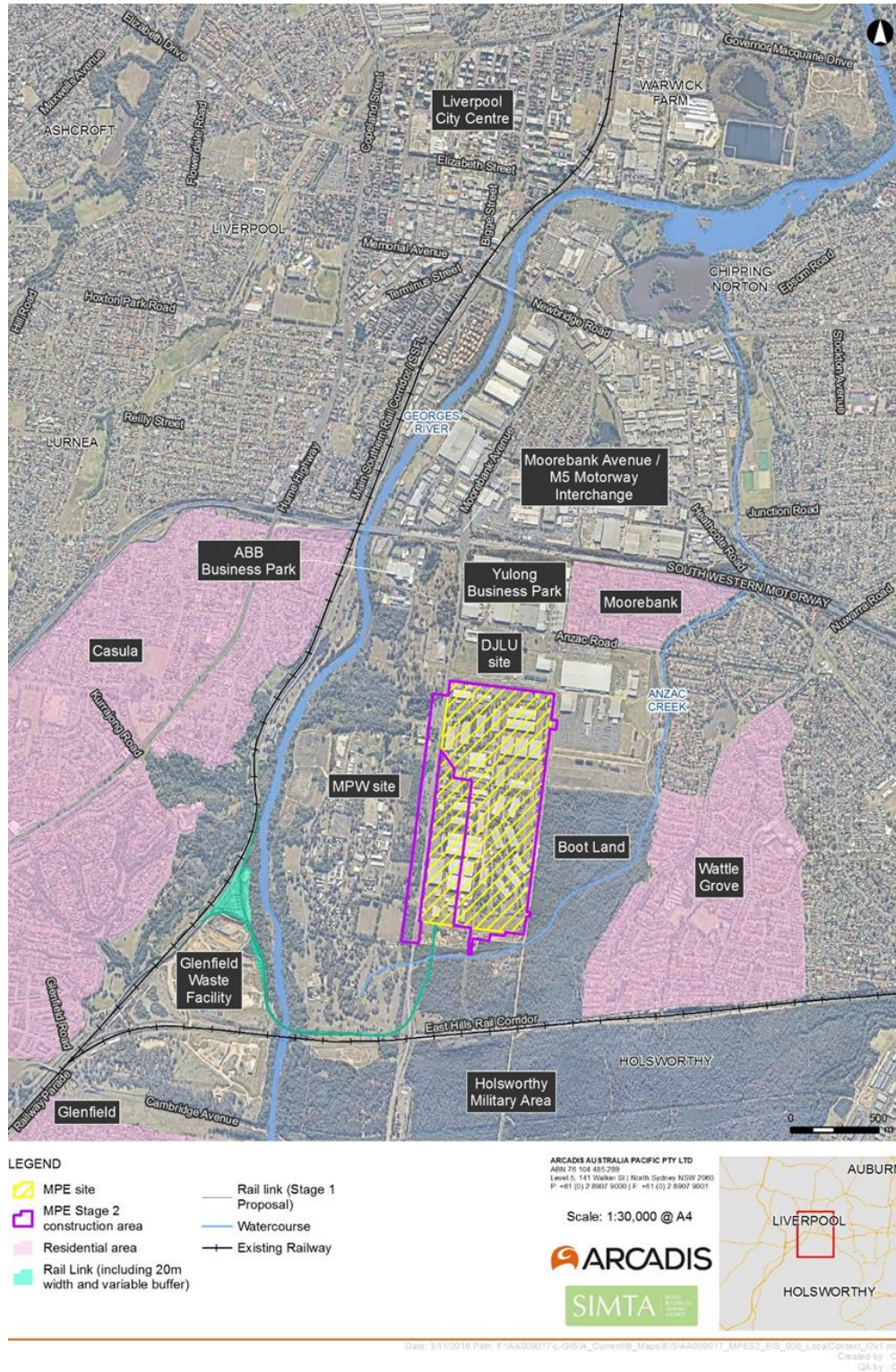
Suburb	Distance to MPE Stage 2 site	Distance to Moorebank Avenue site
Wattle Grove	360 m to the north-east	865 m to the north-east
Moorebank	1300 m to the north	1430 m to the north
Casula	820 m to the west	760 m to the west
Glenfield	1830 m to the south-west	1540 m to the south-west

The closest industrial precinct to the Proposal is at Moorebank, comprising around 200 hectares of industrial development. This area includes (but is not limited to) the Yulong and ABB sites to the south of the M5 Motorway and the Goodman MFive Business Park and Miscellaneous industrial and commercial development to the north of the M5 Motorway. The majority of this development is located to the north of the M5 Motorway between Newbridge Road, the Georges River and Anzac Creek. The Moorebank Industrial Area supports a range of industrial and commercial uses, including freight and logistics, heavy and light manufacturing, offices and business park developments.

There are other areas of industrial development near the Proposal at Warwick Farm to the north, Chipping Norton to the north-east, Prestons to the west and Glenfield and Ingleburn to the south-west.

The local context of the Proposal is shown on Figure 2.

Figure 2: The local context of the Proposal



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3.0 LEGISLATIVE FRAMEWORK

3.1 Commonwealth legislation

3.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. These are defined in the EPBC Act as matters of national environmental significance. Under the EPBC Act, nationally significant heritage items are protected through listing on the Commonwealth Heritage List or the National Heritage List.

According to the EPBC Act, a person must not take an action that has, will have, or is likely to have, a significant impact on any of the matters of environmental significance without approval from the Australian Government Minister for the Environment (the Minister). An action is defined as a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things. If a proposed action is likely to have a significant impact on a nationally significant heritage item, a referral must be made to the Minister to seek approval.

EPBC Approval (No. 2011/6229) for the MPE Project was granted in March 2014 for the impact of the MPE Project the DNSDC site and Commonwealth land (sections 26 and 27A of the EPBC Act).

The former DNSDC site, within which the Proposal is largely located, is no longer listed on the Commonwealth Heritage List as it is no longer leased by Defence, and is therefore no longer protected under the EPBC Act.

3.2 State legislation

3.2.1 Heritage Act 1977

The NSW *Heritage Act 1977* (the Heritage Act) is the primary item of State legislation affording protection to items of environmental heritage (natural and cultural) in NSW. Under the Heritage Act, items of “environmental heritage” include places, buildings, works, relics, moveable objects and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. State significant items are listed on the NSW State Heritage Register (SHR) and are given protection under the Heritage Act against any activities that may damage an item or affect its heritage significance.

The Heritage Act also protects 'relics', which can include archaeological material, features and deposits. Section 4(1) of the Heritage Act (as amended 2009) defines 'relic' as follows:

“relic means any deposit, artefact, object or material evidence that:

(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

(b) is of State or local heritage significance.”

Section 139[1] of the Heritage Act states that:

“A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.”

Permits to disturb or excavate 'relics' are issued by the NSW Heritage Council or a Delegate of the NSW Heritage Council under Section 140 (for relics not protected by an SHR listing) or Section 60 (for relics protected by an SHR listing) of the Heritage Act. Exemptions to these permits may be applicable under certain conditions.

The Heritage Act also requires all government agencies to identify and manage heritage assets in their ownership and control. Under Section 170 of the Heritage Act, government instrumentalities must establish and keep a register which includes all items of environmental heritage listed on the SHR, in an environmental planning instrument, or which may be subject to an interim heritage order that are owned, occupied or managed

by that government body. Under Section 170A of the Heritage Act all government agencies must also make sure that all items entered on its register are maintained with due diligence in accordance with State Owned Heritage Management Principles approved by the Minister on advice of the NSW Heritage Council.

The closest SHR listed item to the Proposal site in Glenfield Farm to the west of the Georges River.

There are no s170 listed items within, or within the vicinity of, the Proposal site.

3.2.2 Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land use planning and development consent process. The EP&A Act requires that environmental impacts are considered before land development; including impacts on cultural heritage items and places as well as archaeological sites and deposits. As impacts to heritage items are proposed, the EIS would inform approvals under the EP&A Act.

The EP&A Act also requires that local governments prepare planning instruments (such as LEPs and Development Control Plans [DCPs]) in accordance with the EP&A Act to provide guidance on the level of environmental assessment required. The current Proposal site falls within the boundaries of the Liverpool LGA and is within the area covered by the Liverpool LEP (2008) and Liverpool DCP (2008). As the Proposal is seeking approval under Part 4, Division 4.1 of the EP&A Act, the Minister is not obliged to consider LEP or DCP requirements. For completeness, the heritage provisions of these local planning instruments are outlined below and their application will be fully considered as part application for planning approval at State level.

3.3 Local Government legislation

3.3.1 Liverpool Local Environmental Plan 2008 (Liverpool LEP)

The aim of the Liverpool LEP in relation to heritage, as stated in section 1.2 (g) is to conserve, protect and enhance the environmental and cultural heritage of Liverpool. The LEP lists items of heritage significance within the LGA and specifies conditions of development consent within heritage listed area.

The Proposal site is listed on the Liverpool LEP as the DNSDC site. The Proposal also extends into the curtilage of the School of Military Engineering, also listed on Schedule 5 of the Liverpool LEP as an item of local heritage significance.

3.3.2 Liverpool Development Control Plan 2008

The Liverpool Development Control Plan (DCP) aims to conserve the heritage significance of heritage items and heritage conservation areas of Liverpool including associated fabric, setting, curtilage and views, and to conserve archaeological sites (DCP Part 1 page 69). The DCP states that development applications relating to heritage items or places in the vicinity of a heritage item, require a Statement of Heritage Impact (SoHI) (DCP Part 1 page 70). It also addresses the importance of setting, stating that development in the vicinity of a heritage item should retain significant views to and from the item, retain original landscaping, and provide an adequate area around the place to allow interpretation of the item (DCP page 73). Principals of heritage management as outlined in the DCP are considered in this assessment.

4.0 ASSESSMENT METHODOLOGY

This section describes the methodology used to prepare this non-Indigenous heritage assessment. The non-Indigenous heritage assessment for the Proposal included the following key components:

- Heritage register search
- Documentary research
- Site survey
- Review of previous reports
- Significance assessment
- Heritage impact assessment

The assessment has followed the NSW Heritage Division publications *Assessing Historical Significance*, *Assessing Significance for Historical Archaeological Sites and Relics* (NSW Heritage Branch, 2009) and *Statement of Heritage Impact* (NSW Heritage Office, 2002).

4.1 Heritage register search

Searches of relevant non-Indigenous heritage registers and databases was undertaken to confirm that the non-Indigenous heritage items identified in the Concept Plan EIS were still relevant to the Proposal, and to identify if there have been any additional items of non-Indigenous heritage significance included on any of these registers that should be considered as part of this assessment.

Searches were undertaken of the following registers:

- National Heritage List.
- Commonwealth Heritage List.
- State Heritage Register.
- State Heritage Inventory.
- Section 170 Registers.
- Liverpool Local Environmental Plan 2008.
- Liverpool Development Control Plan 2008.

4.2 Documentary research and review of previous reports

The historical background provided in Section 5.0 has been summarised from a series of primary maps, plans and newspapers in combination with secondary sources.

Documentary research to investigate the general history of the locality, the history of the Proposal site and of identified heritage items within it was conducted using the following libraries and archives:

- Liverpool Library, Local Studies Collection.
- National Library of Australia Maps and newspaper articles (accessed through <http://www.nla.gov.au/digicoll/maps.html> and <http://trove.nla.gov.au/ndp/del/search?adv=y> respectively)
- NSW Land and Property Information online maps, including Parish Maps and historic aerial photographs via the historic lands records viewer (<http://images.maps.nsw.gov.au/pixel.htm>) and spatial information exchange (<https://maps.six.nsw.gov.au/>)
- National Archives of Australia.
- Australian War Memorial digital collection (<http://www.awm.gov.au/search/collections/>).

In addition, a review of previously prepared reports prepared by Artefact Heritage for the MPE Project was undertaken to gather background information relevant to the Proposal. Reports that were reviewed included:

- *MPE Concept Plan EA Non-Indigenous Heritage Assessment* (Artefact Heritage dated 5 June 2013)
- *MPE Stage 1 EIS Non-Indigenous Heritage Assessment* (Artefact Heritage dated 17 April 2015).

Both of these reports were prepared for Arcadis Australia Pacific Pty Ltd (Arcadis, previously Hyder Consulting) on behalf of the Sydney Intermodal Terminal Alliance (SIMTA).

4.3 Site survey

A pedestrian and vehicle survey for the non-Indigenous heritage assessment was undertaken by Emmanuelle Fayolle of Artefact Heritage on 21 June 2016, focussing on buildings within the Proposal site. The Proposal site for the non-Indigenous heritage assessment of the Proposal comprises the MPE Stage 2 construction and operational footprints, as shown in Figure 1.

Internal access to WWII-era buildings was restricted during the site survey and as such, inspections that were undertaken were based on the external features of buildings within the Proposal site. Photographs were taken throughout the Proposal site as part of the site survey (external aspects only, internal areas not accessible).

As part of the construction of the MPE Stage 1 Project, five local heritage listed structures would be demolished. The heritage listed buildings to be demolished in MPE Stage 1 are: three WWII timber post and beam stores buildings (Building No. 6, 10 and 11) and two WWII crane serviced composite timber and steel stores buildings (Building No. 7 and 9) as referenced in section 7.1. The non-Indigenous heritage impacts associated with the demolition of these structures was assessed in the *SIMTA Intermodal Terminal Facility Stage 1 Non-Indigenous Heritage Assessment* (Artefact Heritage, 2015).

It is therefore assumed for the purpose of this non-Indigenous heritage assessment that these buildings are no longer present on the Proposal site, and as a result will not be assessed as part of this non-Indigenous heritage assessment.

4.4 Assessments of heritage significance

Assessments of significance were undertaken for non-indigenous heritage items potentially impacted by the Proposal to determine why particular sites are important from a heritage perspective, and to provide appropriate mitigation measures, where necessary. Cultural significance is defined in the Australia International Council on Monuments and Sites Charter (ICOMOS) for the conservation of places of Cultural Significance (the Burra Charter) as “aesthetic, scientific or social value for past, present or future generations”. Cultural significance may be derived from a place’s fabric, association with a person or event, or for its research potential. The significance of a place is not fixed for all time. What is of significance now may change as similar sites are located, more historical research is undertaken and community tastes change (ICOMOS (Australia), 2013).

Linking this non-Indigenous heritage assessment with a site's historical context has been developed through the NSW Heritage Management System and is outlined in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001), part of the NSW Heritage Manual (NSW Heritage Office and the NSW Department of Urban Affairs and Planning, 1996). *Assessing Heritage Significance* established seven evaluation criteria (which reflect four categories of significance and whether a place is rare or representative) under which a place can be evaluated in the context of State of local historical themes. Similarly, a heritage site can be significant at a local level (i.e. to the people living in the vicinity of the site), at a State level (i.e. to all people living within NSW) or be significant to the country as a whole and be of National significance.

An item would be considered to be of State (or local) heritage significance if, in the opinion of the Heritage Council of NSW, it meets one or more of the following heritage assessment criteria:

- **Criterion A (Historical significance):** An item is important in the course or pattern of the NSWs area's cultural or natural history
- **Criterion B (Associative significance):** An item has strong or special associations with the life or works of a person, or group of persons, of importance in the NSWs/the local areas cultural or natural history
- **Criterion C (Aesthetic significance):** An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSWs (or the local area)
- **Criterion D (Social significance):** An item has strong or special association with a particular community or cultural group in NSWs (or the local area's) for social, cultural or spiritual reasons
- **Criterion E (Research potential):** An item has potential to yield information that will contribute to an understanding of NSWs (or the local area's) cultural or natural history
- **Criterion F (Rarity):** An item possesses uncommon, rare or endangered aspects of NSWs (or the local area's) cultural or natural history
- **Criterion G (Representative):** An item is important in demonstrating the principal characteristics of a class of NSWs (or the local area's) cultural or natural places; or cultural or natural environments.

Significance assessments have been taken from the MPE Stage 1 assessment for heritage listed items located within or near the Proposal that may be impacted, including the former DSND site, School of Military Engineering and Glenfield Farm.

The Heritage Council requires the assessment of significance for an item to be summarised into a single paragraph, known as a Statement of Significance. The Statement of Significance is then used as the basis for impact assessment and future management.

4.5 Statements of Heritage Impact

A Statement of Heritage Impact (SoHI) evaluates and explains how a proposed development, rehabilitation or land use change affects the heritage value of a non-Indigenous heritage sites and/or places. A SoHI should address how the non-Indigenous heritage value of a site/place can be conserved or maintained, or enhanced by the proposed works.

This non-Indigenous heritage impact assessment has been prepared in accordance with the NSW Heritage Office and Department of Urban Affairs and Planning's NSW Heritage Manual and the NSW Heritage Office's Statements of Heritage Impact (NSW Heritage Office, 2002). These guidelines include a series of questions which have been used in this assessment to aid in the consideration of impacts to heritage items in the vicinity of the Proposal.

5.0 HISTORICAL BACKGROUND

5.1 Early settlement at Liverpool

The first land parcels in the Liverpool area were granted in 1798. In 1810, Governor Macquarie founded Liverpool and named it after the Earl of Liverpool. The road connecting Liverpool to Sydney was completed in 1813 and settlement grew rapidly. The rich soils on the floodplain of the Georges River provided for a growing agricultural industry. In the 1860s many small farmers moved away from the river after a particularly large inundation and the area became open to larger scale agriculture including dairy farming. Up until the mid-twentieth century agriculture co-existed with suburban areas in the Liverpool region.

5.2 Military development at Liverpool

5.2.1 Phase 1: Pre-WWI

The association of military activities with the Liverpool district began in the early 1800s, when soldiers were stationed in the area to provide protection to early settlers and to oversee convict work gangs. A military barracks was constructed at the corner of George and Moore Streets (Graham Brooks and Associates 2001:8).

During the early 1900s, the area north of the MPE site hosted several military training camps. These were held annually as part of the 'Easter Encampments', a training programme which also involved camps at Paddington and Goulburn (*The Sydney Morning Herald* (SMH) 27/3/1906:6). By 1907, a military camp had been established on the eastern side of the Georges River, with a rifle range further south. The land which is currently occupied by the MPE site formed part of this large camp which also included portions of the MPW site and an area to the north, adjacent to the Georges River (Graham Brooks and Associates 2001:8).

In January 1910, manoeuvres were held at the Liverpool camp for the inspection of Lord Kitchener, who was visiting Australia to give advice regarding the development of the national defence forces (Graham Brooks and Associates 2001:8).

The Daily Telegraph described the area used for the manoeuvres:

“The camp was pitched upon the paddocks to the left of the railway station on the ground that has been similarly occupied in recent years and which is nearly all included in the military manoeuvre area which the Commonwealth Government is endeavouring to secure ... the training ground embraces a stretch of country extending from Liverpool, on the southern line, across Heathcote on the Illawarra system, and it provides not only very fair opportunities for moving large bodies of troops in tactical exercises, but also has within its limits well equipped ranges for artillery and infantry shell and ball practice.” (*The Daily Telegraph* 7/1/1910:7)

Kitchener recommended that large, central training grounds should be established in each State (SMH 19/2/1910:12). His visit resulted in the acquisition of large areas of land around Liverpool by the Government, for use as permanent military training camps. The land was resumed in stages over the following years and included the acquisition of 883 acres near Holsworthy in 1912 for the establishment of a Remount Depot and a Veterinary Hospital for horses, followed by 16,868 acres in 1913 to the north of the Proposal site (Graham Brooks and Associates 2001:4).

5.2.2 Phase 2: WWI and Interwar

By 1913, the Liverpool camp accommodated 2,000 troops in tents (SMH 3/1/1913:10), and during WWI it became the main training centre in New South Wales. In a plan dated to 1915 (Figure 3), Liverpool Camp is shown located between the Georges River and Moorebank Avenue, extending around 1.5 kilometres south from Illawarra Road, which was located in roughly the same position as the present Newbridge Road. To the east of the camp was an area marked ‘Stores’, which encompassed the northern part of the current MPE site, while east of the storage area, outside the MPE site was a rifle range.

Initially, new recruits were encamped in long lines of tents on the eastern bank of the river to the north of the MPE site, though these had been replaced with huts by the end of 1916 (Figure 4). A detailed plan of the camp from July 1917 (Figure 5) shows that it was well established and included a large number of huts, kitchens, and mess buildings, as well as a saw mill, four church buildings, a post office, bank, power house, Y.M.C.A building, hospital buildings, nurses’ quarters, and buildings for the Salvation Army and the Red Cross. Units that trained at the camp during the WWI included the Engineer and Field Mining companies, the field hospital, infantry and reinforcement units, and the artillery and light horse units.

Figure 4: Accommodation huts, Oct 1916 (Source: AWM, ID No: C01205)

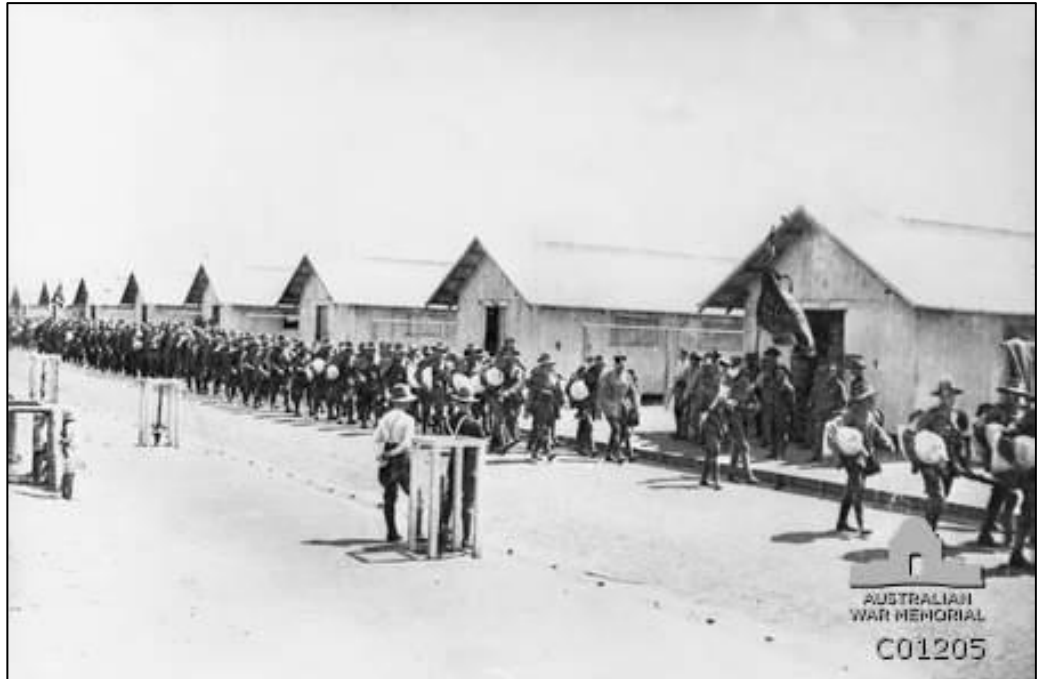
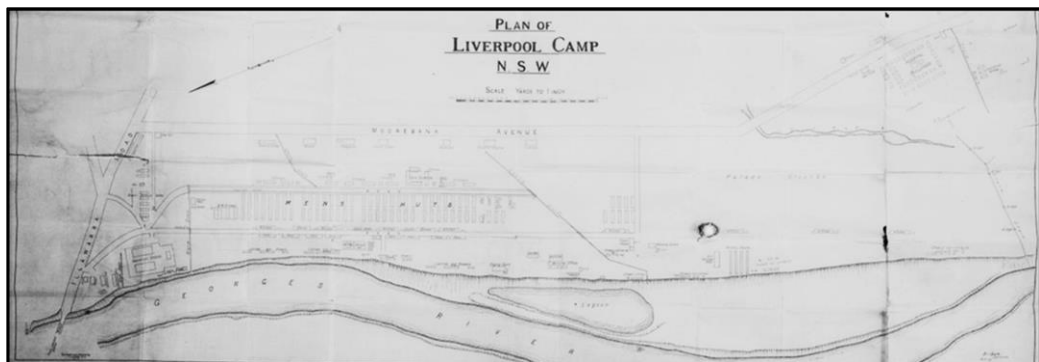


Figure 5: Plan of Liverpool Camp, 1917 oriented north (Source: Liverpool City Council <http://ebranch.liverpool.nsw.gov.au/electronicbooks/Subdivisionplans.pdf>)



The Remount Depot established at Holsworthy in 1912 approximately four kilometres south-east of the Liverpool camp was responsible for purchasing, breaking in, and caring for military horses. Initially, it mainly supplied horses for artillery and transport, but during WWI it provided mounts for the enlisted Light Horsemen who came from other parts of NSW and Queensland to enrol, train, and embark from Sydney. By 1914, a Veterinary Section was also established at Holsworthy, to care for the horses (Figure 6) (Ludlow & Snowden 1991:64-5).

Also located at Holsworthy was a large internment camp for 'enemy aliens' and prisoners-of-war, which became known as the German Concentration Camp. The area occupied by the camp was never clearly defined, but measured approximately 1.5 kilometres by one kilometre, and was located south of the Remount Depot and Veterinary Section (Godden Mackay Logan 1995:2/1).

Figure 6: 1917 plan showing Liverpool camp, the Remount Depot, the Veterinary Section, and the Holsworthy internment camp located north of the MPE site (Source: Ludlow & Snowden 1993:56)



Internees from the German Concentration Camp assisted in the construction of new railway lines to link the different military establishments at Liverpool and Holsworthy (Ludlow & Snowden 1993:62). The Government wanted the new lines to service the Liverpool camp, the Artillery Range to its east, ordnance and ammunition stores two miles from the main camp, the Remount Depot, Veterinary Section, and German Concentration Camp (Ludlow & Snowden 1993:60). Construction of the line began in February 1917 and was completed in January 1918, with additional sidings added in the following years. First the Ordnance Store Siding opened in April 1919, followed by the Ammunition Stores Siding on Anzac Road, opened in October 1920 (Ludlow & Snowden 1993:60-1). These rail sidings were located to the north of the MPE site. The facilities at Liverpool and Holsworthy continued to be used for military training during the interwar years, although on a much reduced scale.

5.2.3 Phase 3: WWII

The beginning of WWII necessitated the nation-wide expansion of sites associated with defence training, manufacture, and storage. In the Liverpool area there was an enormous expansion of army installations, with about 40,000 troops in-training at Liverpool, Holsworthy, and Ingleburn (Department of Defence 'History of the 5th Brigade' http://www.army.gov.au/HQ5BDE/Unit_History.asp. Accessed: 16/7/11)

The School of Military Engineering (SME) was established to the south of Liverpool camp in 1939, immediately after the declaration of war. During the war 7,450 students were trained at the school (Liverpool Library Local Studies pamphlet *'The Army at Liverpool'*). By 1943, the area of Liverpool camp between the Georges River and Moorebank Avenue accommodated the Armoured Fighting Vehicle Trade Training Centre (AFVTTC), and the Australian Electrical and Mechanical Engineers (AEME), while a sub depot had been established on the southern corner of Moorebank Avenue and Anzac Road to the north-west of the MPE site (Figure 7 and Figure 8).

In September 1943, it was proposed that Ordnance Stores should be established at Moorebank for the 5th Australian Base Ordnance Depot (5 Aust. BOD) and by December a plan for the proposed layout of the Ordnance Depot had been drawn up. In January 1944, urgent approval was sought for the construction of four of the proposed storehouses (Numbers 10, 11, 12 and 13) due to a shortage of storage facilities in the area (*Letter from Quarter-Master General 11/1/44*, NAA: SP459/1, 420/7/1153).

Approval was granted in February, and these buildings formed the first construction phase of the depot, now known as the DNSDC (*Letter from Quarter-Master General 16/2/44*, NAA: SP459/1, 420/7/1153). A plan from April 1944 (Figure 11) shows the proposed layout of the completed depot, which was to include:

- 17 stores (400' x 150' in size).
- Two crane served stores (400' x 150') (for example see Figure 10).
- 19 offices attached to each store (40' x 20').
- One transit store (500' x 83'4").
- Office acc. inside transit store.
- One cinematograph store (60' x 40').
- Two inflammable stores (100' x 50').
- 20, 000 square feet of equipment shelters.
- One traffic control building (18' x 17'8").
- One strong room (50' x 50').
- One Depot Administration building in three blocks (135'4" x 111' combined size).
- One combined garage, service station, fire station, P.O.L store, Tpt office (97' x 25').
- One SW guard house (60' x 20').
- One case making building (3,750 square feet).
- Seven men's latrines.
- Three AWAS latrines.
- Three AWAS latrines and rest rooms

It was intended that the depot would have an ongoing role in peace-time as well as war-time (*Letter from Colonel Garnsey 5/4/44*, NAA: SP459/1, 420/7/1153).

Figure 7: Detail of No. 1 Sub depot on corner of Anzac Rd and Moorebank Avenue 16/9/43 to the north-west of the MPE site (Source: NAA: SP459/1, 420/7/1153)

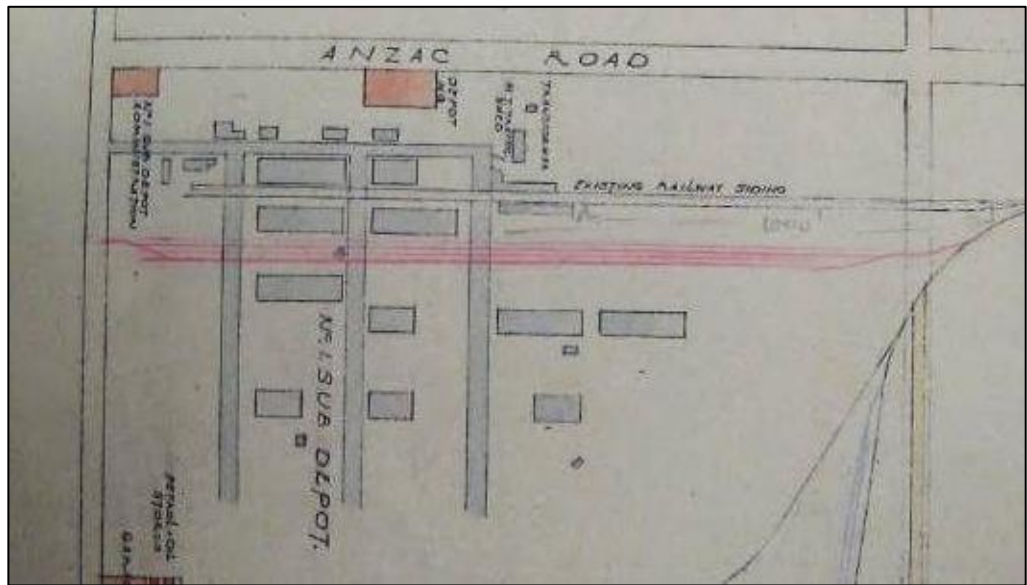
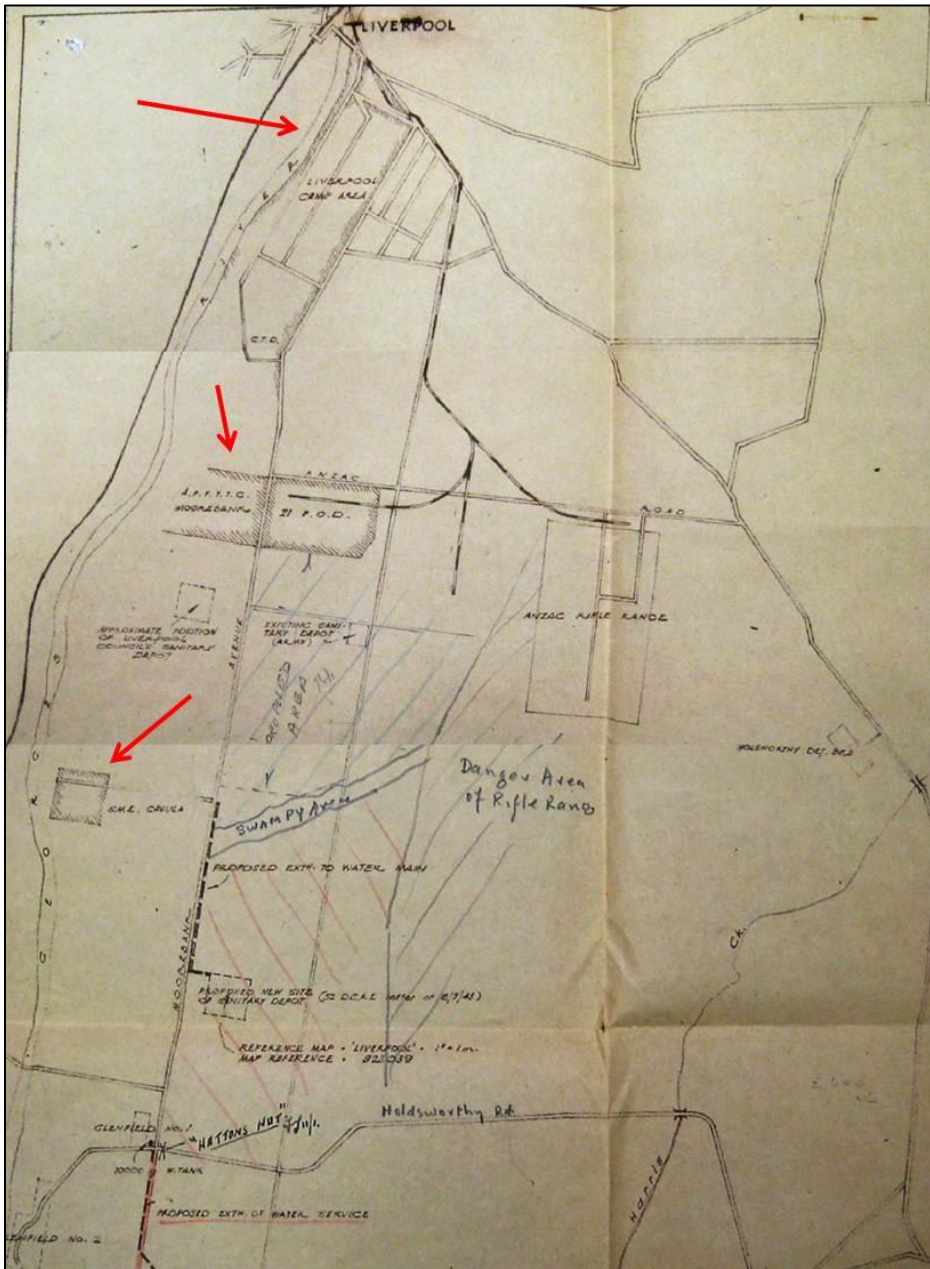


Figure 8: Plan of Liverpool military area 6/10/1943. Red arrows indicate the Liverpool camp area (top), the AFVTTC base (centre) and the School of Military Engineering (bottom) (Source: NAA: SP459/1, 420/7/1153)



In April 1944, the AFVTTC transferred to the Ingleburn army camp. The vacated Liverpool camp buildings to the west of Moorebank Avenue were then used to accommodate the personnel of 5 Aust. BOD, as well as the 8th Australian Advanced Workshops of the AEME, who had been transferred from Bathurst. By 1945, the Australian Women's Army Service (AWAS) was also housed there (NAA: SP459/1, 420/7/1153).

Figure 9: 5th Aust. BOD exterior view of No. 9 Bulk (Crane Served) Technical Store Shed, 23/1/46 (Source: AWM, ID No. 124623)

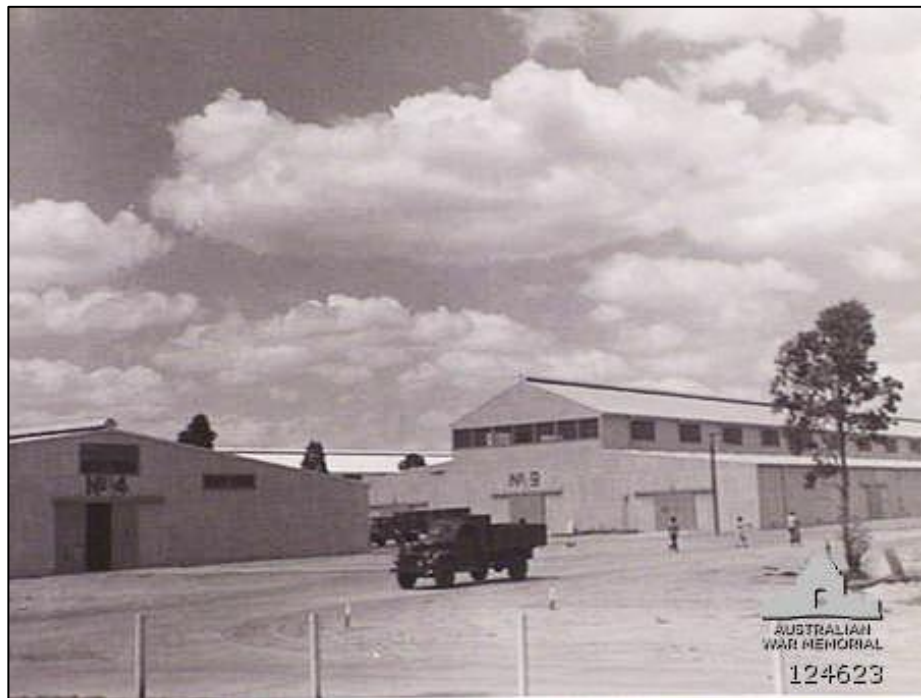
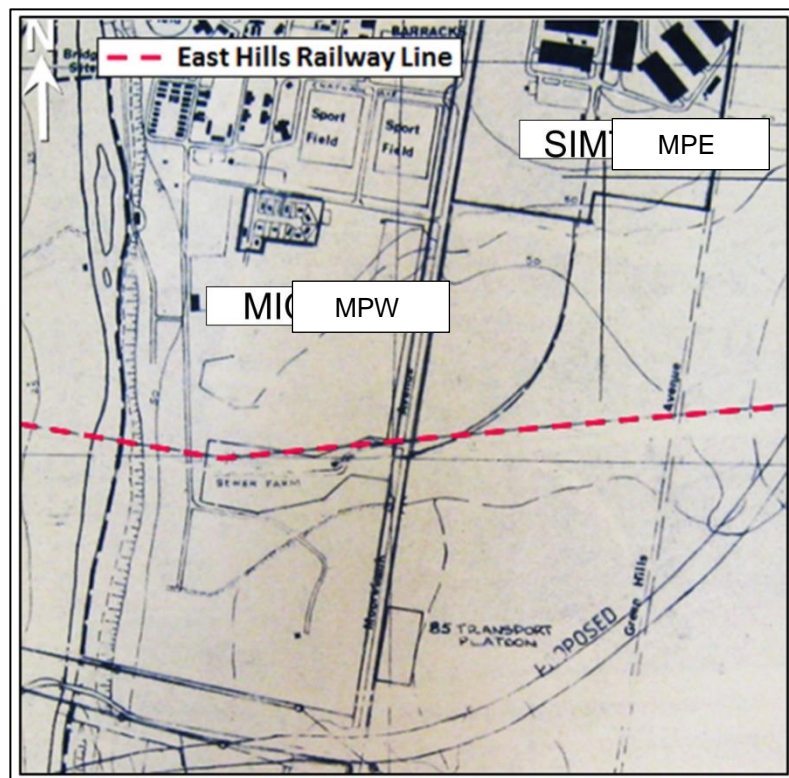
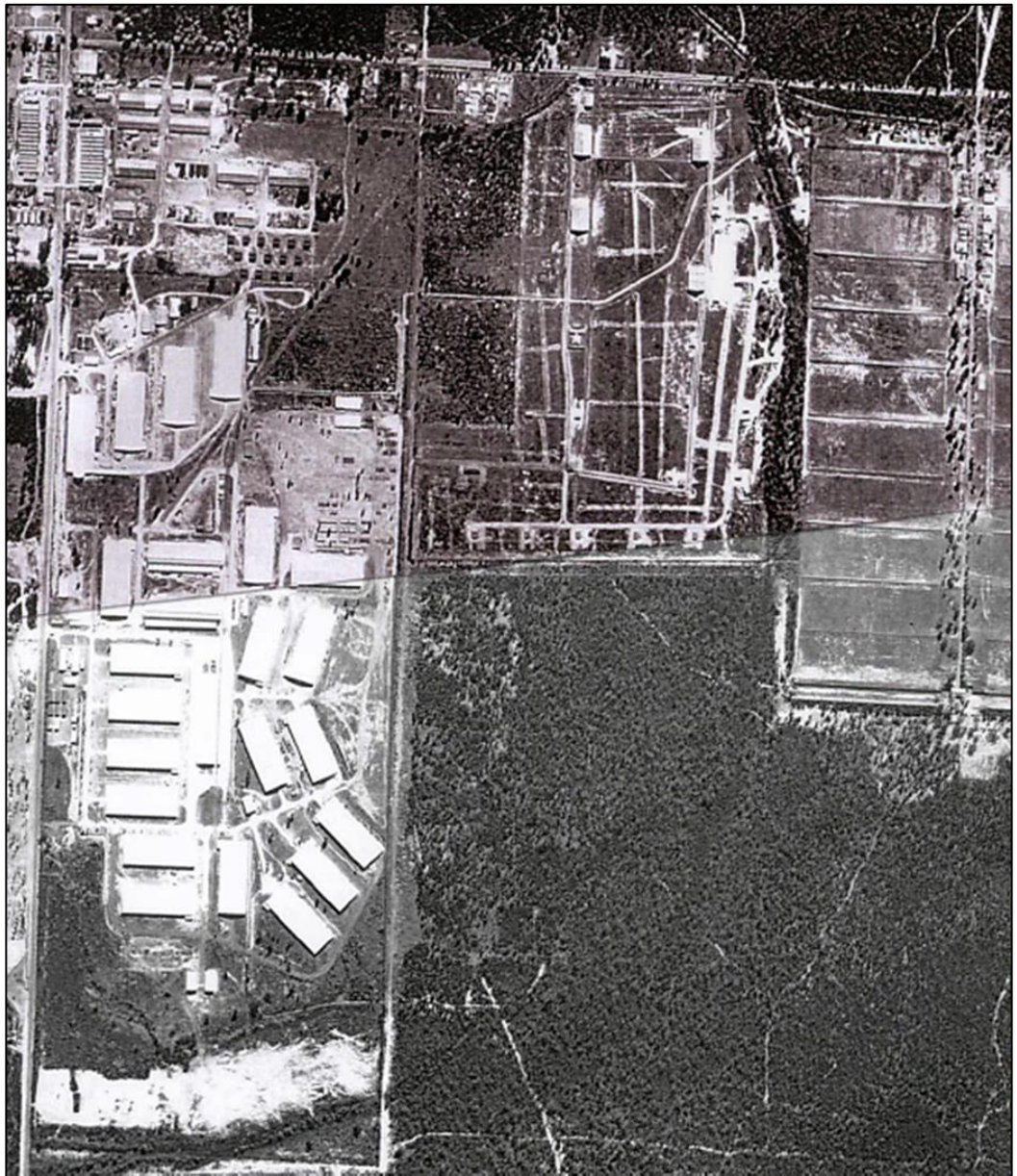


Figure 10: Detail of plan dating to 1967 showing former sewer farm at the southern end of the SME site (National Archives C4177/FOLDER64).



**Figure 12: Aerial photograph showing the Ordnance Depot/DNSDC in 1951
(Source: Graham Brooks and Associates 2001:9)**



5.2.4 Phase 4: Late 20th Century

Aerial photographs of the MPE site show that little change occurred at the site between the late 1940s and early 1990s. In the early 1990s, the site became the DNSDC as part of a reorganisation of defence supply services and warehousing arrangements. During the refurbishment of the DNSDC, five of the original 20 store buildings were demolished and replaced with larger modern buildings. One of these buildings is located in the south-east section of the Proposal site (Building 16, Figure 11).

Various WWII structures situated in the Proposal site were demolished during this time. Their locations are marked in Figure 14. The remaining 15 WWII store buildings were retained and reclad c.1990. Modern steel sheeting replaced the original asbestos walls and new concrete floors were laid (Graham Brooks and Associates 2001:8). The Stage 2 Proposal site comprises 15 of these store buildings made of timber post and beam or composite timber and steel construction. This includes the Quarter Master's store and the carpentry workshop.

Modern ancillary buildings including administrative buildings, workshops and amenities were constructed throughout the complex around the time that the WWII buildings were restored, c. 1990. Altogether, 12 large modern warehousing structures were constructed within the MPE site. In addition, several ancillary structures were also erected. The Stage 2 area includes 8 of these later warehouses as well as other later ancillary buildings. These structures have varying functions.

5.2.5 Phase 5: Recent years

In recent times, Defence's lease for the DNSDC site, owned by SIMTA as a consortium of Qube Holdings and Aurizon Holdings, ceased and the site has been vacated by Defence. As a result of the Department of Defence vacating the former DNSDC site, the site is no longer included on the Commonwealth Heritage List.

5.3 Historical themes

The 'Assessing Heritage Significance' guidelines included in the *NSW Heritage Manual* (NSW Heritage Office 2001) highlight the importance of the relationship between a site and its historical context in the assessment process. The NSW Historical Themes were developed by the Heritage Council of NSW to connect local issues to the broader history of NSW and provide a context in which the heritage assessment criteria can be applied.

A consideration of these themes can aid in assessing the potential research significance of an archaeological site (Table 4)

Table 5 Historical Themes

Theme	NSW Theme
Governing	Defence
Developing local, regional and national economies	Industry
Developing local, regional and national economies	Transport

The MPE site, including standing structures and potential archaeological evidence, may provide information regarding Australia's military response during WWII (NSW theme governing). Such information could relate to processes of manufacture, transport and storage, as well as the process of planning and constructing a major ordnance depot (NSW theme industry and transport).

6.0 HERITAGE LISTED ITEMS

This section will include descriptions of listed items that are to be impacted by the proposal. There are a number of other heritage listed items in the vicinity of the Proposal site, however these items have been assessed in the MPE Concept Design, MPE Stage 1 heritage assessment, and MPW Project and as they will not be impacted by MPE Stage 2 Proposal they are not considered in this report.

6.1 Commonwealth Heritage List

The Commonwealth Heritage List (CHL), established under the EPBC Act, is a list of natural, Indigenous and historic heritage places which are either entirely within a Commonwealth area, or outside the Australian jurisdiction and owned or leased by the Commonwealth or a Commonwealth Authority. These include places connected to defence, communications, customs and other government activities that also reflect the development of the nation.

The Proposal site, was formerly listed on the CHL. However, upon termination of Defence's lease of the site, the Commonwealth Heritage Listing expired and the MPE site is no longer protected under the EPBC Act.

6.2 National Heritage List

A new national heritage system was established under the EPBC Act on 1 January 2004, which led to the introduction of the National Heritage List. The National Heritage List was designed to recognise and protect places of outstanding heritage value to the nation. It includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation.

There are no sites included on the National Heritage List which are within or near the Proposal site.

6.3 Section 170 Registers

Section 170 of the Heritage Act requires government agencies to keep a register of heritage items for which the agency or statutory body owns or occupies. These registers are known as a State Agency Heritage Register, a Heritage & Conservation Register or a S.170 Register.

Searches of the Sydney Water, Roads and Maritime Services (Roads and Maritime) and Sydney Trains Section 170 registers were undertaken as part of this non-Indigenous heritage assessment. No Section 170 listed items were identified within or near the Proposal site.

6.4 The State Heritage Register

The SHR is a list of places and objects of particular importance to the people of NSW and is administered by the Heritage Division of the NSW Office of Environment and Heritage (OEH). The register lists a diverse range of over 1,500 items in both private and public ownership. To be listed, an item must be deemed to be of heritage significance for the whole of NSW.

The closest item listed on the SHR to the Proposal is Glenfield Farm (SHR_0025), which is south-west of the Proposal site, on the western side of the Georges River and not considered to be impacted by the Proposal.

6.5 Liverpool Local Environmental Plan 2008

Items listed as being of local heritage significance in Part 1 of Schedule 5 of the Liverpool LEP are afforded protection under the provisions of Liverpool LEP. The Liverpool LEP includes a number of maps which show the location of these items within the Liverpool Local Government Area (LGA). The former Defence National Storage and Distribution Centre, which is located on the MPE site, has been recently (gazetted on 18 September 2015) listed as an item of local heritage significance (item 57A, "Defence National Storage and Distribution Centre) under the Liverpool LEP. The Proposal would also directly impact the curtilage of the School of Military Engineering (SME) (also referred as in the Liverpool LEP as the Australian Army Engineers Group). The SME is located on the western side of Moorebank Avenue and immediately north, east and south of the Proposal.

Glenfield Farm is also listed on the Liverpool LEP as an item of State significance.

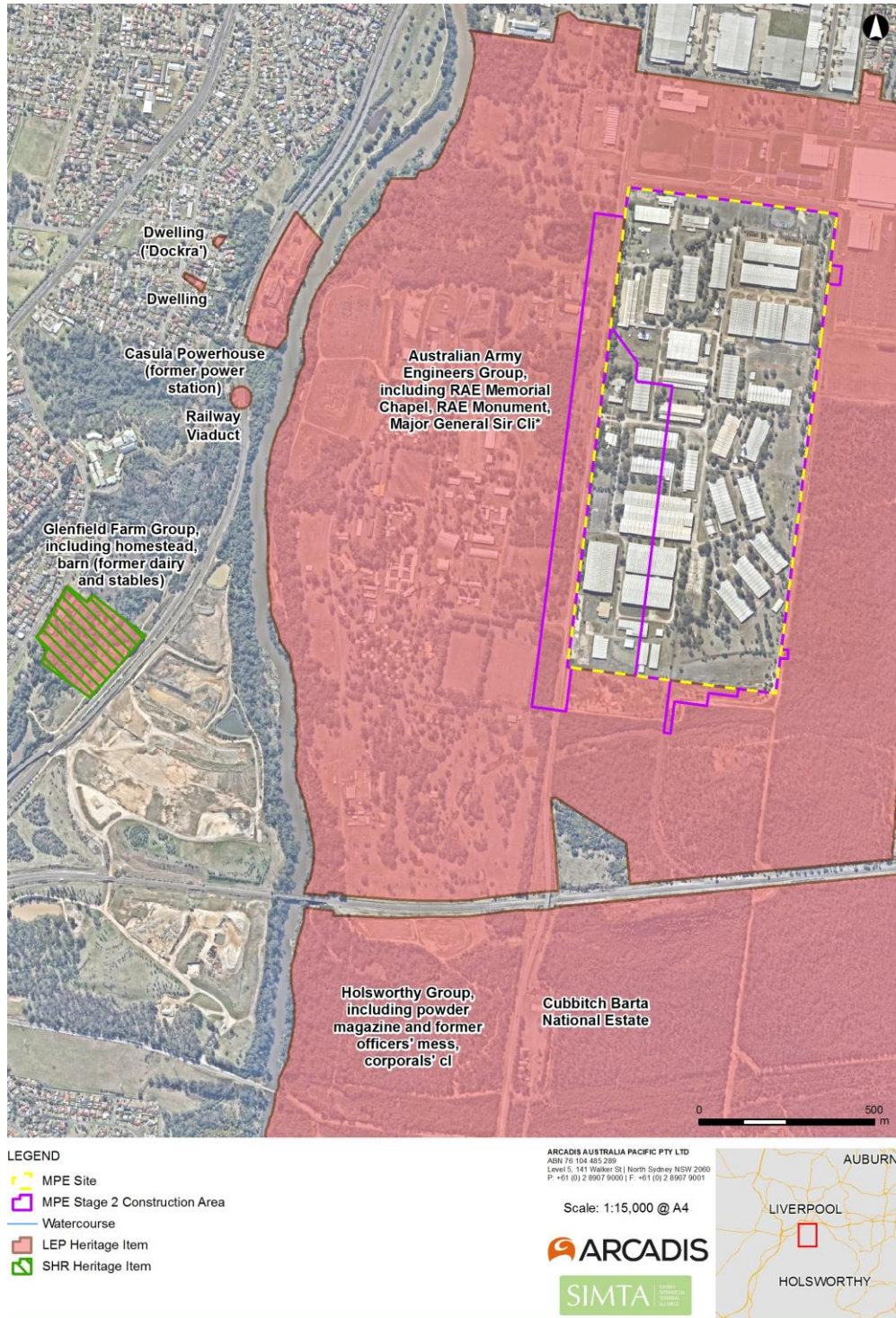
A summary of the Liverpool LEP listings is provided in Table 5.

Table 6: Heritage items listed on the Liverpool LEP listing

Suburb	Item	Address	Property Description	Significance	Relationship to Proposal site	LEP Item number
Moorebank	Defence National Storage and Distribution Centre	Moorebank Avenue	Lot 1, DP 1048263	Local	Within the Proposal site	57A
Moorebank	Australian Army Engineers Group/ School of Military Engineering (SME)	Moorebank Avenue	Lots 3001–3005, DP 1125930	Local	Within the Proposal site to the west of Moorebank Avenue	57
Casula	Glenfield Farm	88 Leacocks Lane	Part Lot 1 and 2 DP 1126484	State	Proposal within the viewshed of the item	14

Figure 13 shows the area of the Stage 2 Proposal in relation to locally-listed heritage items.

Figure 13: Listed heritage items



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7.0 HERITAGE ASSESSMENT

This section will include descriptions of listed items that are to be impacted by the proposal. There are a number of other heritage listed items in the vicinity of the Proposal site, however these items have been assessed in the MPE Concept Design, MPE Stage 1 heritage assessment, and MPW Project and as they will not be impacted by MPE Stage 2 Proposal they are not considered in this report.

7.1 Defence National Storage and Distribution Centre

7.1.1 Description

The site has accommodated storage for military purposes since 1915, with the establishment of the nearby Liverpool camp along the banks of the Georges River during WWI (refer to Figure 3, Figure 4 and Figure 5). Ordnance Stores were proposed to be established at the former DNSDC site in 1943 for the 5th BOD. In January 1944, approval was sought for the construction of four of the proposed 18 storehouses, Numbers 10, 11, 12 and 13 – of which 10, 11 and 13 remain today. It was intended that the depot would have an ongoing role in peace-time as well as war-time (*Letter from Colonel Garnsey 5/4/44, NAA: SP459/1, 420/7/1153*).

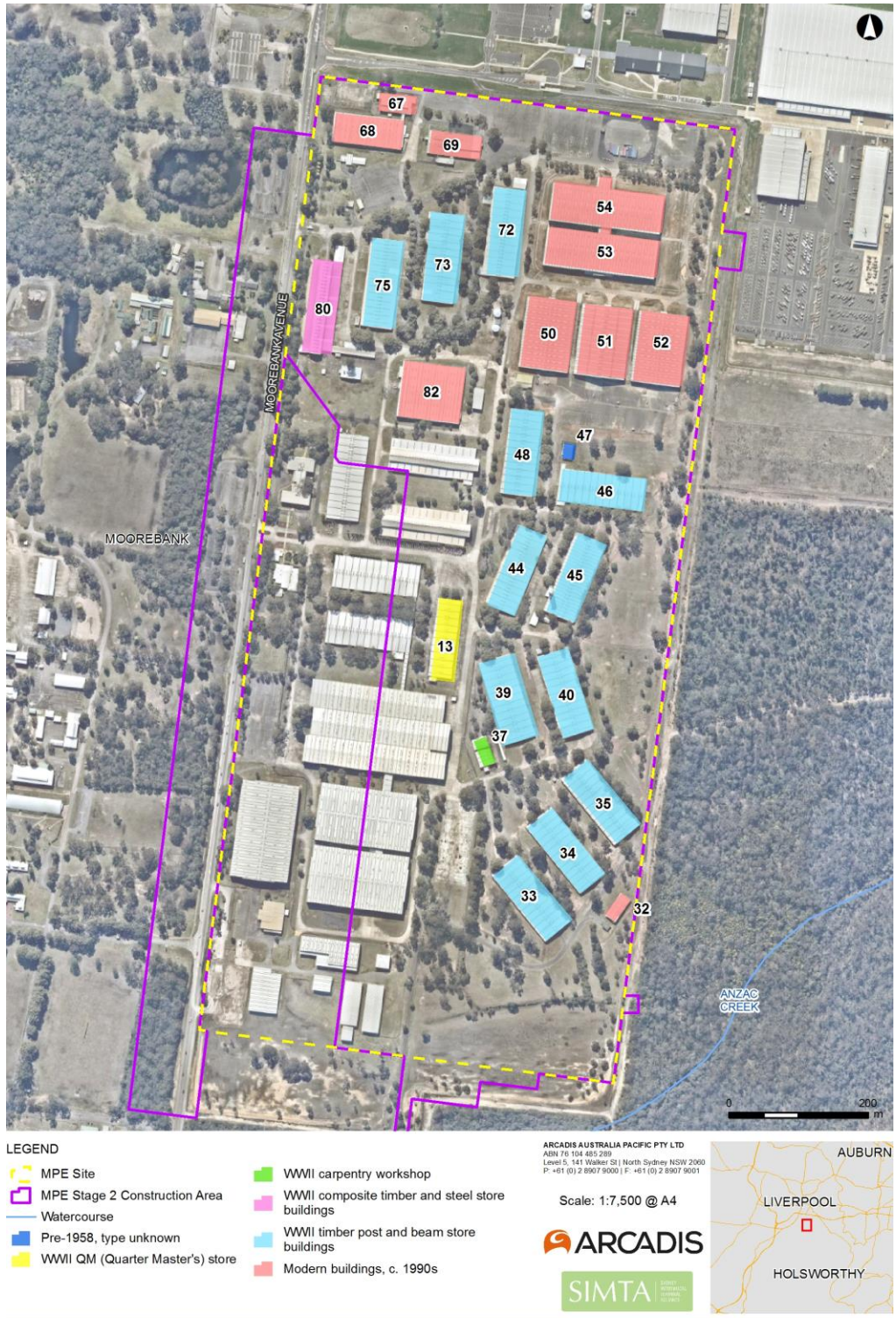
The MPE site included a number of large storage sheds, along with smaller ancillary, administration, and workshop buildings (Figure 14). Among these structures are twenty WWII-era buildings, including:

- Fifteen warehouses of timber post and beam construction. These buildings retain their original timber structure, though they have been reclad with modern steel sheeting, and have new concrete floors. Nine of these buildings include internal bays.
- Three composite timber and steel warehouses which have three bays of timber post and beam construction on either side of a central raised bay. The central bay has a steel frame to support an overhead gantry crane.
- Two other WWII-era buildings, the carpentry workshop and Quarter Masters store, which are of modified timber post and beam structures.

Of these 20 structures, five would be demolished and removed from the MPE site as part of the MPE Stage 1 Project (three WWII timber post and beam store buildings (Building No. 6, 10 and 11) and two WWII crane serviced composite timber and steel store buildings (Building No. 7 and 9) (Figure 14).

Fifteen structures with heritage significance are located within the MPE Stage 2 Proposal site, including 12 original WWII store buildings made of timber post and beam, one composite timber and steel warehouse, as well as the Quarter Master's store and the carpentry workshop (modified timber post and beam structures).

Figure 14: Existing structures to be impacted by Stage 2 Proposal



7.1.2 Structures within the Proposal site




Historic plans demonstrate that the MPE site remained unaltered between the 1940s and c. 1990, when it underwent alterations to accommodate the DNSDC operation. During this time, both the WWII timber post and beam store buildings and the WWII crane-serviced composite timber and steel store buildings across the entire MPE site were renovated. New concrete floors were poured and the original fibro asbestos sheeting was removed and replaced with modern steel sheeting. The original timber and steel structures of these renovated warehouses were retained.

Information on individual buildings which have heritage values and are within the Proposal site are summarised in Table 7 and shown on Figure 15.

The Stage 2 area also includes eight large modern warehousing structures which were constructed within the MPE site c. 1990 as well as a number of other later ancillary buildings, which do not have heritage significance.

Table 7: Structures within the MPE Stage 2 construction site

Building number*	Construction date	Type	Condition	Modifications	Image
33-35 39-40 44-46 48 72-73, 75	WWII	Timber post and beam store buildings (nine bays wide)	Buildings were not internally accessed. External condition is good following the c.1990 restoration. The buildings' structures appear essentially intact. No subsequent modifications are known.	Modern profile steel sheeting, gutters and downpipes, and new concrete floors c. 1990. No access was allowed during the site visit and an assessment of potential internal modifications was not made. No further modifications are known subsequent to the Graham Brooks and Associates report (2001).	
80	WWII	Composite timber and steel store building (three bays of timber and beam construction on either side of a raised central steel bay with gantry crane)	Building was not internally accessed. External condition is good following the c.1990 restoration. No subsequent modifications are known.	Modern profile steel sheeting, gutters and downpipes c. 1990. No access was allowed during the site visit and an assessment of internal potential modifications was not made. No further modifications are known subsequent to the Graham Brooks and Associates report (2001).	

Building number*	Construction date	Type	Condition	Modifications	Image
13	WWII	Quarter Master's store: timber post and beam building (five bays wide)	Building was not internally accessed. External condition is good following the c.1990 restoration.	Modern profile steel sheeting, gutters and downpipes. Later brick work visible at lower level. No access was allowed during the site visit and an assessment of internal potential modifications was not made.	
37	WWII	Carpentry Workshop: timber post and beam building (three bays wide)	Building was not internally accessed. External condition is generally good following the c.1990 restoration.	Modern profile steel sheeting, gutters and downpipes. Extended on both length and width. No access was allowed during the site visit and an assessment of potential internal modifications was not made.	
50-52	c. 1990	Large, modern steel-framed warehouse	n/a	n/a	

Building number*	Construction date	Type	Condition	Modifications	Image
53-54	c. 1990	Large, modern steel-framed warehouse Connected	n/a	n/a	
68-69	c. 1990	Modern facilities (recently used as firing range)	n/a	n/a	
82	c. 1990	Large, modern steel-framed warehouse	n/a	n/a	

*refer to Figure 14 for location of buildings on Proposal site.

7.1.3 Assessment of significance

Table 8 summarises the significance assessment previously undertaken for the former DNSDC site, as detailed in the Australian Heritage Database entry for the former DNSDC site and the heritage assessment conducted by Graham Brooks and Associates (2001).

Table 8 Summary of DNSDC Assessment of Significance (National Heritage List)

Criteria	Significance Assessment
A – Historical Significance	<p>The Proposal site is historically significant as a part of the Former DNSDC site. The Proposal site is significant for its association with the development of Australia’s military forces since the early 19th century and their presence in NSW. It is particularly known for its direct association with the military expansion in the early years of WWII.</p> <p>The DNSDC has played a continual role in Australia’s military infrastructure until the present day.</p> <p>The site also played a role in the early settlement of the Liverpool area. The site illustrates the boundaries and alignments of the original land grants and subdivisions in the area.</p> <p>The Former DNSDC site (MPE site) has historical significance at a State level.</p>
B – Associative Significance	<p>The DNSDC site has a significant association with the Australian Defence Forces continued operation in Liverpool.</p> <p>The Former DNSDC site (MPE site) has local associative significance.</p>
C – Aesthetic Significance	<p>The site does not have particular aesthetic significance as the exteriors of the WWII buildings have been re-clad and a large number of modern buildings are now present on site. Elements of the WWII buildings, particularly the interiors, are aesthetically notable but they are not easily discernible. Internal modifications have in some cases obscured visibility of the original internal structure.</p> <p>The Former DNSDC site (MPE site) does not have particular aesthetic significance.</p>
D – Social Significance	<p>The DNSDC site has social significance for the extensive community of Defence personnel who have worked at the site through its history, and for the local community of Liverpool and the broader community of Sydney, as the location of Defence operations since 1915.</p> <p>The Former DNSDC MPE (MPE site) has local social significance.</p>

Criteria	Significance Assessment
E – Research Potential	<p>As there are comprehensive records of construction of the buildings and their use, study of the structures would not provide opportunity to obtain further information.</p> <p>The Former DNSDC site (MPE site) has local research significance.</p>
F – Rarity	<p>The 15 WWII buildings within the Proposal site are part of a broader group of 20 WWII buildings within the MPE site. Collectively, these buildings are the only known surviving group of WWII Defence buildings in NSW. The only other known site with similar WWII timber store buildings which remains in Defence ownership, is Bandiana, in Victoria.</p> <p>The Proposal site does not contain any of the surviving warehouses built during the initial 1944 phase; however, the footprint of one of the three original warehouses demolished (Building 16, refer to section 5.2.4 for more information) located within the Stage 2 zone has remained easily identifiable at ground level.</p> <p>The Former DNSDC site (MPE site) has rarity values at a State level.</p>
G – Representative	<p>The thirteen timber post and beam store buildings and last remaining composite timber and steel store buildings in the Stage 2 site have significance as representative examples of these types of warehouses constructed during WWII for military storage purposes throughout the east coast of Australia.</p> <p>The Former DNSDC site (MPE site) is representative at a State level.</p>

7.1.4 Previous statements of significance

The following Statement of Significance is taken from the Australian Heritage Database entry for the MPE site.

“The Defence National Storage and Distribution Centre (DNSDC) is historically highly significant. As a military storage site it dates from 1915, and the Centre is important for its associations with the development of Australia’s military forces prior to and during the First World War and particularly for its direct association with the military build-up in the early years of the Second World War. The DNSDC has continued to play an important role in Australia’s military infrastructure, right up to the present time. The place also has an association with early nineteenth century settlement in the Liverpool area.

The DNSDC contains twenty Second World War post and beam warehouses, many of which, despite being re-clad, are good examples of their type. Particularly important are the fifteen timber post and beam military warehouses of the nine-bay type which played such an important role during the war and which were the widest post and beam military warehouses. Also important are the three composite steel and timber type warehouses. Post and beam military warehouses are small in number today, giving those at this site substantial rarity value. Additional interest is inherent in the fact that the buildings are understood to have been prefabricated in the United States and shipped to Australia in the early 1940s. Further, the alignment of part of the former military railway system is evidenced by the alignment and siting of some of the buildings and roads at the site.

The Centre is of social value for Defence personnel, for the Liverpool community and for the broader Sydney community on account of the long-term Defence associations with the site.”

7.1.5 Comparative analysis - Bandiana, Victoria

Below is a comparative analysis of the DNSDC site with the Department of Defence site at Bandiana, the only other known site with similar WWII timber store buildings, and which remains in Defence ownership. Below is an extract from the comparative analysis included in Graham Brooks and Associates (2001:14-18);

“Military use of Bandiana, Victoria arose following Japan's entry into World War II at the end of 1941. At that time, the perceived threat of an air attack on Melbourne and Sydney, resulted in a requirement for an inland storage facility, which would be safe from such an attack, while remaining close to existing transport facilities. One of the determining factors in the selection of Bandiana was its closeness to the major railway systems of both NSW and Victoria.

The main emphasis of the Bandiana facilities during the war years was the storage and processing of technical and motor transport stores, and the early construction at the site generally mirrored that which was occurring elsewhere.

Of the wartime construction at Bandiana, the storehouses and workshops within the North Bandiana precinct date from 1942, and are historically important. These buildings remain relatively unchanged, and were constructed in five rows,

including three workshop buildings of timber framed construction, four storehouses with internal rail access, nine storehouses constructed on concrete plinths, and three transit stores. They have a timber post and beam construction, with a concrete floor, timber framed corrugated iron clad walls and fibro roofs. The timber used for the construction is Mountain Ash, which was sourced in the vicinity of Myrtleford, Victoria. The buildings at North Bandiana are the most comparable to the store buildings at DNSDC Moorebank.

The three workshop buildings (buildings 96, 100 and 105) are of varying timber framed construction, and have each been refurbished to an extent, including new external sheeting and internal partitioning. The four storehouses constructed with internal rail access (buildings 64, 82 and 8990) are of composite timber and steel construction. The buildings comprise a lower wing of five bays of timber post and beam construction, and a raised wing of steel framed construction, which straddles the railway line. The three transit stores (buildings 68, 71 and 74) have a composite timber and steel framed construction, which is similar to that found at DNSDC. The gantry crane extends through the building on one side.

The eight storehouses constructed on concrete plinths (buildings 65, 69, 72, 77 and 79) most resemble the stores buildings at DNSDC, and are located in two rows through the site. These have a similar timber post and beam construction, although are slightly smaller, being only five bays wide.

The storehouse and workshop buildings at North Bandiana are located in their original wartime configuration, and retain evidence of the important railway connections through the site. The North Bandiana site has significance as evidence of strategic logistics support planning and massive expansion in military operations during World War II.

At South Bandiana four comparative timber post and beam stores buildings have been identified, although these are scattered through the site, and don't form a cohesive precinct. The present Army Museum most resembles the stores buildings at DNSDC. This building has a similar timber post and beam construction of nine bays in width, although has been refurbished with modern steel sheeting. The three remaining timber post and beam store buildings are slightly smaller, being only five bays wide.

Similar storehouse and workshop buildings were also constructed at East and West Bandiana.”

The Graham Brooks and Associates report notes that the Bandiana site is more intact with original structural features such as cladding, and original layout (refer to Figure 15)..

Figure 15: Interior of workshop 105, Bandiana. Refurbished for use by the Army Reserves, showing timber construction (Source: Graham Brooks and Associates 2001: 15)



7.1.6 Summary statement of significance

This statement of significance is based on the existing significance assessments and the assessment provided in this report.

The former DNSDC site is significant for its association with the development of Australia's military forces since the early 19th century and their presence in NSW. It is particularly known for its direct association with the military expansion in the early years of WWII in line with other centres such as Bandiana in Victoria. The former DNSDC has played a continual role in Australia's military infrastructure until 2014 when it was relocated.

The former DNSDC site also played a role in the early settlement of the Liverpool area. The former DNSDC site illustrates the boundaries and alignments of the original land grants and subdivisions in the area.

The former DNSDC site has historical significance, representativeness and rarity values at a State level.

Note that listing on the LEP does not relate specifically to level of heritage significance. An item must meet at least the threshold of local significance to be considered for listing on the Liverpool LEP, but may also have higher significance level. For the former DSND site, although the rarity is considered significant at a State level, the site has not been considered for listing as an item of State heritage significance (refer to Appendix A for more information).

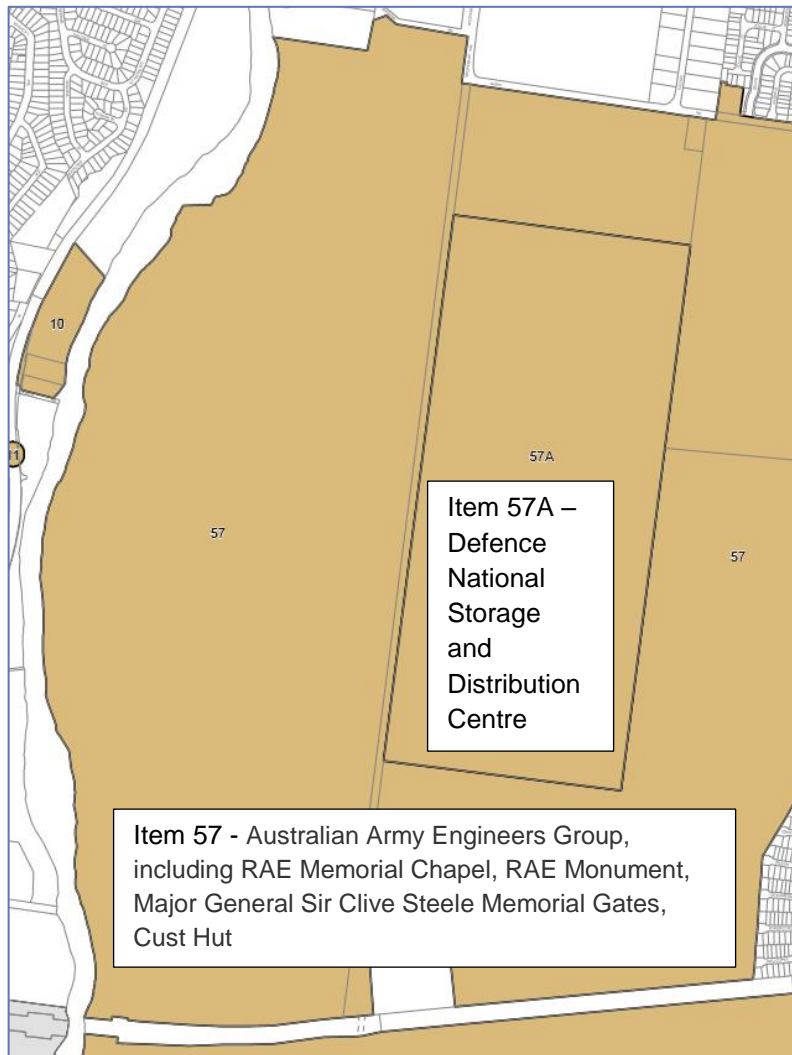
7.2 School of Military Engineering

7.2.1 Description

The SME is listed on the Liverpool LEP (2008) under its alternate name, the Australian Army Engineers Group (Item 57). This listing notes that the site includes the Royal Australian Engineers (RAE) Memorial Chapel, RAE Monument, Major General Sir Clive Steele Memorial Gates, and The Cust Hut. According to the Liverpool LEP Heritage map, the SME also encompasses most of the land surrounding the former DSND site, between the East Hills railway line and Anzac Road, as well as a building on the north side of Anzac Road. This building is not specifically mentioned in the LEP, and is listed separately in the State Heritage Inventory as an 'Army Building (Former)'.

Although the MPW Project will impact heritage values of the SME site, it is still listed on the Liverpool LEP so is assessed accordingly.

Figure 16: Detail of SME / Australian Army Engineers Group (Item 57) from Liverpool LEP Heritage map (Sheet_013)



The main complex of the SME covers approximately 220 hectares between the Georges River and Moorebank Avenue. The SME is accessed from Moorebank Avenue and within its grounds is a group of heritage items associated with the Royal Australian Engineers, including the Royal Australian Engineers monument, the Plant Hangar, and the Memorial Chapel. Located at the south of the site is the Royal Australian Engineers golf course, which overlooks the East Hills rail line.

The former army building north of Anzac Road is a long, rectangular corrugated iron shed. This building is listed separately on the Liverpool LEP although it is part of the SME but is some distance from the Proposal site and has no views to or from the Proposal site. Therefore, it will not be impacted by the proposed development.

The rest of the land encompassed by Item 57 on the Liverpool LEP listing now consists mostly of bushland. Since this land was part of Liverpool's military precinct from 1915 and has remained undeveloped since the 1940s, it is possible that archaeological evidence for military activities survives there. To the north-east, between the MPE site and the residential development at Wattle Grove, is the area formerly used as a rifle range from WWI.

The western portion of the SME will be impacted under the MPW Stage 1 and Stage 2 SSD approvals. The heritage significance of this portion of the SME will be directly and permanently impacted by the development of the MPW project. The Proposal would be located along the eastern boundary of the MPW project, immediately adjacent to Moorebank Avenue

7.2.2 Statement of significance

The following statement of significance for the SME is taken from the State Heritage Inventory listing for the site:

"The School of Military Engineering demonstrates the military history, particularly the engineering military history of the area. The site encompasses a complex of heritage items that are associated with the Royal Australian Engineers. It traces the evolution of the technologies used by the RAE. Much of the war memorabilia on display is now rare. The site is representative of the RAE's pride in their military past and present. There is the potential to gain more information on the site from further architectural, archaeological and documentary research."

7.3 Glenfield Farm

7.3.1 Description

Glenfield Farm is listed on the SHR and is of exceptional historical significance as one of the few surviving rural farm complexes in NSW dating from the original land grant of 1810 and still capable of use for family living and limited farming activities. The buildings on the property are located to the western part of the listed area on top of a ridge and contain a 14 room homestead, a dairy, coach house and privy. The land to the east of the site consists of former rural pastures and the original site fencing (State Heritage Inventory listing "Glenfield Farm"). The curtilage of the item extends down to the Southern Railway Line.

Figure 17: Detail of Glenfield Farm (Item 14) from Liverpool LEP Heritage map (Sheet_013)



7.3.2 Statement of significance

The Statement of Significance included in the State Heritage Inventory listing for Glenfield Farm states that:

“Glenfield Farm homestead and its outbuildings are of exceptional historical significance as one of the few surviving rural farm complexes in New South Wales dating from the original land grant of 1810 and still capable of use for family living and limited farming activities.

Taken as a whole, the grounds of Glenfield Farm that remain have the capability to demonstrate both the core activities of the farm, and, to a modest degree, the planting tastes, garden layout, and functional requirements of successive occupants. Their approach was, for the most part, pragmatic and utilitarian - as is often the case with dairy farms - and cumulatively the grounds have high heritage significance (sic).

The homestead and garden complex can still be appreciated to some extent in their original relationship with the escarpment and Glenfield Creek valley, as can some of their traditional view prospects.

The place retains its traditional prominence along the ridge from the east, as a local landmark.”

The Conservation Management Plan (CMP) developed for the site in 2002 emphasised the importance of the views to and from the east and recommended that they be retained intact (Mayne-Wilson & Associates 2002:116). The recommended management of the site, according to the State Heritage Inventory listing, includes ensuring appropriate controls on areas beyond estate to the east within the estate's visual catchment. In particular, the scale, height and treatment of the adjacent landfill area (State Heritage Inventory listing "Glenfield Farm"). A visual impact assessment has been prepared to support the SSD Application for the Proposal, including consideration of visual impacts to properties adjacent to the Proposal, and is provided at Appendix R of the MPE Stage 2 EIS.

8.0 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

This section provides an assessment of archaeological potential within the Proposal site. This assessment of archaeological potential is based on documentary research, an analysis of available plans and aerial photographs of the site, and site inspections.

Archaeological potential is defined as the potential of a site to contain archaeological remains. Archaeological potential is assessed by identifying former land uses and associated features through historical research, and evaluating whether subsequent actions (either natural or human) may have impacted on evidence for these former land uses to be present.

An assessment of archaeological potential should therefore consider that:

- Later building phases will impact on the remains of early phases.
- The greater the number of phases of occupation at a site, the more complex the nature of the archaeological remains will be.

Archaeological potential should essentially be understood as ‘what is the potential for archaeological remains to be present?’, whereas research potential should be understood as ‘how important or significant might those remains be?’ It is possible for an area to be of high archaeological potential but low research potential.

The following is a list of the typical types of historic archaeological remains found in NSW:

- Structural remains of early historic buildings—likely to survive with varying levels of impact from later buildings, landscape modification, etc.:
- Footings
- The remains of basements or underfloor storage areas
- Earlier floor surfacing, such as sandstone slabs, brick pavers, packed earth or wooden
- Deposits containing evidence of occupation including underfloor deposits and rubbish
- Artefact scatters.

8.1 Archaeological potential of Proposal site

Plans of the MPE site dating from 1944-1981 show numerous former WWII structures located throughout the Proposal site. A number of these structures were demolished c. 1990 and it is possible that structural material related to these former buildings remains beneath the ground surface. Archaeological deposits would likely include concrete slabs and/ or structural footings. Due to the undisturbed nature of the DNSDC roadways, earlier road surfaces, likely to have been constructed of reinforced concrete, tar, or bitumen, may remain beneath the current surfaces. The road alignment of the Proposal site may also be used as indication of the location of former railway sidings, one of which is still clearly visible in the southern portion of the site.

Artefactual material associated with each potential archaeological deposit may also be identified. The extent and nature of such deposits would be directly linked to the function of each former structure. As the Proposal site was a storage facility rather than an occupied military compound, the potential for personal artefacts to be uncovered is limited. It is assumed that all latrines were either pan or flush facilities (likely as sewer lines are present); therefore, subsurface deposits which may be located in excavated latrines is not expected.

There are varying levels of potential for archaeological remains dating to WWII to be located across the Proposal site. The research potential of these deposits would not be high, and it is likely any remains would have at most a local archaeological heritage significance. There is low potential for unexpected archaeological deposits dating to the pre-WWI, WWI and Interwar periods to be uncovered during construction of the Proposal. If these remains existed, they are likely to have been impacted by the WWII development of the site.

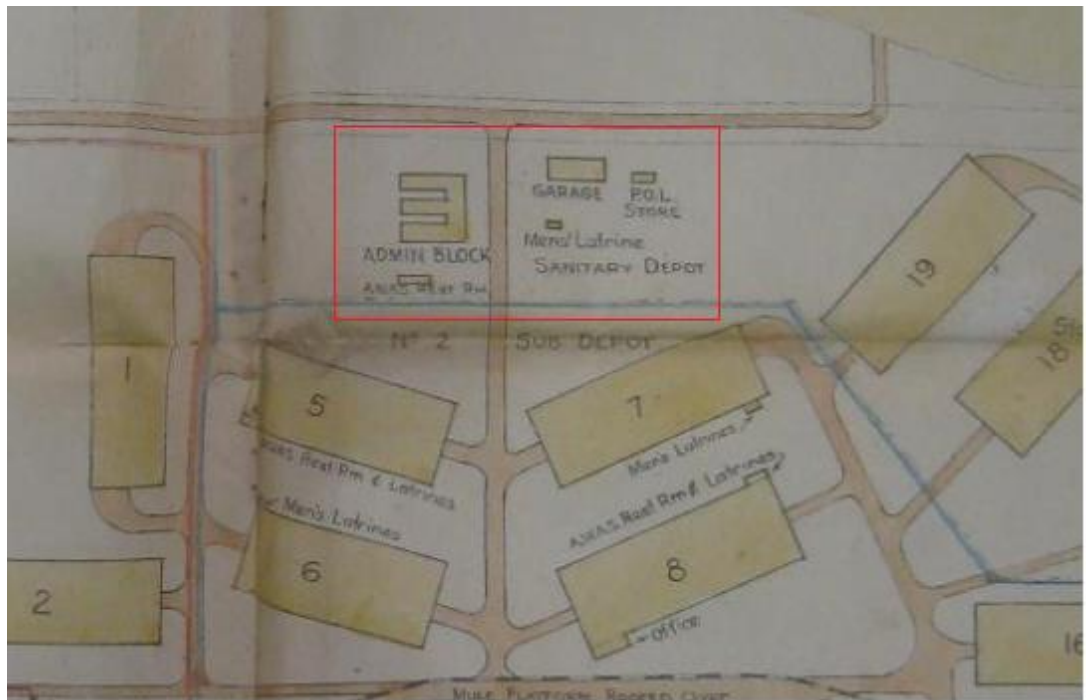
It is noted that the 1944 WWII DNSDC plan shows the proposed location of five buildings within a grassed area in the eastern section of the site. These structures are labelled "Admin Block", "Garage" "Men's Latrine" and two "Stores" (Figure 18). These structures do not appear on any subsequent DNSDC plans. It is therefore assumed that they were never built. No substantial structures are recorded as being present in this location therefore there is a low potential for archaeological remains to be present in this area.

Areas of archaeological potential within the Proposal site are described in Table 9.

Note that it is assumed any archaeological remains within the SME site to the west of Moorebank Avenue have been managed under the MPW approvals and that there would be no archaeological potential in these areas. The archaeological potential of Moorebank Avenue is also low as the road has existed in this location since before WWI therefore there are unlikely to be any former structures beneath it.

This discussion therefore focusses on the MPE Stage 2 site only.

Figure 18: 1944 plan – eastern grassed area



Note: planned structures never constructed bounded in red

Figure 19: Location of areas of potential archaeological deposit



Table 9: Areas of archaeological potential within the Proposal site

Potential Archaeological Deposit (PAD)	Description	Potential nature of archaeological remains	Disturbance	Archaeological Potential
E	The large former structure at PAD E is identified as Building 12 on the 1944 and 1966 plans of the DNSDC site (Figure 18). This former structure was a WWII timber post and beam store building (Brooks and Associates 2002; 14). It was demolished c.1990 and replaced by modern Building 16 (refer to Figure 14 for existing building layout).	Footings, wood or steel structural remains and evidence of cut and fill	High	Low
I	This PAD is identified on the 1944 DNSDC plan as an “Inflammable Store” (Figure 18). It is also identified on the 1958 DNSDC plan as Building 26 ¹ . A photograph of this former building, dated 30/01/1946, contained the caption “inflammable wares such as paints, acids and oils are stored in this shed”	Footings, wood or steel structural remains and evidence of cut and fill.	Low	Moderate
J	PAD J is identified on the WWII DNSDC 1958 plan as Building 25. A photograph of this building, dated 05/08/1945, demonstrates that this structure was a warehouse of similar dimension and construction to that at PAD I	Footings, wood or steel structural remains and evidence of cut and fill.	Low	Moderate
K	This PAD is identified as Building 63 on the WWII 1958 DNSDC plan. The function of the structure has not been identified through documentary research. Its small footprint suggests that it is an ancillary or administrative structure.	Footings, wood or steel structural remains and evidence of cut and fill.	Low	Moderate
L	This PAD is identified as Building 62 on the WWII 1958 DNSDC plan. The function of the structure has not been identified through documentary research. Its small footprint suggests at an ancillary or administrative structure.	Footings, wood or steel structural remains and evidence of cut and fill.	Moderate	Low
O	The large former structure at PAD O is identified as Building 12 on the 1944 and 1966 plans of the DNSDC site (Figure 18). This former structure was a WWII timber post and beam store building. The location is currently hardstand which may be a remnant of the original structure.	Footings, wood or steel structural remains and evidence of cut and fill	Low	Moderate
P	PAD P comprises a collection of small structures associated with the WWII warehouses. The structures abutting the warehouses where latrines or stores and are marked on the 1944 plan (Figure 18). The nature of the four structures which were not directly attached to the warehouses is not known and could not be identified by documentary research. It is assumed they were ancillary or administrative structures.	Footings, wood or steel structural remains and evidence of cut and fill. Accidentally deposited artefacts or rubbish if drop toilets were installed.	Moderate	Moderate

¹ The 1958 plan was viewed from the National Archives but a legible copy could not be made for presentation in this report

Potential Archaeological Deposit (PAD)	Description	Potential nature of archaeological remains	Disturbance	Archaeological Potential
Q	PAD Q comprises a collection of small structures associated with the WWII warehouses. The structures abutting the warehouses were latrines, offices or stores and are marked on the 1944 plan (Figure 18). The nature of the larger structure to the north of the PAD is not known. There is a smaller structure marked on the 1944 plan as a store. The store may have been extended up to 1966.	Footings, wood or steel structural remains and evidence of cut and fill. Accidentally deposited artefacts or rubbish if drop toilets were installed.	Moderate	Moderate
R	The former structure at PAD R was likely to be a store or smaller warehouse. The nature of the structure has not been identified through documentary research.	Footings, wood or steel structural remains and evidence of cut and fill	Moderate	Low
S	The four small structures at PAD S are likely to be latrines, offices and stores. Two of the structures are shown on the 1944 plan (Figure 18) as latrines.	Footings, wood or steel structural remains and evidence of cut and fill. Accidentally deposited artefacts or rubbish if drop toilets were installed	Moderate	Moderate
T	A number of structures are located between the two WWII warehouses in PAD T. The structures are not shown on the 1944 plan (Figure 18) and their nature cannot be identified through documentary research. It is noted that a road is located where the structures were in the 1944 plan (Figure 18) and 1951 aerial (Figure 12).	Footings, wood or steel structural remains and evidence of cut and fill	Moderate	Low
U	The three structures at PAD U are not on the 1944 plan (Figure 18) but are shown on the 1951 aerial (Figure 12). It is likely that they are stores of some kind and it is noted that access ways are visible into the structures on the 1951 aerial (Figure 12). It is likely that these items had slab floors which would limit the potential for archaeological remains to be present. A modern warehouse has been constructed at the location of the northernmost structure built over by.	Footings, wood or steel structural remains and evidence of cut and fill	Moderate	Low
V	The small cluster of structures in PAD V are visible on the 1951 aerial (Figure 12). The nature of the structures is not known, although it is likely they are administration facilities.	Footings, wood or steel structural remains and evidence of cut and fill. Potential for evidence for use of structures.	Low	Moderate-high

Potential Archaeological Deposit (PAD)	Description	Potential nature of archaeological remains	Disturbance	Archaeological Potential
W	The small cluster of structures in PAD W are visible on the 1951 aerial (Figure 12). The nature of the structures is not known, although it is likely they are administration facilities.	Footings, wood or steel structural remains and evidence of cut and fill. Potential for evidence for use of structures.	Low	Moderate-high

8.2 Assessment of heritage significance of potential archaeological deposits

The following assessment of heritage significance of potential archaeological deposits within the Proposal site has been prepared in accordance with the 'Assessing Heritage Significance' (2001) guidelines.

In its guidelines for *Assessing Significance for Historical Archaeological Sites and 'Relics'*, the NSW Heritage Division has since provided a broader approach to assessing the archaeological significance of sites, which includes consideration of a site's intactness, rarity, representativeness, and whether many similar sites have already been recorded, as well as many other factors. This document acknowledges that determining the significance of subsurface archaeological remains is often difficult due to the fact that potential-based assessments must rely on predicted, rather than known, attributes (NSW Heritage Branch 2009).

8.2.1 Research significance

Any archaeological remains on the Proposal site dating to WWII have the potential to be of research significance as features of a military depot that has been of local and state importance for almost 70 years. However, the archaeological resource at the site is limited in nature and is unlikely to be of high research significance.

Because the site was never occupied by the personnel who worked there, there is little potential for the type of accumulated refuse deposits often found at occupation sites, which can provide information regarding changing lifeways over time. Consequently, it is unlikely that the site would yield significant evidence related to the personal experiences of workers who have previously worked or visited the Proposal site.

Archaeological remains of former structures have the potential to be of some research significance, as they may provide new evidence about the building types present throughout the site and the materials from which they were constructed.

The water mains and sewerage pipes known to exist within the Proposal site are of low research significance as the locations of these pipes are already known from documentary evidence and the pipes themselves would be unlikely to make a significant contribution to the existing knowledge of the site.

Remains of roadways and railway sidings are known to exist within the Proposal site. As these access ways are already documented, study of any associated archaeological remains would have little value. These remains would also be classed as works, not relics under the definitions of the NSW *Heritage Act 1977*.

The summary statements and rankings of significance in Section 8.3, in relation to each of the assessment criteria for potential archaeological deposits within the Proposal site are based on the potential values of the site and are therefore preliminary only.

8.3 Significance assessment for potential archaeological deposits

Table 11 below provides a significance assessment for potential archaeological deposits within the Proposal site, in accordance with *Assessing Significance for Historical Archaeological Sites and 'Relics'* (NSW Heritage Branch, 2009). As described below, the Proposal site is unlikely to meet the threshold for local significance under the archaeological significance criteria, with the exception of criterion E – archaeological research potential.

Table 10 Assessment of potential archaeological significance for the Proposal site

Criteria	Description	Significance Assessment
A – Historical Significance	An item is important in the course or pattern of the local area's cultural or natural history.	<p>Archaeological deposits across the Proposal site have the potential to demonstrate the continual role played by the DNSDC in Australia's military infrastructure from WWI until its relocation in 2015.</p> <p>As there is already a large amount of documentary evidence available for the Proposal site, it is unlikely that information obtained from any remaining archaeological deposits would significantly contribute to the historical significance of the item.</p> <p>Unlikely to meet the threshold for local significance under this criteria</p>

Criteria	Description	Significance Assessment
B – Associative Significance	An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history.	<p>Potential archaeological deposits across the Proposal site have a significant association with the Australian Defence Forces dating from 1915 through WWI, Interwar and WWII periods.</p> <p>Unlikely to meet the threshold for local significance under this criteria</p>
C – Aesthetic or technical significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area.	<p>Archaeological features can sometimes be of aesthetic significance once exposed (e.g. intact building footings). It is possible that archaeological remains within the Stage 2 Proposal site could be highly intact or extensive and therefore could potentially be of aesthetic significance.</p> <p>Personal objects, refuse material and materials related to the day to day use of sites can be incorporated into interpretive displays. Such artefacts often provide tangible links to the past evoking strong connections that no other resources can.</p> <p>Unlikely to meet the threshold for local significance under this criteria</p>
D – Social Significance	An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons.	<p>Potential archaeological deposits within the Proposal site would have social significance as varying elements of a Defence precinct operating since 1915 for;</p> <ul style="list-style-type: none"> the extensive community of Defence personnel who have worked at the site through its history, for the local community of Liverpool and; the broader community of Sydney. <p>May meet the threshold for local social significance</p>

Criteria	Description	Significance Assessment
E – Research potential	An item has potential to yield information that will contribute to an understanding of the local area’s cultural or natural history.	<p>There is potential for surviving archaeological remains associated with structures and features dating from the WWI, Interwar and WWII periods to be uncovered during construction of the Proposal. These remains may provide information regarding the function of former WWII structures and the currently unknown layout of the DNSDC site prior to 1944.</p> <p>However, the archaeological resource at the site is somewhat limited in nature. The site was never occupied by the personnel who worked there and as such archaeological potential is limited.</p> <p>May meet the threshold for local significance in regard to research potential</p>
F – Rarity	An item possesses uncommon, rare or endangered aspects of the local area’s cultural or natural history.	<p>The built heritage elements of the former DNSDC site are rare in the context of NSW, but archaeological remains are not likely to provide additional information that would be considered rare in its own right.</p> <p>Unlikely to meet the threshold for local significance under this criteria</p>
G – Representative	<p>An item is important in demonstrating the principal characteristics of a class of NSWs (or the local area’s):</p> <ul style="list-style-type: none"> - cultural or natural places; or - cultural or natural environments. 	<p>The built heritage elements of the former DNSDC site are representative in the context of NSW, but archaeological remains are not likely to provide additional information that would be considered representative in its own right.</p> <p>Unlikely to meet the threshold for local significance under this criteria</p>

8.4 Statement of significance for potential archaeological deposits

The Proposal site has the potential to reveal an archaeological resource of local significance in some areas. Potential archaeological deposits across the Proposal site may contribute to understanding the military history of NSW therefore they are assessed as having some research significance. They may also broaden our understanding of the responses to war-time pressures during both WWI and WWII. Archaeological deposits within the Proposal site may also have social significance, particularly if artefacts associated with workers at the site are located.

The majority of PADs within the Proposal site have been assessed as unlikely to meet the threshold for local significance. This is due to a number of factors, either ground disturbance levels that may have impacts on any archaeology, the fact that there is ample documentary information (such as photos and plans) so any archaeological evidence is limited in providing additional research potential, the use of the site was for storage and was not residential so the archaeological record is expected to be limited, or that any remains would be minor or insubstantial, as would be the case for mains attached latrines or very small structures.

PADs V and W are at the location for former administrative or ancillary structures, although their use is not known. Archaeological remains of the former structures have the potential to be of moderate research significance, as they may provide new evidence about the building types present and use and occupation of these structures. PADs V and W are in areas within minimal disturbance so have the potential for preservation of any remains.

A summary of the potential archaeological significance of PADs across the Proposal site is provided in Table 11.

Table 11: Summary of archaeological significance for PADs within the Proposal site

PAD	Description	Disturbance	Archaeological Potential	Research potential	May meet the threshold for Local Archaeological significance?
E	WWII timber post and beam store building	High	Low	Low	No
I	Inflammable store	Low	Moderate	Low	No
J	WWII warehouse or store	Low	Moderate	Low	No
K	WWII ancillary or administrative structure	Low	Moderate	Low	No
L	WWII ancillary or administrative structure	Moderate	Low	Low	No
O	WWII timber post and beam store building	Low	Moderate	Low	No
P	WWII latrines, offices and stores	Moderate	Moderate	Low	No
Q	WWII latrines, offices and stores	Moderate	Moderate	Low	No
R	Warehouse	Moderate	Low	Low	No
S	WWII latrines, offices and stores	Moderate	Moderate	Low	No
T	WWII ancillary or administrative structure	Moderate	Low	Low	No
U	Warehouses	Moderate	Low	Low	No
V	WWII ancillary or administrative structure	Low	Moderate-high	Moderate	Yes
W	WWII ancillary or administrative structure	Low	Moderate-high	Moderate	Yes

9.0 STATEMENT OF HERITAGE IMPACTS

9.1 Impacts to non-Indigenous heritage as part of the MPE Stage 1 Project

It is assumed for the purposes of this report that approved impacts under Stage 1 of the MPE Project assessed under SSD-6766 have impacted heritage values within the Stage 1 site.

The non-Indigenous heritage impact assessment of the MPE Stage 1 Project (Artefact Heritage, 2015) identified the following impacts to non-Indigenous heritage:

- Demolition of five WWII era store buildings of timber beam and post construction (Buildings 6,7,9,10 and 11, as shown on Figure 14).
- Indirect impacts to the setting and context for the majority of the remaining WWII era buildings as a result of construction and operation of the MPE Stage 1 Project
- Impacts to the collective non-Indigenous heritage significance of the former DNSDC site (MPE site).
- Visual impacts to the remaining non-Indigenous heritage elements of the former DNSDC site (MPE site).
- The removal of the original road and open drain alignments running through the MPE Stage 1 site.
- Impacts to potential archaeological material associated with former structures present within the MPE Stage 1 site.
- Impacts to historic underground water mains and sewerage lines visible on a 1958 plan of the site, which probably date to the 1940s.
- Impacts to the curtilage of the SME site as a result of constriction of the rail line (MPW site).
- Minor visual impacts to Glenfield Farm.

9.2 Impacts of the MPE Stage 2 Proposal on non-Indigenous heritage

The construction and operation of the MPE Stage 2 Proposal would result in a number of direct and indirect impacts to non-Indigenous heritage, including:

- The removal of all heritage values from the former DNSDC site and the loss of its heritage significance.
- More specifically, direct impacts to 15 WWII era store buildings, comprising one composite timber and steel store (Building 80), 13 timber post and beam stores including the Quarter Master's store (Buildings 33-35, 39-40, 44-46, 48, 72-73, 75 & 13) and the carpentry workshop (Building 37).
- The removal of original roads and open drain alignments running through the Proposal site.
- Impacts to potential archaeological material associated within former structures located within the Proposal site.
- Impacts to underground water mains and sewerage lines within the Proposal site, as visible on a 1958 plan of the site, which probably date to the 1940s.
- Impacts to the curtilage of the SME site to the west as a result of Moorebank Avenue upgrade².
- Some cumulative visual impacts of the Proposal with the MPW and MPE Stage 1 Projects on heritage view sheds to and from Glenfield Farm (refer to the MPE Stage 2 visual impact assessment, provided at Appendix R of the MPE Stage 2 EIS).

9.3 Statement of Heritage Impacts for the DNSDC

9.3.1 Impacts

The Proposal would have a permanent direct impact on the heritage significance of the former DNSDC site (MPE site). The Proposal involves the demolition of all remaining structures with heritage significance and the removal of all heritage values from the site.

The item would no longer retain its State significance and would be delisted from the Liverpool LEP.

² It is noted that the heritage significance of the SME site would be impacted by the MPW Project, prior to the commencement of construction of the Proposal. For the purpose of this non-indigenous heritage assessment, it is therefore acknowledged that although the Proposal would encroach into the heritage curtilage of the SME site, no impacts to heritage significance would occur as a result of this Proposal.

The DNSDC site would be subject to major heritage impacts as a result of the Proposal.

9.3.2 Justification of impacts

The Concept Plan heritage assessment (Artefact, 2013) assessment considered potential options for the mitigation of these impacts. Suggested measures included conservation *in situ* of some, or all, of the WWII structures, adaptive reuse of some or all of the WWII structures, or demolition of the structures with prior comprehensive archival recording.

Conservation in situ

Reusing the existing structures would be impractical from the perspective of adhering to modern engineering and safety standards, and also in regard to meeting the operational requirements of the Proposal. Conservation *in situ* has therefore been discounted as existing structures could not be accommodated within the required design for the project.

Adaptive re-use

An assessment of feasibility of the adaptive re-use of the existing buildings on the former DSND site was provided by Reid Campbell for the Proposal. The assessment concluded that:

“The building's height of 4.4m (with the exception of Building 6 which has a height of 4.5m) and structural column spacing of 5.1m does not make the buildings suitable for modern warehouse operations such as receiving and dispatch operations, material handling equipment operations and sortation systems. An accepted industry standard minimum of 5m clear height to roller shutter doors is required for a flush dock to enable a heavy vehicle to utilise the dock area. A wider column spacing would be required to accommodate modern racking systems, sortation systems and material handling equipment, such as a forklift. The building layout and site configuration is constrained and would not be suitable for manoeuvring of heavy vehicles associated with modern warehouse applications. The structures are susceptible to termite attack and the columns are at a higher risk of damage from machinery.

The warehouse area is likely to be classified as a "Large Isolated Building" under the Building Code of Australia (BCA) C2.3 and would likely have significant fire safety issues. Such BCA compliance issues would likely trigger fire protection

and safety upgrades, and these would heavily impact the ability to lease the existing structures.

Such buildings, given their location, orientation and internal configuration would not be suitable for use and interaction with the future intermodal terminal. "

The former DNSDC site as a whole has undergone a high level of modification since the 1940s. C.1990, a comprehensive redevelopment of the site for the DNSDC was undertaken which involved the demolition of a number of structures and the construction of a large number of modern warehouses and other ancillary buildings. The original layout of the site was altered at the time of redevelopment, although many of the road alignments were retained. Following the c.1990 renovations and refurbishments, the WWII buildings have lost integrity and are no longer easily identifiable externally, even though they have retained their internal construction. This has resulted in a loss of integrity for the former DNSDC site as a whole. Should the WWII buildings within the MPE Stage 2 site be relocated and be subject to adaptive re-use, further alterations would be required which would further diminish their integrity above that which occurred as a result of the c1990 refurbishment/redevelopment.'

As adaptive reuse was assessed as not being practicable it is not considered as a viable mitigation measure.

Demolition and comprehensive archival recording

As other options have been discounted, comprehensive archival recording is proposed as an appropriate mitigation measure for the major impacts to the DNSDC site.

9.4 Statement of Heritage Impacts for the School of Military Engineering

The Proposal would include impacts to the SME site, listed as an item of local heritage significance under Schedule 5 of the Liverpool LEP 2008. A section of the curtilage to the west of Moorebank Avenue would be impacted by the upgrade of the road.

Impacts within the SME curtilage are understood to include lane widening, earthworks, including raising the road level, embankments and installation of kerbing and drainage.

Impact to the SME curtilage would be minor, primarily because the MPW Project approval has facilitated removal of heritage structures and archaeology resulting in a loss of value of this portion of the SME site. Impacts to the curtilage along Moorebank Avenue are minor in the context of the cumulative impacts as a result of the MPE Stage 1 and MPW works.

It is noted that areas of archaeological potential were identified within the SME site during assessments for MPW Stage 1 and 2. These areas of archaeological potential are currently being managed under the MPW Stage 1 approval and are expected to be cleared prior to MPE Stage 2 approval. It is therefore assumed that the entire portion of the SME within the MPE Stage 2 Proposal site would have a low non-Aboriginal archaeological potential for the purposes of this assessment.

It is also assumed that any elements of heritage significance, such as structures associated with the military occupation of the site would have been managed and cleared under the MPW Stage 1 approval.

There would be minor impacts to the SME site as a result of impacts to its current curtilage by the Moorebank Avenue upgrade, however these impacts are not considered necessary to be assessed under the MPE Stage 2 Proposal as they have already been approved under the MPW Concept Plan and Early Works.

9.5 Statement of Heritage Impacts Glenfield Farm

Although the Conservation Management Plan for Glenfield Farm (Mayne-Wilson & Associates, 2002:116) recommends views from Glenfield farm eastwards over the railway line be retained, these vistas have already been considerably compromised by the creation and operation of the Glenfield Waste Disposal facility, the construction of the Southern railway line and, particularly, the erection of a concrete flyover (known as the Glenfield flyover) to carry the SSFL over the Southern railway line and MPE Stage 1.

In the context of the heritage listing the Proposal would result in a further degradation of views and the historical setting of the item, although in the context of cumulative impacts of the MPE Project and adjoining MPW Project, the impacts as a result of MPE Stage 2 Proposal would be minor. Broader visual impacts associated with the Proposal are described in Section 15 and Appendix R of the MPE Stage 2 EIS.

9.6 Statement of Heritage Impact for the Proposal

Table 12 provides a summary of impacts in accordance with the guidelines by the NSW Office of Environment & Heritage.

Table 12: –Statement of Heritage Impact for the Proposal

Impact on a heritage item	Discussion
<p>The following aspects of the Proposal respect or enhance the heritage significance of the item or conservation area for the following reasons.</p>	<p>There are no aspects of the proposal that would respect or enhance the heritage significance of the DNSDC site.</p> <p>There will be minor impacts on the heritage significance of the SME site as Glenfield Farm as a result of the Proposal. In the context of the heritage listing the Proposal would result in a further degradation of views and the historical setting of the item, although in the context of cumulative impacts of the MPE Project and adjoining MPW Project, the impacts as a result of MPE Stage 2 Proposal would be minor. Broader visual impacts associated with the Proposal are described in Section 15 and Appendix R of the MPE Stage 2 EIS. .</p>
<p>The following aspects of the Proposal could detrimentally impact on heritage significance.</p>	<p>The Proposal would have a permanent direct impact on the heritage significance of the former DNSDC site. The Proposal involves the demolition of all remaining structures with heritage significance and the removal of all heritage values from the site. The item would no longer retain its State significance and would be delisted from the Liverpool LEP 2008.</p> <p>There would be minor impacts to the curtilage of the SME site which has already has its heritage values compromised by the MPW Project.</p> <p>There would be minor cumulative impacts to the views and setting of Glenfield Farm.</p>

Impact on a heritage item	Discussion
<p>The following sympathetic solutions have been considered and discounted for the following reasons.</p>	<p>Conservation and/or adaptive reuse of some of the WWII structures proposed for demolition was considered as p the MPE Project for mitigation of impacts of the MPE Project on the heritage significance of the former DNSDC site. Suggested measures included conservation <i>in situ</i>, relocation of items for preservation off-site, and/or adaptive reuse of some or all of the WWII structures. It was advised that the WWII structures (Reid Campbell) on the MPE site were not suitable for re-use as part of the MPE Project, as they would need to have major conversions to meet modern safety and engineering requirements to enable them to service the required functions as part of the IMT facility. Conservation of significant fabric of the site by relocation of items off-site was considered; however, it was concluded that this would result in a loss of setting and likely further loss of integrity of the fabric due to the buildings likely requiring adaptation for re-use at their relocated position. The WWII buildings on the former DSND site were already extensively refurbished c1990s. When considering these aspects, relocation as a strategy for conservation of significance appeared to be ineffective.</p>

10.0 CONCLUSION & RECOMMENDATIONS

On the basis of background research and a site inspection and adhering to all statutory obligations, it is found that;

- The former DNSDC site is listed on the Liverpool LEP 2008.
- MPE Stage 2 would result in permanent direct impacts to all structures within the former DNSDC site and would remove all heritage values. The item would no longer retain its State heritage significance from a rarity perspective and would be delisted from the Liverpool LEP 2008 as an item of local heritage significance.
- The SME is listed on the Liverpool LEP 2008. It has been approved for impacts resulting from the MPW Project which will result in a loss of heritage significance for the portion of the item which would be impacted by the MPE Proposal.
- MPE Stage 2 would result in minor impacts to the SME curtilage. These impacts would not result in loss of heritage values as the heritage values of the place will be impacted by the MPW Project, which are already assessed under separate applications and approvals.
- The MPE Stage 2 Proposal would result in minor indirect (visual) impacts to the Glenfield Farm SHR item.

In light of these findings the following measures are recommended:

- A Heritage Management Plan in adherence to NSW Heritage Council guidelines would be prepared as part of the CEMP for the Proposal.
- Archaeological monitoring and recording would be conducted at PADs V and W, which have the potential to contain archaeological remains of local significance. Monitoring and recording would be undertaken by a suitably qualified archaeologist, who would assess the likely significance of any archaeological deposits encountered, and provide advice regarding appropriate further action. If highly significant remains were identified during monitoring, it would be appropriate to conduct further monitoring for additional sites of former structures or test excavations.
- A Heritage Interpretation Strategy should be prepared prior to the commencement of construction, outlining appropriate interpretive measure for the Proposal site in the context of the MPE site as a whole.

- If unexpected finds are located during works an archaeological consultant would be engaged to assess the significance of the finds and the NSW Heritage Council notified.

11.0 REFERENCES

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- "School of Military Engineering"
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Report to SIMTA.

12.0 APPENDICES

12.1 Appendix 1 - OEH correspondence



Contact Mary Ann Hamilton
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File: EF14/20924

Mr Steve Ryan
Director
Tactical Group
Level 15/124 Walker Street
North Sydney NSW 2060

Dear Mr Ryan,

**Re: Defence National Storage and Distribution Centre, Moorebank Road, Moorebank
Nomination for listing on the State Heritage Register**

I refer to Liverpool Council's nomination for listing the above item on the State Heritage Register under the *Heritage Act 1977 (NSW)*.

The nomination has been considered by the NSW Heritage Council State Heritage Register Committee against the Heritage Council criteria for listing on the register (enclosed). The Committee noted that the item is currently listed on the Commonwealth Heritage List which provides protection under the EPBC Act. The Committee also noted that the item is in the process of being listed on the Liverpool Council's Local Environment Plan which provides protection for the site under the provisions of the Environment Planning and Assessment Act 1979.

The Committee also considered the findings of the Planning and Assessment Commission. The Committee concurred with the Commissions comments that the heritage values of the site will be considered at future Development Application stage of the proposal permitting further Council and community submissions.

The Committee further considered the curtilage of nominated item and noted that as well as the 20 WWII buildings there were a large number of newer buildings. None of these buildings are compatible with contemporary warehousing technologies and practices. Given this the Committee felt that the issue of adaptive reuse of all the buildings in the nominated area may be difficult.

On this basis the item will not be recommended for listing on the State Heritage Register at this time.

Please note this advice does not prevent further research in the future demonstrating the item has a state level of heritage significance.

The State Heritage Register nomination and supporting information will be retained in the Heritage Division's records and will be accessible to the public or government agencies on request.

Thank you for bringing this matter to the attention of the Heritage Council of NSW, and for your interest in conserving your community heritage.

Yours sincerely



8/10/2014

Cameron White
A/Manager, Listings Section
Heritage Division





artefact

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