# Environmental Impact Statement for State Significant Development 9601

## Proposed Plant 2 Upgrade Works

780 Wallgrove Road, Horsley Park

Lot 7 DP1059698

Prepared by Willowtree Planning Pty Ltd on behalf of The Austral Brick Co Pty Ltd

**August 2019**

A national town planning consultancy
www.willowtreeplanning.com.au

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## EP&A REGULATION, SCHEDULE 2 PART 3 INFORMATION

| | |
|---|---|
| **Declaration Form** | **Submission of Environmental Impact Statement** prepared under the *Environmental Planning and Assessment Act 1979* and the *Environmental Planning and Assessment Regulation 2000* |
| **EIS Prepared By** | |
| Name | Jessica Miller |
| Qualifications | Bachelor of Laws/Bachelor of Arts, University of Newcastle<br>Advanced Diploma in Applied Environmental Management, Belmont TAFE |
| Address | Suite 4, Level 7<br>100 Walker Street<br>North Sydney NSW 2060 |
| **In Respect Of** | Upgrades to existing Plant 2 owned by The Austral Brick Co Pty Ltd at 780 Wallgrove Road, Horsely Park, including:<br>▪ New production building of around 13,250m$^2$ to provide extended kiln car storage area and relocated extruder and dehacker;<br>▪ Existing production building to be re-roofed;<br>▪ Demolish two existing kilns and replacement with one new kiln (of same overall capacity), to be provided to the existing production building;<br>▪ New footings for relocated clay bins and for the scrubber;<br>▪ Construction of new fire access road;<br>▪ Provision of onsite detention basin;<br>▪ Supporting ancillary works; and<br>▪ Minor demolition works to facilitate the same.<br>to improve the environmental, health and safety and sustainability performance of the existing brickworks operation. |
| **Development Application** | |
| Applicant Name | The Austral Brick Co Pty Ltd |
| Address | Level 9, 60 Carrington Street, Sydney NSW 2000 |
| **Land to be Developed** | 780 Wallgrove Road, Horsley Park (Lot 7 DP1059698) |
| **EIS** | An Environmental Impact Statement is attached. |

| | |
|---|---|
| **Certificate** | I certify that I have prepared the contents of this EIS and to the best of my knowledge:<br>▪ It is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*;<br>▪ Contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates; and<br>▪ That the information contained in the statement is neither false nor misleading. |
| **Signature** |  |
| Name | Jessica Miller |
| Qualification | B Arts/B Laws (UoN)<br>AdvDip Applied Environmental Management (Belmont TAFE) |
| Date | 05 August 2019 |

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## GLOSSARY OF TERMS

| Term | Meaning |
|---|---|
| BC Act | *Biodiversity Conservation Act 2016* |
| Council | Fairfield City Council |
| CIV | Capital Investment Value |
| dB(A) | A-weighted decibel |
| District Plan | *Western City District Plan* |
| DPIE | Department of Planning, Industry and Environment |
| EIS | Environmental Impact Statement |
| EPA | Environment Protection Authority |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EP&A Regulation | *Environmental Planning and Assessment Regulation 2000* |
| EPBC Act | *Environment Protection and Biodiversity Conservation Act 1999* |
| EPL | Environment Protection Licence |
| FLEP 2013 | *Fairfield Local Environmental Plan 2013* |
| $L_{Aeq}$ | Equivalent continuous sound |
| LGA | Local Government Area |
| Metropolis Plan | *A Metropolis of Three Cities* |
| NP&W Act | *National Parks and Wildlife Act 1974* |
| NSW 2021 | *NSW 2021: A Plan to Make NSW Number One* |
| OEH | NSW Office of Environment and Heritage |
| POEO Act | *Protection of the Environment Operations Act 1997* |
| RMS | Roads and Maritime Services |
| SEARs | Secretary's Environmental Assessment Requirements issued on 16 November 2018 |
| SEPP | State Environmental Planning Policy |
| The site | The portion of 780 Wallgrove Road, Horsley Park (Lot 7 DP1059698) subject to the proposed development |
| SRD SEPP | *State Environmental Planning Policy (State and Regional Development) 2011* |
| SSD | State Significant Development |
| Willowtree Planning | Willowtree Planning Pty Ltd |
| WSP | Western Sydney Parklands |
| WSP POM | *Western Sydney Parklands Plan of Management 2030* |
| WSP SEPP | *State Environmental Planning Policy (Western Sydney Parklands) 2009* |

## EXECUTIVE SUMMARY

Willowtree Planning Pty Ltd on behalf of The Austral Brick Co Pty Ltd has prepared this Environmental Impact Statement seeking consent for proposed upgrades to the existing Plant 2 owned by The Austral Brick Co Pty Ltd at 780 Wallgrove Road, Horsley Park. The proposed development would take place at the existing Horsley Park brickworks site (Lot 7 DP1059698) within the Fairfield Local Government Area.

The site also lies within the Western Sydney Parklands and is therefore subject to the provisions of *State Environmental Planning Policy (Western Sydney Parklands) 2009*. As per Schedule 2, Clause 5 of *State Environmental Planning Policy (State and Regional Development) 2011*, the proposed development is considered to be a form of State Significant Development, as it lies within the Western Sydney Parklands and has a Capital Investment Value exceeding $10M (i.e. $26M). The intention of the proposed development is to improve the environmental, health and safety and sustainability performance of the existing brickworks operation at the site.

The site is not currently zoned under *State Environmental Planning Policy (Western Sydney Parklands) 2009*. The proposed development therefore constitutes innominate development. However, clause 11(2) of *State Environmental Planning Policy (Western Sydney Parklands) 2009* provides that any development not otherwise specified in Clause 11 may be carried out with consent. The proposed development is therefore permissible with consent under *State Environmental Planning Policy (Western Sydney Parklands) 2009*.

The site currently operates under Environment Protection Licence 546 to undertake ceramics production as specified in the *Protection of the Environment Operations Act 1997*. The proposed development would not alter the site's existing production capacity under Environment Protection Licence 546. However, Environment Protection Licence 546 would require a minor variation to allow for a new discharge point to Eastern Creek so as to function alongside the newly proposed onsite detention system proposed for the site.

The proposed development is considered to be consistent with the objectives, provisions and strategies outlined within *NSW 2021: A Plan to Make NSW Number One*, *A Metropolis of Three Cities*, and the *Western City District Plan*. The site is also specifically mapped under the *Western Sydney Parklands Plan of Management 2030* as being for 'Austral Bricks.' The proposed development would allow the site to continue being used for brickworks production, thereby directly delivering on this strategic identification of the site.

The proposed development would improve the site's environmental and safety performance. Indeed, the existing brick kiln and associated equipment was commissioned in the late 1960's. It is in good condition and could operate for over 20 years, as the technology for brick making has not changed significantly since this time. However, the current kiln operates inefficiently by losing heat and requiring large amounts of gas to run. The purpose of the proposed development is therefore to address these environmental issues stemming from the kiln with respect to gas usage and emissions. In terms of management measures, the proposed development would incorporate several works which would improve the air quality emissions generated by the site, including a new kiln, scrubber and an increase in stack height.

The site has an existing stormwater quality treatment regime, undertaken by Austral staff in accordance with the terms of Environment Protection Licence 546. Modelling has demonstrated how the proposed development can continue to meet these same water quality discharge standards, and indeed improve upon them through stormwater upgrades at the site. Modelling has further indicated how the proposed development would comply with the relevant noise criteria that have been established for the site. Moreover, the proposed development can proceed without significant impacts to adjacent biodiversity values.

This Environmental Impact Statement was prepared in accordance with the Secretary's Environmental Assessment Requirements and the Key Issues identified by the relevant agencies. Key matters which were assessed in the EIS include:

- Strategic Context;
- Air Quality;
- Biodiversity;
- Noise and Vibration;
- Bushfire;
- Soil and Water;
- Contamination;
- Access and Transport;
- Waste Management;
- Hazards and Risk;
- Fire Engineering;
- Visual Impacts;
- Infrastructure Servicing; and
- Social and Economic Impacts.

This EIS and its supporting technical reports have considered the above, and conclude that the proposed development would not result in any significant environmental impacts. It is therefore recommended that DPIE's favourable consideration be given to the proposed development.

# PART A PRELIMINARY

## 1.1 INTRODUCTION

Willowtree Planning Pty Ltd (Willowtree) has prepared this Environmental Impact Statement (EIS) document on behalf of The Austral Brick Co Pty Ltd to support a Development Application (DA) for the proposed development, to be submitted to the Department of Planning, Industry and Environment (DPIE) to determine under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This EIS seeks consent for the upgrades to the existing Plant 2 owned by The Austral Brick Co Pty Ltd as follows:

- New production building of around 13,250m$^2$ to provide extended kiln car storage area and relocated extruder and dehacker;
- Existing production building to be re-roofed;
- Demolish two existing kilns and replacement with one new kiln (of same overall capacity), to be provided to the existing production building;
- New footings for relocated clay bins and for the scrubber;
- Construction of new fire access road;
- Provision of onsite detention basin;
- Supporting ancillary works; and
- Minor demolition works to facilitate the same.

The proposed development would improve the environmental, health and safety and sustainability performance of the existing brickworks operation. It would take place at Horsley Park brickworks site within Lot 7 DP1059698 within the Fairfield Local Government Area (LGA).

The site also lies within the Western Sydney Parklands (WSP) and is therefore subject to the provisions of *State Environmental Planning Policy (Western Sydney Parklands) 2009* (WSP SEPP). The site is not currently zoned under WSP SEPP, and the proposed development therefore constitutes innominate development. Clause 11(2) of WSP SEPP provides that any development not otherwise specific in Clause 11 may be carried out with consent. The proposed development is therefore permissible with consent under WSP SEPP.

As per Schedule 2, Clause 5 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), the proposed development is considered to be a form of State Significant Development (SSD), as it lies within the WSP and has a Capital Investment Value (CIV) exceeding $10M (i.e. $26M). It has been assigned SSD reference number 9601.

The proposed development therefore requires an EIS to be prepared. Pursuant to Part 2 of Schedule 2 to the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), the Secretary's Environmental Assessment Requirements (SEARs) were obtained from DPIE. These are included in **Appendix 1**.

The site currently operates under Environment Protection Licence (EPL) 546 to undertake the following activities listed in Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act):

- Ceramic waste generation > 5-100 tonnes generated or stored annually;
- Ceramics production > 200,000 tonnes produced annually;
- Crushing, grinding or separating, capacity to process > 500,000-2,000,000 tonnes annually;
- Land-based extractive activity, capacity to extract, process or store > 500,000-2,000,000 tonnes annually; and
- Mining for minerals, capacity to produce > 500,000-2,000,000 tonnes annually.

The proposed development would not alter the site's existing production capacity under EPL 546. However, EPL 546 would require a minor variation to allow for a new discharge point to Eastern Creek so as to function alongside the newly proposed onsite detention system proposed for the site.

The structure of this EIS is as follows:

- Part A Preliminary;
- Part B Site Analysis;
- Part C Proposed Development;
- Part D Legislative and Policy Framework;
- Part E Consultation;
- Part F Environmental Risk Assessment;
- Part G Management and Mitigation Measures;
- Part H Proposed Development Justification; and
- Part I Conclusion.

## 1.2 THE PROPONENT

The proponent is The Austral Brick Co Pty Ltd. See **Table 1** for contact details.

| **Table 1 Proponent Details** | |
|---|---|
| **Contact Name** | Megan Kublins |
| **Company Details** | Austral Brick Co Pty Ltd<br>Level 9, 60 Carrington Street, Sydney 2000 NSW |
| **Contact Number** | 02 9611 4201 |

# PART B SITE ANALYSIS

## 2.1 SITE LOCATION AND EXISTING SITE CHARACTERISTICS

The site is identified as 780 Wallgrove Road, Horsley Park (Lot 7 in DP1059698). The entire site is 82ha in area and is the main brick manufacturing site for the Austral Brick Company (refer to **Figure 1** and **Figure 2**). Two significant brick factories are located on the land together with associated stockpile areas and hardstand areas. The main office for Brickworks Limited and the main Austral Bricks sales office are also located on the site (refer to **Figure 1**).

The site currently provides for existing stockpiles of clay and two facilities that are used for the brick manufacturing. The site is predominately clear of vegetation due to its historic land uses for quarrying and brick manufacturing (refer to **Figure 1**).

To the west, the site adjoins the M7 Motorway which links with the M2, M4 and M5 Motorways (refer to **Figure 1** and **Figure 2**). Surrounding developments predominately comprise industrial facilities used for warehousing and distribution, as well as various extractive industries, rural residential land uses and environmental conservation areas.

The Horsley Park Waste Management Facility, is located immediately to the south of Plant 1 and to the west of Plant 2. The Horsley Park WMF is licensed to receive up to 430,000 tpa of non-putrescible waste. The facility accepts waste directly from commercial entities and from council customers and comprises a large open area with void space for landfilling and resource recovery. The overall facility covers 43ha, which includes the weighbridge, a designated area of 2ha for storage of recovered material such as concrete, soils, timber and steel and land that is still to be excavated to create landfill space. Surrounding development predominantly to the north and north-east of the Plant 2 site comprises industrial facilities used for warehousing and distribution purposes and other extractive industries.

The site operates under EPL 546 to undertake the following activities listed in Schedule 1 of the POEO Act:

- Ceramic waste generation > 5-100 tonnes generated or stored annually;
- Ceramics production > 200,000 tonnes produced annually;
- Crushing, grinding or separating, capacity to process > 500,000-2,000,000 tonnes annually;
- Land-based extractive activity, capacity to extract, process or store > 500,000-2,000,000 tonnes annually; and
- Mining for minerals, capacity to produce > 500,000-2,000,000 tonnes annually.

The site is located around 150m east of the nearest tributary of Eastern Creek, which traverses through Lot 7 from south to north. It is also around 250m west of the Prospect Reservoir.

The site is bounded by the following existing land zonings/uses:

- Westlink M7 and Wallgrove Road zoned SP2 Infrastructure and rural landholdings zoned RU4 Primary Production Small Lots to the west;
- The SUEZ Eastern Creek Organic Resource Recovery Facility which is unzoned to the north;
- Ferrers Road, bushland areas and Prospect Reservoir which are unzoned to the east; and
- Rural landholdings which are unzoned to the south.

The surrounding road reserves of Ferrers Road, Wallgrove Road and the Westlink M7 are all State-classified RMS roads.

The site is shown in **Figure 1** and **Figure 2** below.


**Figure 1 The Site – Aerial View (SIXMaps, 2018)**

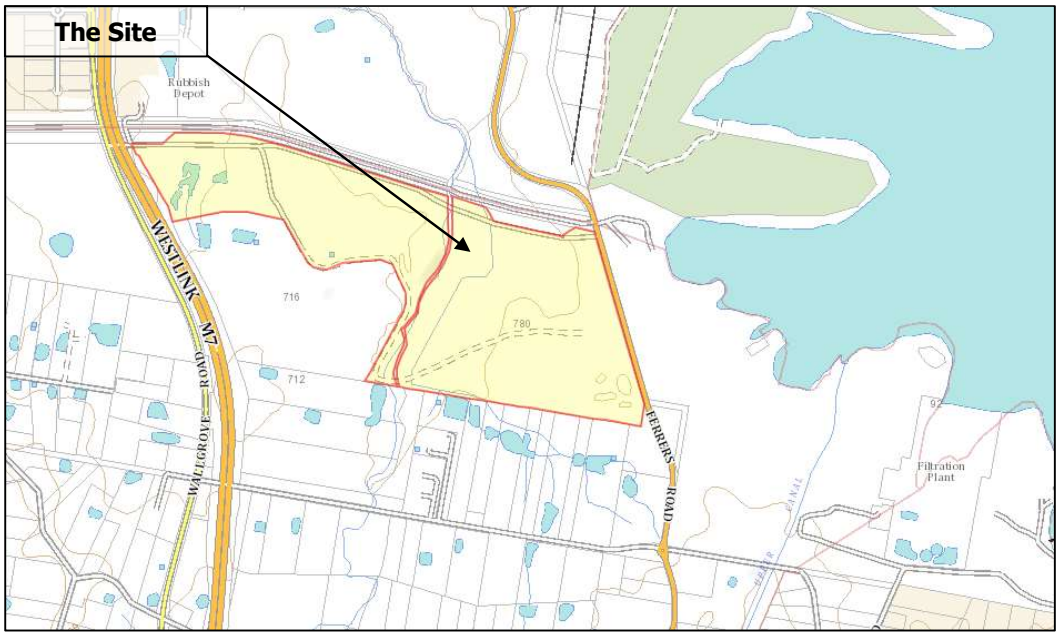


**Figure 2 The Site – Cadastral View (SIXMaps, 2018)**

As shown on **Figure 3**, the site is in the vicinity of the following local and State-listed heritage items:

- Prospect Reservoir and Surrounding Area which is a State listed heritage item and is also locally listed under the *Fairfield Local Environmental Plan 2013* (FLEP 2013). It is located around 250m west of Lot 7;
- Upper Canal System (Pheasants Nest Weir to Prospect Reservoir) Upper Canal System which is a State listed heritage item, located around 720m south-east of Lot 7;
- Group of Hoop Pines, which is listed as a local heritage item under the WSP SEPP, located and 730m south-east of Lot 7;
- Spotted Gum Forest, which is listed as a local heritage item under the WSP SEPP, located around 250m west of Lot 7; and
- Horsley Complex (Homestead Buildings, Garden Farm) which is listed as a local heritage item under the FLEP 2013, located around 2.4km south-west of Lot 7.

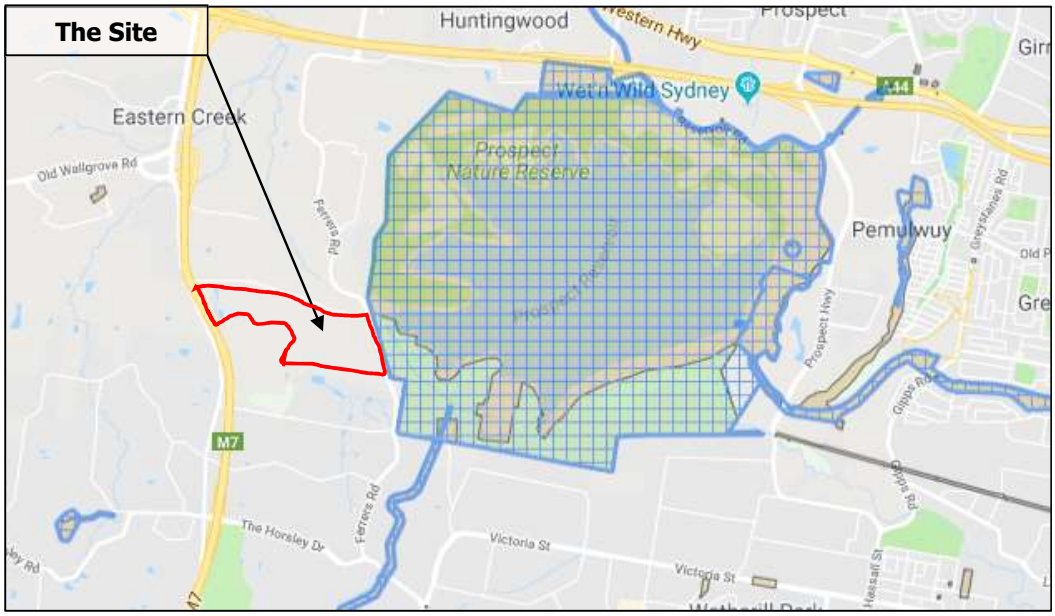


**Figure 3 Mapped Heritage Items (NSW Planning Portal, 2018)**

As shown on **Figure 4**, the periphery of Lot 7 includes land which is mapped as containing Categories 1-3 of bushfire prone land, as well as land which is mapped as containing Vegetation Buffer.

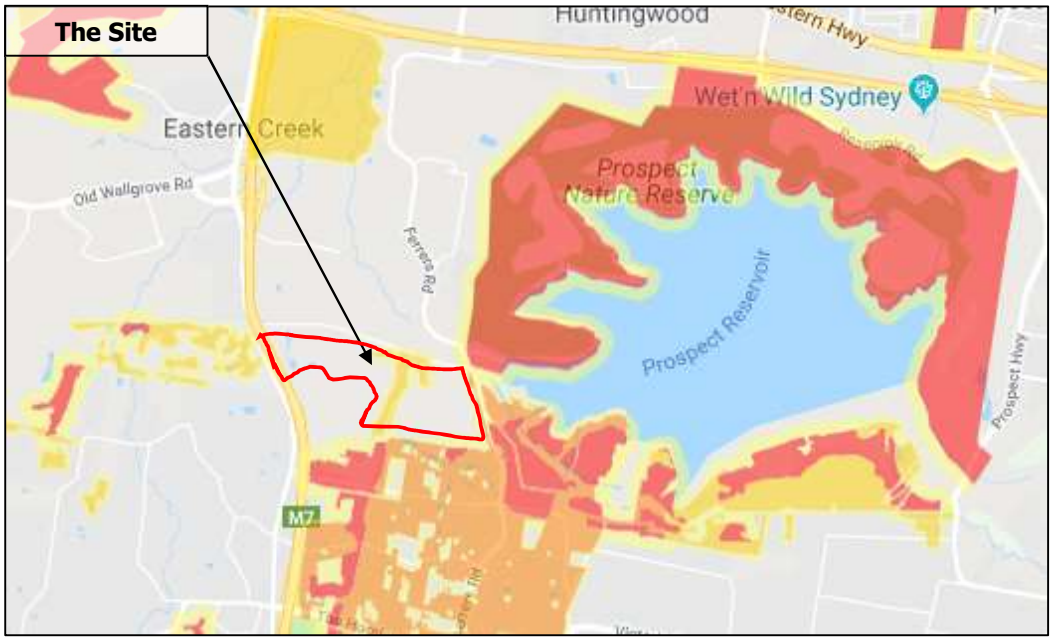


**Figure 4 Mapped Bushfire Prone Land (NSW Planning Portal, 2018)**

As shown on **Figure 5**, the site is located adjacent to the Prospect Reservoir Environmental Conservation Area.

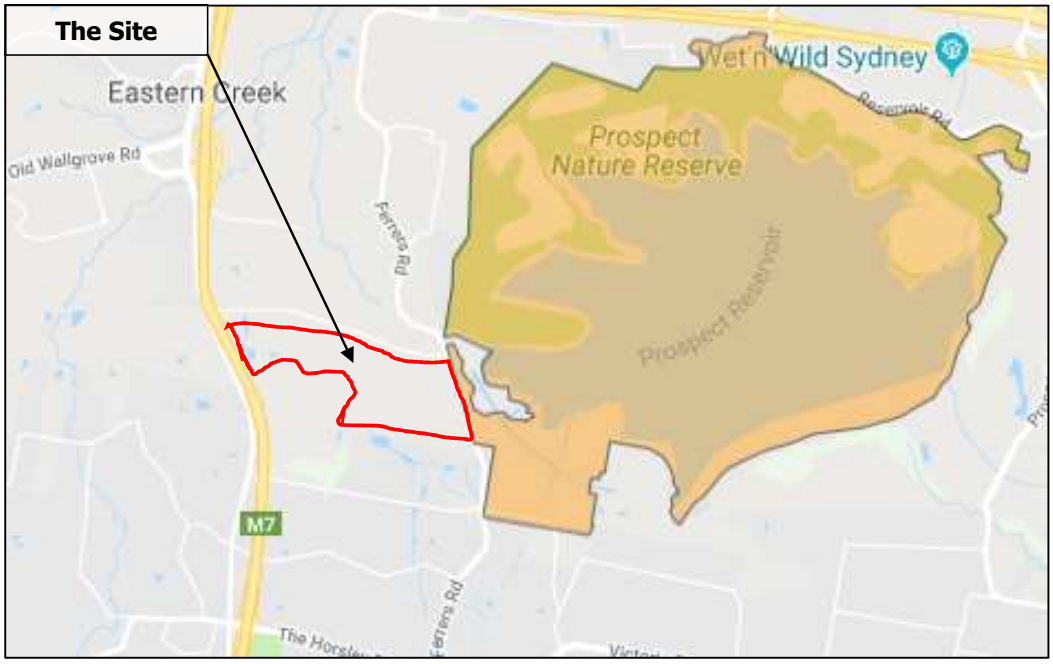


**Figure 5 Mapped Environmental Conservation Area (NSW Planning Portal, 2018)**

**Figure 6** contains an extract of the Bulk Water Supply Infrastructure Map from WSP SEPP. This demonstrates how Lot 7 directly adjoins mapped Bulk Water Supply Infrastructure to the north and the east.

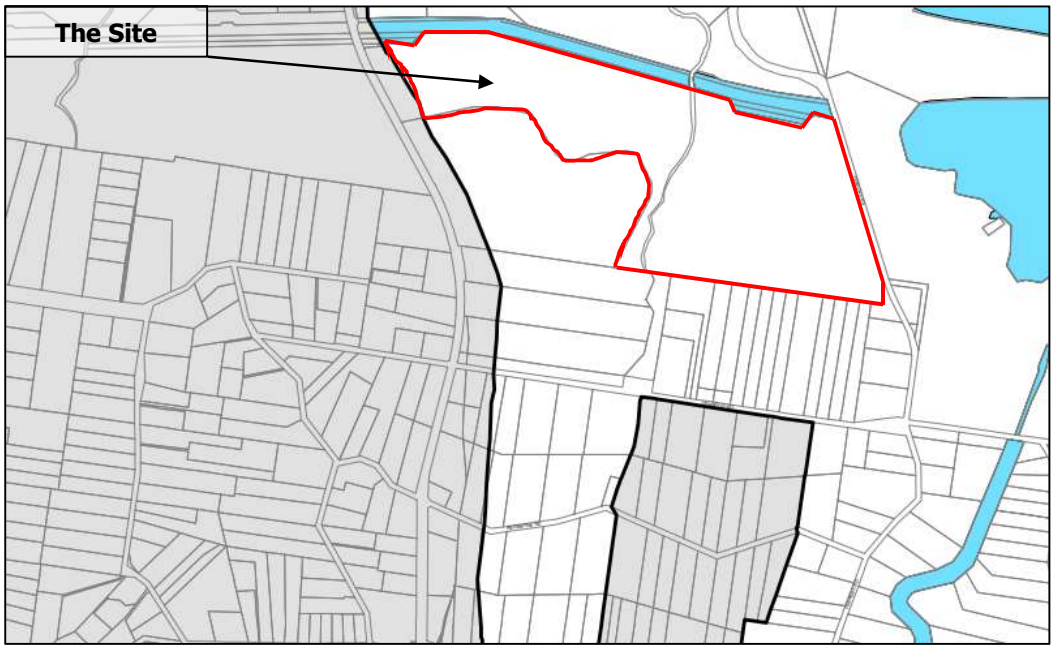


**Figure 6 Bulk Water Infrastructure Supply Map – WSP SEPP (NSW Legislation, 2018)**

**Figure 7** and **Figure 8** below show the existing production building and clay storage building at the site.

**Figure 7 View of Existing Production Building (Willowtree Planning, 2019)**

**Figure 8 View of Existing Clay Storage Building Willowtree Planning, 2019)**

## 2.2 STRATEGIC CONTEXT

The site forms part of the WSP, which comprises a 27km urban park corridor running north from Quakers Hill, south to Leppington accounting for approximately 5,280 hectares of land. Along its trajectory it crosses various LGAs including, Liverpool, Blacktown and Fairfield. The location of the site within the extent of the WSP is shown in **Figure 9**.

The *Western Sydney Parklands Plan of Management 2030* (WSP POM) was formally adopted by the Minister for Environment, Minister for Heritage in December 2018. The WSP POM outlines the main principles, strategic directions, and desired objectives and outcomes with regard to the WSP. The WSP POM considers the wider regions exponential urban growth potential (expected to reach 3 million people by 2036). It sets out the WSP's overall capacity to contribute to the anticipated economic value of the region in terms of development and employment generation. Additionally, it envisages the maintenance of social/recreational and environmental values.

**Figure 9** shows the location of the site within the broader Precinct 6: Wallgrove of the WSP. The Wallgrove Precinct is described in the WSP POM as being 309 ha of diverse urban services infrastructure such as recycling, brickmaking, quarrying and former Eastern Creek Waste Management Centre (which is now being decommissioned). The Wallgrove Precinct also includes agistment land adjacent to the Light Horse Interchange and the M7 Motorway. As shown on **Figure 9**, the site is clearly delineated as 'Austral Bricks,' thus reinforcing that the land is a clear exception to any other freehold parcels due to its long term working character and employment contribution.

The continued operation of the brickmaking plant would not undermine the objectives of the WSP POM, or surrounding land uses within the locality. Refer to **Section 4.4.5** below for more details on this.


**Figure 9 Precinct 6: Wallgrove (Western Sydney Parklands, 2018)**

## 2.3 SITE SUITABILITY

The proposed development comprises upgrades to the existing Plant 2 owned by The Austral Brick Co Pty Ltd at 780 Wallgrove Road, Horsely Park, including:

- New production building of around 13,250m$^2$ to provide extended kiln car storage area and relocated extruder and dehacker;
- Existing production building to be re-roofed;
- Demolish two existing kilns and replacement with one new kiln (of same overall capacity), to be provided to the existing production building;
- New footings for relocated clay bins and for the scrubber;
- Construction of new fire access road;
- Provision of onsite detention basin;
- Supporting ancillary works; and
- Minor demolition works to facilitate the same.

The suitability of the site to provide for the proposed development is identified as follows:

- The site is specifically mapped under the WSP POM as being for 'Austral Bricks,' meaning that the NSW Government's strategic vision for the site is for its continued use as a brickworks;
- The proposed development is permitted at the site by virtue of Clause 11(2) of the WSP SEPP;
- The site is connected to the overall Greater Sydney State-controlled transport network, including the adjoining M7 Motorway;
- As outlined in **Table 4** within **Section 4.3** the site is or can be made suitable for the proposed development as per the requirements of *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55); and
- The proposed development can be undertaken without causing any significant environmental impacts.

## 2.4 DEVELOPMENT HISTORY

Previous approvals issued for the site are as follows:

- On 17 November 1960, Blacktown Shire Council issued approval for the manufacture of bricks and the extraction of clay and shale at the subject site;
- On 23 June 1961, Blacktown Municipal Council issued approval for the erection of buildings in conjunction with the approved brick works;
- On 17 January 1979, Blacktown Municipal Council issued approval to office additions (to a Constructive Industry) at the subject premises. No specific conditions were imposed. A number of structures already existed at the site;
- On 16 June 1982, Fairfield City Council resolved to approve the erection of a factory building to be used for maintenance and storage of engineering equipment. This follows a fire at the premises on 19 March 1982. On 12 July 1982, Council issued approval for the use of the site for the purpose of maintenance and storage of engineering equipment in conjunction with the brick manufacturing plant;
- On 8 August 1983, Council issued Development Consent No. 104/83 for factory extensions. The development involved a 7% or 1360m² increase in the size of the kiln and drying building for the brick manufacturing plant;
- On 8 December 1998, Council resolved to grant Development Consent No. 577/97 for the use of the subject site for the purpose of a solid waste landfill for the remediation of extractive industry;
- On 22 July 1999, Council issued approval for office additions;

- On 18 December 2003, Council issued Modification No. 211/2003 modifying Development Consent No. 577/97 to enable an increase in the acceptance of waste to 430,000 tonnes per annum;
- On 12 July 2005, Council issued Development Consent No. 708/2005 for extensions to the existing sales office of Austral Bricks;
- On 24 March 2006, Council issued Development Consent No. 1431/2005 for the construction of a single storey administration building for the Austral Brick Company;
- On 13 December 2006, Council issued Development Consent No. 880/2006 for additions to Austral Bricks' Sales Office consisting of an office, boardroom and reception;
- On 20 October 2009, Council issued Development Consent No. 1510.1/2008 for the demolition of a portable building and covered pergola and alterations and additions to an existing office building for Austral Bricks;
- On 16 April 2010, Council issued Development Consent No. 1373.1/2009 for the erection of a brick display panel with a steel frame and with dimensions 10m x 10m, for the purpose of using the panel to expand the concept of brick art; and
- On 12 November 2013, Council issued Development Consent 286.1/2012 for Installation of a gas pipeline for the delivery and use of captures landfill gas in the brick manufacturing process.

The proposed development aligns with this long and detailed history of previous approvals at the site for the purposes of brick manufacturing.

From this DA history, it is evident that the Austral Brick Co Pty Ltd, through associated and related entities, has operated the business of brick manufacturing and the extractive industry required to facilitate that operation on the site since at least 1962. It is understood that DPIE has requested confirmation that DA145/20/33 in fact applies to the land on which the current operations are being undertaken. DPIE also seeks clarification in respect of the scope DA145/20/33, as it applies to the site. Advice was obtained from Mills Oakley Lawyers on 15 October 2018 relating to the application of DA145/20/33 (refer to **Appendix 18**).

The advice from Mills Oakley Lawyers confirms that DA145/20/33 relates to an application made in respect of the following parcels of land:

- Pt. Portion 36-39, New Horsley Road; and
- Pt. Portions 79 and 22, Parish of Prospect.

Copies of the historical title documents are enclosed with this advice at Annexure A of **Appendix 18**. A cross check was undertaken of the above historic title documents against the relevant date of consent for DA145/20/33, as well as the title boundaries of the site as it currently exists. From this review, the Mills Oakley advice was able to confirm the following:

- DA145/20/33, at the time of issue, applied to an area of land currently known as Lot 8 DP1059698. Lot 8 has been exhausted in terms of extraction, and been subsequently subdivided. It is also now subject to a separate Development Consent for the neighbouring resource recovery and waste facility operated by Veolia;
- However, Mills Oakley Lawyers have confirmed that the allotments identified by DA145/20/33 now form part of the current site. Indeed, historical title inquiries confirm that the lots to which DA145/20/33 applies (being Pt. Portion 36-39, New Horsley Road and Pt. Portions 79 and 22, Parish of Prospect) are allotments which are now contained within Lot 7 DP1059698, being the lot on which the current site exists;
- As such, DA145/20/33 applies to the current site;
- DA145/20/33 expressly authorises the manufacture of bricks, the extraction of clay and shale material and the processes required to implement those approved uses;

- DA145/20/33, by its own terms, contains specific requirements for the physical layout of the site including location of buildings, areas of vegetation and locations on which excavations may be carried out and applies to the whole of the existing site;
- The approvals granted, in accordance with the *Local Government Act 1919*, are deemed to be a *Development Consent* as that term is defined by the EP&A Act and continue to operate; and
- The consent for DA145/20/33 is to be construed liberally, according to its terms.

# PART C PROPOSED DEVELOPMENT

## 3.1 OBJECTIVES OF THE PROPOSED DEVELOPMENT

The aim of the proposed development is to improve the environmental, health and safety and sustainability performance of the existing brickworks operation. The following objectives have been identified as forming the basis of the proposed development with regard to the proposed Pant 2 upgrade works:

- Improve the site's environmental and safety performance;
- Design the site to achieve a viable economic return;
- Ensure minimal environmental and amenity impact;
- Ensure ongoing compliance with all operational legislative requirements;
- Continue to provide for an employment-generating land use at the site; and
- Ensure development is compatible with surrounding development, as well as the local and regional context.

The proposed development is considered to meet these objectives as it comprises development on land that has been previously disturbed and used for industrial purposes within the WSP.

## 3.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Consent is sought to carry out upgrade works to the existing brickmaking plant, to achieve optimal efficiency outcomes in line with best practice, as well as construction of a new fire access road. There would be no increase to the 80 million bricks which are produced at Plant 2 annually. The proposed development is demonstrated in **Figure 10** below. **Appendix 1** contains the detailed plans for the proposed development. These plans also show the general layout of the machinery within the existing buildings onsite.

In its existing state, the production building has a height to building ridgeline of 9.86m. With the proposed development in place, this would increase by 3.09m to 12.95m. The new stack would be 35m in height. Under WSP SEPP, the site is not subject to any building height controls.

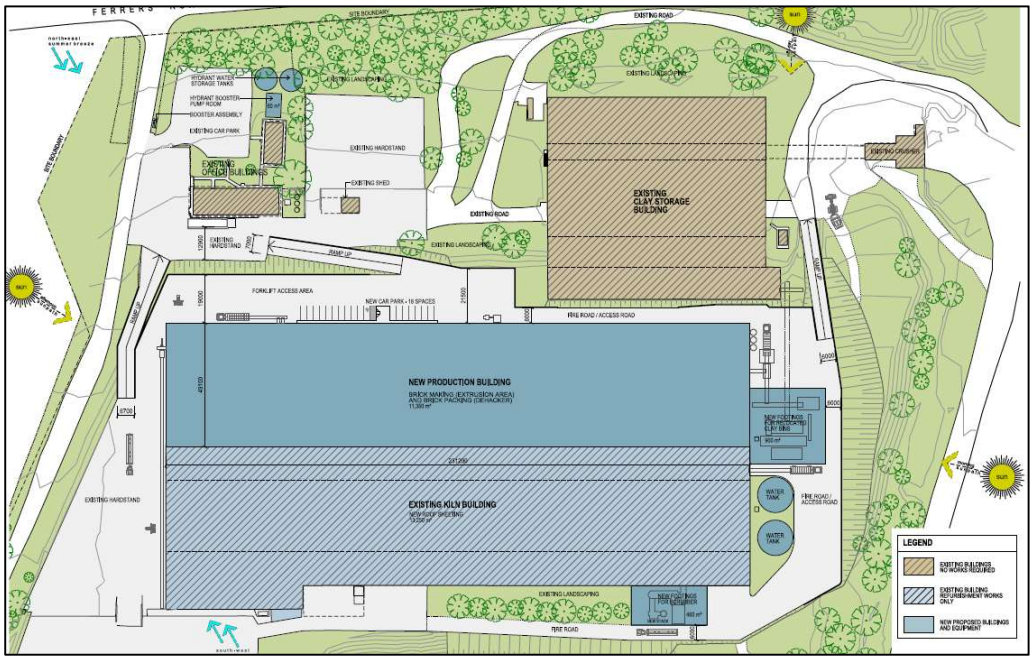


**Figure 10 Proposed Site Plan (SBA, 2019)**

The proposed development seeks to retain current staffing numbers onsite, being 35 personnel. The scope of the proposed development is set out in more detail within **Sections 3.2.1** to **3.2.7** below.

### 3.2.1 Demolition Works

The following demolition works would be undertaken to facilitate the proposed development (refer to **Figure 11**):

- Existing ramps and hardstand (which are to be upgraded);
- Clay bins (which are to be relocated);
- Part of existing production building, including existing production building wall; and
- Electrical substation.

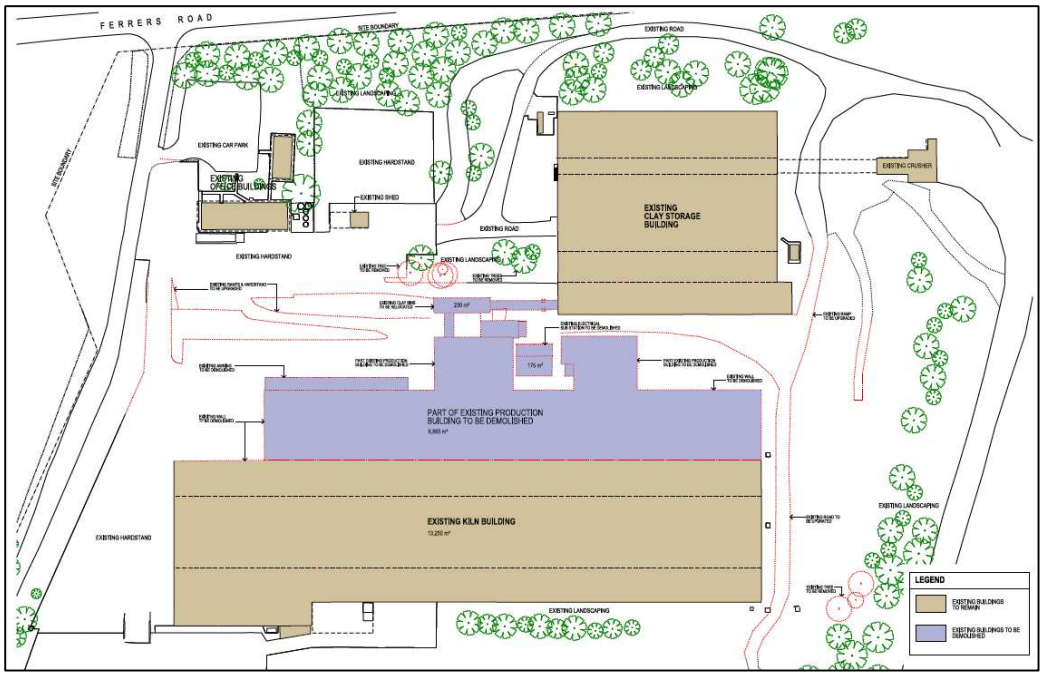


**Figure 11 Demolition Plans (SBA, 2019)**

Some mature trees at the site would also be removed. Refer to **Section 6.4** for more details.

### 3.2.2 New Production Building

The new production building would extend the site's existing production building. This new building would provide an additional floorspace of 11,350m$^2$ at the site. It would integrate with and match the existing production building. The new production building would provide for extended kiln car storage (fired product) and extended kiln rails. The existing de-hacker is also proposed to be relocated into this building extension to facilitate easier access for forklifts.

The proposed development would incorporate the following material finishes:

- New profiled metal cladding colorbond 'monument;'
- New profiled metal cladding – colorbond 'shale grey;'
- Existing wall cladding – to be cleaned and repaired;
- New roof sheet metal cladding 'surfmist;'
- New roller shutters – unpainted galvanized steel;

- New doors – frame painted charcoal, leaf painted colorbond 'windspray;'
- New windows – frame powdercoat charcoal, glass medium grey tint;
- Retaining walls – Austral Masonry 'Magnumstone' standard finish;
- Austral Bricks in dark colour tones; and
- Austral Bricks in light colour tones.

**Appendix 2** contains a coloured version of these material finishes that are proposed for the site.

### 3.2.3 Existing Production Building

The existing production building at the site (around 13,250m$^2$) would be provided with a new roof as part of the proposed development. This would comprise prefinished metal deck roofing to match the new production building (refer to **Section 3.2.2**). This building would accommodate the existing dryers and new kiln and would be accessed by staff for maintenance purposes only.

### 3.2.4 New Footings

The proposed development would include the provision of new footings for the relocated clay bins (around 900m$^2$) and for the scrubber (around 460m$^2$). It is proposed to relocate the existing clay bins from the front of the existing factory into the pit area. As a result, there would be a significant decrease in dust particles generated from the use of haul roads. The new scrubber footings would be attached to the new kiln stack.

### 3.2.5 New Kiln

A new kiln would be provided, with the same capacity as Plant 2's two existing kilns. The new kiln would continue to provide for Plant 2's current capacity of 80 million bricks per annum.

### 3.2.6 Fire Access Road

A new fire access road with a minimum width of 6m would be constructed to accommodate emergency vehicle movements around the full perimeter of the Plant 2 building.

### 3.2.7 New Equipment

New water tanks would be provided at the site, to the east of the existing production building, and to the north of the existing office buildings. A new 60m$^2$ hydrant pump booster room would also be provided to the north of these office buildings.

## 3.3 SUPPORTING CIVIL WORKS

**Figure 12** contains a general arrangement plan of the proposed development, including supporting civil works.

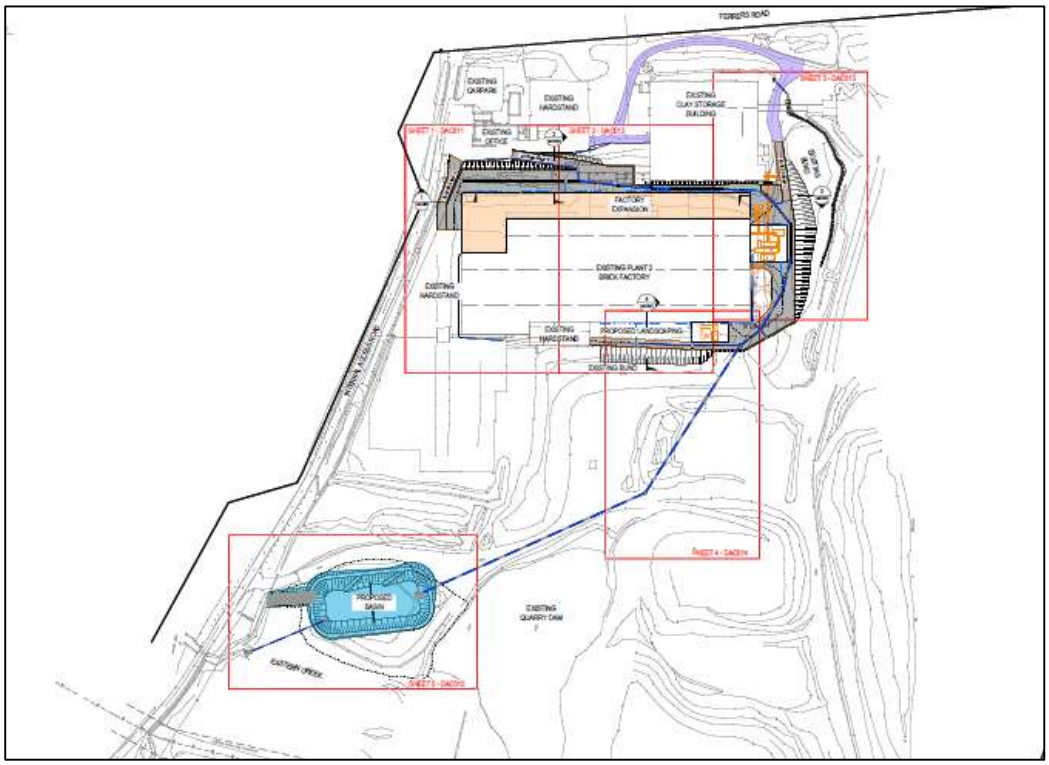

**Figure 12 General Arrangement Plan (at&l, 2019)**

The proposed development would include the following civil works:

- Demolishing some existing stormwater drainage infrastructure;
- Providing new stormwater detention basin to the south-east of the proposed development extent including:
  - Emergency spillway with rock-lined scour protection and flows discharging to existing dam via low point in the quarry area;
  - 1800x1800 stormwater control pit; and
  - Outlet headwall with energy dissipator;
- Providing cut off swale 600 wide x 100 high;
- Providing new outlet headwall with energy dissipator and pipe with one-way flap valve, discharging to existing dam;
- Constructing new pits over existing stormwater pipes;
- Providing new siphonic roofwater drainage downpipes;
- Constructing new retaining walls along the eastern and north-eastern extent of the works;
- Providing a new access ramp;
- Constructing a new manhole over existing stormwater pipe;
- Providing new inlet headwall;
- Providing pavement areas at the site with either:
  - Heavy duty reinforced concrete;
  - Heavy duty interlocking concrete blocks; and
  - Gravel (to access track standards), including resurfacing existing internal road with the same;
- Providing landscape batters in the northern, eastern and southern extent of the works.

The supporting earthworks that are required to be undertaken at the site to support the proposed development would comprise a total cut of 93,000m$^3$, which would be stockpiled

within the overall brickworks site and used for brickmaking purposes. No fill would be required at the site to support the proposed development.

The location of the proposed construction stockpile is shown on **Figure 13** below.

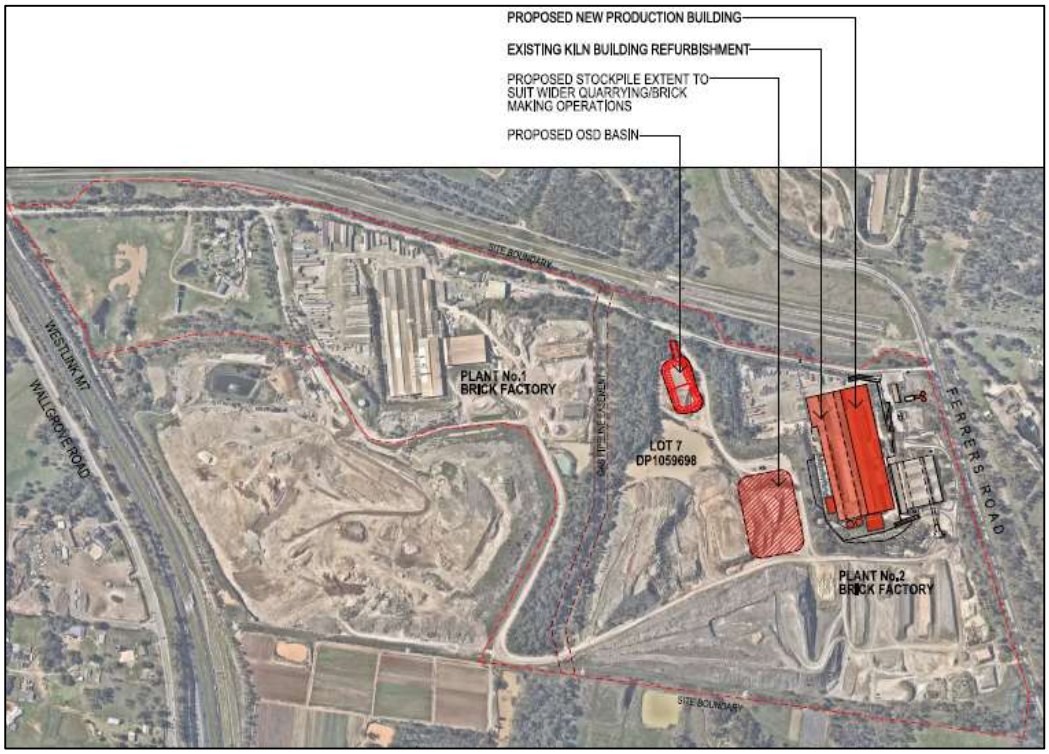


**Figure 13 Construction Stockpile Location (SBA Architects, 2019)**

## 3.4 OPERATIONS AND PROCEDURES

Plant 2 current operates as a face brick plant with an annual output of 80 million bricks. The operation is currently run by 35 employees. The existing brick kiln and associated equipment was commissioned in the late 1960's. It is in good condition and could operate for over 20 years, as the technology for brick making has not changed significantly since this time. However, the current kiln operates inefficiently by losing heat and requiring large amounts of gas to run.

The purpose of the proposed development is not to change the operation or the site's product output. Rather, the purpose of the proposed development is to address environmental issues stemming from the use of an ageing kiln with respect to gas usage and emissions.

The new building would provide for the extension of the kiln car storage area and the relocation of the existing de-hacker, both of which would improve circulation in the factory and emergency egress thus addressing occupational health and safety issues. Part of the extension would be used to create a proper glazed storage and application area, which would be bunded to address environmental issues associated with the glazes. Other works, including the removal of the asbestos roof, installation of solar panels and fire upgrades are all required to meet current standards, provide a safe work place for the site's employees and address environmental issues.

The proposed development would have minimal impact on the actual existing operations as capacity would not increase. There would be no change to the site's employee numbers, which would remain at 35. The construction phase of the proposed development would employ

around 60 full time equivalent contract workers. These numbers were arrived at through consultation with the proposed construction contractor specialising in kiln refitting. The carpark, which can currently accommodate 63 spaces, would be retained. New staff amenities would be included in the building extension to meet current employment standards. Traffic numbers would also not be affected by the proposed development, as the site's capacity would not change.

### 3.5 STAGING OF DEVELOPMENT

This EIS seeks consent to complete the construction works over multiple stages to ensure the operation of Plant 2 can continue. However, any such staging does not constitute staged development as per Section 4.22 of the EP&A Act. **Figure 14** below indicates how this proposed staging is likely to proceed.


**Figure 14 Proposed Development Staging Plan**

These stages of the proposed development would proceed as follows:

- Around five months for Stage One, (demolition and site preparation works) which would entail:
  - Demolition of kilns;
  - Demolition of parts of existing building (maintaining floor slab);
  - Removal of the roof from the existing building;
  - Construction of a stormwater basin; and
  - Installation of new stormwater pipework.
- Around 15 months for Stage Two (existing building refurbishment and new kiln installation), which would run in parallel with Stage Three and entail:
  - Cleaning of columns in existing building;
  - Installation of new roof to this section of the building;

  - Installation of new kiln;
  - Creation of pad for new scrubber and stack; and
  - Installation of new scrubber and stack;
- Around eight months for Stage Three (constructing new building section), which would run in parallel with Stage Three and entail:
  - Installation of new footings for columns;
  - Erection of new structure;
  - Cladding of new section, including new roof; and
  - Fitting out with equipment;
- Around five months for Stage Four (external works), which would entail:
  - Removal of existing batters around building;
  - Installation of retaining walls where required;
  - Provision of hardstand areas;
  - Installation of fire road and ring mains; and
  - Installation of clay bins.

The factory would be closed during the new building and kiln works, so traffic would remain stable with the construction traffic replacing the operational traffic. The kiln, whilst assembled onsite, consists of pre-fabricated units. The noise from the kiln installation and construction of the building is not expected to be greater than the current operational noise associated with running the factory.

### 3.6 NEED FOR THE PROPOSED DEVELOPMENT

The proposed development is essential if the site is to continue to be used for employment generating purposes. The proposed development would respond to the following needs:

- Need to improve the site's production efficiency performance;
- Need to improve the site's sustainability performance;
- Need to improve the site's environmental performance, most specifically with regards to air quality impacts, heat loss and gas usage; and
- Need to reduce specific work health and safety risks at the site.

The original Plant 2 kiln was constructed in the 1960's. Since then, there have been no major upgrades to the Plant. The upgraded kiln designs would utilise the latest technology during the heating and firing process. New features such as variable speed drives and robotics would replace old technologies within this equipment such as hydraulics. Improved monitoring of the kiln conditions through the supervisory control and data acquisition programs would also benefit the process control and efficiency.

It is noted that that the kiln upgrade is expected to increase gas efficiency with an expected 30% reduction in gas energy use per brick unit. This is expected to result in a decrease of Greenhouse Gas emissions by around 40%. The amount of wastes generated at Plant 2 with respect to number of bricks was close to 600,000 bricks in the last operating year. The proposed development would significantly reduce these waste figures. The upgraded technology would also generate lower levels of noise.

Historically, Hydrogen Fluoride (HF) has been noted to be the key pollutant of interest generated through the operation of Plant 2. Other identified pollutants of concern have remained in compliance with the conditions of EPL 546. The proposed development would allow these HF emissions to be better managed through improved control over the rates of pre-heating, temperature curve and avoidance of waste vapour at higher temperatures.

The Best Available Techniques Reference Document – *Ceramic Manufacturing Industry* published by the European Commission, August 2007 states that water present in the kiln atmosphere plays an important role in the mechanism of HF formation. Also, slow pre-heating

increases the reaction time and may result in lower HF emissions. As noted above, the proposed development would incorporate these features (i.e. controlling the rate of pre-heating and the amount of water vapour in the kiln atmosphere), which would limit the extent of HF emissions released. This process improvement resulting from the upgraded kiln in conjunction with the end-of-pipe abatement technology (fluorine cascade scrubber) would allow for significant reductions in the HF emissions.

A more detailed justification of the need for the proposed development is provided in **Part H** of this EIS. The environmental risk assessment undertaken in **Part F** concludes that the proposed development is consistent and commensurate with State, regional and local planning objectives, the environmental characteristics of the site, the surrounding context, and the principles of ecologically sustainable development (ESD).

## 3.7 CONSIDERATION OF ALTERNATIVES

The intention of the proposed development is to improve the environmental, health and safety and sustainability performance of the existing brickworks operation. The proposed development is justified on the basis that it would:

- Create local construction jobs;
- Capitalise on the use of an existing manufacturing site;
- Directly deliver on the strategic identification of the site as being for brickworks under the WSP POM;
- Develop for a land use which is permissible at the site by virtue of Clause 11(2) of the WSP SEPP;
- Ensure the site is compatible with the desired future local context and character; and
- Have no unacceptable economic, environmental or social impacts.

The options considered, and subsequently dismissed, in arriving to the proposed development are set out below:

### (a) 'Do Nothing' Scenario

This option was dismissed as the proposed development objectives, including the objective of improving the site's environmental and safety performance, would not be met.

### (b) Development on an Alternative Site

Developing an alternative site was not considered to be a feasible alternative. The site is specifically mapped under the WSP POM as being for 'Austral Bricks,' meaning that the NSW Government's strategic vision for the site is for its continued use as a brickworks. The site is also located at a sufficient distance between surrounding sensitive land uses, including residential and ecological receivers. The site also adjoins the M7 Motorway which links with the M2, M4 and M5 Motorways.

Maintaining the brickworks at the current site location also provides an opportunity to avoid the unnecessary costs and potential additional environmental impacts associated with developing an alternative greenfields or brownfields site to support the ongoing brickworks.

### (c) Different Site Configuration

The configuration of the proposed development was specifically chosen so as to:

- Make more efficient use of an existing, brownfields site;
- Avoid significant impacts to previously undisturbed areas of the site; and
- Avoid significant impacts to onsite biodiversity values.

A different site configuration would have resulted in an outcome which would not necessarily make best use of existing infrastructure at the site whilst reducing the environmental impacts of the site's operational activities.

This option was therefore not considered appropriate.

# PART D LEGISLATIVE AND POLICY FRAMEWORK

## 4.1 ENVIRONMENT AND PLANNING LAW FRAMEWORK

**Table 2** outlines the current environment and planning law requirements applying to the proposed development.

| **Table 2 Relevant Legislative Instruments** | |
|---|---|
| **Instrument** | **Application to Proposed Development** |
| *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) | The proposed development is not referable as it is unlikely to have any significant impacts on Matters of National Environmental Significance or Commonwealth Land. |
| *Environmental Planning and Assessment Act 1979* (EP&A Act) | Section 4.15(1) of the EP&A Act requires that, in determining a DA, a consent authority is to consider the following matters as relevant:<br>▪ Current or proposed environmental planning instruments, development control plans, planning agreements, the EP&A Regulations, and any coastal zone management plan;<br>▪ The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;<br>▪ The suitability of the site for the development;<br>▪ Any submissions made in accordance with this Act or the regulations; and<br>▪ The public interest.<br><br>The matters listed in the first point above are considered in this **Table 2**. The remainder of the matters are dealt with in **Part E**, **Part F** and **Part G** of this EIS. |
| *Protection of the Environment Operations Act 1997* (POEO Act) | The site currently operates under EPL 546 to undertake the following activities listed in Schedule 1 of the POEO Act:<br>▪ Ceramic waste generation > 5-100 tonnes generated or stored annually;<br>▪ Ceramics production > 200,000 tonnes produced annually;<br>▪ Crushing, grinding or separating, capacity to process > 500,000-2,000,000 tonnes annually;<br>▪ Land-based extractive activity, capacity to extract, process or store > 500,000-2,000,000 tonnes annually; and<br>▪ Mining for minerals, capacity to produce > 500,000-2,000,000 tonnes annually.<br><br>The proposed development would not alter the site's existing production capacity. The proposed development would therefore not require any production variation to EPL 546. However, EPL 546 would require minor variation to allow for a new discharge point to Eastern Creek so as to function alongside the newly proposed onsite detention system proposed for the site (refer to **Section 6.7.6** for more details).<br><br>The site has existing water quality monitoring points and parameters under EPL 546 which would assist the site in continuing to comply with Section 120 of the POEO Act (with regards to water pollution). |

| | |
|---|---|
| | Any events occurring at the site which threaten material environmental harm would be managed according to the site's Incident Response Management Plan as per Part 5.7A of the POEO Act. |
| *Water Management Act 2000* (WM Act) | The proposed development would be undertaken around 150m east of the nearest tributary of Eastern Creek, which traverses through Lot 7 from south to north. Furthermore, the nearest bulk earthworks to Eastern Creek would be undertaken around 400m from its alignment. The site would therefore not require a controlled activity approval to undertake works on waterfront land. |
| *Rural Fires Act 1997* (RF Act) | The periphery of Lot 7 includes land which is mapped as containing Categories 1-3 of bushfire prone land, as well as land which is mapped as containing Vegetation Buffer (refer to **Figure 4** in **Section 2.1**).<br><br>However, the proposed development would not involve any subdivision, nor would it involve any development for a Special Fire Protection Purpose. |
| *Biodiversity Conservation Act 2016* (BC Act) | The proposed development would not require the clearing of any vegetation which is listed as endangered under the BC Act. |
| *National Parks and Wildlife Act 1974* (NP&W Act) | The proposed development involves an extension of existing buildings on a site which has been subject to significant levels of historic significance. It is therefore considered that there is low potential for the site to contain previously unidentified items of Aboriginal cultural heritage.<br><br>In the unlikely event that potential Aboriginal heritage items are discovered during earthworks to facilitate the proposed development, works in the vicinity of the find would cease and the OEH would be contacted. Refer to **Section 6.14** for more details. |
| *Heritage Act 1977* | There are no previously recorded non-Aboriginal heritage items at the site which would be impacted on by the proposed development. |

## 4.2 KEY PLANNING CONTROLS

**Table 3** outlines the local planning controls within WSP SEPP which apply to the proposed development.

| **Table 3 Key Planning Controls** | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| ***State Environmental Planning Policy (Western Sydney Parklands) 2009*** | |
| **Clause 12 – Matters to be Considered by the Consent Authority - Generally** | |
| (a) the aim of this Policy, as set out in clause 2, | The aim of this Policy is to put in place planning controls that will enable the Western Sydney Parklands Trust to develop the Western Parklands into a multi-use urban parkland for the region of western Sydney by: |
| | *(a) allowing for a diverse range of recreational, entertainment and tourist facilities in the Western Parklands.*<br><br>The site is identified under the WSP POM as being used for brickworks production (refer to **Figure 9** in **Section 2.2**). The proposed development responds directly to this strategic designation of the site. The proposed development would therefore not impact on the use of remaining land within the WSP for recreational, entertainment and tourist facilities. |

| **Table 3 Key Planning Controls** | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| | *(b) allowing for a range of commercial, retail, infrastructure and other uses consistent with the Metropolitan Strategy, which will deliver beneficial social and economic outcomes to western Sydney.*<br><br>The proposed development would not impact on the use of remaining land within the WSP for commercial, retail, infrastructure or other uses. |
| | *(c) continuing to allow for and facilitate the location of government infrastructure and service facilities in the Western Parklands.*<br><br>The proposed development would not impact on the future implementation of government infrastructure and service facilities within the WSP. |
| | *(d) protecting and enhancing the natural systems of the Western Parklands, including flora and fauna species and communities and riparian corridors.*<br><br>The proposed development would be undertaken at least 150m east of the nearest waterbody (a tributary of Eastern Creek which traverses through Lot 7 from south to north). No vegetation is required to be cleared to facilitate the proposed development. However, the proposed development would improve the air quality performance of the site, potentially resulting in improved ecological outcomes for the surrounding locality. |
| | *(e) protecting and enhancing the cultural and historical heritage of the Western Parklands.*<br><br>As shown in **Figure 3** within **Section 2.1**, the nearest heritage items to the site are:<br><br>▪ Prospect Reservoir and Surrounding Area which is a State listed heritage item and is also locally listed under the FLEP 2013. It is located around 250m west of Lot 7; and<br>▪ Spotted Gum Forest, which is listed as a local heritage item under the WSP SEPP, and is located around 250m west of Lot 7.<br><br>However, the proposed development would not impact on the heritage significance of these items given the extent of separation and the relative minor nature of the development. |
| | *(f) maintaining the rural character of parts of the Western Parklands by allowing sustainable extensive agriculture, horticulture, forestry and the like.*<br><br>The proposed development would not impact on the use of remaining lands within the WSP for agriculture, horticulture or forestry purposes. |
| | *(g) facilitating public access to, and use and enjoyment of, the Western Parklands.*<br><br>The proposed development would not impact on the use or enjoyment of the remaining lands within the WSP for public purposes. |

| **Table 3 Key Planning Controls** | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| | *(h) facilitating use of the Western Parklands to meet a range of community needs and interests, including those that promote health and well-being in the community.*<br><br>The proposed development would not impact on the use of remaining lands within the WSP to meet community needs and interests. |
| | *(i) encouraging the use of the Western Parklands for education and research purposes, including accommodation and other facilities to support those purposes.*<br><br>The proposed development would not impact on the use of remaining lands within the WSP for education, research or accommodation purposes. |
| | *(j) allowing for interim uses on private land in the Western Parklands if such uses do not adversely affect the establishment of the Western Parklands or the ability of the Trust to carry out its functions as set out in section 12 of the Western Sydney Parklands Act 2006.*<br><br>The proposed development would not adversely affect the functions of the Western Parklands Trust. |
| | *(k) ensuring that development of the Western Parklands is undertaken in an ecologically sustainable way.*<br><br>As set out in **Section 7.1.5**, the proposed development would encapsulate the principles of ESD. |
| Clause 13 – Bulk Water Supply Infrastructure not to be Impacted | As shown in **Figure 6** within in **Section 2.1**, Lot 7 directly adjoins mapped Bulk Water Supply Infrastructure to the north and the east. As the proposed development would remain within the boundary of Lot 7, it would not impact on this mapped bulk water supply infrastructure. |
| Clause 14 – Development in Areas Near Nature Reserves or Environmental Conservation Areas | As shown in **Figure 5** within **Section 2.1**, Lot 7 directly adjoins the Prospect Reservoir Environmental Conservation Area. However, the proposed development itself would not impact on this Environmental Conservation Area.<br><br>Indeed, the site would continue to operate under the existing water quality parameters in EPL 546. It is therefore considered that the proposed development is unlikely to impact on the water quality of the surrounding locality, including the nearby Prospect Reservoir Environmental Conservation Area. It is not considered that there is any potential for the proposed development to result in any offsite biodiversity impacts for the Prospect Reservoir Environmental Conservation Area. **Figure 18** in **Section 6.3** below identifies the sensitive receptors which were considered as part of the Air Quality Impact Assessment (refer to **Appendix 10**). These included sensitive receptors within and in the near vicinity of the Prospect Reservoir Environmental Conservation Area. However, the Air Quality Impact Assessment did not find that these receptors would be impacted on in terms of Air Quality from the proposed development. |
| Clause 14A – Flood Planning | The portion of the site to be developed is not identified as flood prone. |
| Clause 15 – Heritage Conservation | As shown in **Figure 3** within **Section 2.1**, the nearest heritage items to the site are: |

| Table 3 Key Planning Controls | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| | ▪ Prospect Reservoir and Surrounding Area which is a State listed heritage item and is also locally listed under the FLEP 2013. It is located around 250m west of Lot 7; and<br>▪ Spotted Gum Forest, which is listed as a local heritage item under the WSP SEPP, and is located around 250m west of Lot 7.<br><br>However, the proposed development would not impact on the heritage significance of these items due to the extent of separation and minor nature of the development. |
| Clause 16 – Signage | The proposed development would not include any signage. |
| Clause 17 – Development on Private Land | The resolution of this issue will by necessity require further engagement from the Parklands Trust. Based on previous experience and engagement with the relevant stakeholders the issue will ultimately turn on the valuation of the land and the impact the proposed development will have on any proposed acquisition in the future. In this regard, the options discussed with the Department previously in relation to the site included the potential for a Deed between the Minister and The Austral Brick Co Pty Ltd to be entered into which would relinquish and costs associated with the capital works, on a sliding scale, associated with the proposed development. Note this deed would not account for existing development on the site. Having regard to the overall value of the site, the strategic importance of the asset which the development seeks to utilise and the useful life expectancy of the clay asset, the impact of the proposed development on the potential acquisition cost is considered inconsequential to the overall land value (including business operation). It Would therefore not increase the land value significantly and not unduly impact any future acquisition. Further details to support this approach will be furnished as part of the detailed engagement process with the Parklands Trust. |
| Clause 17A – Essential Services | Existing services would be augmented accordingly for the proposed development. Any works in this respect would be at no cost to the Government. |
| Clause 17B – Earthworks | Clause 17B(3) of the WSP SEPP provides that a consent authority must consider various earthworks before granting development consent. These matters are responded to as follows:<br><br>▪ An onsite detention system would be constructed at the site to prevent onsite drainage impacts, and extensive erosion and sediment controls would be implemented to manage soil stability;<br>▪ The site is specifically mapped under the WSP POM as being for 'Austral Bricks,' meaning that the NSW Government's strategic vision for the site is for its continued use as a brickworks. The proposed development therefore aligns with the strategically-approved current use of the land. Consultation with the Office of Strategic Lands demonstrates how the proposed development would not impact on the future use of the land under the WSP POM (refer to **Section 5.2** and **Appendix 17**);<br>▪ A geotechnical investigation of the site was undertaken by Douglas Partners in June 2015 (refer to Appendix B of |

| Table 3 Key Planning Controls | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| | **Appendix 4**). The investigation generally found that the site contains a layer of fill up to 8m thick (containing ripped shale, clay and crushed bricks) over residual stiff, high-plasticity silty clays. This is underlain by Bringelly shale typically of low to medium strength;<br>▪ The *Air Quality Impact Assessment* provided in **Appendix 10** and the *Noise Impact Assessment* included in **Appendix 12** confirm how the proposed development can proceed without significantly impacting on adjoining properties;<br>▪ **Figure 13** in **Section 3.3** sets out the proposed locations of stockpiled soils at the site during the proposed development;<br>▪ It is considered that there is low potential for the site to contain previously unidentified items of Aboriginal cultural heritage;<br>▪ The *Waste Management Plan* included in **Appendix 14** sets out how soils at the site would be sampled to ensure appropriate quality;<br>▪ The supporting earthworks that are required to be undertaken at the site to support the proposed development would comprise a total cut of 93,000$m^3$. Filling would not be required at the site. The cut materials would be stockpiled within the overall brickworks site and used for brickmaking purposes;<br>▪ The proposed development would result in an increase of approximately 16,000$m^2$ of impervious area within the existing Catchment A, and an increase of around 11,000$m^2$ across the development itself. An onsite detention basin is proposed to prevent any adverse impacts to the surrounding environment. Furthermore, the nearest bulk earthworks to Eastern Creek would be undertaken around 400m from its alignment. The site would therefore not require a controlled activity approval to undertake works on waterfront land;<br>▪ The site is not located in the near vicinity of any mapped drinking water catchment;<br>▪ As shown on **Figure 5** within **Section 2.1** above, the site is located adjacent to the Prospect Reservoir Environmental Conservation Area. Given that the site would continue to operate under the existing water quality parameters in EPL 546, it is considered that the proposed development is unlikely to impact on the water quality of the surrounding locality, including the nearby Prospect Reservoir Environmental Conservation Area. It is not considered that there is any potential for the proposed development to result in any offsite biodiversity impacts for the Prospect Reservoir Environmental Conservation Area. **Figure 18** in **Section 6.3** below identifies the sensitive receptors which were considered as part of the Air Quality Impact Assessment (refer to **Appendix 10**). These included sensitive receptors within and in the near vicinity of the Prospect Reservoir Environmental Conservation Area. However, the Air Quality Impact Assessment did not find that these receptors would be impacted on in terms of Air Quality from the proposed development;<br>▪ The mitigation measures which would be implemented to support the proposed development are set out in Part I of this EIS. |

| Table 3 Key Planning Controls | |
|---|---|
| **Requirement** | **Application to Proposed Development** |
| Clause 19A – Preservation of Tress or Vegetation | Clause 19A(3) provides that consent is required to remove trees or vegetation that are protected under a DCP.<br><br>**Section 6.4** and **Appendix 8** set out the details of such vegetation to be removed from the site. |
| Clause 20 – Bush Fire Hazard Reduction | The proposed development does not seek consent to remove vegetation for the purposes of bushfire hazard reduction at the site. |

### 4.3 ENVIRONMENTAL PLANNING POLICY FRAMEWORK

**Table 4** outlines the State Environmental Planning Policies which apply to the proposed development.

| Table 4 State Environmental Planning Policies | |
|---|---|
| **Instrument** | **Application to Proposed Development** |
| *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) | As per Schedule 2, Clause 5 of SRD SEPP, the proposed development is considered to be a form of SSD, as the site lies within the WSP and has a CIV exceeding $10M (i.e. $26M). It has been assigned SSD reference number 9601. |
| *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55) | As set out in **Section 6.8** and **Appendix 11**, the site is or can be made suitable for the proposed commercial/industrial land uses. |
| *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) | Due to the minor increase to the footprint of the existing buildings, and the fact there would be no additional traffic generation stemming from the proposed development, the proposed development is not considered to be Traffic Generating Development, and no referral is required to be made to the RMS. |
| *State Environmental Planning Policy No 33—Hazardous and Offensive Development* | As the proposed development only involves upgrade works and no changes to the substances used in the actual brickmaking process, it is considered that the proposed development would not result in any additional types or quantities of dangerous goods being stored at the site. |

### 4.4 STRATEGIC PLANNING FRAMEWORK

This **Section 4.4** outlines the strategic planning context of the site.

#### 4.4.1 NSW 2021

The proposed development is consistent with the five key strategies under NSW 2021 of:

- Rebuilding the economy;
- Returning quality services;
- Renovating infrastructure;
- Strengthening our local environment and communities; and
- Restoring accountability to government.

The Chapter on Rebuilding the Economy is most relevant to the proposed development as it provides objectives for achieving growth and prosperity. The plan makes a commitment that supports large and small businesses and describes the importance of the private sector's role

in maintaining and creating highly productive jobs to underpin the State's ability to realise higher standards of living for all people.

The proposed development would improve the productivity and environmental performance of the site, thereby ensuring that the site can continue its primary use as an employment-generating industrial landholding. The proposed development would also:

- Create construction jobs, stimulating additional commercial activity in the locale;
- Continue to provide employment near to where people live;
- Continue to support future development within the region by providing a local source of brick products;
- Generate Development Contributions payable under Section 7.11 of the EP&A Act; and
- Deliver on the State Government's strategic vision for the site under the WSP POM.

All of these would contribute towards the return of quality services to residents of NSW.

### 4.4.2 A Metropolis of Three Cities

*A Metropolis of Three Cities* (Metropolis Plan) identifies that 15% of all jobs within the Greater Sydney region are of an industrial nature. It also explains how manufacturing wealth is created on industrial and urban services lands, and how 74% of these lands are located within the Western City District (comprising the Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly LGAs) and the Central City District (comprising the Blacktown, Cumberland, Parramatta and The Hills LGAs). Indeed, Greater Sydney is recognised as Australia's manufacturing capital and traditional manufacturing and related industries underpin the creation and success of global value chains, which in turn support trade through Port Botany and Sydney Airport.

The site itself is located within the Western Parkland City of the Western City District (refer to **Figure 15** and **Figure 16**). The Western Parkland City is described as having the largest supply of industrial lands within Greater Sydney, and the Western Parkland and Central River cities are described as manufacturing leaders within NSW. There is also substantial future industrial land supply that is yet to be developed, together with two planned intermodal terminals, that will support large-scale logistics growth. In addition to Port Botany, the Eastern Harbour City contains four of Greater Sydney's 10 intermodal terminals and will therefore have an ongoing role in large-scale freight and logistics for the foreseeable future.

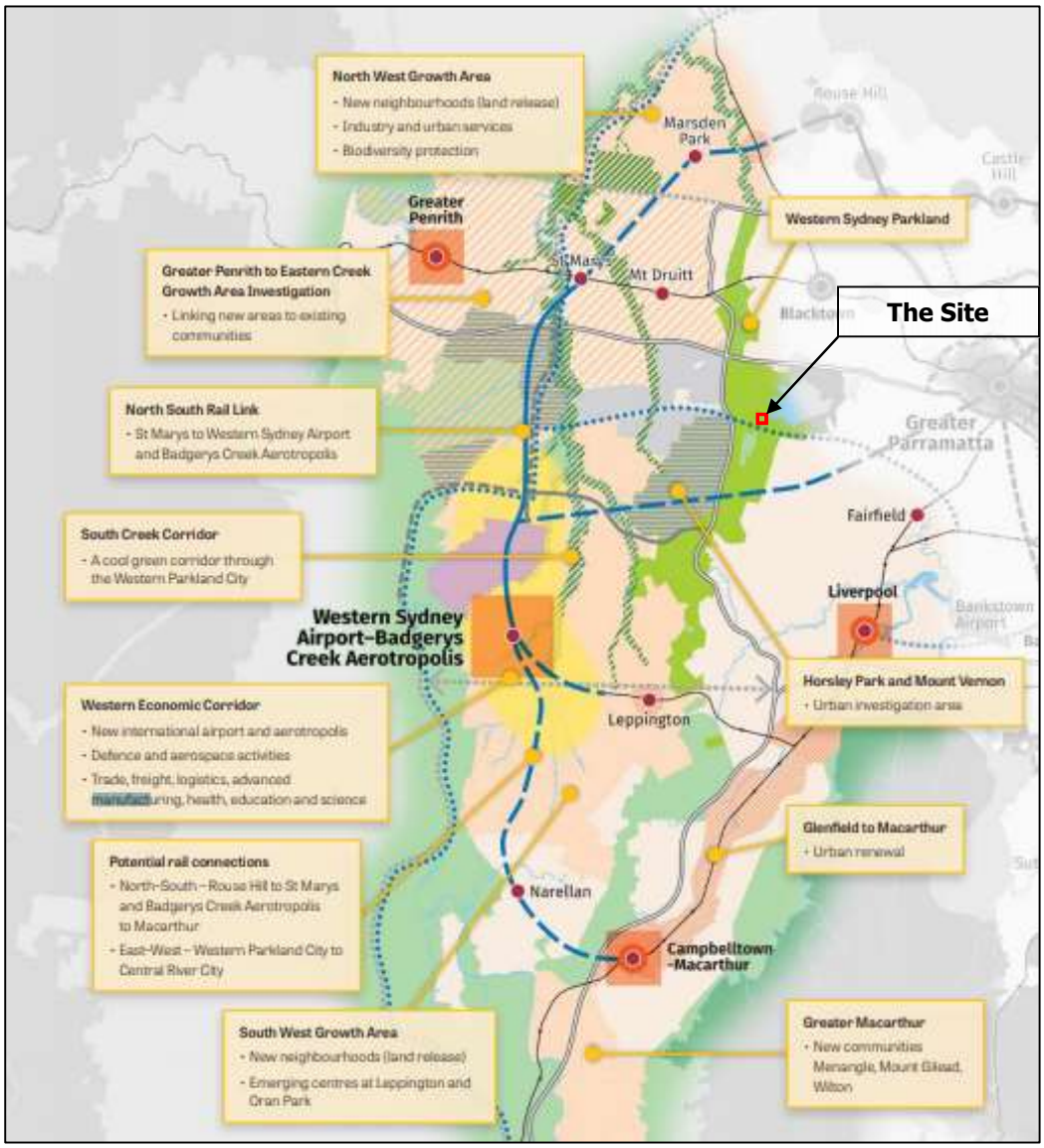


**Figure 15 Western Parkland City Vision (Greater Sydney Commission, 2018)**

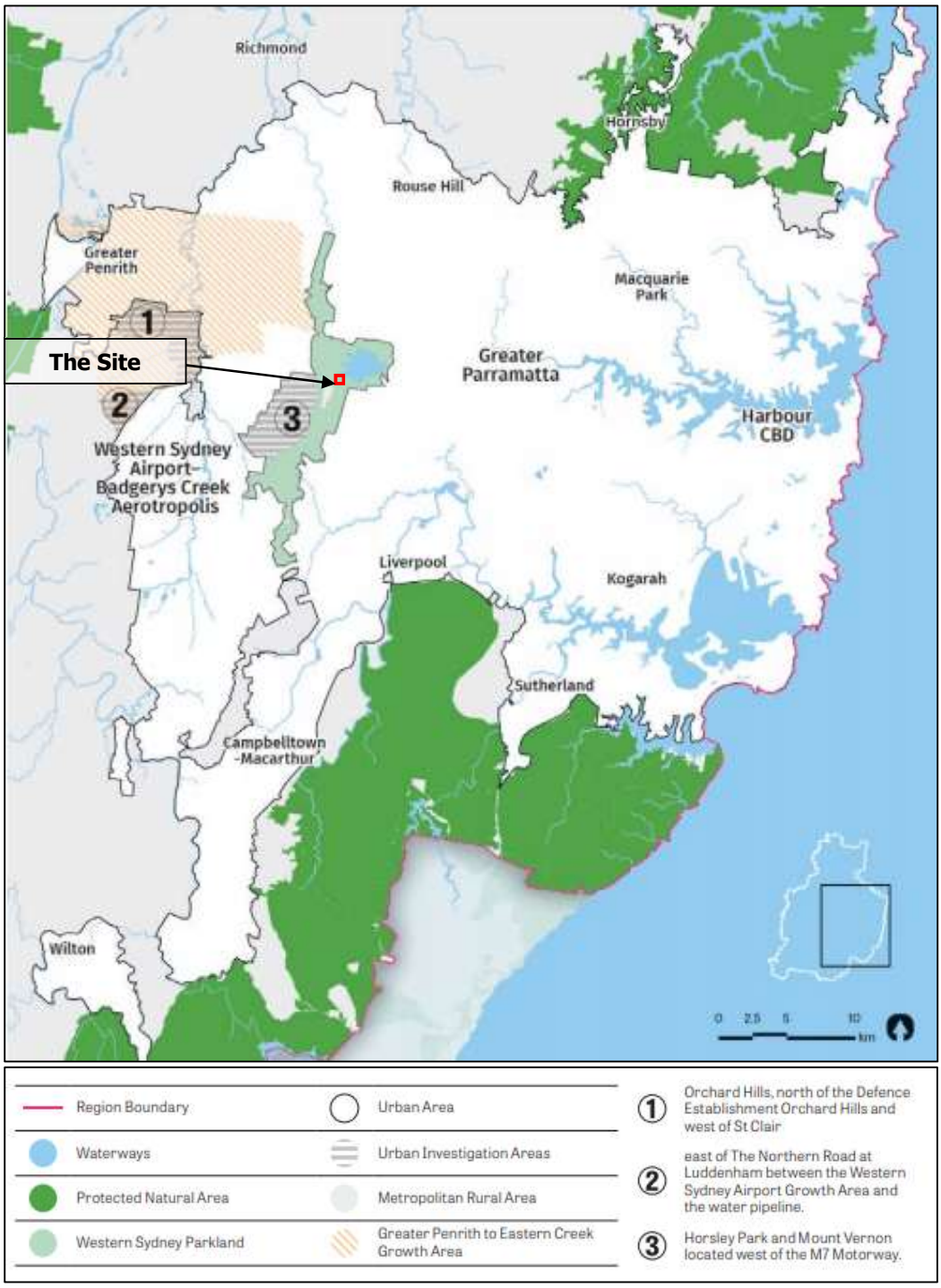


**Figure 16 Boundary of Urban Area (Greater Sydney Commission, 2018)**

The proposed development most appropriately meets the description of light manufacturing under the Metropolis Plan. The local and infrastructure requirements of such light manufacturing land uses are identified as being:

- Mixed lot sizes depending on the sizes and needs of the business;
- Located close to motorways;

- Manufacturing, freight and logistics businesses are often flexible regarding their preferred location, and are influenced by the availability of large, lower-priced sites with very good access to transport networks, specifically motorways, major arterial roads, the freight rail network, intermodal terminals, ports and airports. Therefore, they are often located on the fringe of cities and around trade gateways.

The site of the proposed development reflects these requirements.

Overall, the proposed development demonstrates consistency with the Metropolis Plan through the continued use of the site for brickmaking.

### 4.4.3 Western City District Plan

The *Western City District Plan* (District Plan) maps the site as lying within the Major Urban Parkland which is known as the WSP (refer to **Figure 17**).

Of the various priorities identified for the Greater Sydney West District, Planning Priority W17 Better Managing Rural Areas is the most relevant to the site of the proposed development. Planning Priority W17 recognises how the area contains extractive industries based on construction material resources, including clay and shale resources for brick and tile manufacturing. It is also noted how sourcing construction materials locally minimizes transport requirements whilst reducing the cost, environmental footprint and social impacts of construction, further supporting growth within the Greater Sydney Region. The proposed development would encapsulate this sustainable model of land and development management. Overall, it is considered that the proposed development would embody the continued delivery of building materials as per this sustainable model.

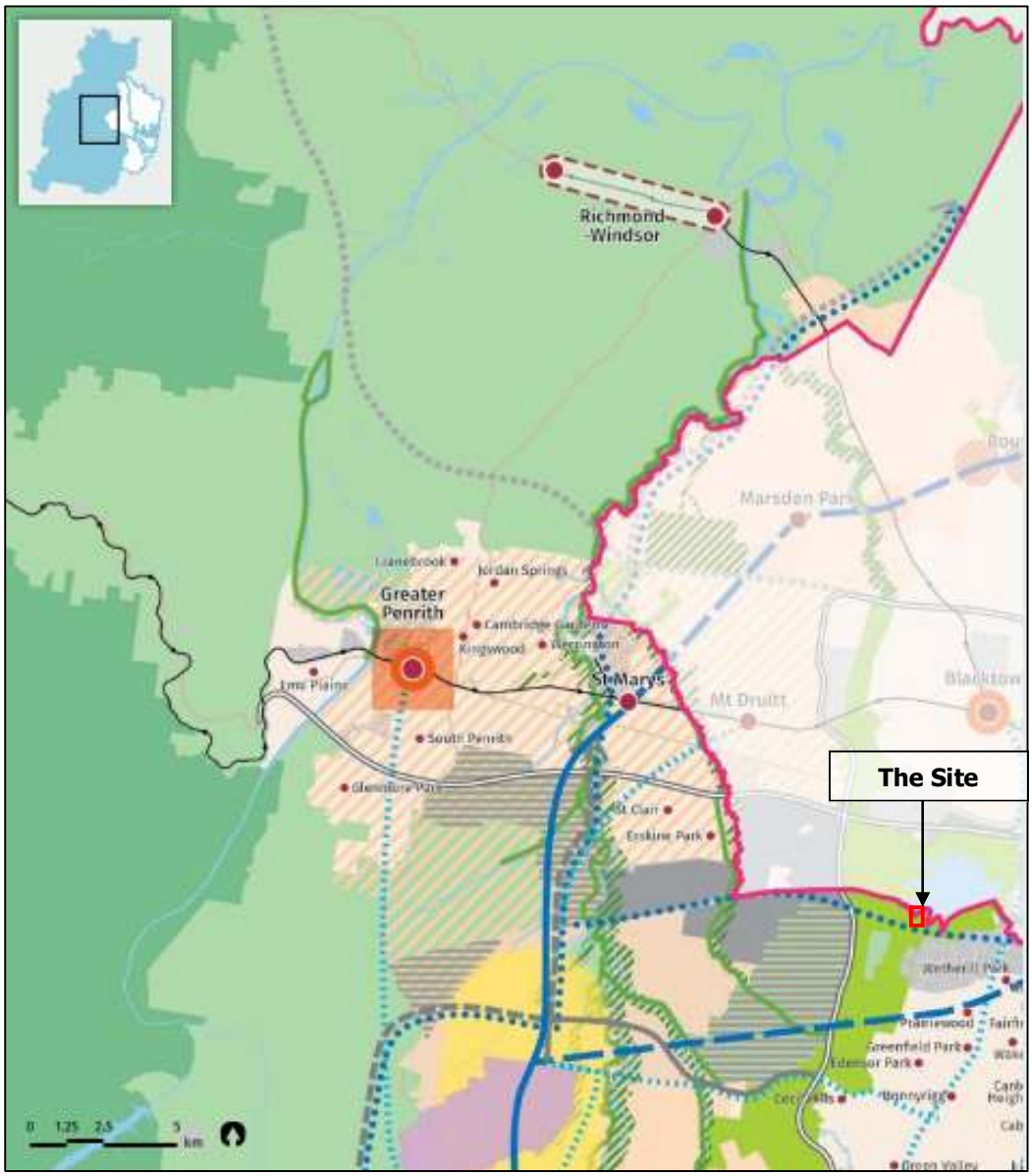


**Figure 17 Structure Plan for the Western City District – Urban Area North (Greater Sydney Commission, 2018)**

### 4.4.4 Western Sydney City Deal

The Western Sydney City Deal delivers on Smart Cities Plan and the Western City District Plan. The Australian Government's Smart Cities Plan is based on three pillars: Smart Investment, Smart Policy and Smart Technology. The Western Sydney City Deal includes six commitments: connectivity, jobs for the future, skills and education, liveability and environment, planning and housing, and implementation and governance.

The Western Sydney City Deal is about:

- Realising the 30-minute city by delivering the North South Rail Link;
- Creating 200,000 jobs by supercharging the aerotropolis and agribusiness precinct as catalysts;
- Skilling residents in the region and initiating an Aerospace Institute;

- Respecting and building on local character through a $150 million Liveability Program;
- Coordinating and innovating through a Planning Partnership; and
- Delivering for the Western Parkland City with enduring tri-level government.

The proposed development would ensure that future development to support the Western Sydney City Deal area can be supplied with a local source of brick products. In particular, the proposed development would support the projected growth in housing within the locality as part of the $30M Western Parkland City housing package.

### 4.4.5 Western Sydney Parklands Plan of Management 2030

The WSP POM sets out the following defining principles for the WSP:

- Protect natural environmental values;
- Respond to the needs of new and existing communities;
- Build a strong identity;
- Respect cultural heritage;
- Provide educational opportunities;
- Enhance community health;
- Co-locate complementary land uses;
- Be accessible to visitors;
- Be financially and operationally sustainable;
- Contribute to the economic development of Western Sydney; and
- Adopt a partnership approach.

The proposed development is aligned with these principles as it would contribute to the economic development of Western Sydney by ensuring the existing brickworks site can continue production into the future.

The first Strategic Direction of the WSP POM is Environmental Protection and Land Stewardship. This Strategic Direction seeks to improve the sustainability of WSP's operations and the quality of the WSP's natural environment. Improvements to the WSP's natural environment extends to agricultural lands and cultural heritage assets and values. Objective two of this Strategic Direction includes the following actions:

- Improve the health of waterways and wetlands, as well as protecting water supply assets;
- Work with partners to improve, measure and monitor water quality, birdlife and aquatic health in Eastern Creek, Hinchinbrook Creek, Bungarribee wetland and other waterways; and
- Work with State Government partners to protect water quality and assets for key water supply infrastructure such as Prospect Reservoir, Upper Canal and the Warragamba Pipelines.

**Sections 6.7.2** to **6.7.7** in **Part F** below set out how the proposed development would continue the existing water quality parameters testing as set out in EPL 546.

The Desired Future Character of Precinct 6: Wallgrove (where the site is located within the WSP), is stated as follows:

> *To be an evolving precinct that includes some of the current uses such as environmental monitoring, brickmaking, agriculture and recycling sites. The precinct has potential for the development of renewable energy and recycling opportunities, agriculture, unstructured recreation and sport uses, and a potential WSPT Business Hub development.*

The continued use of the site for brickmaking purposes is therefore aligned with the Desired Future Character of Precinct 6: Wallgrove under the WSP POM.

The stated Objectives for Precinct 6: Wallgrove are:

- Work with other State Government agencies to manage the transition from landfill, to other long-term land uses that will meet Western Sydney's needs;
- Work with agencies to restore ecological and visual landscapes; and
- Investigate options to develop WSPT Business Hubs at sites designated by the Trust

**Sections 6.4** and **6.13** set out how the proposed development would not have significant impacts on matters of biodiversity or visual importance within the locality.

The stated Land Use Objectives for Precinct 6: Wallgrove are:

- WSPT Business Hubs at sites designated by the Trust;
- Urban farming and associated facilities;
- Extraction, recycling and associated uses;
- Walking and cycling tracks;
- Unstructured recreation, sports and associated facilities;
- Sport, structured recreation and associated facilities;
- Environmental protection works;
- Potential Aboriginal and non-Aboriginal cultural and heritage interpretation; and
- Utilities infrastructure.

The continued use of the site for brickmaking purposes (associated with extraction works) is therefore aligned with the Land Use Objectives for Precinct 6: Wallgrove under the WSP POM.

The stated Key Management Priorities for Precinct 6: Wallgrove are:

- Environmental Protection and Land Stewardship
  - Work with State Government agencies to improve water quality in Eastern Creek;
  - Improve the bushland and biodiversity along Eastern Creek and its inflows;
  - Further investigate the area's Aboriginal and non-Aboriginal cultural heritage; and
  - Explore urban farming opportunities on the former landfill site;
- Creating Recreational and Community Facilities
  - Explore long-term unstructured recreation and sports outcomes which are compatible with former landfill uses and future recycling uses; and
  - Explore long-term walking and cycling links;
- Community Participation and Engagement:
  - In association with the development of recreation or sports facilities as they are developed, increase visitation, precinct activation and engagement and its recreation or environmental uses;
- Financial Sustainability and Economic Development:
  - Explore the potential for WSPT Business Hubs at sites designated by the Trust; and
  - Manage the impacts of future service infrastructure expansions in the Precinct.

The proposed development would not result in significant biodiversity impacts for the locality. It would also maintain the locality's surface water quality whilst not impacting on Aboriginal and non-Aboriginal cultural heritage. The proposed development would not impact on the maintenance and delivery of recreational and community land uses within the WSP. The proposed development would furthermore not impact on the capacity of the locality to be adequately serviced in the future.

## 4.5 PLANNING AGREEMENTS FRAMEWORK

The site and the proposed development are not subject to any current Planning Agreements under Section 7.4 of the EP&A Act.

# PART E CONSULTATION

## 5.1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

An application to receive SEARs was submitted to DPIE (SSD 18_9601). The SEARs were subsequently issued on 16 November 2018.

The SEARs issued are annexed as **Appendix 1**. An overview of how the requirements have been satisfied within the EIS is outlined in **Table 5**. This document is also consistent with the minimum requirements for an EIS in clauses 6 and 7 of Schedule 2 of the EP&A Regulation.

| **Table 5 How SEARs have been satisfied** | |
|---|---|
| **Key Issues** | **How Addressed** |
| **General Requirements** | |
| The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in Clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. In addition, the EIS must include a: | |
| ▪ Detailed description of the development, including: | |
| ○ Need for the proposed development; | Refer to **Section 3.6**. |
| ○ Justification for the proposed development; | Refer to **Section 7.1**. |
| ○ Likely staging of the development; | Refer to **Section 3.5**. |
| ○ Likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; and | Refer to **Part F**. |
| ○ Plans of any proposed building works. | Refer to **Appendix 2**. |
| ▪ Consideration of all relevant environmental planning instruments, including identification and justification of any inconsistences with these instruments; | **Refer to Sections 4.2** and **4.3**. |
| ▪ Risk assessment of the potential environmental impacts of the development, identifying the key issues specified below, and any other significant issues identified in this risk assessment, which includes: | Refer to **Part F**. |
| ○ A description of the existing environment, using sufficient baseline data; | These are provided for each matter of potential environmental impact from **Sections 6.3 to 6.17**. |
| ○ An assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and | |
| ○ A description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment; and | |
| ○ Consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. | Refer to **Part I**. |
| The EIS must also be accompanied by a report from a qualified surveyor, providing: | |
| ▪ A detailed calculation of the capital investment value (CIV) of the proposal as defined in clause 3 of the | Refer to **Appendix 9**. |

| **Table 5 How SEARs have been satisfied** | |
|---|---|
| **Key Issues** | **How Addressed** |
| *Environmental Planning and Assessment Regulation 2000*, including details of all components of the CIV; and<br>▪ A close estimate of the jobs that will be created by the development during the construction and operational phases of the development; and certification that the information provided is accurate at the date of preparation. | **Refer to Section 3.4**. |
| **Key Issues** | |
| The EIS must include an assessment of the potential impacts of the proposal (including cumulative impacts) and develop appropriate measures to avoid, mitigate, manage and/or offset these impacts. The EIS must address the following specific matters: | Refer to **Part F**. |
| **Community and Stakeholder Engagement – including:** | |
| ▪ A detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach;<br>▪ A report on the results of the implementation of the strategy including issues raised by the community and surrounding occupiers and landowners that may be impacted by the proposal;<br>▪ Details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal;<br>▪ Details of the proposed approach to future community and stakeholder engagement based on the results of the consultation; | Refer to **Section 5.2.** |
| **Strategic Context – including:** | |
| ▪ Detailed justification for the proposal and suitability of the site and proposed transport routes;<br>▪ Details of any proposed consolidation or subdivision of land; and<br>▪ Demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted management plans and justification for any inconsistencies. The following documents must be addressed:<br>o *State Environmental Planning Policy (Western Sydney Parklands) 2009*;<br>o The *Parkland Plan of Management 2020*;<br>o The *Parklands Plan of Management 2020 Supplement*; and<br>o The *Parklands Draft Plan of Management 2030*; | Refer to **Sections 3.6**, **3.7** and **7.1**.<br>**NA**.<br><br>Refer to **Section 4.2**.<br><br>These have now been replaced by the finalized *Parklands Plan of Management 2030* (refer to **Sections 2.1** and **4.4.5**). |
| **Air Quality – including:** | |
| ▪ A comprehensive air quality impact assessment (AQIA) of all potential point source and fugitive air emissions (including odour) and dust impacts form the development, including details of air quality impacts on | Refer to **Section 6.3** and **Appendix 10.** |

| **Table 5 How SEARs have been satisfied** | |
|---|---|
| **Key Issues** | **How Addressed** |
| private properties in accordance with relevant Environment Protection Authority guidelines;<br>▪ Details of mitigation, management and monitoring measures for preventing and/or minimising both point and fugitive emissions; and<br>▪ An assessment of the effectiveness of the proposed air quality mitigation measures; | |
| **Noise – including:** | |
| ▪ Description of all potential noise sources such as construction, operational and traffic noise;<br>▪ A comprehensive noise impact assessment including a cumulative noise impact assessment in accordance with relevant Environment Protection Authority guidelines; and<br>▪ Details of noise mitigation, management and monitoring measures; | Refer to **Section 6.5** and **Appendix 12.** |
| **Traffic and transport – including:** | |
| ▪ Details of the current daily and peak hour vehicle, public transport, pedestrian and bicycle movements and existing traffic on the road network located adjacent to the proposed development;<br>▪ Details of all traffic and transport demands likely to be generated during construction and operation, including a description of haul routes;<br>▪ Details on access to the site from the local road network, including intersection location, design and sight distance, and strategic road network (i.e. motorways);<br>▪ Impact of the proposed development on existing and future public transport and walking and cycling infrastructure within and surrounding the site;<br>▪ An assessment of predicted impacts on road safety and the capacity of the road network to accommodate the project;<br>▪ Details of access and parking arrangements for emergency vehicles;<br>▪ Demonstrate the measures to be implemented to encourage employees of the development to make sustainable travel choices, including walking, cycling, public transport and car sharing;<br>▪ Plans of any road upgrades or new roads required for the development including the potential to create an east-west road connection through the site linking Wallgrove Road with Ferrers Road; and<br>▪ Detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian standards; | Refer to **Section 6.9** and **Appendix 5**. |
| **Soils and Water – including:** | |
| ▪ A description of the catchment and proximity of the site to waterways;<br>▪ Consideration of potential local and mainstream flooding impacts;<br>▪ An assessment of potential surface and groundwater impacts associated with the development, including potential impacts on watercourses and riparian areas, | Refer to **Table 2 in Section 4.1**.<br>Refer to **Section 6.7.9** and **Appendix 4.**<br>Refer to **Sections 6.7.3** to **6.7.9** and **Appendix 4.** |

| **Table 5 How SEARs have been satisfied** | |
|---|---|
| **Key Issues** | **How Addressed** |
| groundwater and groundwater dependent communities nearby;<br>▪ A description of the surface, stormwater and wastewater management systems, including on site detention, and measures to treat or reuse water;<br>▪ A detailed water balance including a description of the water demands and breakdown of water supplies; and any water licensing requirements;<br>▪ Description of the measures to minimuse water use;<br>▪ Details of site history with regards to potential contamination; and<br>▪ Description of the construction erosion and sediment controls; | Refer to **Sections 6.7.6** and **6.7.7**.<br>Refer to **Section 6.7.8**.<br>Refer to **Section 6.7.8**.<br>Refer to **Section 6.8** and **Appendix 11.**<br>Refer to **Section 6.7.2** and **Appendix 4.** |
| **Waste Management – including:** | |
| ▪ Details of the quantities and classification of waste and wastewater to be generated on site;<br>▪ Details on waste storage, handling and disposal; and<br>▪ Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2007*; | Refer to **Section 6.10** and **Appendix 14**. |
| **Bushfire and Incident Management – including:** | |
| ▪ An assessment of the level of hazard posed to future development on adjacent land and how the hazards may change as a result of development;<br>▪ Address the requirements of Planning for Bush Fire Protection 2006 (RFS), in particular the provision of access (including perimeter roads) and water supply for firefighting purposes; | Refer to **Section 6.6** and **Appendix 13**.<br>Refer to **Section 6.6** and **Appendix 13**. |
| **Biodiversity – including:** | |
| ▪ Details of the number of trees to be removed and the number of trees to be planted on the site;<br>▪ And assessment and documentation of biodiversity impacts related to the development in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR) in the form required section 6.12 of the Biodiversity Conservation Act 2016, section 6.8 of the Biodiversity Conservation Regulation 2017 and the Biodiversity Assessment Method; | Refer to **Section 6.4** and **Appendix 8**. |
| **Visual – including:** | |
| ▪ Height, scale, signage and lighting, particularly from nearby public receives and vantage points of the broader public domain (i.e. roads); and<br>▪ Landscaping to minimise visual impacts and/or offset any clearing. All species used for landscaping shall be listed within the 'Cumberland Plain Woodland' endangered ecological community; | Refer to **Section 6.13** and **Appendix 16**.<br>Refer to **Section 6.13**. |
| **Greenhouse Gas – including:** | |
| ▪ A quantitative assessment of the potential Scope 1 and 2 greenhouse gas emissions of the development, and a | Refer to **Section 6.3** and **Appendix 10**. |

| **Table 5 How SEARs have been satisfied** | |
|---|---|
| **Key Issues** | **How Addressed** |
| qualitative assessment of the potential impacts of these emissions on the environment; and<br>▪ A detailed description of the measures that would be implemented on site to ensure that the development is energy efficient; | Refer to **Section 6.3** and **Appendix 10**. |
| **Hazards – including:** | |
| An assessment of the potential fire risks of the development; | Refer to **Sections 6.11** and **6.12**, as well as **Appendix 6** and **Appendix 7**. |
| **Cumulative Impacts** | |
| Particularly in relation to air, noise and traffic associated with other nearby industrial or commercial operations. | These have been included within the *Air Quality Impact Assessment* which is included in **Appendix 10**, the *Noise Impact Assessment* which is included in **Appendix 12**, and the *Transport Assessment Report* has been prepared in support of the proposed development, and is included in **Appendix 5**. |
| **Consultation** | |
| During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.<br><br>In particular, you must consult with:<br><br>▪ Environment Protection Authority;<br>▪ Fairfield City Council;<br>▪ Office of Strategic Lands;<br>▪ NSW Roads and Maritime Services;<br>▪ Office of Environment and Heritage;<br>▪ Department of Primary Industries;<br>▪ NSW Fire Brigade; and<br>▪ Local community and other stakeholders.<br><br>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided. | Refer to **Part E**. |
| **Further Consultation After Two Years** | |
| If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs you must consult further with the Secretary in relation to the preparation of the EIS. | **Noted**. |
| **References** | |

| Table 5 How SEARs have been satisfied | |
|---|---|
| **Key Issues** | **How Addressed** |
| The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal. | |

During the preparation of the SEARs, DPIE also consulted with stakeholders, and obtained a list of their Key Issues for the Proponent to assess in this EIS. These Key Issues for assessment are contained in **Table 6** to **Table 14**.

| Table 6 Fire and Rescue NSW's Key Issues for Assessment | |
|---|---|
| **Key Issues** | **How Addressed** |
| Following a review of the SEARs report FRNSW notes that on page 18 that "any hazardous and/or dangerous goods within applicable warehouses would undergo separate assessment via a SEPP 33 report". | Refer to **Section 6.12** and **Appendix 7**. |
| FRNSW requests the opportunity to review and comment on the SEPP 33 and EIS reports once completed. | This was provided to Fire and Rescue NSW (refer to **Section 5.2** for more details). |

| Table 7 Roads and Maritime's Key Issues for Assessment | |
|---|---|
| **Key Issues** | **How Addressed** |
| Roads and Maritime would require the following issues to be included in the transport and traffic impact assessment of the proposed development: | |
| 1. Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required). | Refer to **Section 6.9** and **Appendix 5**. |
| 2. Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (i.e.; turn paths, sight distance requirements, aisle widths, etc.). | Refer to **Section 6.9** and **Appendix 5**. |
| 3. Proposed number of car parking spaces and compliance with the appropriate parking codes. | Refer to **Section 6.9** and **Appendix 5**. |
| 4. Details of service vehicle movements (including vehicle type and likely arrival and departure times). | Refer to **Section 6.9** and **Appendix 5**. |
| 5. Roads and Maritime requires the EA report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (e.g.; Green Travel Plan, 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport. | Refer to **Section 6.9** and **Appendix 5**. |

| **Table 7 Roads and Maritime's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| 6. Roads and Maritime requires an assessment of the likely toxicity levels of loads transported on arterial and local roads to/from the site and, consequently, the preparation of an incident management strategy for crashes involving such loads, if relevant. | Refer to **Section 6.11** and **Appendix 6**. |

| **Table 8 Transport for NSW's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| Input has been provided to the draft SEARs overleaf, in RED, as tracked changes. | Noted. |
| TfNSW notes that the subject site lies within land identified for corridor investigations for the Western Sydney Freight Line 1. These investigations are ongoing and TfNSW may consult with the Applicant/landowner when required. | Noted. |

| **Table 9 Fairfield City Council's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| It is noted that a previous major development proposal for the site was referred to Council for comment under SSD 6820 in 2015. | Noted. |
| Council requests that the issues contained in its previous submission (attached) be addressed in the scope of the SEARs issued for the current proposal. | Noted. See below in this **Table 9**. |
| **Previous Light Weight Aggregate Facility DA – SSD 6820** | |
| Fairfield City Council has concerns regarding the flood modelling prepared for the proposal as advised by Council's Catchment Branch as follows:<br><br>*As Council's model of this location treated the quarries as filled, the proponent found that the proposed development could not be modelled correctly, and therefore a local site survey was "patched" on to the flood study model.*<br><br>*The Flood Impact Assessment does not state the limit of the changes to terrain. If there were terrain changes in the greyed out area where no results are being shown, this could significantly underestimate flooding on the site, with the actual flood levels being much higher than shown in the results and additional flooding in surrounding properties.*<br><br>*Therefore, before any flood impacts can be assessed accurately, all figures in the Flood Impact Assessment need to show the entire site and surrounds, with no greyed out area. Also, the extent and details of the terrain patch also needs depicted for better understanding of model changes.*<br><br>In this regard, potential flooding impacts of the proposal cannot be accurately determined. However, Council officers are happy to meet with the applicants flood engineers to help resolve this matter.<br><br>In addition, Council notes the extensive nature of the project involving major site works, provision of new stockpile areas, processing plant | Refer to **Section 6.7.9** and **Appendix 4**.<br><br>The proposed development is no longer seeking to |

| **Table 9 Fairfield City Council's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| and equipment to facilitate production of 600,000 tonnes per annum of aggregate for a range of uses in the building and construction industries.<br><br>In this regard, the proposal has the potential to generate a range of impacts on the surrounding natural and built environments and accordingly Council requests that the accompanying conditions of consent be applied to the development. | alter stockpile locations at the site.<br><br>Noted. |
| **Impacts on Threatened Species** | |
| Pursuant to the provisions of the Threatened Species Act Council notes that a 7 part test was undertaken into the potential for impacts on threatened species, populations or EECs.<br><br>A review of the EIS documents and from a site visit by Council officers, the location where the Cumberland Plain Land Snail (*Meridolum corneovirens*) was recorded was not within the development footprint, but in a location (see figure below) along the eastern boundary of the site (area approximately 3,200m$^2$) identified to have potential for indirect impacts.<br><br>These impacts have been identified in the construction and operational phase and therefore will be an ongoing threatening process to the existence of the population of Cumberland Plain Land Snail on the site. The impacts identified include sedimentation, runoff, trampling and rubbish dumping.<br><br>Based on the above, Council requests that appropriate safeguards to be included in the development to protect the subject area on the eastern boundary of Ferrers Road.<br><br>This should include the preparation of a fully costed vegetation and fauna management plan prepared by a qualified ecologist in consultation with Fairfield City Council and include (but not limited to) the following:<br><br>▪ Provision of exclusion zones and interpretive signage in proximity to the habitat where the Cumberland Plain Land Snail is located;<br>▪ Retaining tree logs associated with tree removal to be used as stags and as ground habitat logs;<br>▪ Any restoration through revegetation is to be undertaken using locally provenance plants; and<br>▪ Provision and maintenance of sediment fences along the boundary of the habitat area in accordance with the Bluebook – Managing Urban Stormwater.<br><br>A Desktop search identified that the Green and Gold Bell Frog (*Litoria aurea*) has been recorded within a 5km radius of the development site. In addition to this, the favoured habitat for this frog includes brick-pits, as described in the Flora and Fauna Study.<br><br>A reference site study was undertaken at a known breeding site, the green and golden bell frogs were not calling at this site in March | Refer to **Section 6.4** and **Appendix 8**. |

| **Table 9 Fairfield City Council's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| therefore it is recommended that a study during the breeding season be undertaken. | |
| **Environment Management** | |
| The EIS has predicted that there would be no significant impacts to noise and air quality and as a result from the proposal. Waste generation is considered to be minor and effectively managed. The site is considered to be suitable for the proposed use however; further "targeted" investigation is required to confirm that the site is free from contamination.<br><br>To ensure that proposed mitigation measures/recommendations are complied with, Council recommends that the conditions to be placed on the consent in relation to compliance monitoring of acoustic impacts, certification that all work, methods, procedures, control measures and recommendations in the reports accompanying the EIS have been completed. | Refer to **Section 6.8** and **Appendix 11**.<br><br>Noted. |
| **Traffic Management** | |
| Council has concerns regarding the impact of heavy vehicles on the road surface of the local road network.<br><br>In this regard Council requests that a condition be applied to the development (as included in the Attachment) that all heavy vehicles accessing or leaving the site be restricted to/from Wallgrove Road.<br><br>Council notes that the north east corner of the site has been identified for the route of the Southern (arterial) Link Road associated with the Erskine Park Link Road Network. It is recommended that the Department should consider this issue further and include any necessary conditions under the approval to ensure that future establishment of the arterial road corridor through the site is not compromised. | Noted. |
| **S. 94 Contributions** | |
| The applicant acknowledges that the "Contributions under the Indirect (s94A) Development Contributions Plan 2011 will apply to the proposal as calculated by Fairfield Council."<br><br>In this regard Council confirms that a 1% contribution of the total capital investment value for the project equivalent to $1,297,870 is applicable to the development. A condition covering this matter is also included in the Attachment to this submission. | Noted. |

| **Table 10 Department of Industry's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| **DoI - Water**<br><br>▪ The identification of an adequate and secure water supply for the life of the project. This includes confirmation that water can be sourced from an appropriately authorised and reliable supply. This is also to include an assessment of the current market depth where water entitlement is required to be purchased. | Refer to **Sections 6.15** and **6.7.8**. |

| **Table 10 Department of Industry's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| ▪ A detailed and consolidated site water balance. | Refer to **Section 6.7.8**. |
| ▪ Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts. | Refer to **Sections 6.7.2** to **6.7.9** and **Appendix 4**. |
| ▪ Proposed surface and groundwater monitoring activities and methodologies. | EPL 546 sets out the existing water monitoring points and parameters for the site, which would continue with the proposed development in place. |
| ▪ Consideration of relevant legislation, policies and guidelines, including the NSW Aquifer Interference Policy (2012), the Guidelines for Controlled Activities on Waterfront Land (2018) and the relevant Water Sharing Plans (available at https://www.industry.nsw.gov.au/water). | NA – as the proposed development would not access groundwater and would not be undertaken on waterfront land. |

| **Table 11 NSW Rural Fire Service's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| The New South Wales Rural Fire Service (NSW RFS) has reviewed the information provided and advises that a bush fire assessment report shall be prepared which identifies the extent to which the proposed development conforms with or deviates from the relevant provisions of *Planning for Bush Fire Protection 2006* and/or subsequent edition. | Refer to **Section 6.6** and **Appendix 13**. |

| **Table 12 Office of Environment and Heritage's Key Issues for Assessment** | |
|---|---|
| **Biodiversity** | **How Addressed** |
| 1. Biodiversity impacts related to the proposed development are to be assessed in accordance with Section 7.9 of the Biodiversity Conservation Act 2017 the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s.6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method, including an assessment of the impacts of the proposal (including an assessment of impacts prescribed by the regulations). | Refer to **Section 6.4** and **Appendix 8**. It is considered that the proposed development is exempt from the requirement to prepare a Biodiversity Development Assessment Report as per Section 7.9 of the *Biodiversity* |
| 2. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method. | |
| 3. The BDAR must include details of the measures proposed to address the offset obligation as follows: | |

| **Table 12 Office of Environment and Heritage's Key Issues for Assessment** | |
|---|---|
| ▪ The total number and classes of biodiversity credits required to be retired for the development/project;<br>▪ The number and classes of like-for-like biodiversity credits proposed to be retired;<br>▪ The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;<br>▪ Any proposal to fund a biodiversity conservation action;<br>▪ Any proposal to conduct ecological rehabilitation (if a mining project); and<br>▪ Any proposal to make a payment to the Biodiversity Conservation Fund.<br>If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. | *Conservation Act 2016*. |
| 4. The BDAR must be submitted with all spatial data associated with the survey assessment as per Appendix 11 of the BAM. | |
| 5. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016. | |
| **Aboriginal Cultural Heritage** | |
| 6. The EIS must identify and describe the Aboriginal Cultural Heritage values that exist across the whole area that will be affected by the development and document these in an Aboriginal Cultural Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Codes of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011). | Refer to **Section 6.14**. |
| 7. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR. | Refer to **Section 6.14**. |
| 8. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.<br>Note that a due diligence report is not acceptable, a ACHAR must be prepared. | Refer to **Section 6.14**. |
| **Water and Soils** | |
| 9. The EIS must map the following features relevant to water and soils including:<br>a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).<br>b. Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method). | The site is not mapped as containing acid sulfate soils.<br>Refer to **Figure 1** and **Figure 2** in **Section 2.1**. |

| Table 12 Office of Environment and Heritage's Key Issues for Assessment | |
|---|---|
| c. Wetlands as described in s4.2 of the Biodiversity Assessment Method.<br>d. Groundwater.<br>e. Groundwater Dependent Ecosystems.<br>f. Proposed intake and discharge locations. | Refer to **Sections 6.7.3** and **6.7.8**. |
| 10. The EIS must describe background conditions for any water resource likely to be affected by the development, including:<br>a. Existing surface and groundwater.<br>b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.<br>c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.<br>d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.<br>e. Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions http://www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considerating-waterway-health-outcomes-in-strategic-land-use-planning. | Refer to **Sections 6.7.2** to **6.7.7**. |
| 11. The EIS must assess the impacts of the development on water quality, including:<br>a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they were currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.<br>b. Identification of proposed monitoring of water quality.<br>c. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan). | Refer to **Sections 6.7.2** to **6.7.7**. |
| 12. The EIS must assess the impact of the development on hydrology, including:<br>a. Water balance including quantity, quality and source.<br>b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.<br>c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.<br>d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).<br>e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water. | Refer to **Sections 6.7.2** to **6.7.7**. |

| Table 12 Office of Environment and Heritage's Key Issues for Assessment | |
|---|---|
| f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.<br>g. Identification of proposed monitoring of hydrological attributes. | |
| **Flooding and Coastal Hazards**<br><br>13. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:<br>a. Flood prone land.<br>b. Flood planning area, the area below the flood planning level.<br>c. Hydraulic categorisation (floodways and flood storage areas).<br>d. Flood Hazard. | Refer to **Section 6.7.9** and **Appendix 4**. |
| 14. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 5% Annual Exceedance Probability (AEP), 1% AEP, flood levels and the probable maximum flood, or an equivalent extreme event. | Refer to **Section 6.7.9** and **Appendix 4**. |
| 15. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:<br>a. Current flood behaviour for a range of design events as identified in 14 above. This includes the 0.5% and 0.2% AEP year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change. | Refer to **Section 6.7.9** and **Appendix 4**. |
| 16. Modelling in the EIS must consider and document:<br>a. Existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies.<br>b. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood, or an equivalent extreme flood.<br>c. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories.<br>d. Relevant provisions of the NSW Floodplain Development Manual 2005. | Refer to **Section 6.7.9** and **Appendix 4**. |
| 17. The EIS must assess the impacts on the proposed development on flood behaviour, including:<br>a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.<br>b. Consistency with Council floodplain risk management plans.<br>c. Consistency with any Rural Floodplain Management Plans.<br>d. Compatibility with flood hazard of the land.<br>e. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.<br>f. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site. | Refer to **Section 6.7.9** and **Appendix 4**. |

| **Table 12 Office of Environment and Heritage's Key Issues for Assessment** | |
|---|---|
| g. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.<br>h. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council.<br>i. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council.<br>j. Emergency management, evacuation and access, the contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES.<br>k. Any impacts the development may have on the social and economic costs to the community as consequence of flooding. | |

| **Table 13 Environment Protection Authority's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| The EPA also notes that the proposal would not see any application for variation needed to the existing environment protection licence as there will be no change in the production rate at the premises. | Noted. |
| In summary, the EPA's key information requirements for the EA include:<br><br>1. Air<br>2. Noise and vibration impacts<br>3. Waste, Chemical and Hazardous material and Radiation<br>4. Soil<br>5. Water<br>6. Rehabilitation. | Refer to **Sections 6.3**, **6.5**, **6.10**, **6.11**, **6.12**, **6.7**, and **6.8**. |
| The EPA requirements have been structured in accordance with the DIPNR EIS Guidelines, as follows. It is suggested that the EA follow the same structure:<br><br>A. Executive summary<br>B. The proposal<br>C. The location<br>D. Identification and prioritisation of issues<br>E. The environmental issues<br>F. List of approvals and licences<br>G. Compilation of mitigation measures<br>H. Justification for the proposal | Refer to **Executive Summary**, **Section 3.2**, **Sections 2.1** and **2.2**, **Section 6.1**, **Part F, Table 2** in **Section 4.1**, **Part I**, and **Sections 3.1**, **3.6**, **3.7** and **7.1**. |
| **Executive Summary**<br><br>The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes. | Refer to **Executive Summary**. |
| **General** | |

| **Table 13 Environment Protection Authority's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| 1.1 The EA must address the requirements of section 45 of the POEO Act by determining the extent of each impact and providing sufficient information to enable the EPA to determine appropriate conditions, limits and monitoring requirements for an EPL. | Refer to **Table 2** in **Section 4.1**. |
| 1.2 The EA should be consistent with the relevant guidelines available through DPE, which may include but are not limited to: *EIS Guideline: Extractive Industries Quarries*; *EIS Guideline: Extractive Industries Dredging and Other Extraction in Riparian and Coastal Areas*; and *Guideline 4: Preparing an Environmental Impact Statement* (draft). | Noted. |
| 1.3 The EA should be consistent with sustainability directions in the *Western City District Plan* (2018). | Refer to **Section 4.4.3**. |
| 1.4 The EA should identify any locally specific objectives, criteria or targets which have been endorsed by the NSW Government. | Refer to **Sections 2.1** and **4.4** and **Table 3 in Section 4.2**. |
| **Air**<br><br>2.1 The EA must include an air quality impact assessment (AQIA) prepared in accordance with *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (2016).<br><br>2.2 The EA must provide a description of the management and mitigation measures that will be used to prevent, minimise and monitor the air quality impacts of the proposal, including how these measures will meet the requirements of the POEO Act, the *Protection of the Environment Operations (Clean Air) Regulation* 2010 and associated air quality limits or guideline criteria. | Refer to **Appendix 10**. |
| **Noise and Vibration**<br><br>3.1 The EA must include a construction noise and vibration impact assessment prepared in accordance with the *Interim Construction Noise Guideline* (2009) and *Assessing vibration: a technical guideline* (2006). Noise on public roads from increased road traffic generated by the proposal is to be assessed in accordance with the *NSW Road Noise Policy* (2011).<br><br>3.2 The EA must include an operational noise and vibration impact assessment prepared in accordance with the *Noise Policy for Industry* (2017) and *Assessing vibration: a technical guideline* (2006). Noise on public roads from increased road traffic generated by the proposal is to be assessed in accordance with the *NSW Road Noise Policy* (2011).<br><br>3.3 If blasting is required, the EA must demonstrate that blast impacts are to be capable of complying with the guidance contained in *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (1990).<br><br>3.4 The EA must provide a description of the management and mitigation measures that will be used to prevent, minimise and monitor the noise and vibration impacts of the proposal. | Refer to **Section 6.5** and **Appendix 12**. |
| **Waste, Chemicals and Hazardous Materials and Radiation** | |

| **Table 13 Environment Protection Authority's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| 4.1 The EA must provide details of the type and quantity of waste, including spoil and asbestos that will be generated by the proposal.<br><br>4.2 The EA must provide details of the type and quantity of any chemical substances, including fuels, that will be used or stored onsite during construction and operation of the proposal.<br><br>4.3 The EA must provide a description of the spill containment equipment and practices that will be used, consistent with the relevant Australian Standards, for all chemical substances and wastes generated, used or stored onsite during construction and operation of the proposal.<br><br>4.4 The EA must provide a description of the management and mitigation measures that will be used to comply with the POEO Act, the *Protection of the Environment Operations (Waste) Regulation* 2014 and<br>associated guidelines, including contingency plans for any event that may result in environmental harm. | Refer to **Section 6.10** and **Appendix 14**.<br><br>Refer to **Section 6.11**.<br><br>Refer to **Section 6.10**.<br><br>Refer to **Table 2** in **Section 4.1**, **Section 6.10** and **Appendix 14**. |
| **Soils**<br><br>5.1 The EA must include a soil and land resources impact assessment consistent with *Soil and Landscape Issues in Environmental Impact Assessment* (2000) and the *Acid Sulfate Soils Manual* (1998).<br><br>5.2 The EA must provide a description of the management and mitigation measures that will be used to prevent, minimise and monitor the soil impacts of the proposal, consistent with *Managing urban stormwater: soils and construction - volume 1* (2004) and *volume 2* (2008). | Additional soil resources would not be utilized at the site, and the site does not contain any acid sulfate soils.<br><br>Refer to **Section 6.7.2**. |
| **Water**<br><br>6.1 The EA must demonstrate how the Proponent will meet the requirements of section 120 of the POEO Act.<br><br>6.2 The EA must describe the existing surface water and groundwater quality and include a water quality assessment. At a minimum this assessment must include a surface water flow diagram and water balance. The water balance must identify:<br>▪ Intake source(s), quality, volume and frequency;<br>▪ Discharge location(s), quality, volume and frequency;<br>▪ Any onsite treatment, use or reuse, including for dust suppression.<br><br>6.3 The EA must provide a description of the management and mitigation measures that will be used to prevent, minimise and monitor the surface water and groundwater impacts of the proposal.<br><br>6.4 If a licensed discharge is proposed, the EA must justify why it cannot be avoided and why it represents the best environmental outcome.<br><br>6.5 If a licensed discharge is proposed, the EA must identify: | Refer to **Table 2** in **Section 4.1**.<br><br>Refer to **Sections 6.7.3** to **6.7.8**.<br><br>Refer to **Sections 6.7.2**, **6.7.6** and **6.7.7**.<br><br>Refer to **Section 6.7.6**. |

| **Table 13 Environment Protection Authority's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| ▪ Water Quality Objectives for the receiving waters, including upstream and downstream water quality indicators;<br>▪ Environmental values, associated indicators and trigger values for receiving waters, consistent with *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000);<br>▪ The proposed water quality monitoring program, consistent with the *Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales* (2004). | Refer to **Section 6.7.6**. |
| **Rehabilitation**<br><br>7.1 The EA should outline the proposed plans for the final condition of the site, ensuring its suitability for future uses. | Final landforms for the quarry adjoining the site would be managed as per the original DA/145/20/33 issued by Blacktown Shire Council on 17 November 1960, along with its subsequent iterations and modifications. |

| **Table 14 WaterNSW's Key Issues for Assessment** | |
|---|---|
| **Key Issues** | **How Addressed** |
| The development should meet the requirements of the following document: https://www.waternsw.com.au/_data/assets/pdf_file/0011/55973/Guidelies-for-development-around-Warragamba-Pipelines-and-Upper-Canal.pdf in particular those relating to stormwater flows and fencing, and should demonstrate that it will have a neutral or beneficial effect (NorBE) on water quality. | Refer to **Sections 6.7.2** to **6.7.9** and **Appendix 4**. |
| We request the Department notifies WaterNSW when the Environmental Impact Statement for the proposed development is on exhibition and continues to consult with WaterNSW regarding proposals on land adjacent to and impacting on WaterNSW infrastructure, land or assets due to the potential for impact on water quality and water supply. | Noted. |

## 5.2 STAKEHOLDER CONSULTATION

**Table 5** in **Section 5.1** lists the stakeholders which were required to be consulted with as per the SEARs issued by DPIE. These include:

- Environment Protection Authority;
- Fairfield City Council;
- Office of Strategic Lands;
- NSW Roads and Maritime Services;
- Office of Environment and Heritage;
- Department of Primary Industries;
- NSW Fire Brigade; and
- Local community and other stakeholders.

In response to the SEARs issued for the proposed development, the following consultation has been as detailed in **Table 15** below. A Community Consultation Report has also been prepared, and this is included as **Appendix 17**.

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| Environment Protection Authority. | Consultation letter emailed on 9 April 2019. At the time of preparing this EIS, no formal response had been received. |
| Fairfield City Council. | Consultation letter emailed on 6 December 2018. As the scope of the proposed development was later refined, updated consultation letter was emailed on 29 April 2019. Council responded by email on 29 April 2019, advising the following:<br><br>▪ There was no need to meet with Council staff to discuss the proposed development any further;<br>▪ Council's Key Issues in relation to the proposed development were outlined in its previous submission; and<br>▪ Flood considerations/modelling was a critical issue for the previous proposal at the site, and will be so again. In this regard, Council recommended that the engaged flooding consultant directly contact Council's Catchment Branch to discuss the issues raised in Council's previous submission.<br><br>These matters are dealt with in **Section 6.7.9** and **Appendix 4**. |
| Office of Strategic Lands. | A meeting was held with the Office of Strategic Lands (OSL) on 19 September 2018 in relation to the subject proposal and the requirement to address clause 17 of the WSP SEPP. Attendees at this meeting included:<br><br>▪ Wayne Vercoe (OSL);<br>▪ Pheona Twist (OSL);<br>▪ Halvard Dalheim (OSL);<br>▪ Stephen Dewick (OSL);<br>▪ Megan Kublins (Austral);<br>▪ Matt Sonter (Mills Okaley); and<br>▪ Andrew Cowan (Willowtree Planning).<br><br>The general outcome of the discussion was the proposed development would have an extremely minor impact on the overall future acquisition costs associated with the site, should OSL pursue that in the future having regard to the size of the site, the usual life expectancy of the clay asset contained at the site and total cost of any acquisition. Given the estimated value of the site, it was considered that a deed to relinquish costs associated with the development may not be necessary. Alternatively, a deed may be executed which relates only to the works associated with the proposed development which has the effect of a sliding scale based on when acquisition may occur. |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| | At present, a valuation of the site is being undertaken to enable a resolution to be reached between the parties prior to the determination of the subject proposal.<br><br>A further Consultation letter was emailed on 8 May 2019. Two formal responses were received, one on 21 June 2019 and the other on 26 June 2019. The content of these responses confirms the above position of Strategic Lands with regards to the proposed development. |
| NSW Roads and Maritime Services. | Consultation letter emailed on 6 December 2018. RMS responded via email on 10 December 2018 with the following:<br><br>Roads and Maritime would require the following issues to be included in the transport and traffic impact assessment of the proposed development:<br><br>1. Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required).<br>2. Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (i.e.; turn paths, sight distance requirements, aisle widths, etc.).<br>3. Proposed number of car parking spaces and compliance with the appropriate parking codes.<br>4. Details of service vehicle movements (including vehicle type and likely arrival and departure times).<br>5. Roads and Maritime requires the EA report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (e.g.; Green Travel Plan, 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.<br>6. Roads and Maritime requires an assessment of the likely toxicity levels of loads transported on arterial and local roads to/from the site and, consequently, the preparation of an incident management strategy for crashes involving such loads, if relevant.<br><br>In response to these matters:<br><br>▪ 2018 traffic surveys within the Austral Site indicates a daily traffic generation of 231 trips and 600 trips to/from the Austral Site at the Ferrers Road and Wallgrove Road intersections respectively. The majority of |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| | Plant 2 site trips are generated to/from Ferrers Road, estimated at no more than 5vph during the peak periods;<br>▪ The existing site access provisions would remain unchanged;<br>▪ Currently, the site utilises an unmarked area for car parking purposes. These existing car parking arrangements were assessed in accordance with the minimum requirements of *Australian Standard 2890.1: Parking Facilities – Off Street Car Parking* and yielded a capacity of 63 car spaces (based on User Class 1A dimensions). The proposed development would retain the use of these 63 car parking spaces at the site. This is considered more than sufficient for the site's 35 staff;<br>▪ There is currently an average of 20 heavy vehicle movements picking up bricks per day, with only a small number of movements in the commuter peak periods. The Plant 2 Site generally employs Heavy Rigid Vehicles (HRV) for deliveries;<br>▪ Sections 5.1 and 5.2 of **Appendix 5** assess the public and active transport context of the site and the proposed development; and<br>▪ As set out in the *SEPP 33 Assessment against Preliminary Hazard Assessment* contained in **Appendix 6**, there are no assessable quantities of hazardous materials for storage as part of the proposed development. As such, there would be no increase to any Dangerous Goods transported to or from the site. Therefore, the transportation limits in SEPP 33 would also not be exceeded.<br><br>As the scope of the proposed development was later refined, updated consultation letter was emailed on 9 April 2019. The following response was provided on 1 May 2019:<br><br>*RMS's response provided dated 9 November 2018 are still applicable for the subject development proposal.* |
| Office of Environment and Heritage. | Consultation letter emailed on 6 December 2018. As the scope of the proposed development was later refined, updated consultation letter was emailed on 9 April 2019. At the time of preparing this EIS, no formal response was received from the Office of Environment and Heritage. |
| Department of Primary Industries. | Consultation letter emailed on 6 December 2018. As the scope of the proposed development was later refined, updated consultation letter was emailed on 9 April 2019. The following response was provided on 11 April 2019:<br><br>*A Land status investigation on SSD 9601 - 780 Wallgrove Road, Horsley Park shows that there is no Crown land features exist.* |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| | *Therefore, No comments from Crown land at this stage of the projects.* |
| NSW Fire Brigade (Fire and Rescue NSW) | Consultation letter emailed on 6 December 2018. Fire and Rescue responded via email on 11 December 2018 with the following:<br><br>▪ The preparation and dissemination of a SEPP 33 screening report for any hazardous materials and/or dangerous goods proposed within applicable warehouses FRNSW is consulted during the design phase of the proposed fire and life safety systems for the site;<br>▪ It is requested that a Fire Engineering Brief Questionnaire (FEBQ) be prepared in relation to the development and submitted to FRNSW for review;<br>▪ That consideration be given to FRNSW's Fire safety guideline - Fire safety in waste facilities https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/guidelines_fire_safety_i n_waste_facilities.pdf<br>▪ That a comprehensive Emergency Response Plan (ERP) is developed for the site outlining the following specifications:<br>a) That the ERP specifically addresses foreseeable on-site and off-site fire events and other emergency incidents (e.g. bushfires in the immediate vicinity) or potential hazmat incidents;<br>b) That the ERP detail the appropriate hazard control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and other first responders. Such measures would include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures, minimum evacuation zone distances;<br>c) Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP;<br>d) That two copies of the ERP (detailed in recommendation 1 above) be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point/s; and<br>e) Once constructed that the operator of the facility contacts the relevant local emergency management committee (LEMC). The LEMC is a committee established by Section 28 of the State Emergency and Rescue Management Act 1989. LEMCs are required to be established so that emergency services organisations and other government agencies can proactively develop comprehensive inter agency local emergency procedures for significant hazardous sites within their local government area. The contact details of members of the LEMC can be obtained from the relevant local council.<br>▪ Whilst there is currently no requirement for a Fire Safety Study (FSS), one may be requested at the discretion of FRNSW following the provision of more detailed information relating to the development's fire safety measures. |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| | In response to these matters:<br><br>▪ The *SEPP 33 Assessment against Preliminary Hazard Assessment* has been prepared and is contained in **Appendix 6**;<br>▪ The Austral Brick Co Pty Ltd acknowledges that a condition of consent may be placed on this DA requiring the preparation of an Emergency Response Plan as stated above;<br>▪ The Fire Engineering Brief Questionnaire would be finalised prior to the issue of the relevant construction certificate;<br>▪ The Austral Brick Co Pty Ltd acknowledges the need to prepare an Emergency Response Plan for the site to support the proposed development.<br><br>As the scope of the proposed development was later refined, updated consultation letter was emailed on 9 April 2019. The following response was provided on 3 May 2019:<br><br>▪ Consultation with FRNSW be undertaken by way of the Fire Engineering Brief Questionnaire (FEBQ) process prior to the issue of the relevant construction certificate; and<br>▪ While there is currently no requirement for a Fire Safety Study, FRNSW may request one be undertaken at a later stage should information be provided such that it is deemed that the development poses unique challenges to the response to and management of an incident.<br><br>In response to these matters:<br><br>▪ The Fire Engineering Brief Questionnaire would be finalised prior to the issue of the relevant construction certificate; and<br>▪ Austral Brick Co Pty Ltd acknowledges that a requirement to undertake a Fire Safety Study may be imposed at a later date. |
| Local community and other stakeholders. This included:<br><br>▪ Western Sydney Parklands Trust; | Surrounding private landowners were identified via Title Searches of the following surrounding lots:<br><br>▪ Lot 1 DP30290;<br>▪ Lot 1 DP499001;<br>▪ Lot 1 822361; |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| ▪ AGL;<br>▪ Jemena;<br>▪ The private landowner at 150-154 Chandos Road Horsely Park; and<br>▪ The private landowner at 168-174 Chandos Road, Horsley Park. | ▪ Lot 1 DP829916;<br>▪ Lot 2 DP30290;<br>▪ Lot 2 DP829916;<br>▪ Lot 3 DP30290;<br>▪ Lot 3 DP829916;<br>▪ Lot 3 DP1002746;<br>▪ Lot 4 DP30290;<br>▪ Lot 4 DP1002746;<br>▪ Lot 5 DP30290;<br>▪ Lot 7 DP30290;<br>▪ Lot 8 DP30290;<br>▪ Lot 9 DP30290;<br>▪ Lot 10 DP30290;<br>▪ Lot 11 DP30290;<br>▪ Lot 92 DP752041;<br>▪ Lot 93 DP752041;<br>▪ D4 DP400744;<br>▪ D5 DP400744;<br>▪ D6 DP408890;<br>▪ Lot 304 DP1122291;<br>▪ Lot 8 DP1059698; and<br>▪ Lot 11 DP1048435.<br><br>It is noted that many of these lots are owned by the same group of landowners. The ownership of these lots was identified as follows:<br><br>▪ Western Sydney Parklands Trust;<br>▪ AGL;<br>▪ Jemena;<br>▪ Sydney Water;<br>▪ Waste Assets Management Corporation;<br>▪ Veolia; |

| **Table 15 Consultation Record** | |
|---|---|
| **Stakeholder** | **Consultation Notes** |
| | ▪ The private landowner at 150-154 Chandos Road Horsely Park; and<br>▪ The private landowner at 168-174 Chandos Road, Horsley Park.<br><br>Consultation letters emailed or posted between December and January 2018. As the scope of the proposed development was later refined, updated consultation letters were emailed or posted around 9 April 2019.<br><br>At the time of preparing this EIS, no formal responses were received from any of these stakeholders, apart from the Western Sydney Parklands Trust, which provided a written response outlining the following:<br><br>▪ Given its location, the proposed development should be considered in the context of WSP SEPP. WSP SEPP was devised to provide flexible planning controls for the Western Sydney Parklands rust to fulfil the function of the *Western Sydney Parklands Act 2006*, in accordance with the vision, principles and strategic directions of the current Plan of Management;<br>▪ Section 2.4 of the Plan of Management contains a Land Use Framework which categorises existing and longterm target land uses and includes an allowance of 2% for development as Business Hubs. The Plan of Management does not identify this site as part of the 2% for business Hubs for the Parklands. The POM does, however, identify the Austral Bricks site as Interim Infrastructure and anticipates a reduction in Interim Infrastructure land uses over the long term;<br>▪ The updated *Western Sydney Parklands Plan of Management 2030* made no changes to the long term land use targets relevant to the proposed development;<br>▪ Much of the area now constituting the WPS was originally identified in the 1968 Sydney Region Outline Plan and successive NSW Governments have subsequently spent hundreds of millions of dollars acquiring the land. The Western Sydney Parklands Trust now estimates that around 95% of the WPS is in public ownership, and the vision remains to acquire the remaining private lands over the long term;<br>▪ The Office of Strategic Lands is the acquiring authority for the remaining private lands under WSP SEPP. The Office of Strategic Lands acquires land in the WSP according to the *Land Acquisition (Just Terms Compensation) Act 1991*; and<br>▪ The Western Sydney Parklands Trust requests that the SEARs for the site require the applicant to clearly demonstrate how the proposed development would adhere to the relevant statutory documents including the implementation of the objectives and longterm vision for the WSP. |

## 5.3 ASSESSMENT OF ADEQUACY

A copy of this EIS was provided to DPIE on 17 May 2019 to confirm whether there were any significant outstanding matters of concern with respect to its contents. DPIE responded on 6 June 2019 with a list of matters requiring further assessment. These are set out in **Table 16** below.

**Table 16 Department of Planning, Industry and Environment's Adequacy Assessment**

| SEARs | Comment | Where Addressed |
|---|---|---|
| Development Need/ Justification | The EIS mentions the kiln can run for a further 20 years and that there have been no significant changes to technology, however the project need for the application is stated as being to upgrade Plant 2 with new technology to improve the environmental performance of the development. The EIS should clarify the current environmental performance of the development to justify the need for Plant 2 to be upgraded to meet current environmental and building standards. | Refer to **Section 3.6**. |
| Statutory and Strategic Context | **WSP SEPP**<br><br>Table 3 – Insufficient justification for the development in accordance with WSP SEPP:<br><br>▪ Insufficient consideration of development near environmental conservation areas; and<br>▪ Insufficient consideration of factors under Part 2 Clause 17B(3) of the WSP SEPP e.g. drinking water catchment, mitigation measures. | Refer to **Table 3** in **Section 4.3**. |
| Consultation and Community Engagement | No community and stakeholder participation strategy was provided in the EIS in accordance with the SEARs. The EIS must detail a community and stakeholder participation strategy in accordance with the community and stakeholder engagement requirements of the SEARs.<br><br>In addition, the SEARs require a Community Consultation Report to be provided which details the results of the implementation of the strategy. An example of the consultation engagement letter should be attached as an appendix of the report. | Refer to **Section 5.2** and **Appendix 17**. |
| Air Quality | The EIS and Air Quality Impact Assessment (AQIA) do not clearly identify a comparison between the existing emissions rate of the site with the proposed upgraded kiln emissions rate to demonstrate the improved performance of the kiln because of the proposed development.<br><br>In addition, the EIS should clarify that the predicted emissions of the development have been modelled with the proposed stack height of 35 metres. | Refer to **Section 6.3** and **Appendix 10**. |

| **Table 16 Department of Planning, Industry and Environment's Adequacy Assessment** | | |
|---|---|---|
| **SEARs** | **Comment** | **Where Addressed** |
| Traffic and access | Council requested that access be restricted to/from Wallgrove Road, the EIS states that access would continue to be from Ferrers Road and the TIA has considered impacts on Ferrers Road. The EIS should provide a justification as to why Ferrers Road will be used for access to/from the site.<br><br>In addition, Council noted north east of the site is identified for the route of the Southern Link Road. The Southern Link Road alignment should be addressed in the EIS and TIA.<br><br>The EIS and TIA should provide figures clearly identifying the heavy vehicle routes in the context of the locality. | Ferrers Road would be used for light vehicle access only (refer to **Section 6.9** and **Appendix 5**).<br><br>Refer to **Section 6.9** and **Appendix 5**.<br><br>Refer to **Figure 21** and **Figure 22** in **Section 6.9**. |
| Soil and Water | There is a disparity between the amount of impervious area proposed as part of the development being an increase of 9,000m2 (Table 3, p 21 of the EIS) OR 16,000m2 (section 3.2.2.1, p.17 of Civil Design Report) of impervious area. The EIS, in particular Section 6.7 should clearly identify both the existing impervious area of the site and the proposed increase in impervious area to understand the potential impacts to surface water.<br><br>Onsite detention feature proposed in 'Catchment A' which is a single tank (section 6.7.6, p. 81 of the EIS) OR basin (section 3.5.3, p.22 of the Civil Design Report) immediately upstream of discharge from Catchment A into Eastern creek (section 6.7.6, p. 81 of the EIS) conflicts with 'Catchment A' discharging into the existing dam (adjacent to Eastern Creek), 'Catchment B' discharging into an open drain and Eastern Creek (section 6.7.4, p.80). The EIS should clarify the stormwater system to be implemented for the two identified catchments. | Refer to **Table 3** in **Section 4.2** and **Section 6.7.6**. |
| Waste Management | The EIS does not provide the classifications of waste to be generated on site. The EIS should be amended to provide the classification and waste streams for waste generated from construction and demolition works along with operational waste. | Refer to **Table 30**, **Table 31** and **Table 32** in **Section 6.10**. |
| Visual | The EIS does not identify the height and scale of the development, particularly the extension of the kiln to understand the potential visual impacts of the development. Section 3.2 of the EIS should be updated to provide the dimensions of the proposed development along with Section 6.13 to clearly identify the height and scale of the development. | Refer to **Sections 3.2** and **6.13**, and **Appendix 16**. |

| **Table 16 Department of Planning, Industry and Environment's Adequacy Assessment** | | |
|---|---|---|
| **SEARs** | **Comment** | **Where Addressed** |
| | Furthermore, the EIS does not sufficiently outline the methodology of the Visual Impact Assessment undertaken, particularly the selection of the assessment viewpoints. The EIS should outline the selection process for the nominated view points of the Visual Impact Assessment. | |
| Greenhouse Gasses | EIS does not identify the measures to be implemented to ensure energy efficiency. In addition, the EIS should elaborate on the development's impact to the operation's overall energy efficiency. | Refer to **Sections 3.6** and **6.3**. |
| Mitigation Measures | The mitigation measures should be numbered so they are capable of forming part of a consent. The Department suggests amending the mitigation measures to be formatted similarly to the format used for the mitigation measures of the Snack Brands project EIS (SSD 9429). | Refer to **Part I**. |
| Jobs | The EIS should provide further clarification regarding the number of construction and operational jobs which would be generated by the proposed development, including the basis for these numbers. | **Section 3.4**. |
| Development History | The EIS does not outline the history of the Site or provide a description of all approvals obtained for the site. The EIS should detail the history of the site to provide context to the present operations on the site. | Refer to **Section 2.4**. |
| Site Plans | The Site plan does not show where 49,890m3 of fill material will be stockpiled (Section 3.3). EIS should elaborate on how the fill material will be stockpiled and identify it in the Architectural plans. | Refer to **Figure 13** in **Section 3.3**. |
| Development Staging | The EIS should provide detail on the staging of the works, demonstrating the predicted timeframes of the works to be undertaken including construction and demolition. | Refer to **Section 3.5**. |

# PART F ENVIRONMENTAL RISK ASSESSMENT

## 6.1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The SEARs were issued on 16 November 2018. The Key Issues include:

- Community and stakeholder engagement;
- Strategic context;
- Air quality;
- Noise;
- Traffic and transport;
- Soils and water;
- Waste management;
- Bushfire and incident management;
- Biodiversity;
- Visual;
- Greenhouse gas;
- Hazards; and
- Cumulative impacts.

The above matters are addressed in the sections below.

## 6.2 STRATEGIC CONTEXT

Refer to **Section 4.4** above with respect to the proposed development's strategic context.

## 6.3 AIR QUALITY

An *Air Quality Impact Assessment* has been prepared in support of the proposed development and is included in **Appendix 10**. The *Air Quality Impact Assessment* was prepared according to the following guidelines:

- The SEARs;
- EPL 546;
- *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Environment Protection Authority, January 2017* (NSW-EPA, 2017);
- *Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the 'Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Australia'* (NSW-OEH, 2011); and
- *National Greenhouse Accounts Factors – Australian National Greenhouse Accounts – 2018* (Department of the Environment and Energy, July 2018).

Currently, Plant 2 at the site operates as a brick face plant with an annual output of 80 million bricks per annum. The existing brick kiln and associated equipment were commissioned in the late 1960's. They remain in a good working condition and could operate for at least another 20 years. However, the current kiln loses heat and requires large amounts of gas to run and moreover. The proposed development aims to rectify these matters, whilst also reducing air quality pollutants discharged from the kiln.

Existing brick manufacturing operations at Plant 1 and Plant 2 are managed under EPL 546, which also includes Plant 3 operations (located on Old Wallgrove Road, Horsley Park). These three brick manufacturing operations, collectively referred to as 'Austral Brick, are therefore all regulated under the same EPL. EPL 546 permits:

- Annual ceramic production of >200,000 tonnes;
- > 5- 100 tonnes of annual volume of waste generated or stored;

- Crushing, grinding or separating of >500,000 – 2, 000, 000 tonnes on an annual basis;
- Land-based extractive activity (extract, process or store) >500,000 – 2, 000, 000 tonnes on an annual basis; and
- Mining for minerals - >500,000 – 2, 000, 000 tonnes on an annual basis.

**Table 17** sets out the air quality pollutants that are to be monitored and their monitoring frequencies for Plants 1, 2 and 3.

| **Table 17 Air Monitoring Details – EPL 546 (Plant 1, 2 and 3)** | | | |
|---|---|---|---|
| **Parameter** | **Plant 1** | **Plant 2** | **Plant 3** |
| Number of monitoring points | 1 | 1 | 2 |
| EPA identification | 4 | 5 | 6 (swindle), 7 (ceric) |
| Pollutants to be monitored | Cadmium, Fluorine, Hydrogen chloride, Hydrogen fluoride, Hydrogen sulfide, Mercury, Nitrogen oxides, Oxygen, Solid particles, Sulfuric acid mist and sulfur trioxide, Sulfur dioxide, Type 1 and 2 substances, Volatile organic compounds | Hydrogen fluoride, Nitrogen oxides, Total solid particulates | Cadmium, Dioxins and furans, Fluorine, Hydrogen chloride, Hydrogen fluoride, Hydrogen sulfide, Mercury, Nitrogen oxides, Oxygen, Sulfuric acid mist and sulfur trioxide, Sulfur dioxide, Total solid particulates, Type 1 and 2 substances, Volatile organic compounds |
| Monitoring frequency | Quarterly – all pollutants except Hydrogen fluoride, Nitrogen oxides, Total solid particulates which are to be monitored yearly | Yearly | Quarterly – all pollutants except Hydrogen fluoride, Nitrogen oxides, Total solid particulates which are to be monitored yearly |

Condition L3 provides in-stack concentration limits for pollutants released from the Point 5 Stack for Kiln Number 5 at Plant 2. **Table 18** sets out these specified concentration limits. It is noted that concentration limits have been provided for sulfuric acid mist and sulfur trioxide, and sulfur dioxide. However, these pollutants are not required to be monitored (refer to **Table 18**).

| **Table 18 In-Stack Concentration Limits for Point 5 in EPL 546 (Plant 2)** | | | | |
|---|---|---|---|---|
| **Pollutant** | **Units of Measure** | **100th percentile Concentration Limit** | **Reference Conditions** | **Averaging Period** |
| Hydrogen fluoride | $mg/m^3$ | 50 | Dry, 273 K, 101.3 kPa | 1-hour or minimum duration in the test method |
| Total solid particles | $mg/m^3$ | 100 | Dry, 273 K, 101.3 kPa | 1-hour or minimum duration in the test method |

| Table 18 In-Stack Concentration Limits for Point 5 in EPL 546 (Plant 2) | | | | |
|---|---|---|---|---|
| **Pollutant** | **Units of Measure** | **100th percentile Concentration Limit** | **Reference Conditions** | **Averaging Period** |
| Nitrogen oxides | mg/m3 | 2,000 | Dry, 273 K, 101.3 kPa | 1-hour or minimum duration in the test method |
| Sulfuric acid mist and sulfur trioxide (as SO3) | mg/m3 | 100 | Dry, 273 K, 101.3 kPa | 1-hour or minimum duration in the test method |
| Sulfur dioxide (SO2) | mg/m3 | 400 | Dry, 273 K, 101.3 kPa | 1-hour or minimum duration in the test method |

**Figure 18** shows the nearest identified sensitive receptors in relation to the site with respect to potential air quality impacts.


**Figure 18 Location of Sensitive Receptors (Airlabs Environmental, 2019)**

The proposed development would comprise various works which are aimed at lowering and improving the site's emissions profile. The main air emissions sources that would release identified pollutants of concern from the site include:

- Exhaust emissions generated from the Plant 2 kiln discharged to the atmosphere through the upgraded Point 5 stack; and
- Fugitive dust/particulate matter (PM) emissions generated from various operational activities at Plant 2 including material handling (loading/unloading/conveying) activities, crushing and milling operations, wind erosion of exposed areas and material stockpiles, and wheel generated dust from heavy vehicle haulage on unsealed surfaces with a gravel finish.

To determine potential air quality impacts from the planned upgrades, air dispersion modelling was conducted using the US-EPA non-steady state CALPUFF dispersion model, factoring in the proposed stack height of 35m. Meteorological model governing the pollutant dispersion was developed using the combination of TAPM and CALMET models with observations assimilated from the Bureau of Meteorology Automatic Weather Station at Horsley Park. Overall, a Level 2

air quality impact assessment was conducted as per *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Environment Protection Authority, January 2017* (NSW-EPA, 2017). This document was also used to guide relevant project air quality goals. As there would be no considerable change to the brick manufacturing operations at the site, the pollutants identified in the EPL 546 for Plant 2 were considered to be the pollutants of interest for the purposes of the *Air Quality Impact Assessment*. As per the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Environment Protection Authority, January 2017* (NSW-EPA, 2017), the cumulative impact of emissions from nearby sources and the existing environment were also considered alongside emissions from the site.

Modelled maximum cumulative concentrations were predicted at the nearest sensitive receptor for all of the assessed pollutants (TSP, $PM_{10}$, $PM_{2.5}$, HF, $SO_2$, $NO_2$ and deposited dust levels), with the exception of $SO_3$, for which the maximum incremental impacts (i.e. Plant 2 only) have been predicted at or beyond the Plant 2 site boundary.

To characterise the existing air quality levels for the cumulative assessment, reference was drawn to the following sources:

- Ambient air quality levels recorded at the Prospect monitoring station operated and managed by NSW-OEH;
- Point and fugitive dust emissions generated from the existing Plant 1 operations, which is adjacent to the Plant 2 site;
- Fugitive dust emissions from the existing Horsley Park Waste Management Facility; and
- Stack emissions for the existing Plant 1 from historical stack emission test reports and fugitive dust emissions were estimated using emission factors from EET manuals, an approach similar to estimating fugitive dust emissions from the upgraded Plant 2 operations.

The modelling performed as part of the *Air Quality Impact Assessment* shows that all of the assessed pollutants would comply with the relevant assessment criteria at all of the identified sensitive receptors at all times. Furthermore, the incremental contribution of the upgraded Plant 2 operations to the overall cumulative predicted air quality levels would be minimal, which is attributed to the improvements which would be incorporated into the proposed development.

**Table 19** summarises the predicted pollutant discharge results from the *Air Quality Impact Assessment*, demonstrating how the proposed development would comply with the relevant *Protection of the Environment Clean Air Regulation 2010*, Schedule 4 criteria.

**Table 20** sets out the historic maximum levels of HF measured at Plant 2 along with the expected maximum concentrations which would result from the kiln upgrade and implementation of the end-of-pipe abatement technology (fluorine cascade scrubber). As shown in **Table 20**, the improvements will facilitate the maximum HF in-stack concentrations to be in compliance with the Group 6 HF concentration limits under the POEO Act. It is considered that these improved concentration results demonstrate how the proposed development would meet its stated objectives as set out in **Part C.** Indeed, it is considered that the modelling presented in Appendix 10 is based on the maximum expected HF discharge concentration of 45 mg/m3 from the upgraded Plant 2 kiln. Moreover, once operational, the maximum HF concentrations from the upgraded Plant 2 kiln would never exceed the 45 mg/m3 and would therefore not be in breach of the POEO concentration limit, unlike the current operations, whereby exceedances have been reported (as noted in **Table 20** below).

| Table 19 Pollutant Discharge Concentrations and Corresponding Stack Emissions from the Upgraded Plant 2 Kiln | | | | | |
|---|---|---|---|---|---|
| **Pollutant** | **Design Concentration (as provided to Airlabs)** | **Units** | **Corresponding Group 6 Standard of Concentration – POEO Clean Air Regulation 2010, Schedule 4** | **Compliance with Clean Air Regulation Standard of Concentration** | **Estimated Mass Emission Rate (g/sec) +** |
| TSP | 34 | $mg/Nm^3$ corrected to 273K, dry and 101.325 kPa | 50 $mg/m^3$ | Yes | 0.86 |
| $PM_{10}$ | 28 | | No data | No data | 0.71 |
| $PM_{2.5}$ | 17 * | | No data | No data | 0.43 |
| HF | 45 | | 50 $mg/m^3$ | Yes | 1.14 |
| $SO_2$ | 150 | | 1,000 $mg/m^3$ | Yes | 3.82 |
| NOx as $NO_2$ | 100 | | 350 $mg/m^3$ | Yes | 2.54 |
| Sulfuric acid mist | 50 | | 100 $mg/m^3$ | Yes | 1.27 |

** Design concentrations for $PM_{2.5}$ were not provided. As-such, $PM_{2.5}$ concentrations have been estimated assuming that they are approximately 50% of the design TSP concentrations.*

*+ Mass emission rate calculated based on provided design concentration and corresponding volumetric flow rate of 25.4 $Nm^3$/sec.*

| Table 20 Pre and Post-Development Maximum HF Concentrations | | | | |
|---|---|---|---|---|
| **Pollutant** | **Unit of Measurement** | **Group 6 Limits** | **Historical Maximum Measured Concentration at Plant 2** | **Maximum Concentration from the Plant 2 Kiln Exhaust as a Result of the Proposed Upgrades** |
| Hydrogen Fluoride | $mg/m^3$ | 50 | 68 (non-compliances) | 45 (compliances with the Group 6 limits) |

**Table 21** summarises the modelled predicted particulate matter emissions resulting from other operational activities at the site.

| **Table 21 Estimated Annual Fugitive Particulate Matter Emission Rates** | | | | | |
|---|---|---|---|---|---|
| **Activity** | **Quantity** | **Units** | **Modelled Annual Emission Rates (kg/year)** | | |
| | | | **TSP** | **$PM_{10}$** | **$PM_{2.5}$** |
| Front end loader on raw material stockpiles | 280,000* | tpa | 29.8 | 14.1 | 2.1 |
| Haul truck unloading raw materials | | km | 29.8 | 14.1 | 2.1 |
| Loading raw materials into the crusher unit | | tpa | 29.8 | 14.1 | 2.1 |
| Crushing operations | | tpa | 25.2 | 11.3 | 2.1 |
| Conveying to the mill building | | tpa | 8.9 | 4.2 | 0.6 |
| Milling operations (incl. grinding) | | tpa | 308 | 103.6 | 51.8 |
| Conveying to the new brick kiln | 2.8 | ha | 8.9 | 4.2 | 0.6 |
| Wind erosion – stockpiles | 280,000* | tpa | 5,280.7 | 2,640.3 | 396.0 |
| Heavy vehicle haulage on gravel surfaces | NA | NA | 2,161.5 | 462.4 | 46.2 |
| **Total** | | | **7,882.7** | **3,268.5** | **486.1** |

** Production capacity for the upgraded Plant 2 would remain unchanged at 80 million standard brick equivalents (SBE) per annum. As per information provided to Airlabs, 115 million SBE roughly translates to 400,000 tpa. Based on this information, the material quantities forth upgraded Plant 2 site were calculated.*

It is expected that there would be dust emissions generated during the construction phase of the proposed development. However, these activities would occur only for a limited period of time, as opposed to the site's ongoing operational activities. As construction phase dust-generating activities would be temporary and short-term in nature, a quantitative assessment was not been undertaken. However, the *Air Quality Impact Assessment* nevertheless considers that the potential for these dust-generating activities to adversely affect the environment, particularly the offsite environment, is low. Nonetheless, mitigation measures are recommended to manage potential dust-related impacts during the construction phase of the proposed development.

Dispersion modelling was also conducted for the proposed development using the US-EPA CALPUFF dispersion model. The detailed results of this modelling are presented in Table 20 within **Appendix 10**, with the relevant results summarised as follows:

- Incremental concentrations and dust deposition rates at all the identified sensitive receptors are well below the relevant impact assessment criteria;
- With respect to HF, incremental concentrations have been observed to be well below the impact assessment criteria. This observed improvement in the model predicted HF concentrations can be directly attributed to the improvements proposed by The Austral Brick Co Pty Ltd – which includes:

  - Commissioning of a fluorine cascade absorber, which would ensure that the HF concentration in the upgraded Plant 2 stack would not exceed 45 mg/m$^3$; and
  - Increasing the Plant 2 kiln exhaust stack height from the current 16m to 35m, which would considerably improve the pollutant dispersion;
- The maximum incremental one-hour average sulfuric acid (representing sulfuric acid mist and sulfur trioxide emissions) concentrations to be reported according to the Approved Methods as the 99.9th percentile one-hour average incremental concentration at or beyond the Plant 2 site boundary is 9.3 µg/m$^3$, is approximately 52% of the assessment criteria, demonstrating compliance with the assessment criteria; and
- For all other pollutants including particulates (TSP, $PM_{10}$, $PM_{2.5}$ and deposited dust levels), $SO_2$ and $NO_2$, incremental impacts are well below the assessment criteria.

The *Air Quality Impact Assessment* also assessed the potential for cumulative air quality impacts to occur at the site as a result of the concurrent operation of:

- Plant 2;
- Plant 1;
- Horsley Park Waste Management Facility; and
- Background concentrations from the Prospect monitoring station.

The detailed results of this cumulative assessment are presented in Table 21 within **Appendix 10**, with the relevant results summarised as follows:

- Cumulative concentrations of all the modelled pollutants are below the relevant assessment criteria across all the identified sensitive receptors;
- Based on the comparison of maximum predicted concentration against the relevant impact assessment criteria, the 24-hour and annual average $PM_{2.5}$ concentrations are noted to be the key pollutant. However, the maximum incremental contribution from the proposed development (including emissions from the kiln stack as well as fugitive dust emissions) represent a mere 3.2% of the assessment criteria for the 24-hour averaging period and 1.8% for the annual averaging period;
- The 24-hour average and annual average $PM_{10}$ concentrations are 83.1% and 79.6% of the assessment criteria. However, the maximum predicated incremental concentration from the proposed development is less than 10% of the criteria for all the averaging periods;
- The maximum predicted cumulative HF concentrations for all the averaging periods are well below the assessment criteria, with the maximum 24-hour average HF concentrations across all the identified receptors, predicted to be in the order of 54.9% of the assessment criteria.
- The maximum one-hour average and annual average $NO_2$ ground level cumulative concentrations predicted across all the sensitive receptors is 65.9% and 32.9% respectively of the assessment criteria; and
- For all the other modelled pollutants (i.e. TSP, $SO_2$ and deposited dust levels), the cumulative model predictions were considerably below the relevant assessment criteria and the corresponding contribution from the proposed development would be minimal.

The kiln upgrade is expected to increase gas efficiency with an expected 30% reduction in gas energy use per brick unit. This is expected to result in a decrease of Greenhouse Gas emissions by around 40%. Moreover, Scope 1 and 2 greenhouse gas emissions generated from the operation of Plant 2 would be low when compared to the state and national greenhouse gas inventories, with the operations contributing to approximately 0.02% and 0.004% of the State and National greenhouse gas emissions respectively.

With regards to odour, it is considered that the proposed development would not result in any significant odour generating activities being undertaken at the site. As such, the potential for odour impacts at the site was not quantitatively assessed within the *Air Quality Impact Assessment*.

In terms of mitigation measures, the proposed development would incorporate the following works which would improve the air quality emissions generated by the site:

- New Kiln: The two existing kilns for Plant 2 would be replaced by a new kiln, which would improve fuel consumption and the emissions profile;
- Scrubber to minimise acid gas emissions: The upgraded Plant 2 kiln would comprise a scrubber to reduce acid gas emissions, mainly HF emissions. A fluorine cascade absorber would form a part of the upgraded Plant 2 kiln, which is intended to reduce high fluorine concentrations; and
- Increase in stack height: The proposed development also includes increasing the stack height of the existing Plant 2 kiln from 16m to 35m. Increasing the stack height would facilitate better dispersion of pollutants and minimise building wake effects that can potentially disrupt/impact the plume dispersion.

Moreover, the following mitigation measures would be undertaken during the construction phase of the proposed development so as to minimise the generation of TSP, $PM_{10}$ and $PM_{2.5}$ at the site:

- General mitigation measures to be undertaken throughout the construction phase:
  - Identify dust-generating activities and inform site personnel about location; and
  - Identify adverse weather conditions (dry and high wind blowing from dust source to sensitive receptors) and halt dust emitting activities if visible dust impacts are identified at sensitive receptors;
- Mitigation measures relating to the handling of spoil and structural fill material to be undertaken throughout the construction phase:
  - Minimise drop height for material handling equipment;
- Mitigation measures to manage wind generated dust from temporary stockpiles and exposed areas, which are to be undertaken throughout the construction phase:
  - Progressive staging of dust generating activities throughout the day to avoid concurrent dust emissions;
  - Minimise exposed area if possible;
  - Minimise amount of temporary material stockpiled if possible; and
  - Apply watering through water trucks or sprinklers (note that this mitigation measure would be employed on an as-needed basis);
- Mitigation measures to manage wheel generated dust during hauling, which are to be undertaken throughout the construction phase:
  - Cleaning of haul roads;
  - Speed restrictions; and
  - Restrict vehicle movement to haul routes that are watered regularly (note that this mitigation measure would be employed on an as-needed basis).

Moreover, the site would continue to operate according to the air quality parameters set out in EPL 546.

Furthermore, the following management measures would be employed to mitigate Greenhouse Gas Emissions from the site:

- Ensuring proper maintenance and management of stationary and mobile equipment to improve fuel efficiency, which will result in lower fuel consumption; and

- Periodic review and implementation of energy efficient measures to minimise electricity consumption.

Overall, modelling shows that all the assessed air quality pollutants of concern would comply with the relevant assessment criteria at identified sensitive receptor locations at all times. Furthermore, the contribution of the upgraded Plant 2 operations to the overall predicted air quality levels is minimal, which is a direct consequence of the improvements which form part of the proposed development. It is therefore considered that the proposed development, with the stated mitigation measures in place, would lead to an improvement in the site's overall air quality.

## 6.4 BIODIVERSITY

A *Biodiversity Assessment* has been prepared in support of the proposed development and is included in **Appendix 8**. The *Biodiversity Assessment* was prepared according to the following guidelines:

- The SEARs;
- *Biodiversity Conservation Act 2016*;
- *Biodiversity Conservation Regulation 2017*;
- Biodiversity Offsets Scheme; and
- Biodiversity Assessment Method.

Desktop searches of the site were undertaken on the NSW and Commonwealth biodiversity databases. Flora and fauna surveys of the site were also undertaken on 15 August and 10 December 2018.

These investigations found that the area of the site which would be subject to disturbance to facilitate the proposed development has been highly cleared and modified. Due to the size and layout of degraded vegetation present at the site, flora quadrat sampling using was difficult for degraded patches of Cumberland Plain Woodland which is listed as endangered under the BC Act and as endangered under the EPBC Act. Targeted fauna surveys were undertaken for the Cumberland Plain Land Snail (*Meridolum corneovirens*) which is listed as endangered under the BC Act.

Fauna surveys were limited to six targeted searches for the Cumberland Plain Land Snail (*Meridolum corneovirens*), listed as Endangered under the BC Act, and an assessment of fauna habitat values. A fauna habitat assessment was also undertaken, considering the potential needs of a range of fauna which could possibly inhabit the site. The primary habitats for native fauna at the site were found to be native trees and associated leaf litter. No hollow-bearing trees were observed.

The site surveys confirmed the presence of three vegetation communities at the site. Generally, the composition, structure and function of vegetation within the site and its surrounds has been altered significantly from a near natural state and does not resemble any naturally occurring plant community types, with the exception of degraded occurrences of Cumberland Plain Woodland. Subsequently, the vegetation at the site, with the exception of Cumberland Plain Woodland has been mapped using the descriptive names "Planted Natives" and "Exotic Dominated Grassland."

Furthermore, the occurrences of Cumberland Plain Woodland at the site are not considered to be comprised of areas of the critically endangered ecological community Cumberland Plain Woodland as defined for the listings under the BC Act and/or the EPBC Act due to their extensive degradation.

The only threatened fauna that would be expected to occur within the site and its immediate surrounds are highly mobile, aerial species, such as:

- The Grey-headed Flying-fox (*Pteropus poliocephalus*) which is listed as Vulnerable under the BC Act and the EPBC Act;
- The Little Lorikeet (*Glossopsitta pusilla*) which is listed as vulnerable under the BC Act;
- The Swift Parrot (*Lathamus discolor*) which is listed as endangered under the BC Act and EPBC Act; and
- A range of microchiropteran bat species.

Whilst the site does not contain core habitat features for these species, individuals could occasionally and opportunistically use the site for foraging.

There is also one record for a threatened species along the eastern boundary of the property, being for *Meridolum Corneovirens* (Cumberland Plain Land Snail). This was recorded in the form of a single shell discovered during a bushfire survey of the site in 2015, and was found outside of the site of the proposed development, within the Cumberland Plain Woodland vegetation along the property's eastern boundary.

The direct biodiversity impacts of the proposed development are summarised in **Table 22**.

**Table 22 Impacts to Vegetation Communities within the Development Site**

| Vegetation Communities (Development Site) | Area to be Removed (ha) |
|---|---|
| Cumberland Plain Woodland – Degraded | 0.11 |
| Planted Natives. | 0.03 |
| Exotic Dominated Grassland | 0.49 |
| Total | 0.62 |

The removal of this vegetation as specified in **Table 22** would not significantly impact on those threatened bird and bat species listed above due to the degraded nature of the vegetation, small areas to be removed, and abundance of better quality vegetation for foraging, particularly given that these species are highly mobile.

Fairfield City Council has specifically recommended that the following fauna species be considered for their potential presence at the site, these being *Meridolum Corneovirens* (Cumberland Plain Land Snail) and *Litoria aurea* (Green and Golden Bell Frog). The *Biodiversity Assessment* made the following conclusions about the likelihood of these two species being present at the site:

- Green and Golden Bell Frog – unlikely to occur at the site. There are no waterbodies or associated aquatic vegetation at the site. Although the site forms part of a brickworks plant, there are no flooded brick pits or other artificial aquatic habitats within the site that could be utilised by Green and Golden Bell Frog individuals;
- Cumberland Plain Land Snail – unlikely to occur at the site. The Cumberland Plain Woodland within the site of the proposed development is in poor condition, regrowing from a former clearing event, with minimal leaf litter and no logs. There is some potential sub-optimal habitat under the minimal leaf litter present at the site. However, this species was not located during targeted searches at the site.

The BC Act and the *Biodiversity Conservation Regulation 2017* (BC Regulation) list a suite of biodiversity values that are relevant to assessments that must take place under the BC Act. To demonstrate that the proposed development would not significantly impact upon biodiversity, **Table 23** systematically comments upon the relevance of each value.

| **Table 23 Assessment of Biodiversity Values at the Site** | |
|---|---|
| **Biodiversity Value** | **Site Assessment** |
| **BC Act – Part 1 Section 1.5(2)** | |
| (a) vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state, | Based upon the results of floristic surveys, it has been concluded that the existing vegetation is comprised predominantly of exotic dominated grassland which is not consistent with any naturally occurring vegetation community, and small areas of planted native<br>woody vegetation occur that are likewise not consistent with naturally occurring communities. *Casuarina glauca* (a typical Cumberland Plain Woodland species) occurs naturally in riparian communities in the area. However, these communities do not occur on slopes removed from depressions and creeklines, and the species naturally occurs over a ground layer of semi-aquatic species, not exotic grasses.<br><br>Areas of Cumberland Plain Woodland are present at the site. However, these are degraded to the extent that they do not resemble the description of the community under the BC Act and EPBC Act due to the lack of a native ground layer. A lack of old trees or a native shrub layer further indicates substantially reduced ecological function. The community is degraded to the extent it cannot regenerate to a natural state without substantial and costly assistance.<br><br>Overall, the composition, structure and function of vegetation at the site and the surrounding landscape are considered to have been altered significantly from a natural state and do not resemble any naturally occurring plant community types known from the locality with the exception of the canopy composition of degraded woodland regrowth. |
| (b) habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site, | As discussed above, the site has little potential to provide habitat for threatened species other than highly mobile, aerial species. Threatened species with the highest likelihood to utilise the Development Site include the Grey Headed Flying Fox, small woodland birds, and microchiropteran bats. These highly mobile species may occasionally and opportunistically utilise the limited foraging resources at the site as part of a larger foraging range. |
| (c) biodiversity values, or biodiversity-related values, prescribed by the regulations. | See below. |
| **BC Regulation – Part 1 Clause 1.4** | |
| (a) threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site, | No threatened species were observed during site surveys and as described above, only highly mobile, aerial species would be expected to utilise the site occasionally and opportunistically. |
| (b) vegetation abundance—being the occurrence and abundance of | As described above, the site is predominantly comprised of low biodiversity value exotic dominated grassland. Also present are two small occurrences of extremely degraded Cumberland Plain Woodland with reduced ecological function, and a minimal area |

| **Table 23 Assessment of Biodiversity Values at the Site** | |
|---|---|
| **Biodiversity Value** | **Site Assessment** |
| vegetation at a particular site, | of Planted Natives. Both of these communities may comprise sub-optimal foraging habitat for some threatened and nonthreatened fauna species. |
| (c) habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range, | The overall property that the site occurs within is likely to provide habitat connectivity along the vegetated eastern boundary and central riparian corridor. These areas of vegetation are outside of the site. Vegetation within the site is unlikely to provide significant habitat connectivity as patches of vegetation are isolated by cleared areas and buildings. |
| (d) threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle, | As above, the site does not contribute to the movement of threatened species other than highly mobile, aerial species. Works within the site are not expected to have any impact on the lifecycle of such species. |
| (e) flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference, | The minimum changes to building height (being 3m) are not expected to impact upon free-flying animals (threatened or otherwise) by interfering with flight paths.<br><br>The proposed height increase of the stack (from 16m to 35m) is considered to be inconsequential to the flight paths of airborne species within the locality. |
| (f) water sustainability—being the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site. | The site is located approximately 400m from Eastern Creek which runs through the property. The proposed development is not expected to increase impacts to any hydrological processes. The site is already substantially developed and the proposed development is to upgrade the existing plant only, and would not impact on water quality if adequate erosion control measures are utilised during construction works. The proposed development is expected to decrease dust produced by the plant which is likely to reduce impacts to water quality. |

Overall, the Biodiversity Assessment found that the proposed development is unlikely to have any significant impacts to any biodiversity values at the site. When assessing the impacts likely to result from the proposed development, there is limited justification to consider impacts to threatened species with the detail required under the Biodiversity Assessment Method. Indeed, there are no areas of native vegetation communities within the site that are large enough to fit within a 20 x 50m or 10 x 100m Biodiversity Assessment Method plot. On the basis of this investigation, the Biodiversity Assessment finds that the preparation of a Biodiversity Development Assessment Report (BDAR) is not warranted. The *Biodiversity Assessment* therefore recommends that a waiver for the preparation of a BDAR is sought from DPIE.

Section 7.9 of the BC Act indicates that there are some circumstances in which the Planning Agency Head and the Environment Agency Head will determine that a proposed development is not likely to have a significant impact on biodiversity values and as such, a BDAR is not required to be prepared. Biodiversity values are defined under the BC Act and the *Biodiversity Conservation Regulation 2017* (BC Regulation), and include:

- Vegetation integrity;
- Habitat suitability;
- Threatened species abundance;
- Vegetation abundance;
- Habitat connectivity;
- Threatened species movement;
- Flight path integrity; and
- Water sustainability.

The *Biodiversity Assessment* has demonstrated that the above-listed biodiversity values would not be significantly impacted on as a result of the proposed development.

Although the proposed development is unlikely to have a significant impact on biodiversity values, the following mitigation measures are recommended to protect biodiversity adjacent to impact areas during construction:

- Vegetation protection:
  - To avoid unnecessary removal or damage to the adjacent vegetation, the clearing area would be clearly demarcated and signed, where appropriate, to ensure no vegetation beyond these boundaries is removed;
  - Clearing works and equipment would be excluded from areas outside the clearing area;
  - Site inductions would be given by the civil contractor to ensure all site workers and visitors are aware of any no-access areas;
  - In any area in which construction machinery is to be used with the potential to damage surrounding vegetation to be retained, temporary construction fencing would be installed to protect vegetation to be retained. Temporary fencing would be of a metal construction fence at least 2m high so it physically protects vegetation as well as visually delineates vegetation to be retained. This fencing would remain in place until all works have been finished in adjoining areas; and
  - No vehicles or machinery would be permitted to enter areas of vegetation to be retained;
- Erosion, sedimentation and pollution control:
  - The amount of exposes soils at the site at any given time would be minimised;
  - All stockpiled soils would be adequately covered when not in use to prevent erosion from heavy rainfall;
  - Sediment fences would be established around the perimeter of the site to prevent the impacts of sedimentation on the adjoining vegetation;
  - During development, precautions would be taken to ensure that no pollution, such as petrochemical substances or water containing suspended solids, escapes the construction site;
  - Pollution traps would be installed where required; and
  - Efficient removal of pollution to an offsite location would be undertaken to help minimise pollution impacts.

With the above-listed management measures in place, it is considered that any potential biodiversity impacts at the site can be mitigated to an appropriate level of impact.

### 6.5 NOISE AND VIBRATION

A *Noise Impact Assessment* has been prepared in support of the proposed development, and is included in **Appendix 12**. The *Noise Impact Assessment* was prepared according to the following guidelines:

- The SEARs;
- EPL 546;
- *Interim Construction Noise Guideline* (Department of Environment and Climate Change NSW, 2009);
- *Noise Policy for Industry* (EPA, 2000);
- *Road Noise Policy* (Department of Environment, Climate Change and Water NSW, 2011);
- *British Standard BS7385-Part 2: 1993 Evaluation and measurement for vibration in buildings*;
- *German Standard DIN4150–Part 3: 1999 Structural Vibration Part 3 – effects of vibration on structures*; and
- *Assessing Vibration – A Technical Guideline* (DEC, 2006).

The site currently operates under the following noise limits as per EPL 546:

> *Condition L6*
>
> *L6 Noise Limits*
>
> *L6.1 Noise from the premises must not exceed:*
> *a) an LA10 (15 minute) noise emission criterion of 50 dB(A) (7am to 10pm) Monday to Saturday and 8am to 10pm on Sundays and Public Holidays; and*
> *b) at all other times, an LA10 (15 minutes) noise emission criterion of 40 dB(A), except as expressly provided by this licence.*
>
> *L6.2 Noise from the premises is to be measured or computed at any point within 30 metres of the boundary of the most affected residence to determine compliance with condition.*
>
> *L6.1. 5dB(A) must be added if the noise is tonal or impulsive in character.*

It is noted that the LA10 noise criteria within EPL 546 utilise the LA10 descriptor. Under the current *Noise Policy for Industry* (EPA, 2000), the $L_{Aeq}$ (15 minutes) descriptor is utilised. Noise limits that would apply to the site as per the current *Noise Policy for Industry* (EPA, 2000) are therefore outlined in **Appendix 12**.

The nearest residential receptor for the purposes of potential noise impacts is located around 730m away from the site's main production building. The nearest sensitive receptors to the south are located on large landholdings and include the residences located along Chandos Road, away from the site's boundary. Plant 1 is shielded by an existing stockpile, whereas Plant 2 is partially shielded by an existing stockpile. The location of each receptor is shown on **Figure 19** below.


**Figure 19 Nearest Sensitive Receptors (Benbow Environmental, 2019)**

Unattended long-term noise monitoring was undertaken by Benbow Environmental from 8-9 March 2017 and from 6-19 March 2018 at two nearby residential locations. Attended noise monitoring was also undertaken. Analysis of 2017 weather data was also undertaken to determine whether significant winds are a characteristic of the locality. This allowed worst case evening wind scenarios to be included in the acoustic modelling for the site. Temperature inversion conditions were also accounted for.

The operational noise criteria for the site were derived from EPL 546 and the *Noise Policy for Industry* (EPA, 2000). The project noise trigger levels were also established according to the *Noise Policy for Industry* (EPA, 2000). The project noise trigger levels for the site were moreover established in accordance with the principles and methodologies of the *Noise Policy for Industry* (EPA, 2000). The *Interim Construction Noise Guideline* (DECC, 2009) was also used to determine construction noise management levels for noise at nearby residences.

The *Road Noise Policy* (Department of Environment, Climate Change and Water NSW, 2011) was furthermore adopted to establish relevant noise criteria for the potential noise impacts of project-related traffic.

The criteria for construction and demolition noise was obtained from the *Interim Construction Noise Guideline* (Department of Environment and Climate Change NSW, 2009). Guidance for construction vibration was taken from *British Standard BS7385-Part 2: 1993 Evaluation and measurement for vibration in buildings*, the *German Standard DIN4150–Part 3: 1999 Structural Vibration Part 3 – effects of vibration on structures*, and *Assessing Vibration – A Technical Guideline* (DEC, 2006).

Construction activities that would be undertaken as part of the proposed development include:

- Demolition activities, removing equipment;
- Remove asbestos;
- Remove cladding;
- Civil works;

- Concreting works, factory floor;
- Structure works; and
- Equipment installation.

The stages of construction works that are predicted to generate the most noise are as follows:

- Demolition works (Scenario One)
- Civil works (Scenario Two);
- Concreting works (Scenario Three); and
- Structure works (Scenario Four).

The noise generating scenarios considered worst-case situations in which equipment could be simultaneously running over the 15 minute assessment period.

All works would be undertaken during standard construction hours as follows:

- Monday to Friday, 7am to 6pm;
- Saturday 8am to 1pm; and
- No work on Sundays or public holidays.

Noise propagation modelling for the proposed construction activities was carried out using the Concawe algorithm within SoundPLAN. The construction scenarios were modelled using the $L_{Aeq}$, 15 minutes descriptor. Results of the predictive noise modelling of the construction activities are shown in **Table 24**. It can be seen that the predicted noise levels would comply with the construction noise criteria at all receivers during standard construction hours for all scenarios.

**Table 24 Noise Modelling Results Associated with Construction Activities for $L_{eq}$, dB(A)**

| Receptor | Project Specific Noise Levels ($L_{eq,15\ minute}$ dB(A)) | Scenario (Standard Hours) ($L_{eq}$, dB(A)) | | | |
|---|---|---|---|---|---|
| | Standard House | One* | Two | Three | Four |
| R1 | 57 | 21 | 15 | 13 | 14 |
| R2 | 57 | 21 | 14 | 13 | 14 |
| R3 | 57 | 22 | 10 | 10 | 10 |
| R4 | 52 | 19 | 10 | 8 | 7 |
| R5 | 52 | 21 | 19 | 18 | 17 |
| R6 | 52 | 27 | 22 | 20 | 19 |
| R7 | 52 | 28 | 24 | 19 | 17 |
| R8 | 52 | 25 | 20 | 14 | 13 |
| R9 | 75 | 53 | 43 | 29 | 26 |
| R10 | 75 | 55 | 40 | 20 | 18 |
| R11 | 75 | 23 | 16 | 10 | 9 |
| R12 | 65 | 46 | 35 | 22 | 20 |

* Note: As per section 4.5 of the *Interim Construction Noise Guideline* (DECC, 2009), a number of activities have proven to be particularly annoying to residents and have therefore had 5dB added to their predicted levels.

Predictive noise modelling for the operative phase of the proposed development was carried out using the Concawe algorithm within SoundPLAN. Using the model, noise levels were predicted at the potentially most affected receivers to determine the noise impact against the project specific noise levels and other relevant noise criteria in accordance with the *Noise Policy for Industry* (EPA, 2017). The noise generating scenario considered as part of this noise modelling broadly corresponds to the existing noise generating activities onsite with a few minor differences:

- The addition of a feed conveyor and relocated clay bins;
- The replacement of two kilns with a single kiln; and
- The relocation of equipment within the production building.

As the proposed noise generating scenario is very similar to the existing noise generating scenario, noise impacts are predicted to be similar to the existing activities onsite. Noise levels at the nearest receptors were calculated and results of the predictive noise modelling for operational activities are presented in **Table 25** and **Table 26**.

**Table 25 Predicted $L_{eq,\ 15\ minutes}$ Noise Levels – Operational Activities dB(A)**

| Receptor | Noise Policy for Industry Project Criteria | | | | Scenario 1 Neutral Weather | | Scenario 1 Source-to-Receiver Winds, Evening and Night | |
|---|---|---|---|---|---|---|---|---|
| | $L_{eq(15\ minutes)}$ | | | $L_{AMax}$ | | | | |
| | Day | Evening | Night | Max | $L_{eq(15\ minutes)}$ | Max | $L_{eq(15\ minutes)}$ | Max |
| R1 | 52 | 48 | 43 | 59 | 28 | 33 | 34 | 39 |
| R2 | 52 | 48 | 43 | 59 | 28 | 33 | 33 | 38 |
| R3 | 52 | 48 | 43 | 59 | 21 | 26 | 27 | 32 |
| R4 | 47 | 46 | 43 | 55 | 26 | 31 | 31 | 36 |
| R5 | 47 | 46 | 43 | 55 | 32 | 37 | 36 | 41 |
| R6 | 47 | 46 | 43 | 55 | 33 | 38 | 37 | 42 |
| R7 | 47 | 46 | 43 | 55 | 31 | 36 | 35 | 40 |
| R8 | 47 | 46 | 43 | 55 | 30 | 35 | 35 | 40 |
| R9 | 68 | | | N/A | 54 | N/A | 57 | N/A |
| R10 | 68 | | | N/A | 44 | N/A | 48 | N/A |
| R11 | 68 | | | N/A | 28 | N/A | 34 | N/A |
| R12 | 48 | | | N/A | 47 | N/A | N/A | N/A |

**Table 26 Predicted $L_{A10}$ Noise Levels – Operational Activities dB(A)**

| Receptor | EPL Project Criteria $L_{A10(15\ minutes)}$ | | Scenario 1 Neutral Weather | Scenario 1 Source-to-Receiver Winds, Evening and Night |
|---|---|---|---|---|
| | Day and Evening | Night | $L_{A10(15\ minutes)}$ | $L_{A10(15\ minutes)}$ |
| R1 | 50 | 40 | 31 | 37 |
| R2 | 50 | 40 | 31 | 36 |
| R3 | 50 | 40 | 24 | 30 |
| R4 | 50 | 40 | 29 | 34 |
| R5 | 50 | 40 | 35 | 39 |
| R6 | 50 | 40 | 36 | 40 |
| R7 | 50 | 40 | 34 | 38 |
| R8 | 50 | 40 | 33 | 38 |
| R9 | N/A | N/A | N/A | N/A |
| R10 | N/A | N/A | N/A | N/A |
| R11 | N/A | N/A | N/A | N/A |
| R12 | N/A | N/A | N/A | N/A |

**Table 25** and **Table 26** demonstrate how the operation of the proposed development would comply with the criteria under both the *Noise Policy for Industry* (EPA, 2017) and EPL 546. It is also noted that the noise levels predicted in **Table 26** broadly correspond with the existing noise levels generated at the site.

The closest residential receptors along the proposed truck routes to and from site are along Wallgrove Road. Road traffic noise impacts were therefore analysed at the potentially most impacted road traffic receivers at 763-783 Wallgrove Road (R2).

Calculation of the road traffic noise contribution was undertaken using line source modelling with moving point spectrum in SoundPLAN. An average of 60 truck movements per 24 hour period was considered in this assessment. Thirty movements were considered to utilise Wallgrove Road to/from the north, and 30 movements utilising Wallgrove Road to/from the South. The distribution of trucks would vary, with 12 movements during the night period (10pm to 7am) and 48 movements during the day period (7am to 10pm). Road traffic noise associated with staff cars would be negligible compared to truck movements. Vehicles were assumed to travel at the posted speeds of 70 km/h (Wallgrove Road).

The $L_{Aeq}$, 15 hour and $L_{Aeq}$, 9 hour noise descriptors were calculated at the most affected residential receptors along Wallgrove Road. **Table 27** sets out the predicted noise levels for these receptors.

**Table 27 Predicted Noise Levels Associated with Road Traffic dB(A)**

| Receptor | Period | Project Specific Noise Level $L_{eq,15\ or\ 9\ hour}$ | Predicted Additional Road Traffic Noise |
|---|---|---|---|
| 763-793 Wallgrove Road (R2) | Day | 60 | 39 |
| | Night | 55 | 35 |

As set out in **Table 27**, residential dwellings fronting onto Wallgrove Road would experience noise levels below the daytime criteria for arterial roads. Moreover, given the current traffic volumes along Wallgrove Road, the proposed development would not increase the cumulative road traffic noise levels during the day or night periods.

In terms of potential vibration impacts, the construction of the proposed development would not utilise equipment that generates significant vibration apart from jackhammers. Moreover, given the distances to surrounding receptors, it is considered unlikely that cosmetic damage or human response to vibration would occur as part of the proposed construction works.

The operation of the proposed development would not include equipment that generates vibration apart from the vibrating screen. The equipment is well isolated, and is not predicted to cause vibration that would be perceptible at any neighbouring structures or receivers.

Overall, as the proposed development is considered to comply with the relevant noise criteria, no specific noise management measures are recommended for the operational phase of the proposed development. Nevertheless, the following construction phase management measures are recommended to mitigate the potential construction phase noise impacts of the proposed development:

(a) Construction works are only to take place during standard hours as follows:
    (i) Monday to Friday: 7am to 6pm;
    (ii) Saturday: 8am to 1pm; and
    (iii) Sunday and Public Holidays: No works permitted.

## 6.6 BUSHFIRE

A *Bushfire Risk Assessment* has been prepared in support of the proposed development, and is included in **Appendix 13**. The *Bushfire Risk Assessment* was prepared according to the following guidelines:

- The SEARs;
- *Planning for Bush Fire Protection 2006* (RFS, 2006);
- *Planning for Bush Fire Protection 2018* (RFS, 2018);
- Section 10.3 of the EP&A Act; and
- The *Rural Fires Act 1997*.

As shown on **Figure 4** in **Section 2.1** above, the site is partially affected by adjoining bushfire prone land buffering the site. Surrounding land has a mix of Category 1 and Category 2 bushfire land with associated vegetation buffers. The majority of the site is used for the quarry associated with the brickworks and comprises mineral earth which does not present a hazard. A small number of remnant trees and associated vegetation are located around the site.

The land around the site is identified as bushfire prone land (see **Figure 4** in **Section 2.1** above) and is made up of woodland vegetation communities. Small patches of remnant woodland exist within and surrounding the site with the remainder of the area being managed/ non hazard areas. The vegetation within site and surrounds is fragmented and highly modified.

*Planning for Bush Fire Protection 2018* sets out specific considerations for mining development. Where mining and associated activities are carried out on bushfire prone land, consideration would be given to any hazards and risks associated with bushfire.

Given the complexities of the site and its surrounding vegetation/landforms, it was not possible to specify a Bushfire Assessment Level applicable to the site in its entirety. Given that *AS3959 Construction of buildings in bushfire prone areas* does not apply as a 'deemed to satisfy standard' to the site, this is considered to be an adequate level of assessment for the proposed development.

As "Other" development under *Planning for Bush Fire Protection 2018* (RFS, 2018), the proposed development must comply with Objective 3 (refer to **Table 28** below) which requires that the development:

> *Provide appropriate separation between a hazard and buildings which, in combination with other measures, minimises material ignition*

Asset Protection Zones would be provided around the site, including perimeter roads and hardstand areas (refer to **Figure 20** below). The buildings onsite would also be non-combustible and with Asset Protection Zones as per Objective 3 (refer to **Table 28**). These Asset Protection Zones would be managed and maintained to prevent the spread of a fire towards onsite buildings, and to prevent the spread of fire onto or from the site in accordance with section 63 of the *Rural Fires Act 1997*. The areas around the buildings would also be cleared and maintained as mineral earth, which would not constitute a fire hazard.

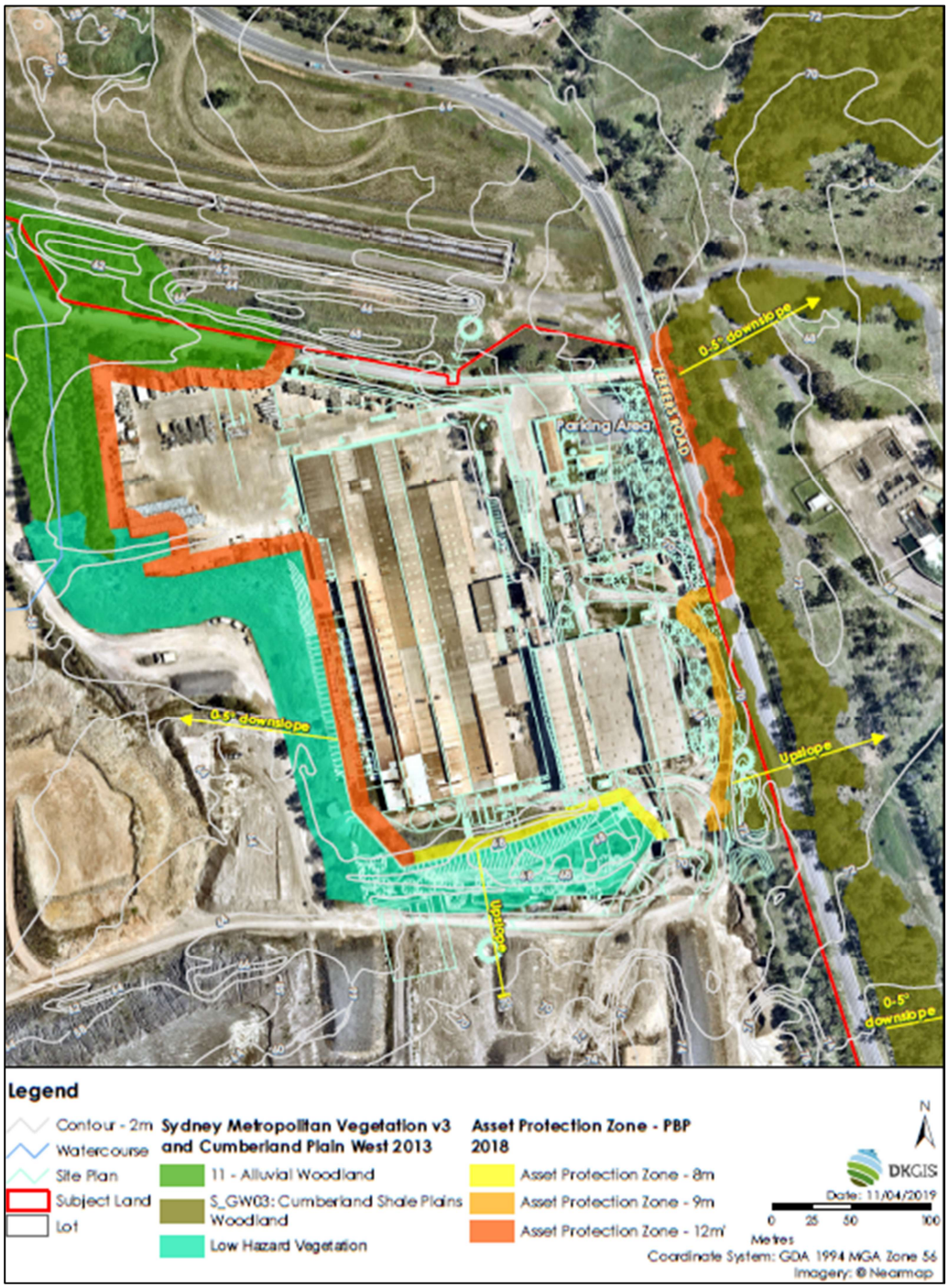


**Figure 20 Asset Protection Zone (BlackAsh Bushfire Consulting, 2019)**

**Table 28** sets out the proposed development's overall compliance with the aim and objectives of *Planning for Bush Fire Protection 2018* (RFS, 2018).

| **Table 28 Compliance with Aim and Objectives of Planning For Bush Fire Protection** | | |
|---|---|---|
| **Aim** | **Meets Criteria** | **Comment** |
| The aim of PBP is to use the NSW development assessment system to provide for the protection of | Yes | Landscaping, defendable space, access and egress, emergency risk management and construction |

| Table 28 Compliance with Aim and Objectives of Planning For Bush Fire Protection | | |
|---|---|---|
| **Aim** | **Meets Criteria** | **Comment** |
| human life (including fire fighters) and to minimise impacts on property from the threat of bushfire, while having due regard to development potential, onsite amenity and the protection of the environment. | | standards are in accordance with the requirements of PBP and the aims of PBP have been achieved. |
| **Objectives** | **Meets Criteria** | **Comment** |
| Afford occupants of any building adequate protection from exposure to a bushfire. | Yes | The built-form development at the site provides opportunity for all occupants to be shielded from any external bushfire.<br><br>Heavy plant and machinery would be present at the site that can be used in fire fighting operations within the site (spot fires and grass fire) that provides onsite response to limit the development and spread of spot fires.<br><br>Construction material would be non-combustible to ensure durability that would exceed AS3959 requirements. |
| Provide for defendable space to be located around buildings. | Yes | Defendable space is provided on all sides of the proposed development. |
| Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent direct flame contact and material ignition. | Yes | The structures are separated from the narrow remnant areas of vegetation and provide Asset Protection Zones to BAL 40. The structures are non-combustible. |
| Ensure that safe operational access and egress for emergency service personnel and occupants is available. | Yes | The site has direct access to public roads, and access and egress for emergency vehicles and evacuation is adequate. A perimeter road is provided around the buildings.<br><br>The development provides for the movement of heavy articulated trucks about the site with passing areas provided for fire trucks if needed. |
| Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads, in the asset protection zone. | Yes | The site would be managed as an Asset Protection Zone and would be extensively cleared to mineral earth. |
| Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting). | Yes | Utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting). |

The *Bushfire Risk Assessment* has recommended the following management measures to mitigate potential bushfire risks for the site:

- At the commencement of building works and in perpetuity, an Asset Protection Zone would be established and maintained as per **Figure 20** above so that 8m is provided to the south, 12m to the west and 9m to the south-east around the existing clay storage building. The Asset Protection Zone would be established and maintained as an inner protection area as outlined within *Planning for Bush Fire Protection 2018* (RFS, 2018);
- Fire hydrants would be provided in accordance with Building Code of Australia E1.3 and AS2419.1:2005, including the ring main requirements for large isolated buildings; and
- A static water supply that includes a connection for firefighting purposes that provides a 65mm Storz outlet with a ball valve is fitted to the outlet.

It is considered that, with the above mitigation measures in place, the proposed development can proceed without significant bushfire risks.

## 6.7 SOILS AND WATER

A *Civil Engineering Design Report* was prepared in support of the proposed development and is included in **Appendix 4**. **Sections 6.7.1** to **6.7.9** set out the findings of this *Civil Design Report*.

### 6.7.1 Geology

A geotechnical investigation of the site was undertaken by Douglas Partners in June 2015. A copy is provided in Appendix B of **Appendix 4**. These 2015 investigations generally found that the site contains a layer of fill up to 8m thick (containing ripped shale, clay and crushed bricks) over residual stiff, high-plasticity silty clays. This is underlain by Bringelly shale typically of low to medium strength.

The proposed development would require bulk earthworks in order to create suitable ground levels for the extension of the existing structure and construction of surrounding hardstand areas and access roads. The required total cut volume is estimated to be approximately 93,000$^3$ across the site. This volume would be primarily generated from excavation into existing berms around the perimeter of the existing facility, as well as from the need to remove the existing clay stockpile at the proposed onsite detention basin location, then excavate the basin itself below natural ground level.

The Douglas Partners geotechnical report states that excavation of the filling, clay and very low/low strength rock layers could be carried out using conventional earthmoving equipment up to a medium bulldozer/excavator. Should any deeper excavations be required into the higher strength shale or siltstone, specialist rock breaking equipment may be required.

Cut materials at the site would be stockpiled on the wider site and would be used for brickmaking purposes. It is noted that there are numerous existing stockpile areas spread across the wider brickworks site.

As cut is removed from existing berms at the site, new batters and retaining walls would be introduced. The maximum permanent batter slope recommended by the Douglas Partners report is 1V:2H, subject to stabilisation measures which are likely to include planting with low-maintenance vegetation. The civil design of the propose development has sought to limit retaining wall height to a maximum of 3.0m. It is likely that a segmental Austral product such as Magnumstone would be utilised, either in a gravity or earth-reinforced arrangement. Filling would not be required to support the proposed development.

Aspects of the proposed development that have the potential to lead to erosion, sediment transport, siltation and contamination of natural waters include:

- Earthworks undertaken immediately prior to rainfall periods;
- Work areas that have not been stabilised;
- Extraction of construction water from waterways during low rainfall periods;
- Clearing of vegetation and the methods adopted, particularly in advance of construction works;
- Stripping of topsoil, particularly in advance of construction works;
- Bulk earthworks and construction of pavements;
- Works within drainage paths, including depressions and waterways;
- Stockpiling of excavated materials;
- Storage and transfer of oils, fuels, fertilisers and chemicals;
- Maintenance of plant and equipment;
- Ineffective implementation of erosion and sediment control measures;
- Inadequate maintenance of environmental control measures; and
- Time taken for the rehabilitation/revegetation of disturbed areas.

**Section 6.7.2** below sets out the proposed erosion and sediment control measures that would be implemented at the site to manage such potential impacts.

### 6.7.2 Erosion and Sedimentation

The major potential impacts for the surrounding riparian environment as a result of the proposed development relate to erosion of distributed areas or stockpiles and sediment transportation. Potential adverse impacts from erosion and sediment transportation could include:

- Loss of topsoil;
- Increased water turbidity;
- Decreased levels of dissolved oxygen;
- Changed salinity levels;
- Changed pH levels;
- Smothering of stream beds and aquatic vegetation;
- Reduction in aquatic habitat diversity;
- Increased maintenance costs; and
- Decrease in waterway capacity leading to increased flood levels and durations

Appropriate erosion and sediment control measures would be installed and maintained for the duration of the proposed construction works to ensure that sediment-laden runoff does not pollute the downstream environment, particularly the Eastern Creek riparian zone.

All erosion and sediment control plans would be prepared in accordance with the *NSW Government's Managing Urban Stormwater – Soils and Construction Blue Book Volume 1, 4th Edition, March 2007.* A preliminary erosion and sediment control plan for the site is included as Appendix A to **Appendix 4**. Further details of the erosion and sediment control systems and procedures would be provided at the detailed design stage when more information is available regarding in-situ soils and development staging.

The following management measures would be implemented to mitigate potential erosion and sediment impacts from occurring as a result of the proposed development:

- Pre-construction erosion and sediment controls, implemented prior to construction, to minimise disturbances and ensure water quality performance criteria are met:
    (i) Designation and marking of transport routes across undisturbed portions of the site to ensure minimal vegetation disturbance. Transport routes would be provided with stabilised construction entry/exits (e.g. Blue Book SD6-14) at the designated access points;

(ii) Installation of the proposed sediment basin would occur before bulk earthworks across the site begin so that sediment-laden runoff from the works can be captured and treated;
(iii) Diversions would be constructed to divert clean stormwater away from exposed soils and development areas. The exact location and time of construction for each diversion measure would depend on construction staging;
(iv) Existing vegetated buffer zones/bunds are to be fenced off;
(v) Filter rolls or geotextile inlet filters (e.g. Blue Book SD6-11&6-12) to be installed around all existing stormwater inlet gullies; and
(vi) All site personnel to complete an environmental induction covering the erosion and sediment controls;

- Measures to mitigate potential water quality impacts during the construction of the proposed development:
  (i) Sediment fences (e.g. Blue Book SD6-8) to be erected at the base of all batters to prevent sediment-laden stormwater from flowing into the Eastern Creek riparian zone;
  (ii) Regular dust suppression on exposed areas by water truck or the use of chemical dust suppressant;
  (iii) Progressive stabilisation of filled and disturbed areas;
  (iv) Sediment fences to be erected around soil stockpiles;
  (v) Regular inspections as soon as practicable after storm events to check and maintain controls;
  (vi) Sediment to be removed from fences when controls are 40% full and at the completion of construction. All material to be reused or stored onsite in a controlled manner or taken offsite for reuse or disposal at a licensed waste disposal facility;
  (vii) Filter rolls or geotextile inlet filters (e.g. Blue Book SD6-11&6-12) to be installed around all new stormwater inlet gullies; and
  (viii) Monitoring of water quality to determine the effectiveness of the sediment and erosion control management practices;
- Erosion and sediment control measures would remain in place for the duration of construction works and following completion until the site is fully stabilised;
- Site inspection and maintenance measures to be undertaken so long as earthworks are being conducted or site subsoils are exposed, after every rainfall event and at least weekly:
  (i) Inspect and assess the effectiveness of the Soil and Water Management Plan and identify any inadequacies that may arise during normal work activities or from a revised construction methodology. Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways;
  (ii) Ensure that drains operate properly and to affect any repairs;
  (iii) Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas;
  (iv) Remove trapped sediment whenever less than design capacity remains within the structure;
  (v) Ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate;
  (vi) Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated; and
  (vii) Remove temporary soil conservation structures as the last activity in the rehabilitation.

With the above-listed mitigation measures in place, it is considered that the potential erosion and sediment impacts of the proposed development can be managed to an appropriate level of impact.

### 6.7.3 Groundwater

The Douglas Partners 2015 geotechnical investigation included measured groundwater depths in three monitoring wells ranging from 6.5-12.0m below the existing surface. Fluctuations measured over several days were less than 300mm in each well. The level of the groundwater surface at these locations ranges between RL59.3-60.6.

As the lowest proposed surface levels of the new kiln pad in this area are RL61.0 (i.e. the deepest zone of excavation onsite), groundwater is not expected to be encountered during the construction or operational phases of the proposed development.

In two other boreholes (No. 1 and 4) groundwater was encountered at depths of 3.8 and 3.9m depth respectively. The geotechnical report states that this is probably caused by seepage from a perched water table located within the fill layer. Therefore, groundwater would not be encountered during the construction or operational phases of the proposed development.

It is noted that due to the largely impervious coverage of the site to infiltration (mostly buildings, pavements and low-permeability clays) there is expected to be minimal interaction between surface water and groundwater on the site.

The site does not contain, nor it is in vicinity of, any Groundwater Dependent Ecosystems.

### 6.7.4 Hydrology

There are two main existing catchments located within the site, as described below:

- Catchment A - This catchment covers an area of approximately 4.3ha focused on the southern half of Plant 2 and the existing crusher building and surrounds. The catchment ultimately drains via an existing piped network which runs from the eastern side of the Plant 2 building, around the southern edge of the building and then west for approximately 200m before discharging into the existing dam via a headwall. The southern half of the existing factory roof drains into this catchment via internal box gutters dropping into pipes under the building slab; and
- Catchment B - This catchment covers approximately 2.5ha of area at the northern end of Plant 2 and east from there towards Ferrers Road. The catchment drains ultimately drains through an existing piped network running under the northwest corner of the Plant 2 building towards an open drain at the western edge of the existing hardstand. This vegetated open drain ultimately finds its way to Eastern Creek. The northern half of the existing factory roof drains into this catchment via internal box gutters dropping into pipes under the building slab.

There are no external upstream catchments from outside of the property owned by The Austral Brick Co Pty Ltd draining through the site of the proposed development. The existing dam located adjacent to Eastern Creek has an approximate surface area of 1.5ha and a maximum depth of 3.0m. This dam is not a natural waterbody – it has been created as a result of historical quarrying operations and has filled up over time. It serves as a convenient low-point for impounding runoff from the existing catchments to the east. Water to be discharged from the dam is currently pumped to existing sediment ponds on the opposite (western) side of Eastern Creek for treatment prior to release into Eastern Creek. Some water is also extracted from the dam for regular dust suppression activities across the site.

The proposed development would result in an increase of approximately 16,000m$^2$ of impervious area within the existing Catchment A, and an increase of around 11,000m$^2$ across the development itself. For this reason, an onsite detention feature is proposed within this catchment only – refer **Section 6.7.6** below for more information.

### 6.7.5 Stormwater Drainage

An underground pit and pipe network would be installed through the new hardstand area to collect and convey stormwater to designated discharge points. The civil design includes suitable gradients applied to the surface of the new pavement areas to direct stormwater away from the building and towards grated gully inlets. The primary discharge point is a large diameter pipe running west to the existing dam.

### 6.7.6 Onsite Detention

Fairfield City Council's *Stormwater Management Policy, September 2017* Section 4.3 identifies that onsite detention is required within the Rural Zone, within which the site is located, for all development greater than 30m$^2$ area. As the proposed development involves an increase in impervious area a subsequent increase in peak stormwater flows would be expected from the site. Onsite detention would be provided in order to mitigate these increased flows and therefore the risk of downstream flooding and erosion of unstable waterways.

It is proposed that the necessary detention capacity would be provided by the construction of a single onsite detention basin to the northwest of the proposed development, immediately upstream of the proposed discharge point for Catchment A to Eastern Creek. Since no increase in the impervious area would occur within Catchment B, the existing discharge point is proposed to remain in its current form and no onsite detention measures are proposed for that atchment.

The proposed basin will serve two functions: attenuation of peak flows and sediment removal. An automated rainfall-activated chemical dosing unit would be installed at the basin inlet to dose incoming flows from Plant 2 with a selected chemical flocculant such as polyaluminium chloride. The basin has been designed as a 2-stage system, with a pre-treatment inlet bay separated from the main pond by an inbuilt concrete weir/level spreader. This pre-treatment zone would allow for mixing of the flocculant, improves hydraulic efficiency and provides a smaller area for more regular maintenance (reducing cost and frequency of de-silting of the main pond). Refer to AT&L Drawing DAC015 for basin general arrangement. This would be refined further at the detailed design stage.

The basin would have both a low-flow and high-flow outlet configuration, ultimately discharging towards Eastern Creek. The low-flow outlet would be provided by a discharge pit with connecting 525mm diameter pipe and the high-flow outlet would be provided by an overflow weir just below the basin crest connecting to a basin spillway.

Concrete access ramps would be provided to the floor of both zones of the basin to allow for maintenance activities to be undertaken once operational e.g. removal of sediment buildup.

### 6.7.7 Water Quality

Fairfield City Council's *Stormwater Management Policy September 2017* Section 6.3 identifies that water quality treatment is not required within the Rural Zone, within which the site is located. However, the site has an existing stormwater quality treatment regime, undertaken by Austral staff in accordance with the terms of EPL 546 issued by the EPA. The overarching requirement is compliance with Section 120 of the POEO Act (i.e. to prevent pollution of waterways and groundwater systems). However, there are also particular licence conditions relating to this site. **Table 29** sets out these pollution control limits at water discharge points for the site under EPL 546.

| Table 29 EPL 546 Condition L3.5 Water and/or Land Concentration Limits | | |
|---|---|---|
| **Pollutant** | **Unit** | **100 Percentile Concentration Limit** |
| Oil and Grease | mg/L | 10 |
| pH | pH | 6.5-8.5 |
| Total Suspended Solids | mg/L | 50 |
| Turbidity | Nephelometric turbidity units | 150 |

Runoff from the site is currently impounded in the existing dam adjacent to Eastern Creek. The method of treatment currently used to meet the water quality objectives is flocculation of the impounded runoff. Flocculent is applied within 24 hours of the conclusion of each storm event by broadcasting it over the surface by hand, ensuring an even spread over the basin surface.

Once the sediment has dropped out and the water reaches the target values for turbidity, total suspended solids, oil/grease and pH, it is pumped out into the Eastern Creek riparian corridor. Test results are documented and filed.

The sediment storage zone at the bottom of the basin is regularly excavated with suitable machinery to ensure that the required storage volume is available. The proposed development would be required to meet the same water quality discharge standards under EPL 546 (refer to **Table 29** above). The small scale of the additional development relative to the overall site would not create a significant difference in the pH, Total Suspended Solids, turbidity or oil content of the runoff.

### 6.7.8 Water Conservation

Fairfield City Council's *Stormwater Management Policy September 2017* Section 5.4 identifies that water conservation is required for new industrial and commercial developments or additions of over 150m$^2$. Therefore the proposed development must ensure that at least 80% of the new development roof area drains to a tank which has a capacity of 3,000L per 100m$^2$ of roof area. The tank is to be connected to non-potable uses such as toilet-flushing and irrigation.

In terms of site water balance, it is not proposed to extract groundwater and surface water at the site.

### 6.7.9 Flooding

Fairfield City Council's flood maps are available online and identify hazard areas within the Eastern Creek catchment. The Rural Area Flood Study which includes Eastern Creek, was undertaken by BMT WBM and adopted by Council in 2013. Because of the dynamic nature of quarries, and the potential inaccuracy of flood storages, the site was modelled as an assumed gradient from the top of the site down to the creek (i.e. "filling" the quarry in). Because of this assumption, the site was excluded from flood mapping.

Since then, The Austral Brick Co Pty Ltd engaged BMT WBM in 2015 to conduct a further flood assessment of the site as part of a separate DA (which did not proceed at the time). This assessment refined their previous modelling by using accurate 3d survey data for the site and incorporating it into their TUFLOW flood model as the 'existing' pre-development scenario. This replaced the Rural Flood Study as the base case model. The results of this modelling are included in Appendix C of **Appendix 4**.

No flood impacts are anticipated as a result of the development as:

- No works are proposed within the designated 100 year ARI flood plain;

- There would be no increase in localised peak stormwater flows coming from the development due to the provision of an onsite detention tank (refer to **Section 6.7.6**); and
- All localised stormwater runoff would be captured and conveyed to existing discharge points by an underground piped network.

## 6.8 CONTAMINATION

A *Preliminary Site Investigation Report* has been prepared in support of the proposed development, and is included in **Appendix 11**. The *Preliminary Site Investigation Report* was prepared according to the following guidelines:

- The SEARs;
- SEPP 55;
- Environment Protection Council (NEPC) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (amended 2013) (NEPC, 2013 - Ref 2); and
- *Guidelines for Consultants Reporting on Contaminated Sites"* (OEH, 2011).

The site was primarily comprised of vacant crown land until the 1890's, and thereafter pasture land until the 1940's. Building structures are likely to have occupied portions of the site since the 1040's. Since the 1960's, the site has been used by Austral Bricks and its predecessors for commercial/industrial purposes.

In its existing state, the site operates with a factory warehouse building which is situated on top of concrete hardstand. No signs of oil spills or stains were noted on the floor surfaces at the site, as part of the site inspection undertaken by Land and Groundwater Consulting on 15 August 2018. Furthermore, no rubbish or domestic wastes were observed on ground surfaces across the site. There was no visible evidence of underground storage tanks or other systems which would cause air emissions such as laboratories, incinerators, surface impoundment or land treatment areas. Asbestos containing materials were also not observed on the surface across the site. All electrical substation building is located immediately east of the existing production building.

Given that no evident sources of mobile contamination could be visually identified onsite, it is considered that potential contaminants associated with past and present land uses are minimal. However, The power transformers associated with the existing substation are considered to be a possible source of potential polychlorinated biphenyl contamination. Therefore, special consideration and caution would be given to any proposed demolition and excavation works at the substation.

Overall, there is a low to moderate potential for significant or gross contamination to be situated at the site. Based on these findings, the site is likely to be suitable for the proposed ongoing use of the site for commercial/industrial purposes, provided that subsurface conditions and any soils to be excavated within the footprint of the substation are appropriately assessed for the presence of potential contaminants prior to disturbance.

It is therefore considered that the site is or can be made suitable for the proposed development, as per the requirements of SEPP 5.

## 6.9 ACCESS AND TRANSPORT

A *Transport Assessment Report* has been prepared in support of the proposed development, and is included in **Appendix 5**. The *Transport Assessment Report* was prepared according to the following guidelines:

- The SEARs;

- *Fairfield City Wide Development Control Plan 2013*;
- Roads and Maritime Service (RMS) *Guide to Traffic Generating Developments* (RMS Guide);
- RMS *Technical Direction TDT 2013/04a, Guide to Traffic Generating Developments – Updated Traffic Surveys* (RMS Guide Update);
- *Australian Standard 2890.1: Parking Facilities – Off Street Car Parking* (AS 2890.1;
- *Australian Standard 2890.2: Parking Facilities – Off Street Commercial Vehicle Facilities* (AS 2890.2);
- *Australian Standard 2890.6: Parking Facilities – Off Street Parking for People with Disabilities* (AS 2890.6);
- *Western Sydney Employment Area – Southern Link Road Network Strategic Transport Assessment*, prepared by AECOM, 18 April 2011 (SLRN Report); and
- *Broader WSEA SLRN – Options Refinement* (2014), prepared by AECOM, 6 May 2014 (SLRN Options Report).

**Figure 21** shows the current road hierarchy context of the site.

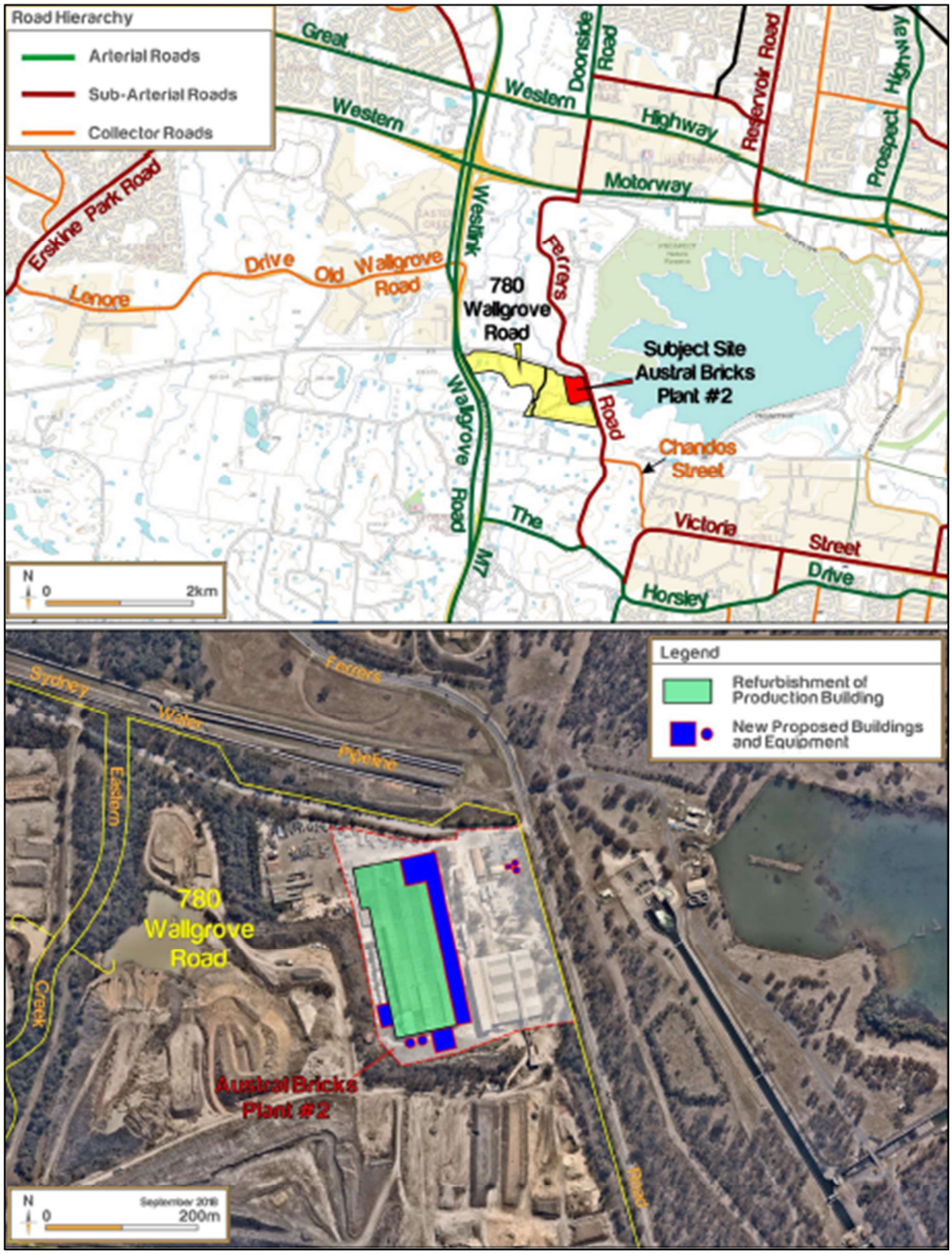


**Figure 21 Site Context and Road Hierarchy (asongroup, 2019)**

2018 traffic surveys within the Austral Site indicate a daily traffic generation of 231 trips and 600 trips to/from the Austral Site at the Ferrers Road and Wallgrove Road intersections respectively. The majority of Plant 2 site trips are generated to/from Ferrers Road, estimated at no more than 5vph during the peak periods. These trips take the form of staff trips to and from the site rather than heavy vehicles.

No pedestrian or bicycle facilities exist on Ferrers Road, and it is also assumed that little to no pedestrian/bicycle movements exist on the road network adjacent to the Plant 2 site. Indeed, due to the nature of the its location, the site relies heavily on private car usage. However, it is

noted that as part of the Western Sydney Employment Area and Western Sydney Airport initiatives, public transport in the locality is likely to improve in future.

There is currently an average of 20 heavy vehicle movements picking up bricks from the site per day, with only a small number of these heavy vehicle movements in the commuter peak periods. The Plant 2 site generally commissions heavy rigid vehicles for deliveries.

The Plant 2 site has limited access to public transport facilities and the proposed development would have little impact on the surrounding public transport and walking and cycling infrastructure due to the high percentage of car users.

Currently, the site utilises an unmarked area for car parking purposes. These existing car parking arrangements were assessed in accordance with the minimum requirements of *Australian Standard 2890.1: Parking Facilities – Off Street Car Parking* and yielded a capacity of 63 car spaces (based on User Class 1A dimensions). The proposed development would retain the use of these 63 car parking spaces at the site. These arrangements would be sufficient to accommodate the 35 onsite staff during a worst case scenario, noting that staff numbers would be unchanged as a result of the proposed development.

Access to the site is off the internal access road which runs east-west through the parent site, connecting Wallgrove Road with Ferrers Road. From there, existing access ramps lead down to the Plant 2 building pad and hardstand area. There are some existing reinforced concrete pavements located around the north eastern edge of the existing factory building. Other areas around the south eastern, south western and southern edges of the building are bare earth.

With the proposed development in place, light vehicle access to the Plant 2 site would be via the Ferrers Road and Access Road intersection. This intersection provides sufficient sight distance (approximately 100m in each direction) and is consistent with the existing site arrangements. No modifications are proposed to any existing intersections to facilitate the proposed development.

It is noted that Council has requested that access be restricted to/from Wallgrove Road and that further justification be provided as to why Ferrers Road would be used for access to/from the site. Overall, it is considered that the proposed development would not change the travel patterns of the existing site. Vehicles accessing the site via Ferrers Road are regular vehicles which are familiar with the site (i.e. staff). All visitors to the site, notably heavy vehicle deliveries would travel via the Wallgrove Road Access. It is considered that Ferrers Road generates very little traffic, and this situation would remain consistent with the proposed development in place. Overall, the proposed development would not increase traffic generation associated with the site.

Over the full construction period, light vehicle trips are likely to result in up to 10 vehicles per hour based on the workforce numbers (estimated to be around 60 staff). Furthermore, it is anticipated that under a worst-case scenario no more than 10 truck movements per day would be required for the delivery of constructions materials to the Plant 2 site. Few if any of these trips would be generated during the commuter peak periods.

The proposed truck route to and from the Plant 2 site would be via Wallgrove Road, arriving and departing from the north. It is noted that this route is classified as an RMS Restricted Access Vehicle route allowing up to 26m B-Double vehicles (refer to **Figure 22** below).


**Figure 22 Approved B-Double Route Map (asongroup, 2019)**

The operational phase of the proposed development does not seek to increase staff or production, and would therefore not increase the approved traffic movements to and from the site. As such, the road safety and network capacity would function consistent with the existing (and approved) conditions. The operation of the surrounding local road network would remain unchanged as a result of the proposed development.

A new fire access road would be constructed as part of the proposed development, to connect with the existing hardstand area at the site. However, the existing access road itself would not be upgraded. Swept path analysis (refer to **Appendix 5**) indicates that emergency vehicles would be able to safely use the proposed fire access road.

Noting that the Aerotropolis and other WSEA projects will develop public and active transport in the future, sustainable travel plans would be considered for implementation in the future when such services become available.

It is also noted that the *Western Sydney Employment Hub – Proposed Erskine Park Link Road Network: Concept Plan*, February 2008 proposes the construction of the Southern Link Road between Wallgrove Road and Mamre Road which would directly impact on the Plant 2 site. Current concept designs have identified that this road will be a four-lane dual carriageway arterial road, connecting to Wallgrove Road by way of a new signalised intersection at the current location of – and incorporating – the Austral Bricks Access Road. This has implications for the future access to the overall Austral site general, and will require future analysis to determine suitable intersection layouts for future traffic volumes. It is noted however, that this would improve the function of access into the site. It is moreover expected that public transport and general accessibility within the locality will improve significantly in the future as part of the WSEA and WAS planning. These programs intend to create large business and commercial hubs and have accounted for sustainable transport measures as part of the developmental process. Indeed, the most likely services to become available to the site would be bus services along Ferrers Road (linking the industrial precincts to the north and south of the Site), as well as future bus services along the Southern Link Road immediate adjacent to the site.

The existing access point to the site from the main internal access road would remain with the proposed development in place. However, two new access ramps would be built to the new hardstand area and the existing ramp at the northern end of the site would be re-aligned slightly. A fire vehicle access track of minimum 6.0m width is also proposed around the full

perimeter of the Plant 2 building. All new hardstand areas would be comprised of a durable, hard-wearing and impervious surface. This is likely to take the form of Austral Masonry interlocking concrete block pavers placed over a cement-stabilised subbase material. The clay subgrade would be trimmed, compacted and proof rolled prior to paving works. The new access ramps may be constructed from reinforced concrete slabs instead due to the steep gradients.

Overall, it is considered that the proposed development can proceed without significant traffic and transport impacts. Nevertheless, the following mitigation measures are proposed to manage the potential for traffic impacts on the local road network during the construction phase of the proposed development:

- Traffic control between the Access Road and Plant 2 Site;
- Scheduling of deliveries outside of the commuter peak;
- Appropriate approvals for any over-sized vehicle deliveries; and
- The use of Old Wallgrove Road as the designated construction vehicle route.

### 6.10 WASTE MANAGEMENT

A *Waste Management Plan* has been prepared in support of the proposed development and is included in **Appendix 14**. The *Waste Management Plan* was prepared according to the following guidelines:

- The SEARs;
- *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*;
- POEO Act;
- *Protection of the Environment Operations (Waste) Regulation 2005*;
- *Waste Avoidance and Resource Recovery Act 2001*;
- *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (EPA, 2012); and
- *Waste Classification Guidelines, Part 1: Classifying Waste* (EPA, 2014).

The proposed development would not involve any extensive remediation, estate infrastructure or landscaping works. Demolition wastes are the most significant wastes to be generated by the proposed development. However, demolition bricks or concrete would either be used as recycled material or disposed offsite accordingly. **Table 30** sets out the demolition wastes estimated to be generated by the proposed development. These estimates are based on other, similar sized facilities operating in the locality.

**Table 30 Estimated Demolition Waste**

| **Project** | **Reuse** | **Recycling** | **Disposal** | **Method of onsite reuse, contractor and recycling outlet and/or waste depot to be used** |
|---|---|---|---|---|
| | **Estimated volume ($m^3$) or weight (t)** | | | |
| Bricks/pavers | 139$m^3$ | NA | NA | Recycled onsite and reused for brickmaking |
| Metal | NA | 55$m^3$ | NA | Sheet wall sheeting and columns to be recycled |
| Hazardous/special waste | NA | NA | 94$m^3$ (asbestos) | Asbestos roof sheeting to be disposed offsite to a licensed landfill |

| **Table 30 Estimated Demolition Waste** | | | | |
|---|---|---|---|---|
| **Project** | **Reuse** | **Recycling** | **Disposal** | **Method of onsite reuse, contractor and recycling outlet and/or waste depot to be used** |
| | **Estimated volume ($m^3$) or weight (t)** | | | |
| **Total** | **139$m^3$** | **55$m^3$** | **94$m^3$** | **NA** |

Construction wastes would be generated at the site from earthworks, building pads, building structures and related amenities, as well as lead-in services including electricity, gas, sewer, and potable water. Construction waste storage locations would be accessible and allow sufficient space for storage and servicing requirements. These locations would also be flexible in order to cater for change of use throughout the development construction stages. Where space is restricted, dedicated stockpile areas would be delineated on the site, with regular transfers to dedicated skip bins for sorting. The positions of the designated waste holding areas onsite would change according to building works and the progression of the development. However, these must consider visual amenity, OH&S and accessibility in their selection. All waste placed in stockpile areas/skips for disposal or recycling would be adequately contained to ensure that the waste does not fall, blow, wash or otherwise escape from the site. Appropriate siting of waste stockpile locations would take into account slope and drainage factors to avoid contamination of stormwater drains during rain events.

Waste/recycling storage locations would be assigned during construction works and would provide adequate space to accommodate all waste and recycling bins (up to 10 x 1,000 litre bins or equivalent receptacles) associated with the construction. Recycling bins would be accessible to all construction employees and must be clearly sign posted and colour coded to ensure segregation of waste and recycling is effective. Waste containers would be kept clean and in a good state of repair.

**Table 31** sets out the construction wastes estimated to be generated by the proposed development. These estimates are based on other, similar sized facilities constructed in the locality.

| **Table 31 Estimated Construction Waste** | | | | |
|---|---|---|---|---|
| **Waste Streams Generated (as General Solid Non-Putrescible)** | **Reuse** | **Recycling** | **Disposal** | **Method of onsite reuse, contractor and recycling outlet and/or waste depot to be used** |
| | **Estimated volume ($m^3$) or weight (t)** | | | |
| Excavation Material | 93,000$m^3$ (mainly clay) | NA | NA | NA |
| Timber | NA | 2$m^3$ | NA | NA |
| Concrete | NA | NA | 4$m^3$ | Waste Management Centre |
| Bricks/Pavers | 2$m^3$ | NA | NA | NA |
| Tiles | NA | NA | 2$m^3$ | Waste Management Centre |
| Metal | NA | 4$m^3$ (offcuts) | NA | NA |

| **Table 31 Estimated Construction Waste** | | | | |
|---|---|---|---|---|
| **Waste Streams Generated (as General Solid Non-Putrescible)** | **Reuse** | **Recycling** | **Disposal** | **Method of onsite reuse, contractor and recycling outlet and/or waste depot to be used** |
| | **Estimated volume ($m^3$) or weight (t)** | | | |
| Fixtures and fittings | NA | NA | $2m^3$ | Waste Management Centre |
| Packaging (used pallets, pallet wrap) | NA | $2m^3$ | NA | NA |
| Containers (cans, plastics, glass) | NA | NA | $2m^3$ | Waste Management Centre |
| Paper/cardboard | NA | $4m^3$ | NA | Waste Management Centre |
| **Total** | **95,000$m^3$** | **12$m^3$** | **10$m^3$** | **NA** |

All operational wastes would be produced at the site through materials packaging, equipment servicing, and employee amenities. Waste storage and management facilities would comprise colour coded recycling bins, which would be utilised to dispose of packaging wastes. Recycling bins would be located within the loading dock areas (allocated for the existing kiln and the production building) and collected by a regulated waste contractor.

Operational waste storage locations would be provided within the Loading Dock Areas where the recycling bins, garbage skips, and cardboard and plastic bales would be stored prior to collection. Sufficient clearance would be necessary to enable collection vehicles to access the locations of bin storage. Where practicable, collection times would not coincide with peak operational delivery schedules. However, all areas identified would not interfere with operational truck movements. The construction of locations for garbage storage would comply with BCA requirements and Australian Standards.

Waste/recycling storage locations would be constructed of an adequate size to accommodate all waste and recycling bins (up to 10 x 1,000 litre bins or equivalent receptacles) and bales associated with the development. Recycling bins must be accessible to all employees and must be clearly sign posted and colour coded to ensure segregation of waste and recycling is effective. Sufficient space would be provided for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, ewastes and other recyclable resources.

Sufficient space would also be provided for reuse items such as crates and pallets for occupational safety purposes. Doors/gates to the waste storage locations would be able to be opened from the outside and wide enough to allow for easy passage of waste/recycling containers.

**Table 32** sets out the operational wastes estimated to be generated by the proposed development per week. These estimates are based on other, similar sized facilities operating in the locality.

| Table 32 Estimated Operational Waste | | | |
|---|---|---|---|
| **Waste Streams Generated (as General Solid Non-Putrescible)** | **Waste (tonnes)** | **Conversion Factor** | **Total Waste ($m^3$)** |
| Garbage waste | 2 | 0.15 | 15 |
| Cardboard | 1 | 0.13 | 8 |
| Paper | 1 | 0.1 | 5 |
| Plastic | 2 | 0.156 | 13 |
| Pallets | 15 | 0.156 | 96 |
| **Total** | **21** | **-** | **137** |

All waste materials to be removed from the site would be undertaken in strict accordance with the requirements of the POEO Act 1997. Such requirements include ensuring:

- Wastes are classified appropriately and in accordance with relevant guidelines;
- Waste materials are removed to appropriately licensed facilities; and
- Other materials are removed to facilities lawfully able to accept such materials.

All wastes generated at the site that are proposed to be disposed offsite would be assessed, classified and managed in accordance with the *Waste Classification Guidelines, Part 1: Classifying Waste* (EPA, 2014).

The following management measures would be employed to mitigate potential waste impacts at the site:

- Waste management measures to be employed during construction works include:
  - Applying practical building designs and construction techniques;
  - Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes;
  - Selecting construction materials taking into consideration their long lifespan and potential for reuse;
  - Ordering materials to size and ordering pre-cut and prefabricated materials;
  - Reuse of formwork (where possible);
  - Planned work staging;
  - Reducing packaging waste onsite by returning packaging to suppliers where possible, purchasing in bulk, requesting cardboard or metal drums rather than plastics, requesting metal straps rather than shrink wrap and using returnable packaging such as pallets and reels;
  - Careful onsite storage and source separation;
  - Subcontractors informed of site waste management procedures; and
  - Coordination and sequencing of various trades;
- The anticipated beneficial reuses of construction wastes include:
  - Concrete, tiles and bricks would be reused onsite or reused/recycled offsite;
  - Waste oil would be recycled onsite or disposed offsite of in an appropriate manner;
  - All solid waste timber, brick, concrete, tiles and rock that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
  - All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements;
  - Portable, self-contained toilet and washroom facilities would be provided at the site and would be regularly emptied and serviced by a suitably qualified contractor;
  - Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided onsite to enable offsite recycling;

- Drink container recycling would be provided onsite or these items sorted offsite for recycling at an appropriately licensed facility;
- All garbage would be disposed of via a council approved system; and
- Opportunities for materials exportation and reuse with other local construction operations would be investigated;

- Waste management measures to be employed during operational works include:
  - Provision of take back services to clients to reduce waste further along the supply chain;
  - Re-work/re-packaging of products prior to local distribution to reduce waste arising;
  - Review of packaging design to reduce waste whilst maintaining 'fit for purpose;'
  - Investigating leased office equipment and machinery rather than purchase and disposal;
  - Establish systems with in-house and supply chain stakeholders to transport products in reuseable packaging where possible;
  - Development of 'buy recycled' purchasing policy;
  - Flatten or bale cardboard to reduce number of bin lifts required; and
  - Providing recycling collections within each of the offices and tearooms (e.g. plastics, cans and glass);
- The anticipated beneficial reuses of operational wastes include:
  - Cardboard, paper, plastic, glass, cans and pallets and containers would be reused/recycled offsite;
  - Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided onsite to enable offsite recycling;
  - All waste materials that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
  - Waste oil (if any) used in equipment maintenance would be recycled or disposed of in an appropriate manner; and
  - Opportunities for materials exportation and reuse with other local industrial operations would be investigated. This would have two benefits: minimising energy through reduction of material reprocessing, encouraging material reuse;
- General waste management measures to be employed for waste classification and removal from the site include:
  (i) All liquid and non-liquid wastes generated during development construction works (if any) would be classified in accordance with the requirements of *Waste Classification Guidelines, Part 1: Classifying Waste* (EPA, 2014). Samples would be collected by appropriately trained and experienced personnel from stockpiled or in-situ waste materials by the use of a hand trowel. The hand trowel would be thoroughly decontaminated using phosphate free detergent and distilled water between each sampling location;
  (ii) During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination would be noted on the field documentation;
  (iii) Collected soil samples would be immediately transferred to sample containers of appropriate composition (glass jars). Sample labels would record job number; sample identification number; and date and time of sampling;
  (iv) Sample containers would be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form would be completed and forwarded with the samples to the testing laboratory;
  (v) Soil samples would be analysed by both a primary and secondary (independent check) laboratory, both of which would be NATA accredited for the required analyses;

(vi) In addition, the laboratories would also be required to meet the environmental consultant's own internal quality assurance requirements;
(vii) The analytical data would be compared against the waste criteria contained in the *Waste Classification Guidelines, Part 1: Classifying Waste* (EPA, 2014) for heavy metals, TRHs, BTEX, PAHs, total pesticides (OCPs and OPPs), PCBs and TCLP in benzo(a)pyrene, lead and nickel. A summary of the relevant criteria is provided in **Appendix 14**;
(viii) All wastes removed from the site would be transported in accordance with relevant road and transportation regulatory requirements. Where required (depending on the classification of the wastes), appropriately licensed transport contractors would be used. The appointed transporters would be responsible for ensuring they are appropriately licensed to:
- Carry the particular type of waste; and
- Transport the materials to an appropriately licensed facility;

- Where the waste is classified as Restricted Waste or Hazardous Waste, the transporter would be required to carry (subject to a number of exceptions) appropriately completed waste data forms with each load, and provide a copy to the waste facility to which the waste is taken.

Appropriate spill kits would also be maintained at the site to appropriately respond to any product spills that may occur during site works. These spill kits would contain appropriate components such as sawdust, coconut fibres, dustpan and brush, and drain covers, as well as a copy of any relevant Safety Data Sheets and a copy of the site's Incident Response Management Plan as is required under Part 5.7A of the POEO Act.

With the above-detailed mitigation measures in place, it is considered that the proposed development can be undertaken without significant waste impacts.

### 6.11 HAZARDS AND RISK

A *SEPP 33 Assessment against Preliminary Hazard Assessment* (PHA) has been prepared in support of the proposed development and is included in **Appendix 6**. The PHA was prepared according to the following guidelines:

- The SEARs;
- SEPP 33; and
- Applying SEPP 33 – Hazardous and Offensive Development.

The PHA reviewed the types and quantities of dangerous goods to be stored at the site/transported by vehicle to/from the site, and compares these against the threshold quantities listed in *Applying SEPP 33 – Hazardous and Offensive Development*.

However, the proposed development would not result in any additional dangerous goods being required at the site. As such, the threshold quantities are not triggered, and no further assessment against SEPP 55 is required.

It is considered that minor quantities of products such as glazing substances, manganese and equipment fuels would be located onsite during the proposed construction and operation works. However, these substances would not be located in quantities that trigger formal assessment as part of the PHA process under SEPP 55.

As the site is not classified as potentially hazardous under SEPP 33, it is not necessary to prepare a Preliminary Hazard Assessment under SEPP 33. Furthermore, it was not considered necessary to recommend any specific mitigation measures to manage the potential impacts from hazardous goods at the site.

## 6.12 FIRE ENGINEERING

A *Fire Engineering Strategy* has been prepared for the proposed development and is included in **Appendix 7**. The *Fire Engineering Strategy* was prepared according to the following guidelines:

- The SEARs;
- *The Building Code of Australia*;
- *Fire and Rescue New South Wales Policy 4*;
- *Australian Standard AS2419.1:2005 Fire hydrant installation systems*;
- *Australian Standard AS2441*:*2005 Installation of fire hose reels*;
- *Australian Standard AS1670.1:2015 Fire detection, warning, control and intercom systems – System design, installation and commissioning Fire*;
- *Australian Standard AS2444:2001 Portable fire extinguishers and fire blankets – Selection and location*;
- *Australian Standards AS2118.1:2016 Automatic fire sprinkler systems General systems*; and
- *Australian Standard AS2993.1:2005 Emergency escape lighting and exit signs for buildings*.

The proposed development would include a new sealed fire access road, re-roofing of the existing production building, and civil works to improve access around the building. The building would form single fire compartments (i.e. large isolated buildings), with no fire walls required. Under the relevant standards, the production building would require fire sprinklers throughout, as well as perimeter building access. However, an Alternative Fire Strategy would be prepared so that the site may provide perimeter vehicular access without fire sprinklers, due to the low fire hazard contents and activities that are proposed for the production building. Moreover, with the low fuel load presented by the proposed activities at the site, a full smoke exhaust system is considered unnecessary.

The *Fire Engineering Strategy* sets out how this Alternative Fire Strategy can be prepared for the site based on the following attributes of the site with the proposed development in place:

- The building is purpose built for the production of clay bricks. As such the levels of combustible materials would be significantly less than could be expected in an equivalently sized Class 8 manufacturing building. On that basis, fire growth and size is controlled by the minimal fuels, in lieu of the provision of fire sprinklers;
- The building is more than 18m clear of the allotment boundaries and the entire site is dedicated to the production of clay bricks;
- Fire brigade would be provided with perimeter access around the building, and an external fire hydrant system (which is not currently provided) to allow effective fire-fighting operations;
- Low building population; and
- The building owner (i.e. The Austral Brick Works Pty Ltd) undertakes the business of clay brick manufacture in the two buildings and as stakeholders in the re-development they and their insurers have considered the consequences of a fire within a building that is not provided with fire sprinklers and the risk of total loss.

The location of proposed fire service infrastructure at the site is shown on **Figure 23** below. In terms of smoke hazard management, a manually operated system of smoke clearance fans shall be provided to assist the brigade in post fire building ventilation.

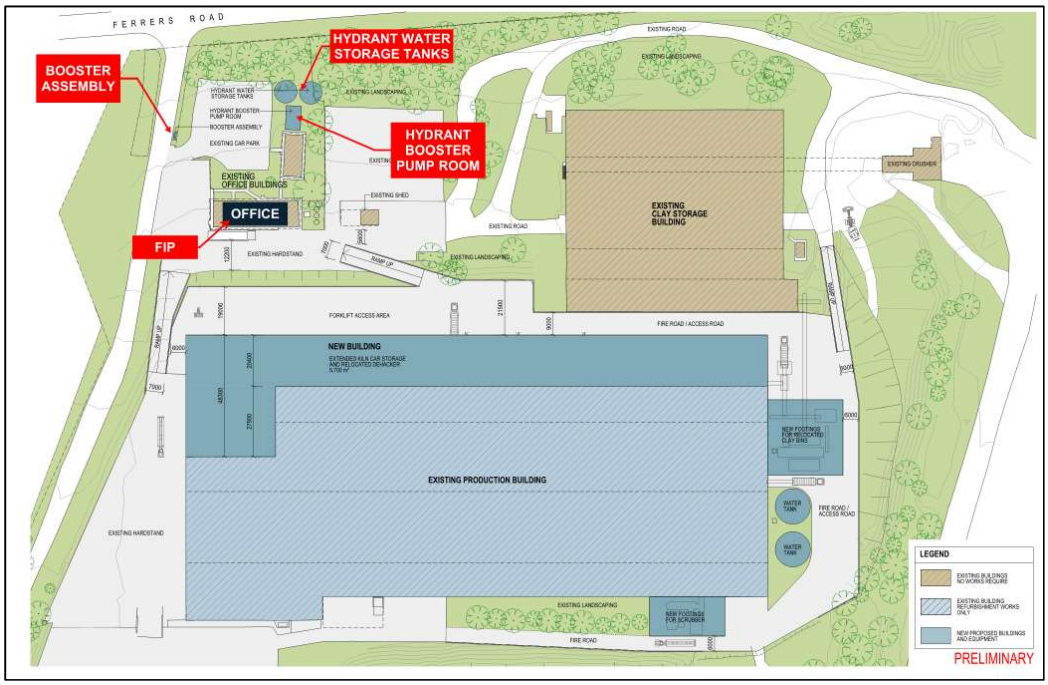


**Figure 23 Proposed Site Fire Services**

Additional fire management measures to be provided at the site include:

- An egress performance solution would address extended travel to exits through:
  - Building height acts as a smoke reservoir;
  - Low fuel load and fire size resulting in low smoke production;
  - Low occupant populations; and
  - Occupant warning initiated by thermal fire detection suitable for industrial applications;
- In lieu of a smoke exhaust system, a manually operated system of smoke clearance fans would be provided to assist the brigade in post fire building ventilation;
- An amplified building occupant warning system would be provided, activated by a thermal fire detection system; and
- Fire hydrants would also be provided as per the relevant standard.

With the mitigation measures set out in the *Fire Engineering Strategy* in place, it is considered that the site can satisfactorily manage potential fire risks.

## 6.13 VISUAL

A *Visual Impact Assessment* has been prepared for the proposed development and is included in **Appendix 16**. The *Visual Impact Assessment* was prepared according to the SEARs.

A desktop assessment was undertaken to identify critical view sheds of the site. From this, known or possible views were identified. Site inspections were undertaken on 10 April 2019 to explore the existence and extent of various views from surrounding areas. The potential impacts of the proposed development on the existing character of the immediate and wider context as well as these existing views from the public domain, roads, infrastructure and reserves was assessed. As the site is located within the WSP, it was therefore considered critical to assess the visual impacts of the proposed development in terms of visual sensitivity to publicly accessible recreational areas.

For each view, visual sensitivity and visual magnitudes were rated as per the below definitions:

- Sensitivity can be described as the sensitivity of a landscape character zone or view and its capacity to absorb change. Combined with magnitude, sensitivity provides a measurement of impact. Sensitivity was determined by assessing the context at the view location. The following examples were used as a guide:
    - Residential context - Low capacity to absorb change due to potential impacts on day-to-day lives of local residents. High sensitivity;
    - Industrial context - High capacity to absorb change due to dynamic use patterns, limited hours of high use levels and regular change within character area. Typically self-contained built form with limited views in/out. Low sensitivity;
    - Commercial context - High to moderate capacity to absorb change depending on land use and built form character. May include office blocks or low-rise business parks. Moderate to low sensitivity depending on type;
    - Open space context - Highly varied capacity to absorb change depending on open space typology and character. An expansive open space dominated by views to further green areas will have a low capacity to absorb change. A linear pedestrian link in an urban context may have a high capacity to absorb change if it is in a dynamic location with competing demands on users. High to Low sensitivity depending on character; and
    - Transport corridor - High to moderate capacity to absorb change depending on surrounding character and context. As a dynamic environment typically experienced from a moving position, transport corridors can tolerate high levels of change and are typically expected to continually change and adapt. Low sensitivity;
- Magnitude can be described as the scale, form and character of a development proposal. In the case of visual assessment also how far the proposal is from the viewer. Combined with sensitivity, magnitude provides a measurement of impact. Magnitude is assessed by determining the overall significance of the proposal each view. It can be summarised simply as the level of change proposed. The following factors were key measurements taken into consideration:
    - Existing screening;
    - Apparent size (often determined by distance between the viewer and the proposal); and
    - Visual context - Presence (or absence) of any items which provide context and scale to the proposal.

Visual impact ratings in relation to the proposed development were determined by cross-referencing visual sensitivity with magnitude. **Figure 24** was used to identify the visual impact rating of each of these views as follows:

- High: The visual impact on these viewers is significant and would typically require amelioration at the site planning stage;
- Moderate: The visual impact on these viewers is at a localised scale and can be mitigated or already has some existing screening or an existing setback which minimises visual impact;
- Low: The visual impact on these viewers is considered low and no or very little amelioration is required; and
- Negligible: The visual impact on these viewers is considered very low or non-existent and no amelioration is required.

| | | Magnitude | | | | | |
|---|---|---|---|---|---|---|---|
| Sensitivity | | High | High - moderate | Moderate | Moderate - Low | Low | Negligible |
| | High | High | High | High - moderate | High - moderate | Moderate | Negligible |
| | High - moderate | High | High - moderate | High - moderate | Moderate | Moderate | Negligible |
| | Moderate | High - moderate | High - moderate | Moderate | Moderate | Moderate - Low | Negligible |
| | Moderate - Low | High - moderate | Moderate | Moderate | Moderate - Low | Moderate - Low | Negligible |
| | Low | Moderate | Moderate | Moderate - Low | Moderate - Low | Low | Negligible |
| | Negligible | Negligible | Negligible | Negligible | Negligible | Negligible | Negligible |

**Figure 24 Visual Impact Rating Table (Group GSA, 2019)**

Overall, eight viewpoints were selected for the visual impact assessment. These were selected based on multiple factors such as distance from the site, angle towards the site, and the land use at the viewpoint. Consideration was given to the slight height increases proposed as part of the proposed development, with the production building increasing by 3.09m and the new stack being 35m in height.

The eight viewpoints cover a 360 degree zone around the site to provide a variety in visual magnitude and they also consider a mix of land uses that represent a scale of visual sensitivities for assessment. Given the scale of the viewing distances, vertical/horizontal exaggerated has been applied to the site sections for visual clarity. Key viewpoints selected for assessment are identified on **Figure 25** and in **Table 33** below.

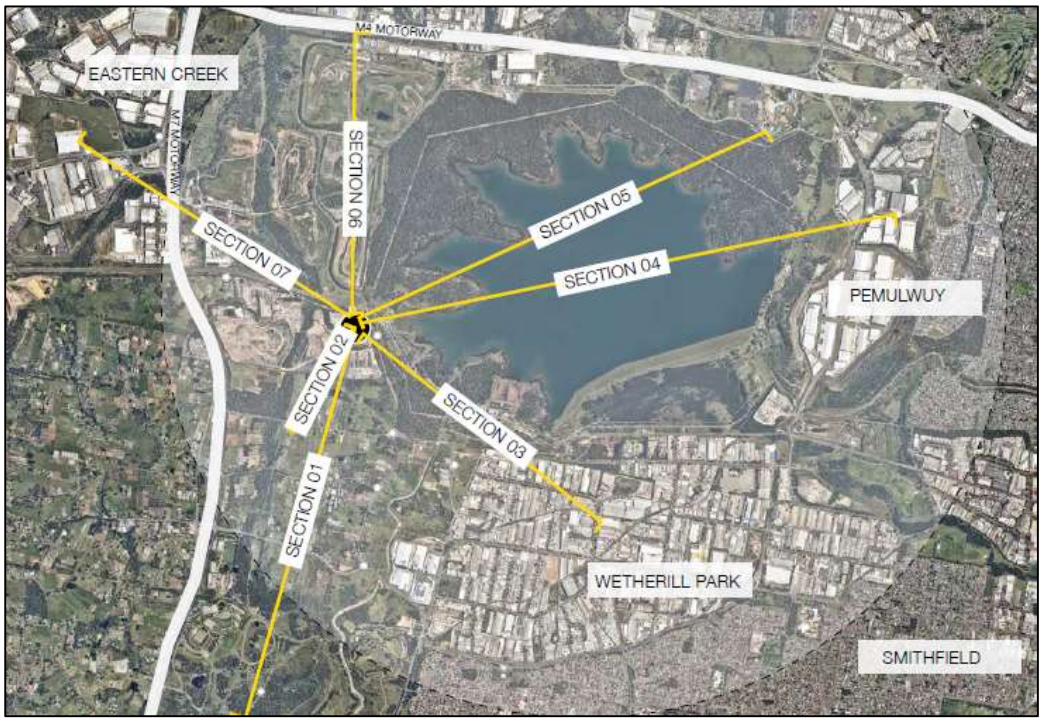


**Figure 25 Visual Impact Section Locations (GROUP GSA, 2019)**

**Table 33 Visual Impact Assessment**

| View Angle | Visual Sensitivity | Visual Magnitude | Visual Impact Rating |
|---|---|---|---|
| One – Public Parkland from Sugarloaf Ridge, looking north towards the site (around 3.9km). | Moderate | Moderate-Low | Moderate |
| Two – Agricultural/Rural Residence from Chandos Road, looking north towards the site (around 1km). | High-Moderate | High-Moderate | High-Moderate |
| Three – Industrial from Wetherill Park Industrial Zone looking north-west towards the site (around 2.8km). | Low | Low | Low |
| Four - Industrial from Reconciliation Rise, Pemulwuy looking west towards the site(around 4.9km). | Low | Negligible | Negligible |
| Five – Commercial from Wet n Wild Theme Park looking south west towards the site (3.9km). | Low | Negligible | Negligible |
| Six – Industrial and Recreational from Ferrers Road near the M4 Motorway, Eastern Creek | Low | Moderate-Low | Moderate-Low |

| Table 33 Visual Impact Assessment | | | |
|---|---|---|---|
| **View Angle** | **Visual Sensitivity** | **Visual Magnitude** | **Visual Impact Rating** |
| looking north towards the site (around 2.5km). | | | |
| Seven – Commercial from Eastern Creek Commercial Zone looking south-east towards the site (2.7km). | Low | Moderate | Moderate-Low |
| Eight – Agricultural looking west immediately adjacent site from Ferrers Road. | Moderate | High | High-Moderate |

No viewpoints were identified to suffer from significant (high) visual impacts as a result of the proposed development. It was generally noted that the sites with the highest visual magnitude were generally from less sensitive view receivers such as Industrial and Commercial Zones, with exception to View Two. View Two is set in a rural residential context in close proximity to the site.

View Eight would experience the most significant (High-Moderate) visual impact given its proximity immediately the site along Ferrers Road. The following explanations were found to be key factors at a number of sites and consistently affected the magnitude ratings generated:

- The proposed development is at most commonly screened by topography or established vegetation;
- Viewpoint character and context is not sensitive to the view of the proposed development due to being predominantly from Industrial and Commercial Zones; and
- Viewing distances are long and thus the development is difficult to distinguish or is viewed within a much larger overall context.

Landscaping would be used at the site to minimise any significant vegetation clearing which could impact on views into the site. Where such landscaping works are undertaken, species would be selected from the Cumberland Plain Woodland Endangered Ecological Community vegetation grouping.

### 6.14 ABORIGINAL HERITAGE

An assessment of the potential Aboriginal heritage impacts of the site was undertaken as per the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011).

The proposed development involves an extension of existing buildings on a site which has been subject to significant levels of historic significance. As such, there are no current mapped Aboriginal heritage items or declared Aboriginal places at the site. It is therefore considered that there is low potential for the site to contain previously unidentified items of Aboriginal cultural heritage. As per the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011), the proposed development is therefore considered to not cause harm to any Aboriginal objects or declared Aboriginal places.

In the unlikely event that potential Aboriginal heritage items are discovered during earthworks to facilitate the proposed development, works in the vicinity would cease and the OEH would be contacted. As per the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, the proposed development is considered to be of a type which would only result in trivial or negligible harm to Aboriginal objects in the unlikely event that these are

discovered during the works. As such, it is not required to consult with the Local Aboriginal Land Council and its associates at this point.

### 6.15 INFRASTRUCTURE SERVICING

The existing site is serviced with potable water from the town supply main (off Ferrers Road). Due to the lack of nearby public sewerage infrastructure to connect into, wastewater flows from the development are collected in onsite holding tanks and pumped out regularly by a contractor. Electricity and telecommunications are also fed to the site from an existing take-off point on the site-wide networks.

These existing services would be maintained and would continue to service the site. Due to the relatively small scale of the proposed development, no upgrades are anticipated to the existing infrastructure.

### 6.16 BUILDING CODE OF AUSTRALIA

A Building Code of Australia (BCA) Report has been prepared in support of the proposed development and is included in **Appendix 15**.

The BCA Report assessed the proposed development against the Deemed-To-Satisfy provisions of the BCA 2019. Overall, it is considered that the proposed development can readily achieve compliance with the relevant provisions of the BCA 2019. **Table 34** sets out the required fire safety measures for the proposed kiln/production buildings at the site.

**Table 34 BCA Fire Safety Measures**

| Essential Fire and other Safety Measures | Standard of Performance |
|---|---|
| Automatic Fire Suppression System** | BCA Spec. E1.5 & AS 2118.1 – 1999 *(and Performance Solution by the Fire Engineer)* |
| Building Occupant Warning System activated by the Sprinkler System | BCA Spec E1.5 Clause 8 and/ or Clause 3.22 of AS 1670.1 – 2015 |
| Emergency Lighting | BCA Clause E4.4 & AS/NZS 2293.1 – 2005 |
| Exit Signs | BCA Clauses E4.5, E4.6 & E4.8 and AS/NZS 2293.1 – 2005 |
| Fire Control Centre | BCA Spec. E1.8 |
| Fire Hose Reels (*Class 7b/8)* | BCA Clause E1.4 & AS 2441 – 2005 |
| Fire Hydrant Systems | BCA Clause E1.3 & AS 2419.1 – 2005 *(and Performance Solution by the Fire Engineer)* |
| Paths of Travel | EP & A Regulation Clause 186 *(and Performance Solution by the Fire Engineer)* |
| Perimeter Vehicular Access | BCA Clause C2.4 *(and Performance Solution by the Fire Engineer)* |
| Portable Fire Extinguishers | BCA Clause E1.6 & AS 2444 – 2001 |
| Smoke Hazard Management Systems | BCA Part E2 & AS/NZS 1668.1 – 2015 *(and Performance Solution by the Fire Engineer)* |

### 6.17 SOCIAL AND ECONOMIC

The proposed development would improve the productivity and environmental performance of the site, thereby ensuring that the site can continue its primary use as an employment-generating industrial landholding. This would allow the site to continue to meet its strategic potential as identified in the WSP SEPP. Furthermore, the construction and operation of the proposed development can take place without causing undue impacts for the surrounding locality.

## 6.18 CUMULATIVE IMPACTS

The potential cumulative impacts of the proposed development were assessed within the *Air Quality Impact Assessment* (refer to **Section 6.3** and **Appendix 10**), the *Noise Impact Assessment* (refer to **Section 6.5** and **Appendix 12**), and the *Transport Assessment Report* (refer to **Section 6.9** and **Appendix 5**). Overall, the proposed development is not considered to have any significant cumulative impacts.

# PART G PROPOSED DEVELOPMENT JUSTIFICATION

## 7.1 JUSTIFICATION

The proposed development would improve the environmental, health and safety and sustainability performance of the site, thereby ensuring that the site can continue its primary use as an employment-generating industrial landholding.

The proposed development is justified in the context of environmental, social and economic terms. Furthermore, it is compatible with the locality in which it is proposed.

This EIS is lodged on the basis of the following.

### 7.1.1 Supporting State, Regional and Local Planning Objectives

The proposed development is consistent with the objectives, provisions and strategies outlined within the NSW 2021, the Metropolis Plan, the District Plan and the WSP POM.

Specifically, the proposed development would contribute to economic growth and prosperity in accordance with NSW 2021. Overall, the proposed development demonstrates consistency with the Metropolis Plan, as the site complies with the requirements for manufacturing facilities as identified in the Metropolis Plan. It also constitutes the continuation of a key industrial land use within the Western Parkland City of the Western City District, which is identified as being one of the manufacturing leaders of NSW and as being supported by a suitable infrastructure network.

In terms of the District Plan, the proposed development is aligned with the Greater Sydney Commission's recognition that the area is to be used for extractive industries and related construction materials production, close to where development activities are taking place so as to capitalise on efficiency and sustainability initiatives.

For the reasons outlined above, the proposed development is considered to positively contribute to the attainment of State, regional and local planning objectives.

### 7.1.2 Appropriate Use of an Approved Site

The proposed development would retain and contribute to the growth of manufacturing, which is an important industry for the region. The strengthening of this sector is an important strategy for the economic welfare of Fairfield City's LGA and the WSP as well as NSW. As the site is specifically mapped under the WPS POM as being for 'Austral Bricks,' the proposed development would allow directly deliver on this strategic identification of the site.

### 7.1.3 Environmental Impacts have been Minimised

Specialist consultants have assessed the risks and determined that the proposed development can be undertaken with minimal environmental impacts. No significant risks to the locality would result from the proposed development. Where impacts have been identified, these would be appropriately managed and mitigated through the compilation of mitigation measures.

### 7.1.4 Compatibility with Surrounding Development

The proposed development is compatible with the SUEZ Eastern Creek Organic Resource Recovery Facility which is located to the north. It is also sufficiently separated from the nearest residential and ecological receivers. Overall, this EIS concludes that no significant cumulative air quality, traffic or noise impacts would occur as a result of the proposed development.

### 7.1.5 Ecologically Sustainable Development

The principles of ESD as outlined in Clause 7(4) of the EPA Regulation are addressed as follows:

- *Precautionary Principle*
  No unmanageable threat or irreversible damage to the environment has been identified in relation to the proposed development.

- *Inter-generational Equity*
  No unreasonable use of resources, affectation of environmental processes or prevention of the use of land for future generations would occur from the proposed development.

  Rather, by implementing greater efficiencies at the existing brickworks site, the proposed development would encapsulate inter-generational equity.

- *Conservation of Biological Diversity and Ecological Integrity*
  The *Biodiversity Assessment* demonstrates how the proposed development would not significantly impact on species or ecological communities within the locality.

  By reducing air quality impacts generated from the operation of the site, the proposed development would ensure nearby ecological receivers are not impacted on.

- *Improved Valuation, Pricing and Incentive Mechanisms*
  The proposed development seeks to implement measures to avoid, contain and address any associated air quality impacts, noise impacts, waste or other forms of pollution through appropriate design and management.

  The proposed development would effectively enable improved cost efficiencies in the manufacturing of locally sourced brick products, in line with the District Plan.

## PART I SUMMARY OF MITIGATION MEASURES

| | |
|---|---|
| **By:** | The Austral Brick Co Pty Ltd |
| **In relation to:** | Upgrades to existing Plant 2 owned by The Austral Brick Co Pty Ltd at 780 Wallgrove Road, Horsely Park, including:<br><br>▪ New production building of around 13,250m$^2$ to provide extended kiln car storage area and relocated extruder and dehacker;<br>▪ Existing production building to be re-roofed;<br>▪ Demolish two existing kilns and replacement with one new kiln (of same overall capacity), to be provided to the existing production building;<br>▪ New footings for relocated clay bins and for the scrubber;<br>▪ Construction of new fire access road;<br>▪ Provision of onsite detention basin;<br>▪ Supporting ancillary works; and<br>▪ Minor demolition works to facilitate the same.<br><br>to improve the environmental, health and safety and sustainability performance of the existing brickworks operation. |
| **Site:** | 780 Wallgrove Road, Horsley Park (Lot 7 DP1059698) |

**SPECIFIC ENVIRONMENTAL COMMITMENTS**

The following mitigation measures would be implemented to ensure there are no significant environmental impacts resulting from the proposed development.

**Air Quality**

1. The proposed development would incorporate the following works which would improve the air quality emissions generated by the site:
   a) New Kiln: The two existing kilns for Plant 2 would be replaced by a new kiln, which would improve fuel consumption and the emissions profile;
   b) Scrubber to minimise acid gas emissions: The upgraded Plant 2 kiln would comprise a scrubber to reduce acid gas emissions, mainly HF emissions. A fluorine cascade absorber would form a part of the upgraded Plant 2 kiln, which is intended to reduce high fluorine concentrations; and
   c) Increase in stack height: The proposed development also includes increasing the stack height of the existing Plant 2 kiln from 16m to 35m. Increasing the stack height would facilitate better dispersion of pollutants and minimise building wake effects that can potentially disrupt/impact the plume dispersion.

2. The following mitigation measures would be undertaken during the construction phase of the proposed development so as to minimise the generation of TSP, $PM_{10}$ and $PM_{2.5}$ at the site:
   a) General mitigation measures to be undertaken throughout the construction phase:
      (i) Identify dust-generating activities and inform site personnel about location; and
      (ii) Identify adverse weather conditions (dry and high wind blowing from dust source to sensitive receptors) and halt dust emitting activities if visible dust impacts are identified at sensitive receptors;
   b) Mitigation measures relating to the handling of spoil and structural fill material to be undertaken throughout the construction phase:
      (i) Minimise drop height for material handling equipment;

c) Mitigation measures to manage wind generated dust from temporary stockpiles and exposed areas, which are to be undertaken throughout the construction phase:
   (i) Progressive staging of dust generating activities throughout the day to avoid concurrent dust emissions;
   (ii) Minimise exposed area if possible;
   (iii) Minimise amount of temporary material stockpiled if possible; and
   (iv) Apply watering through water trucks or sprinklers (note that this mitigation measure would be employed on an as-needed basis);

d) Mitigation measures to manage wheel generated dust during hauling, which are to be undertaken throughout the construction phase:
   (i) Cleaning of haul roads;
   (ii) Speed restrictions; and
   (iii) Restrict vehicle movement to haul routes that are watered regularly (note that this mitigation measure would be employed on an as-needed basis).

3. The site would continue to operate according to the air quality parameters set out in EPL 546.

4. The following management measures would be employed to mitigate Greenhouse Gas Emissions from the site:
   a) Ensuring proper maintenance and management of stationary and mobile equipment to improve fuel efficiency, which will result in lower fuel consumption; and
   b) Periodic review and implementation of energy efficient measures to minimise electricity consumption.

**Biodiversity**

(b) The following mitigation measures are recommended to protect biodiversity adjacent to impact areas during construction:
   a) Vegetation protection:
      (i) To avoid unnecessary removal or damage to the adjacent vegetation, the clearing area would be clearly demarcated and signed, where appropriate, to ensure no vegetation beyond these boundaries is removed;
      (ii) Clearing works and equipment would be excluded from areas outside the clearing area;
      (iii) Site inductions would be given by the civil contractor to ensure all site workers and visitors are aware of any no-access areas;
      (iv) In any area in which construction machinery is to be used with the potential to damage surrounding vegetation to be retained, temporary construction fencing would be installed to protect vegetation to be retained. Temporary fencing would be of a metal construction fence at least 2m high so it physically protects vegetation as well as visually delineates vegetation to be retained. This fencing would remain in place until all works have been finished in adjoining areas; and
      (v) No vehicles or machinery would be permitted to enter areas of vegetation to be retained;
   b) Erosion, sedimentation and pollution control:
      (i) The amount of exposes soils at the site at any given time would be minimised;
      (ii) All stockpiled soils would be adequately covered when not in use to prevent erosion from heavy rainfall;
      (iii) Sediment fences would be established around the perimeter of the site to prevent the impacts of sedimentation on the adjoining vegetation;

(iv) During development, precautions would be taken to ensure that no pollution, such as petrochemical substances or water containing suspended solids, escapes the construction site;
(v) Pollution traps would be installed where required; and
(vi) Efficient removal of pollution to an offsite location would be undertaken to help minimise pollution impacts.

**Noise**

(c) The following construction phase management measures would be undertaken to mitigate the potential construction phase noise impacts of the proposed development:
   a) Construction works are only to take place during standard hours as follows:
      (i) Monday to Friday: 7am to 6pm;
      (ii) Saturday: 8am to 1pm; and
      (iii) Sunday and Public Holidays: No works permitted.

**Bushfire**

(d) The following management measures would be implemented to mitigate potential bushfire risks for the site:
   a) At the commencement of building works and in perpetuity, an Asset Protection Zone would be established and maintained as per Figure 18 in the *Environmental Impact Statement* prepared by Willowtree Planning Pty Ltd in July 2019 so that 8m is provided to the south, 12m to the west and 9m to the south-east around the existing clay storage building. The Asset Protection Zone would be established and maintained as an inner protection area as outlined within *Planning for Bush Fire Protection 2018* (RFS, 2018);
   b) Fire hydrants would be provided in accordance with Building Code of Australia E1.3 and AS2419.1:2005, including the ring main requirements for large isolated buildings; and
   c) A static water supply that includes a connection for firefighting purposes that provides a 65mm Storz outlet with a ball valve is fitted to the outlet.

**Erosion and Sediment Mitigation Measures**

(e) Appropriate erosion and sediment control measures would be installed and maintained for the duration of the proposed construction works to ensure that sediment-laden runoff does not pollute the downstream environment, particularly the Eastern Creek riparian zone.

(f) All erosion and sediment control plans would be prepared in accordance with the *NSW Government's Managing Urban Stormwater – Soils and Construction Blue Book Volume 1, 4th Edition, March 2007.* A preliminary erosion and sediment control plan for the site is included as Appendix A to Appendix 4 of the *Environmental Impact Statement* prepared by Willowtree Planning Pty Ltd in July 2019. Further details of the erosion and sediment control systems and procedures would be provided at the detailed design stage when more information is available regarding in-situ soils and development staging.

(g) The following management measures would be implemented to mitigate potential erosion and sediment impacts from occurring as a result of the proposed development:
   a) Pre-construction erosion and sediment controls, implemented prior to construction, to minimise disturbances and ensure water quality performance criteria are met:
      (i) Designation and marking of transport routes across undisturbed portions of the site to ensure minimal vegetation disturbance.

Transport routes would be provided with stabilised construction entry/exits (e.g. Blue Book SD6-14) at the designated access points;

(ii) Installation of the proposed sediment basin would occur before bulk earthworks across the site begin so that sediment-laden runoff from the works can be captured and treated;

(iii) Diversions would be constructed to divert clean stormwater away from exposed soils and development areas. The exact location and time of construction for each diversion measure would depend on construction staging;

(iv) Existing vegetated buffer zones/bunds are to be fenced off;

(v) Filter rolls or geotextile inlet filters (e.g. Blue Book SD6-11&6-12) to be installed around all existing stormwater inlet gullies; and

(vi) All site personnel to complete an environmental induction covering the erosion and sediment controls;

b) Measures to mitigate potential water quality impacts during the construction of the proposed development:

(i) Sediment fences (e.g. Blue Book SD6-8) to be erected at the base of all batters to prevent sediment-laden stormwater from flowing into the Eastern Creek riparian zone;

(ii) Regular dust suppression on exposed areas by water truck or the use of chemical dust suppressant;

(iii) Progressive stabilisation of filled and disturbed areas;

(iv) Sediment fences to be erected around soil stockpiles;

(v) Regular inspections as soon as practicable after storm events to check and maintain controls;

(vi) Sediment to be removed from fences when controls are 40% full and at the completion of construction. All material to be reused or stored onsite in a controlled manner or taken offsite for reuse or disposal at a licensed waste disposal facility;

(vii) Filter rolls or geotextile inlet filters (e.g. Blue Book SD6-11&6-12) to be installed around all new stormwater inlet gullies; and

(viii) Monitoring of water quality to determine the effectiveness of the sediment and erosion control management practices;

(ix) Erosion and sediment control measures would remain in place for the duration of construction works and following completion until the site is fully stabilised;

c) Site inspection and maintenance measures to be undertaken so long as earthworks are being conducted or site subsoils are exposed, after every rainfall event and at least weekly:

(ii) Inspect and assess the effectiveness of the Soil and Water Management Plan and identify any inadequacies that may arise during normal work activities or from a revised construction methodology. Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways;

(iii) Ensure that drains operate properly and to affect any repairs;

(iv) Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas;

(v) Remove trapped sediment whenever less than design capacity remains within the structure;

(vi) Ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate;

(vii) Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated; and

(viii) Remove temporary soil conservation structures as the last activity in the rehabilitation.

**Surface Water**

(h) The necessary detention capacity would be provided by the construction of a single detention tank in the southwestern corner of the proposed development (i.e. within Catchment A), just before flows are discharged towards the existing dam.

(i) The proposed development would be required to meet the same water quality discharge standards under EPL 546.

**Contamination**

(j) The power transformers associated with the existing substation are considered to be a possible source of potential polychlorinated biphenyl contamination. Therefore, special consideration and caution would be given to any proposed demolition and excavation works at the substation.

(k) Subsurface conditions and any soils to be excavated within the footprint of the substation would be appropriately assessed for the presence of potential contaminants prior to disturbance.

**Access and Transport**

(l) The following mitigation measures are proposed to manage the potential for traffic impacts on the local road network during the construction phase of the proposed development:
   a) Traffic control between the Access Road and Plant 2 Site;
   b) Scheduling of deliveries outside of the commuter peak;
   c) Appropriate approvals for any over-sized vehicle deliveries; and
   d) The use of Old Wallgrove Road as the designated construction vehicle route.

**Waste Management**

(m) The following management measures would be employed to mitigate potential waste impacts at the site:
   a) Waste management measures to be employed during construction works include:
      (i) Applying practical building designs and construction techniques;
      (ii) Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes;
      (iii) Selecting construction materials taking into consideration their long lifespan and potential for reuse;
      (iv) Ordering materials to size and ordering pre-cut and prefabricated materials;
      (v) Reuse of formwork (where possible);
      (vi) Planned work staging;
      (vii) Reducing packaging waste onsite by returning packaging to suppliers where possible, purchasing in bulk, requesting cardboard or metal drums rather than plastics, requesting metal straps rather than shrink wrap and using returnable packaging such as pallets and reels;
      (viii) Careful onsite storage and source separation;
      (ix) Subcontractors informed of site waste management procedures; and
      (x) Coordination and sequencing of various trades;
   b) The anticipated beneficial reuses of construction wastes include:

(i) Concrete, tiles and bricks would be reused onsite or reused/recycled offsite;
(ii) Waste oil would be recycled onsite or disposed offsite of in an appropriate manner;
(iii) All solid waste timber, brick, concrete, tiles and rock that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
(iv) All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements;
(v) Portable, self-contained toilet and washroom facilities would be provided at the site and would be regularly emptied and serviced by a suitably qualified contractor;
(vi) Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided onsite to enable offsite recycling;
(vii) Drink container recycling would be provided onsite or these items sorted offsite for recycling at an appropriately licensed facility;
(viii) All garbage would be disposed of via a council approved system; and
(ix) Opportunities for materials exportation and reuse with other local construction operations would be investigated;

c) Waste management measures to be employed during operational works include:
(i) Provision of take back services to clients to reduce waste further along the supply chain;
(ii) Re-work/re-packaging of products prior to local distribution to reduce waste arising;
(iii) Review of packaging design to reduce waste whilst maintaining 'fit for purpose;'
(iv) Investigating leased office equipment and machinery rather than purchase and disposal;
(v) Establish systems with in-house and supply chain stakeholders to transport products in reuseable packaging where possible;
(vi) Development of 'buy recycled' purchasing policy;
(vii) Flatten or bale cardboard to reduce number of bin lifts required; and
(viii) Providing recycling collections within each of the offices and tearooms (e.g. plastics, cans and glass);

d) The anticipated beneficial reuses of operational wastes include:
(i) Cardboard, paper, plastic, glass, cans and pallets and containers would be reused/recycled offsite;
(ii) Provision for the collection of batteries, fluorescent tubes and other recyclable resources would be provided onsite to enable offsite recycling;
(iii) All waste materials that cannot be reused or recycled would be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
(iv) Waste oil (if any) used in equipment maintenance would be recycled or disposed of in an appropriate manner; and
(v) Opportunities for materials exportation and reuse with other local industrial operations would be investigated. This would have two benefits: minimising energy through reduction of material reprocessing, encouraging material reuse;

e) General waste management measures to be employed for waste classification and removal from the site include:
(i) All liquid and non-liquid wastes generated during development construction works (if any) would be classified in accordance with the requirements of *Waste Classification Guidelines, Part 1: Classifying*

*Waste* (EPA, 2014). Samples would be collected by appropriately trained and experienced personnel from stockpiled or in-situ waste materials by the use of a hand trowel. The hand trowel would be thoroughly decontaminated using phosphate free detergent and distilled water between each sampling location;

(ii) During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination would be noted on the field documentation;

(iii) Collected soil samples would be immediately transferred to sample containers of appropriate composition (glass jars). Sample labels would record job number; sample identification number; and date and time of sampling;

(iv) Sample containers would be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form would be completed and forwarded with the samples to the testing laboratory;

(v) Soil samples would be analysed by both a primary and secondary (independent check) laboratory, both of which would be NATA accredited for the required analyses;

(vi) In addition, the laboratories would also be required to meet the environmental consultant's own internal quality assurance requirements;

(vii) The analytical data would be compared against the waste criteria contained in the *Waste Classification Guidelines, Part 1: Classifying Waste* (EPA, 2014) for heavy metals, TRHs, BTEX, PAHs, total pesticides (OCPs and OPPs), PCBs and TCLP in benzo(a)pyrene, lead and nickel. A summary of the relevant criteria is provided in Appendix 14 of the *Environmental Impact Statement* prepared by Willowtree Planning Pty Ltd;

(viii) All wastes removed from the site would be transported in accordance with relevant road and transportation regulatory requirements. Where required (depending on the classification of the wastes), appropriately licensed transport contractors would be used. The appointed transporters would be responsible for ensuring they are appropriately licensed to:

(i) Carry the particular type of waste; and

(ii) Transport the materials to an appropriately licensed facility;

(ix) Where the waste is classified as Restricted Waste or Hazardous Waste, the transporter would be required to carry (subject to a number of exceptions) appropriately completed waste data forms with each load, and provide a copy to the waste facility to which the waste is taken.

(n) Appropriate spill kits would also be maintained at the site to appropriately respond to any product spills that may occur during site works. These spill kits would contain appropriate components such as sawdust, coconut fibres, dustpan and brush, and drain covers, as well as a copy of any relevant Safety Data Sheets and a copy of the site's Incident Response Management Plan as is required under Part 5.7A of the POEO Act.

**Fire Engineering**

(o) An alternative Fire Strategy would be prepared for the site as per the *Fire Engineering Strategy*.

(p) Additional fire management measures to be provided at the site include:

- An egress performance solution would address extended travel to exits through:

(i) Building height acts as a smoke reservoir;
(ii) Low fuel load and fire size resulting in low smoke production;
(iii) Low occupant populations; and
(iv) Occupant warning initiated by thermal fire detection suitable for industrial applications;

- In lieu of a smoke exhaust system, a manually operated system of smoke clearance fans would be provided to assist the brigade in post fire building ventilation;
- An amplified building occupant warning system would be provided, activated by a thermal fire detection system; and
- Fire hydrants would also be provided as per the relevant standard.

**Visual**

(q) Landscaping would be used at the site to minimise any significant vegetation clearing which could impact on views into the site. Where such landscaping works are undertaken, species would be selected from the Cumberland Plain Woodland Endangered Ecological Community vegetation grouping.

**Aboriginal Heritage**

(r) In the unlikely event that potential Aboriginal heritage items are discovered during earthworks to facilitate the proposed development, works in the vicinity would cease and the OEH would be contacted.

# PART J CONCLUSION

## 9.1 CONCLUDING STATEMENT

The proposed development is SSD 9601 for which SEARs have been obtained and an EIS prepared in response.

The site is owned by The Austral Brick Co Pty Ltd and is located within WSP. It has strategic access to the M7 Motorway which links with the M2, M4 and M5 Motorways. The site is also subject to WSP SEPP, under which it remains unzoned. The proposed development therefore constitutes innominate development. Clause 11(2) of WSP SEPP provides that any development not otherwise specific in Clause 11 may be carried out with consent. The proposed development is therefore permissible with consent under WSP SEPP.

As per Schedule 2, Clause 5 of SRD SEPP, the proposed development is considered to be a form of SSD, as it lies within the WSP and has a CIV exceeding $10M (i.e. $26M).

No adverse environmental impacts are anticipated to result from the construction or operational phases of the proposed development. In contrast, the proposed development would improve the environmental, health and safety and sustainability performance of the site, thereby encapsulating ESD principles. The proposed development is also suitably separated from sensitive areas and would be serviced by adequate infrastructure, including a capable road network. The inconsequential environmental impact of the proposed development would be ensured by the implementation of the management and mitigation measures outlined in **Part F** of this EIS formulated in response to the findings and recommendations of the specialist reports provided within **Appendix 4** to **Appendix 14**.

The proposed development is consistent with the objectives, provisions and strategies outlined within the *NSW 2021*, the Metropolis Plan, the District Plan and the WSP POM. Specifically, the proposed development would contribute to economic growth and prosperity in accordance with these policies by creating construction jobs, continuing to support employment near to where people live, and continuing to support future development within the region by providing a local source of brick products.

Based on the findings of this EIS, the proposed development supports the continued use of the site for employment-generating purposes in a more ecologically sustainable manner. The proposed development is suitable for the local context and is appropriate based on social, cultural, economic and environmental considerations.

Overall, it is recommended that this EIS is favourably considered by DPIE.

# APPENDIX 1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

# APPENDIX 2 ARCHITECTURAL PLANS

# APPENDIX 3 CIVIL PLANS

# APPENDIX 4 CIVIL DESIGN REPORT

# APPENDIX 5 TRANSPORT ASSESSMENT REPORT

# APPENDIX 6 SEPP 33 ASSESSMENT

# APPENDIX 7 FIRE ENGINEERING STRATEGY

# APPENDIX 8 BIODIVERSITY ASSESSMENT

# APPENDIX 9 QUANTITY SURVEYOR REPORT

# APPENDIX 10 AIR QUALITY IMPACT ASSESSMENT

# APPENDIX 11 PRELIMINARY SITE INVESTIGATION REPORT

# APPENDIX 12 NOISE IMPACT ASSESSMENT

# APPENDIX 13 BUSHFIRE RISK ASSESSMENT

# APPENDIX 14 WASTE MANAGEMENT PLAN

## APPENDIX 15 BCA REPORT

# APPENDIX 16 VISUAL IMPACT ASSESSMENT

# APPENDIX 17 COMMUNITY CONSULTATION REPORT

# APPENDIX 18 ADVICE FROM MILLS OAKLEY LAWYERS DATED 15 OCTOBER 2018