

Construction and Demolition Waste Management Plan Stage 1B and Stage 2 Following Land & Groundwater Waste Management Plan Brickworks Plant 2 Upgrade (SSD 9601)

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1. Introduction

This Plan has been prepared to meet the requirements of the Development Consent (Application Number SSD-9601) for the upgrade of Brickworks Horsley Park Plant 2 facility. The Consent Conditions being addressed are Items B38 and B39, C2 and C3(c). An almost identical Plan was submitted as part of the Stage 1A approval process because the issues required to be covered in the Stage 1A plan took in all of the issues necessary to be covered in all Stages of the Plant 2 Upgrade.

This Plan has been developed following the approved concepts in Appendix 14 of the, Environmental Impact Statement (prepared by Willow Tree Planning), entitled Waste Management Plan, Brickworks Plant 2 Upgrade (SSD 9601), prepared by Land and Groundwater Consulting Pty Ltd. Several sections of the Land and Groundwater report are quoted in this report.

2. Consent Conditions

2.1 General

On 18 May 2020, Anthea Sargeant, Executive Director, Regions, Industry and Key Sites Assessments for the NSW Department of Planning, Industry and Environment issued a Development Consent under Section 4.38 of the Environmental Planning and Assessment Act 1979 for Application Number SSD-9601. The Development is defined in part as “Upgrade works to the Horsley Park Brickworks Plant 2 facility.”

Items B38 and B39 deal specifically with the Construction and Demolition Waste Management Plan. Items C2 and C3(c) refer to the Construction Environmental Management Plan.

2.2 Items B38 and B39

Construction and Demolition Waste Management

B38. Prior to the commencement of construction, the Applicant must prepare a Construction and Demolition Waste Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must:

- (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and
- (b) be implemented for the duration of construction works.

B39. The Applicant must:

- (a) not commence construction until the Construction and Demolition Waste Management Plan is approved by the Planning Secretary.
- (b) implement the most recent version of the Construction and Demolition Waste Management Plan approved by the Planning Secretary.

2.3 Items C2 and C3(b)

- C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.
- C3. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:
- (c) Construction and Demolition Waste Management Plan (see Condition B38);

3. Estimated Quantities of Demolition and Construction Waste

3.1 Demolition Waste Quantities (from L&G section 4.1)

The estimated demolition waste quantities originally developed for the EIS are summarised in **Table 1**. These estimates are based on the demolition of:

- Bricks from kilns to be recycled on-site and re-used for brickmaking.
- Steel wall sheeting and columns to be recycled.
- Asbestos roof sheeting to be disposed off-site to a licensed landfill.

Table 1 – Estimated Demolition Waste (from L&G Table 1)

Type of Waste Generated	Reuse	Recycling	Disposal	Method of on-site reuse, contractor and recycling outlet and /or waste depot to be used
	Estimate Volume (m ³) or Weight (t)	Estimate Volume (m ³) or Weight (t)	Estimate Volume (m ³) or Weight (t)	
Bricks/pavers	139 m ³ (kilns: bricks)			
Metal		55 m ³ (Steel)		
Hazardous/special waste			94 m ³ (Asbestos)	Waste Management Centre
Total	139 m³	55 m³	94 m³	

Brickworks management has reviewed the figures developed for the EIS and made some changes. These are shown in **Table 2**.

Table 2 – Estimated Demolition Waste (updated by Brickworks Management)

Type of Waste Generated	Reuse m ³ or tonnes	Recycling m ³ or tonnes	Disposal m ³ or tonnes	Method of reuse, recycling or disposal
Bricks	150-170 m ³			
Metal		80-90 tonnes (steel)		
Hazardous / Special Waste			150-170 m ³ (Asbestos)	Waste Mmt Centre
Concrete			180-190 m ³	
Metal Offcuts		10 m ³		
Paper / Cardboard		4 m ³		
Total	150-170 m³	80-90 tonnes 14 m³	330-360 m³	

The removal of the 150 to 170 m³ of asbestos waste will be carried out by a licensed contractor and disposed of to a licensed facility that can accept asbestos. All asbestos work will be dealt with in accordance to the WorkSafe NSW guidelines. All asbestos work will be carried out by contractors licenced by NSW to carry out asbestos removal work

3.2 Construction Waste Quantities (from L&G section 4.2)

The estimated construction waste quantities are summarised in Table 2.

Table 3 – Estimated Construction Waste (from L&G Table 2)

Type of Waste Generated	Reuse	Recycling	Disposal	Method of on-site reuse, contractor and recycling outlet and /or waste depot to be used
	Estimate Volume (m ³) or Weight (t)	Estimate Volume (m ³) or Weight (t)	Estimate Volume (m ³) or Weight (t)	
Excavation Material	93,000 m ³ (Mainly clay)			
Timber		2 m ³ (Offcuts)		
Concrete			4 m ³	Waste Management Centre
Bricks/pavers	2 m ³			
Tiles			2 m ³	Waste Management Centre
Metal		4 m ³ (Offcuts)		
Fixtures and fittings			2 m ³	Waste Management Centre
Packaging (used pallets, pallet wrap)		2 m ³		
Containers (cans, plastic, glass)			2 m ³	Waste Management Centre
Paper/cardboard		4 m ³		
Total	95,000 m³	12 m³	10 m³	

The Total of 95,000 m³ in the reuse column may be 93,002 m³.

4. Proposed reuse and recycling Options

4.1 Waste Reduction Measures (L&G section 5.1)

The following dot points are from Land and Groundwater Consulting Pty Ltd, (Revised) Waste Management Plan following the Response to Submissions. Austral Brick **Project Management additional comments in red**.

Waste-type-specific reduction measures will be employed during demolition and construction stages, with the following specific procedures:

- Applying practical building designs and construction techniques (**standard practice**);
- Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes (**standard practice**);

- Selecting construction materials taking into consideration to their long lifespan and potential for reuse (**Design issue among other design considerations**);
- Ordering materials to size and ordering pre-cut and prefabricated materials (**Design issue among other design considerations**);
- Reuse of formwork (where possible) (**standard practice managed by contractors**);
- Planned work staging (**as described in Chapter 1 of CEMP**);
- Reducing packaging waste on-site 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 (**Construction management issues controlled by contractors. Decisions made based on a variety of issues not simply waste management**);
- Careful on-site storage and source separation (**standard practice**);
- Subcontractors informed of site waste management procedures (**standard part of contract**); and
- Coordination and sequencing of various trades (**Part of the Staging program**).

4.2 Beneficial Reuses (from L&G section 5.2)

The anticipated beneficial reuses of construction waste are summarised as follows:

- Bricks will be recycled and reused onsite;
- Metal and timber offcuts will be recycled offsite or disposed offsite of in an appropriate manner;
- All solid waste timber, concrete, tiles and rock that cannot be reused or recycled will 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 SafeWork Authority and EPA requirements;
- Portable, self-contained toilet and washroom facilities will be provided at the site and will be regularly emptied and serviced by a suitably qualified contractor;
- Provision for the collection of batteries, fluorescent tubes and other recyclable resources will be provided onsite to enable offsite recycling;
- Drink container recycling should be provided onsite or these items sorted offsite for recycling at an appropriately licensed facility;
- All garbage will be disposed of via a council approved system; and
- Opportunities for materials exportation and reuse with other local construction operations will be investigated.

This section is not a requirement for Austral Bricks, but it contributes to the management decisions made in managing waste during the construction period.

The 93,000 m³ of excavated material will be reused in earthworks. The following is from section 2.3.1 of AT&L's Soil and Water Management Plan and Civil Engineering Design Report.

The required total cut volume is estimated to be approximately 93,000m³ across the site.

Approximately 40,000m³ of this cut is related to the development works around Plant 2. This volume is primarily generated from excavation into existing berms around the perimeter of the existing facility.

The remaining 53,000m³ of cut is required in order to remove the existing clay stockpile at the proposed basin location and then excavate the basin itself below natural ground level.

The cut material will be relocated to a stockpile on the wider site in a suitable location to be confirmed closer to the time of construction (to suit quarry activities). It is noted that there are numerous existing stockpile areas spread across the wider Brickworks site.

4.3 Waste Storage Locations

Waste storage locations will be accessible and allow sufficient space for storage and servicing requirements. These locations will also be flexible in order to cater for change of use throughout the development construction stages.

Where space is restricted, dedicated stockpile areas are to be delineated on the site, with regular transfers to dedicated skip bins for sorting. The positions of the designated waste holding areas on site will change according to building works and the progression of the development, but must consider visual amenity, OH&S and accessibility in their selection.

All waste placed in stockpile areas/skips for disposal or recycling shall 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 will take into account slope and drainage factors to avoid contamination of stormwater drains during rain events.

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

5. Proposed disposal locations

5.1 Local Disposal Locations

Several licenced Waste Disposal Locations are conveniently available to the Plant 2 site. The construction contractor will make use of the licenced waste contractor that offers the best value service. Some of the locations can be viewed at the website links below.

<https://recyclingnearyou.com.au/demolition/FairfieldNSW>

<https://www.bingoindustries.com.au/recycling-centres/recycling-centres-sydney-and-surrounds/eastern-creek>

5.2 Waste Transporting

All wastes removed from the site shall be transported in accordance with relevant road and transportation regulatory requirements. Where required (depending on the classification of the wastes), appropriately licensed transport contractors shall be used.

The appointed transporters shall 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 is 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.

The Traffic patterns for Plant 2 Upgrade are shown in **Figure 5-1**.

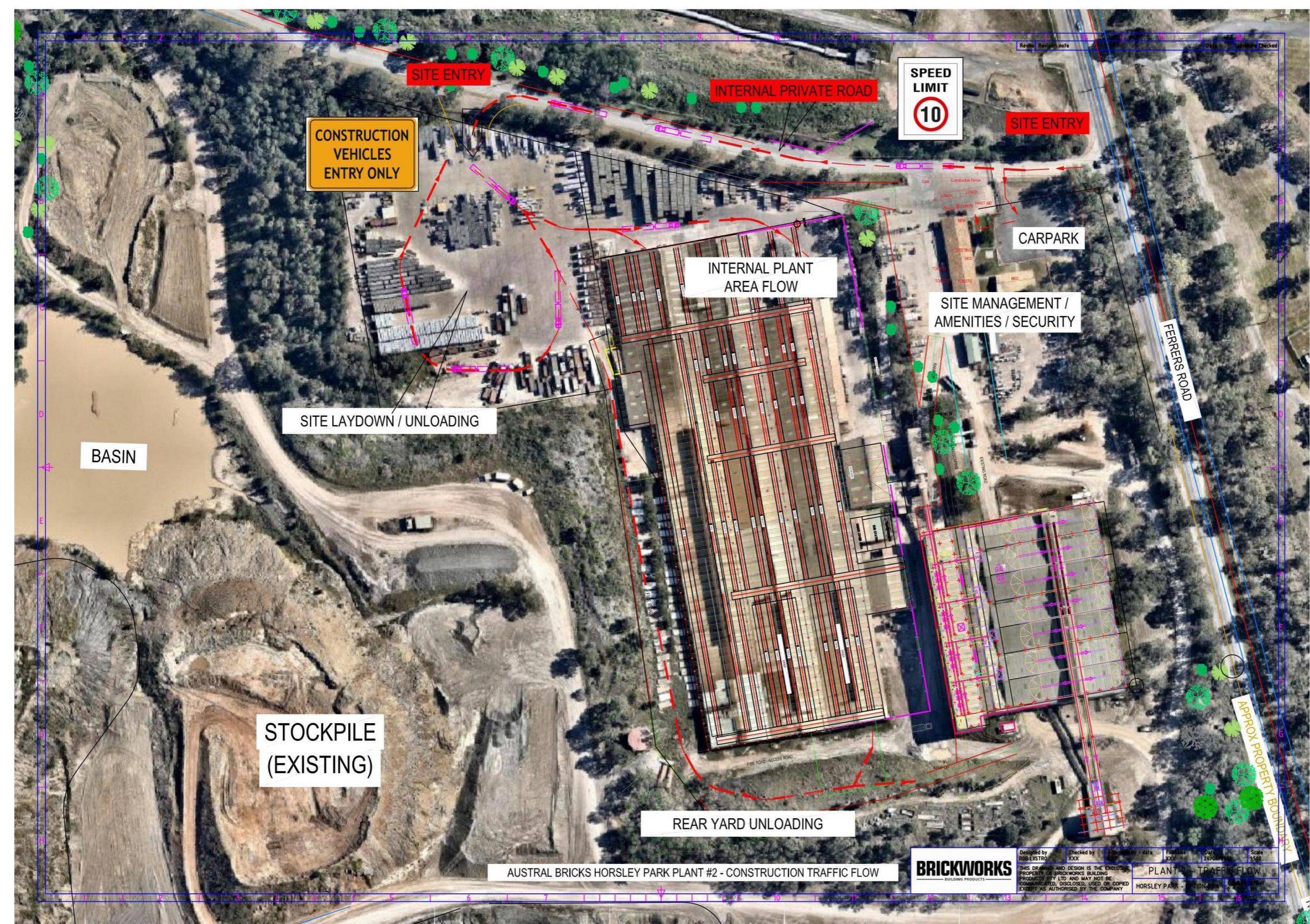


Figure 5-1 – Traffic patterns for Plant 2 Upgrade from Brickworks Management

6. Waste Management Statutory Requirements

DPIE Conditions B40 to B44 state:

- B40. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- B41. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and dispose of all wastes to a facility that may lawfully accept the waste.
- B42. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.
- B43. The Applicant must retain all sampling and waste classification data for the life of the development in accordance with the requirements of EPA.
- B44. The collection of waste generated during operation of the development must be undertaken between 7am to 10pm Monday to Friday.

Austral Bricks is committed to meeting DPIE conditions B40 to B44 throughout the construction period.

Austral Bricks has made plans to collect and remove the asbestos waste in the roofing materials according to SafeWork Authority and EPA requirements. All asbestos work will be carried out by contractors licenced by NSW to carry out asbestos removal work. All other hazardous and/or intractable wastes will be disposed of in accordance with SafeWork Authority and EPA requirements. No significant quantities of liquid wastes are expected during construction.

The following are excerpts from Chapter 7 of Land and Groundwater Consulting, (Revised) Waste Management Plan (February 2020).

All liquid and non-liquid wastes generated during development construction works (if any) shall be classified in accordance with the requirements of NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste.

Samples shall be collected by appropriately trained and experienced personnel from stockpiled or in-situ waste materials.

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination should be noted on the field documentation.

7. References

Department of Planning, Industry and Environment, **Development Consent**, Application Number SSD-9601, Consent Authority: Minister for Planning and Public Spaces, NSW Government, Department of Planning, Industry Environment, Applicant: The Austral Brick Co. Pty Ltd, Date: 18/5/2020, File EF19/12179
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9601%2120200520T230637.426%20GMT>

Land and Groundwater Consulting Pty Ltd, **Waste Management Plan, EIS Appendix 14**, Brickworks Plant 2 Upgrade (SSD 9601), dated 15 July 2019, Project Number LG1870.02, File Name: LG1870.02 WMP 15-07-19.docx, Referenced in Appendices of the Willow Park EIS
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9601%2120190919T061720.506%20GMT>

Land and Groundwater Consulting Pty Ltd, (Revised) **Waste Management Plan, Response to Submissions Appendix 2**, Brickworks Plant 2 Upgrade (SSD 9601), dated 5 February 2020 Project Number LG1870.02, File Name: LG1870.02 WMP 05-02-20.docx , Referenced in Response to Submissions by Willow Park Planning,
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-2542%2120200206T033600.189%20GMT>

Willow Tree Planning, **Environmental Impact Statement for State Significant Development 9601**, Proposed Plant 2 Upgrade Works, 780 Wallgrove Road, Horsley Park, August 2019, Document Reference WTJ18-222
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9601%2120190919T061724.484%20GMT>

Willow Tree Planning, **Response to Submissions for State Significant Development 9601**, Proposed Plant 2 Upgrade Works, 780 Wallgrove Road, Horsley Park, 6 February 2020, Document Reference WTJ18-222
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-2542%2120200206T033559.515%20GMT>

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