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RE: STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSD 10422) FOR PROPOSED BRICKWORKS PLANT

PROPERTY AT: 416 & 524 BERRIMA ROAD, MOSS VALE (LOT 1 DP 785111 & LOT 1 DP 414246)

Dear Shaun,

Reference is made in relation to the subject State Significant Development (SSD) Application – **SSD 10422** – that was exhibited by the NSW Department of Planning, Industry & Environment (DPIE) on 31 July 2020 to 28 August 2020 for the proposed Brickworks Plant at the identified Subject Site – 416 and 524 Berrima Road, Moss Vale (Lot 1 DP 785111 & Lot 1 DP 414246).

Following a review of the NSW DPIE's request for the Response to Submissions (RTS), dated 4 September 2020, the matters raised have been taken into consideration and are accurately addressed in the response matrix that is attached to this letter. It is considered, that this information now provides the NSW DPIE with all the necessary facts and relevant particulars related to the Proposed Development subject to this SSD Application; thereby, enabling the assessment to be finalised and the Proposal determined.

We look forward to the NSW DPIE's feedback on the information provided and look forward to progressing with the assessment of this SSD Application.

Should you wish to discuss further, please contact the undersigned.

Yours Faithfully,

Andrew Cowan
Director
Willowtree Planning Pty Ltd
ACN 146 035 707

Enclosed:

- **Appendix 1 – Air Quality Impact Assessment**
- **Appendix 2 – Operational Flow Diagram**
- **Appendix 3 – Brick Types and Specifications**
- **Appendix 4 – Landscape and Visual Impact Assessment**
- **Appendix 5 – Waste Management Plan**
- **Appendix 6 – Vehicle Movements Diagram**
- **Appendix 7 – Swept Path Analysis**
- **Appendix 8 – Biodiversity Development Assessment Report**
- **Appendix 9 – Flood Impact Assessment Report**
- **Appendix 10 – Consultation with Boral**

Table 1: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
NSW Department of Planning, Industry and Environment (Chris Ritchie – Director – Industry Assessments)	
1. *The Department notes the consistent concern raised in all submissions made by the general public and public interest groups is the provision of renewable energies for site operations to reduce greenhouse gas (GHG) emissions. The Department requests the Applicant provide an assessment of renewable energy opportunities that could be incorporated into the development. The assessment should discuss the costs and benefits of identified renewable energies and justify why the identified renewables will or will not be considered for the development.*	It is noted, that Brickworks continues its commitment to reduce energy use and carbon emissions. A range of energy reduction initiatives / measures proposed by Brickworks across their entire operations, including the proposed Brick Manufacturing Facility are presented in Section 12.3 of the revised Air Quality Impact Assessment (AQIA) (refer to **Appendix 1**).
2. *The EIS identifies that there are five stages involved in the proposed production process of bricks for the development. However, it is unclear how the five production stages for processing bricks are undertaken on the site. The Department requests an annotated facility floor plan and flow diagram which demonstrates how each production stage is undertaken within the site and the plant and equipment utilised for processing.*	A Flow Diagram has been prepared and is attached in **Appendix 2** of this Submission capturing the operational stages of the Proposal.
3. *The Department notes the development will produce a specialty brick product referred to as 'Bowral Blues'. The Department requests clarification on the different types of brick products proposed to be produced, the approximate weight and volume of each brick type proposed to be produced, the different processes required for the manufacturing of each brick type and the amount of resources required for each brick type.*	**Appendix 3** of this Submission includes a breakdown pertaining to the varied bricks to be manufactured and produced in the proposed Brick Manufacturing Facility. Additionally, Brickworks note the following: ▪ "Bowral Blue" is the most popular colour in the Bowral dry press brick range and is currently manufactured in various brick shapes at the existing Bowral operational site. All bricks and special shapes will continue to be manufactured in this colour at the proposed Brick Manufacturing Plant. ▪ The proposed Brick Manufacturing Plant will manufacture all other products currently manufactured at the existing Bowral dry press plant (standard dry press bricks and various dry press shapes). ▪ With the introduction of new technology and equipment the proposed Brick Manufacturing Plant will also be configured to manufacture a new range of products; large format bricks (Modulars) and large format pavers.

	▪ As mentioned above, **Appendix 3** outlines the brick specifications for all product ranges and the colour range that will be offered throughout the proposed Brick Manufacturing Plant. Additionally, an extract from the Bowral bricks brochure is attached to show some shapes that will continue to be manufactured at the proposed Brick Manufacturing Plant.
4. *Section 6.3 of the EIS identifies 9 receptors were considered suitable for the visual assessment of the development however the EIS does not elaborate on the visual significance of the receptors and the selection process for the assessment. The Department requests the Applicant elaborate on the visual significance and selection process for the 9 receptors chosen for the visual impact assessment.*	From understanding the Zone of Visual Influence through Drone photography analysis, it becomes apparent that the Proposed Development does not have a high number of visual receivers. Therefore, nine (9) locations were selected that had the potential to receive visual impacts, these locations were either seen in the drone photography or were retested to confirm that the Proposed Development would not be seen. Reference is made within the Landscape and Visual Impact Assessment (LVIA) to the natural topography of the Site, which helps to screen the Proposed Development from a number of additional visual receptor locations. A further section titled 'Justification of Viewpoint Selection' has been added to Section 2.7 with the LVIA to describe this further (refer to **Appendix 4**).
5. *Section 6.5.5 identifies there are predicted exceedances of the 24-hour average cumulative PM10 concentrations. The EIS provides no mitigation measures or controls to be implemented to prevent exceedances. The Department notes fugitive dust emissions is a major issue of concern raised in the public submissions received on the development. The Department requests the Applicant provide further discussion on the identified exceedances of the 24-hour average cumulative PM10 concentrations including mitigation and management measures to be implemented to prevent exceedances and provide re-modelling, to demonstrate compliance with the relevant assessment criteria. Further justification will be required if compliance with the relevant assessment criteria cannot be demonstrated.*	Airlabs note that the predicted exceedances of the 24-hour average PM10 cumulative concentrations are attributed to the existing environment – which does not include the proposed Brick Manufacturing Facility. Modelling undertaken by Airlabs demonstrates that no 'additional exceedances' are predicted at any of the sensitive receptors due to the proposed facility's proposed operations. According to the NSW EPA guideline *Approved Methods for Modelling and Assessment of Air Pollutants in NSW*, when dealing with elevated background concentrations, the facility will be in compliance as long as its emissions do not result in additional exceedances. A detailed explanation on the reported exceedance of the 24-hour average cumulative PM_{10} concentration has been presented in Section 11.2.1 of the revised AQIA (refer to **Appendix 1**). Airlabs note that a suite of particulate matter (dust) mitigation measures are being proposed by Brickworks, which are listed in the revised AQIA. These measures would ensure that dust emissions generated from the facility would be minimised as far as practicable.
6. *Section 6.11.1 and Table 44 of the EIS identify the cumulative future traffic scenario of the local road network performance. The Department notes the EIS does not identify the existing local road network*	As noted within Section 3.4 of the *Transport Assessment* prepared by Ason Group (2020), automatic traffic count surveys were undertaken between 2 March 2018 and 8 March 2018 to determine the volume of traffic along Berrima Road and Taylor

performance to provide a comparison against the predicted impacts of the development on the local road network performance. The Department requests the Applicant identify the existing local road network performance to demonstrate the extent of impacts the development will have upon the performance of the existing local road network.

Avenue. Table 5 of the report outlined the peak network hour traffic flows recorded along Berrima Road; and Table 6 outlines the peak traffic flows along Taylor Avenue (refer to the extract below).

Table 5: Berrima Road Existing Traffic Flows

Time	Northbound		Southbound		Total
	Lights	Heavies	Lights	Heavies	
AM (8.00 – 9.00)	87	7	55	2	151
PM (5.00 – 6.00)	58	0	63	3	124

Table 6: Taylor Avenue Existing Traffic Flows

Time	Northbound		Southbound		Total
	Lights	Heavies	Lights	Heavies	
AM (8.00 – 9.00)	157	25	138	23	343
PM (5.00 – 6.00)	118	14	117	14	263

From the extract detailed above, it is noted, that along Berrima Road, the heavy vehicle volumes represent 6% and 2% of the total AM and PM peak hours volumes respectively, whilst in Taylor Avenue they represent 14% and 11% of the total AM and PM peak hour volumes respectively.

Accordingly, from the surveys undertaken by Ason Group, both Berrima Road and Taylor Avenue currently generate flows well below the initial threshold of Level of Service (LoS) B, and as such could be considered to actually operate at a LoS A.

Additionally, Section 7.3 of the *Transport Assessment* confirms that the cumulative traffic generation anticipated from the quarry, the proposed masonry plant and the proposed Brick Manufacturing Plant would include an additional 68 vehicles on the existing road network for which the LoS on the road network would remain

	unchanged. The report concluded that the net traffic generation volumes arising from the Proposed Development are of a sufficiently low order, that once distributed on to the surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate as currently occurs.
7. Table 47 of the EIS is titled "estimated construction waste" however, the contents of the table relates to weekly operational waste qualities. In addition, Tables 46 and 47 identify waste in estimated volume (m3) but do not provide the estimated weight (t/ kg). The Department requests the Applicant clarify Table 47 and provide the estimated weight of both weekly operational waste and construction waste.	The EIS contains a typographic error, noting that the Waste Management Plan includes Table 1 – "Estimated Construction Waste" and Table 2 – "Estimated Weekly Operational Waste". Additionally, the Waste Management Plan has been revised to reflect the estimated weights pertaining to estimated waste volumes as a result of the Proposal (refer to **Appendix 5**).
8. The EIS does not satisfactorily demonstrate vehicle movements within the development site and the relationship between vehicles and the development. The vehicle movement paths within the site are unclear and not shown in the site plans. It is also unclear how vehicles delivering materials to the site and on-site mobile plant (e.g. front-end loaders) used for processing, manoeuvre through the site and where they are unloaded. The Department requires the Applicant to provide this information to demonstrate access and manoeuvrability of the site is satisfactory for the development's operations.	Reference should be made to **Appendix 6**, which includes the proposed vehicle movement paths, which have been overlain on the Site Layout Plan.
9. Further to Item 7, the Department notes that no Swept Path Analysis was provided in the accompanying Traffic Impact Assessment prepared by Ason Group Pty Ltd in Appendix 11 of the EIS. This must be provided to demonstrate vehicle turning paths and site access is compliant with all relevant traffic standards and controls.	Reference should be made to **Appendix 7** of this Submission which includes a detailed swept path analysis prepared by Ason Group.

Table 2: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
Wingecarribee Shire Council	
Following on from my email last week, the Department still has not received a response from Council on SSD-10422 and therefore it is considered Council has no comments on the development proposal.	Noted and agreed.

Table 3: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
NSW Department of Planning, Industry and Environment – Environment, Energy and Science Group (EES) (Chris Page – Senior Team Leader Planning (Illawarra – Biodiversity & Conservation Division)	
Biodiversity	
The proposal will result in clearing of 2.24 hectares of native vegetation, including 2.18 hectares of vegetation aligning with Southern Highlands Shale Woodland (SHSW) Threatened Ecological Community, listed under both the NSW Biodiversity Conservation Act 2016 (BC Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). It is also listed as a Serious and Irreversible Impact (SAII) entity in accordance with the BAM.	Noted.
Sixteen Eucalyptus macarthurii, listed as endangered under both the BC Act and EPBC Act, are proposed to be cleared. The proposal will offset the loss of all E. macarthurii.	Noted.
The proposal includes the preparation of a Vegetation Management Plan (VMP) which will guide the revegetation and restoration of vegetation in the riparian corridor on the southern boundary of the subject land. We support the restoration of this area using species known to occur in the SHSW TEC, as stated in the VMP.	Noted.
The proposal has assessed biodiversity impacts by way of a Biodiversity Development Assessment Report (BDAR), in accordance with the Biodiversity Assessment Method (BAM). The proponent must also submit the BAM-Calculator case for EES to review prior to approval. Plot data must be submitted to EES for review. The original datasheets are preferred. Credit reports should also be generated within 14 days of the BDAR submission date, and this will need to be updated.	Noted.
Figures 3 and 8 indicate that "complete clearing" will occur in the VMP area. We request clarification whether this is the case as it appears this area is to be wholly revegetated and it is not clear if the existing paddock trees will be retained.	Noted.
The proposal will require changes to the site's hydrology, and this is assessed in section 8.2.1 of the BDAR as a prescribed impact. Drainage	Noted.

features to be impacted flow into Stony Creek offsite where intact native vegetation occurs. The BDAR should further address potential indirect impacts on biodiversity values which may occur on Stony Creek and other downstream areas.	
Tables 8 and 9 in the BDAR indicate that several species were not retained in the BAM assessment. The BDAR should clearly state why species are excluded (ie geographic limitation, Bionet listed habitat constraint not present, degraded microhabitat, vagrancy) with specific details for each species. Further detailed justification for the exclusion of the koala and the eastern pygmy possum is required. An absence of records within a 10km radius is not sufficient reason to exclude a species. If this cannot be provided, the BAM provides three options for determining species presence: targeted survey, an expert report or assuming presence.	The BDAR has been amended to clearly state why these species are excluded, i.e. habitats are degraded (refer to **Appendix 8**). With regard to the Koala – this species is a species credit species for Breeding habitat only. Breeding habitat is not present due to the habitat constraint "important habitat" not being present. Presence of important habitat is determined through habitat survey and number of records in the locality (BioNET – Threatened Biodiversity Database). While an absence of records in a 10 km radius is not a reason to exclude a species exclusively, the BAM specifies to utilise government databases such as the NSW BioNET Atlas to supplement field surveys. For a species as distinctive as the Koala, it is very unlikely that there is a large presence in the locality if there are few records. Two (2) of the three (3) records in the locality are in association with areas of remnant forest, and the third was noted as road kill on the Hume Highway at a location adjacent to a heavily treed area on the edge of a paddock (however the note attached to the record details the recorder was not certain it was a Koala, and could have been a possum). No records are in association with scattered paddock trees, such as those within the Subject Land, which are common on properties surrounding the Subject Land. Of the Eucalyptus species present the only species within the Subject Land noted as a feed species in the Koala Habitat Protection SEPP is *Eucalyptus radiata* of which only a very small number are to be removed on the edge of the Subject Site in accordance with the Proposal. The vegetation across the whole property is dominated by *Eucalyptus macarthurii* which is not a feed tree of the species. Based on the habitat assessment and lack of records, breeding habitat for the koala was considered to be absent. As discussed in the BDAR there is no habitat within the Subject Land for the Pygmy Possum. The Pygmy Possum requires a shrub layer for foraging and is generally associated with heathy vegetation. There is no shrub layer within vegetation within the Subject Land due to historical clearing and agricultural use. The vegetation within the Subject Land is within highly a highly fragmented agricultural landscape in which there is no direct wildlife corridor to larger habitat remnants, with

	similar vegetation occurring on adjoining properties.
The BDAR does not include an assessment of Matters of National Environmental Significance (MNES). Given MNES entities are present on site, you may wish to consider further liaison with the Commonwealth Dept of Agriculture, Water & Environment to ensure the proposal is not a controlled action under the EPBC Act.	A BDAR assesses ecological issues pertaining to NSW biodiversity legislation only including the BC Act (and Regulations). A referral to the Commonwealth is to be made separately.
Floodplain Risk Management	
The proposed development site is traversed by several watercourses and straddles Stony Creek which is a tributary of the Wingecarribee River. As the proposed development occupies flood prone land, the proposal should be considered in accordance with the NSW Government's Flood Prone Land Policy as set out in the Floodplain Development Manual, 2005 (FDM05).	SMEC have previously prepared the Flood Study and corresponding model for the Wingecarribee River in January 2014. This model was utilised for the present hydraulic modelling study undertaken. Accordingly, flood modelling and maps were produced based on the NSW Floodplain Management Manual (2005). Further flood modelling analysis has been undertaken by SMEC in **Appendix 9** which supports potential flooding impacts from / to the Wingecarribee River with respect to the Proposed Development.
The primary objective of the flood policy is to reduce the impact of flooding and flood liability on individual owners and occupiers, and to reduce the private and public losses resulting from flooding, utilising ecologically positive methods wherever possible. We are also aware that in addition to the flood impact assessment supplied with the EIS documents, Wingecarribee Shire Council has adopted the Wingecarribee River Flood Study including the locality of the subject site.	Hydraulic modelling undertaken demonstrates that the flood impacts – Figure 2.7 for 1% AEP (100yr ARI) and Figure 2.8 for 0.5%AEP(200yr ARI) – are within the proposed lot and flood impacts (afflux) within the Stony Creek, a tributary of Wingecarribee River, is minimal and negligible (about 10mm).
The SEARs recommended by EES for this project relating to floodplain risk management do not appear to have been issued to the proponent. The information supplied indicates that the flood related Environmental Assessment Requirements issued were: ▪ *Consideration of potential local and mainstream flooding impacts;*	Potential local and mainstream flood impacts were modelled, and results are represented in Figures 2.7 & 2.8 of the Flood Assessment prepared by SMEC. As shown in the figures, flood impacts are negligible locally and within the Creek.
You should consider information which is appropriate to be satisfied regarding the flood impact on and of the development. The implications of the full range of floods, up to the probable maximum flood (PMF), should be considered in the determination including: ▪ *the impact of flooding on the development* ▪ *the impact of the development on flood behaviour, and;* ▪ *the impact of flooding on the safety of people including workers at the development.*	It is noted, that the 10% AEP, 1% AEP, 0.5% AEP, and PMF were modelled. Figure 2.6 of the Flood Assessment demonstrates that the proposed pad is almost immune under the PMF Flood Event. Hazard category within the creek has not changed for existing conditions compared to the proposed conditions. Additionally, a flood hazard map was produced according to the NSW Floodplain Management Manual (2005). Generally speaking: ▪ **Low hazard** (V*D=<0.4): it is safe for people and vehicle ▪ **Intermediate hazard**: unsafe for people and vehicles. ▪ **Intermediate hazard**: unsafe for people and vehicles and potential damage to

	structures.

Table 4: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
NSW Rural Fire Service (Kalpana Varghese – Team Leader, Development Assessment & Planning)	
Asset Protection Zones	
1. *From the start of building works, and in perpetuity to ensure ongoing protection from the impact of bush fires, Asset Protections Zones (APZs) managed as Inner Protection Area (IPA) must be provided as shown on the plan titled 'Figure 6 APZ – PBP 2019' provided by Blackash Bushfire Consulting (dated 17 March 2020, Ref: SSD-10422 Proposed Brickworks Plant (Plant 2)). The APZ should be extended from the proposed building to the property boundary on the eastern elevation.* *When establishing and maintaining an IPA the following requirements apply in accordance with the requirements of Appendix 4 of Planning for Bush Fire Protection 2019:* ▪ *Tree canopy cover should be less than 15% at maturity;* ▪ *Trees maturity should not touch or overhang the building;* ▪ *Lower limbs should be removed up to a height of 2m above the ground;* ▪ *Tree canopies should be separated by 2 to 5 m;* ▪ *Preference should be given to smooth barked and evergreen trees;* ▪ *Large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;* ▪ *Shrubs should not be located under trees;* ▪ *Shrubs should not form more than 10% ground cover;* ▪ *Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of vegetation; and* ▪ *Grass should be kept mown (as a guide grass should be).*	Noted and agreed.
Property Access	
2. *Property access roads must comply with the following requirements of Table 7.4a of Planning for Bush Fire Protection 2019:*	Noted and agreed.

▪ *Property access roads are two-wheel drive, all-weather roads;* ▪ *The capacity of road surfaces and causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating;* ▪ *Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005;* ▪ *There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available;* ▪ *Minimum 4m carriageway width;* ▪ *A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;* ▪ *Property access must provide a suitable turning area in accordance with Appendix 3;* ▪ *Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;* ▪ *The minimum distance between inner and outer curves is 6m;* ▪ *The crossfall is not more than 10 degrees;* ▪ *Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.*	
Water and Utilities	
3. The provision of water, electricity and gas must comply with the following in accordance with Table 5.3c of Planning for Bush Fire Protection 2019: ▪ *Reticulated water is to be provided to the development where available;* ▪ *Fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1:2005;* ▪ *Hydrants are not located within any road carriageway;* ▪ *Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads;* ▪ *Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005;* ▪ *All above-ground water service pipes are metal, including and up to any taps;* ▪ *Where practicable, electrical transmission lines are underground;* ▪ *Where overhead, electrical transmission lines are proposed as follows:*	Noted and agreed.

a) Lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and *b) No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.* ▪ *Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;* ▪ *Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 – The storage and handling of LP Gas, the requirements of relevant authorities, and metal piping is used;* ▪ *All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;* ▪ *Connections to and from gas cylinders are metal; polymer-sheathed flexible gas supply lines are not to be used; and* ▪ *Above-ground gas service pipes are metal, including and up to any outlets.*	
Emergency Management Planning	
4. A Bush Fire Emergency Management and Evacuation Plan must be prepared and be consistent with the NSW Rural Fire Service document A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan. The Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants.	Noted and agreed. This can be conditioned accordingly.

Table 5: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
WaterNSW (Clay Preshaw – Manager Catchment Protection)	
Water NSW considers that the proposed new Berrima brickworks facility can achieve a neutral or beneficial effect (NorBE) on water quality provided: ▪ *adequate erosion and sediment control measures are installed and maintained during the construction phase of the project, and* ▪ *proposed stormwater quality treatment measures are implemented and maintained in accordance with the manufacturer's specifications throughout the operational life of the brickworks.*	Noted and agreed.
Due to the extensive cut and fill and diversion of an upslope gully required as part of the development, WaterNSW considers a comprehensive and progressive staged Soil and Water Management Plan (SWMP) is necessary for the construction phase of the project. The SWMP must be prepared in consultation with WaterNSW prior to the issue of a Construction Certificate.	Noted and agreed. Staged detailed Erosion and Sediment Control Plans are considered appropriate at the relevant Construction Certificate stages of the Proposal, which would be prepared by an appropriate Erosion and Sediment Control professional, preferably in conjunction with an appointed civil contractor to inform the relevant construction staging methodology.
Water NSW notes that a large hardstand area (nearly 10 hectares) is proposed and proprietary stormwater treatment devices are required, which would involve regular maintenance to achieve water quality targets. Consequently, Water NSW would like to continue to be a stakeholder in the post-approval phase, including in the review of detailed stormwater management plans, the stormwater management monitoring program and ongoing monitoring results of the proprietary stormwater treatment devices.	Noted and agreed.
Water NSW considers that a requirement for an Operational Environmental Management Plan should be included as a condition of approval. The Plan must: ▪ *provide details of stormwater management and treatment measures, and their locations;* ▪ *include detailed stormwater management monitoring program and inspection and maintenance frequency;* ▪ *outline roles and responsibilities for monitoring and maintenance; and* ▪ *measures in the event of a water quality emergency to prevent and*	Noted and agreed.

minimise the extent of any water pollution. *The Plan must be prepared prior to the commissioning of the stormwater quality treatment devices and in consultation with WaterNSW.*	

Table 6: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
NSW Environment Protection Authority (Peter Bloem – Manager Regulatory Operations)	
Environmental Impact Statement	
1. *Section 4 of the EIS indicates that the proposed development would require the issue of an Environment Protection Licence (EPL) from the EPA for the scheduled activity of ceramic works. Section 3.2.1 also indicates that raw materials delivered to the Site would be crushed and ground onsite. The proponent must ensure that if the proposed development be granted project approval all scheduled activities that will be undertaken at the premises are identified. This may include but not be limited to the scheduled activity of crushing, grinding or separating.*	Noted.
2. *Section 6.5.2 states that "the crusher infrastructure would be enclosed internally, which significantly minimises the potential for airborne dust emissions resulting from the crushing and associated operations". Section 6.7 refers to external crushing operations as a principal noise source. The EPA requests that information is provided to clarify the location and operation of the proposed crushing activities.*	This is a mistake. The crusher is enclosed and there is no external crushing operations. Further consideration is not considered to be required in this respect.
3. *Section 6.9.5 states that the measures included in the preliminary Erosion and Sediment Control Plan are a conceptual approach and 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.* *Given that the site is located within the Sydney Water Drinking Catchment (Section 6.9.8), enhanced stormwater controls should be designed and implemented to be consistent with the practices and principles of the Managing Urban Stormwater: Soils and Construction Volumes 1 and 2. For example, this could include larger basins to promote the reuse of water and minimise discharges, capacity or ability to pump water around the site to minimise discharges, or additional armoury to minimise erosion and maximise sediment capture. The EPA may have further comments and/or requirements upon submission of further details for the detailed design stage.*	Noted and agreed.

4. *Section 6.9.10 indicates that the brick manufacturing process will require a significant quantity of water for cooling and washing. While some information on water quality treatment is provided in Section 6.9.8, the EIS does not appear to discuss the management of any process waters/wastewaters from the development as required by the SEARs. The EPA requests that additional information is provided to describe any process waters that may be produced as a result of the activity and the measures that will be implemented to manage it.*	Whilst the Proposed Development consumes a significant quantity of water, it will not discharge any wastewater, given that all fluid is consumed during the processes, i.e. lost as steam / heat energy. Accordingly, wastewater will be generated only by staff amenities (toilets, sinks etc.) to be located in the new facility. This wastewater will be disposed of via a new pressurised sewerage network to be installed on the Site (including a pump unit). This system will pump wastewater to Berrima Road and then to the existing public sewerage pump station in Adelaide Street, approximately 1.2 km to the west of the Site. It is noted, that Wingecarribee Shire Council have been consulted about this Proposal.
5. *Section 6.10 identifies the presence of potential asbestos containing materials onsite and states that a Remedial Action Plan is required to manage this material. The objective of the remediation activities for the asbestos contaminated soil must be to eliminate any potential risks to human health and/or the environment for both current and proposed future users of the site. The remediation activities must be undertaken in a manner that can clearly demonstrate that this objective has been achieved. An independent occupational hygienist should also be engaged to review the proposed remediation strategies and supervise the remediation activities for the site to ensure any potential risks to human health and/or the environment are satisfactorily addressed.* *The storage, transport and disposal of any asbestos waste removed from the premises must be undertaken in accordance with the Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Waste) Regulation 2014. Please note that asbestos waste above certain quantities must be tracked using the EPA's WasteLocate. Other legislation, including the Work Health and Safety Act 2011 and associated regulations may also apply.*	Noted and agreed.
Air Quality Impact Assessment (AQIA)	
The EPA requests that a revised AQIA is provided to address the following matters: *<u>Hydrogen fluoride (HF) impacts on sensitive land has not been adequately assessed</u>*	The NSW EPA's comments with respect to assessment of fluoride impacts and the application of specialised land-use assessment criteria were considered and to that extent, an aerial survey was undertaken to identify any wineries / fluoride sensitive vegetation in close proximity to the Subject Site. Based on information provided to Airlabs by Austral Bricks and as per information available on the public domain, no existing wineries / vegetation sensitive to

6. *The HF impact assessment criteria (IAC) from the Approved Methods for Modelling and Assessment of Air Pollutants in NSW (Approved Methods) for "general land use" has been used in the AQIA. The AQIA has predicted that offsite HF concentrations at all identified receptors are below this IAC. A more stringent IAC exists for specialised land use, which includes all areas with vegetation sensitive to fluoride.* *Section 6.4 of the AQIA states "At the time of preparing this assessment, it is unknown whether the land-use surrounding the proposed facility comes under the specialised land-use category. However, as per the Wingecarribee Local Environmental Plan 2010 – Land Zoning Map LZN_007C (refer Figure 4), the proposed facility is located in the General Industrial (IN1), with the Boral Cement Plant in the Heavy Industrial (IN3) zone and the Austral Bricks Quarry in the E3 – Environmental Management zone".* *To the north of the site there is land zoned as E2 Environmental Conservation and E3 Environmental Management. Additionally, wineries are in the general vicinity of the proposed facility and grapes are a sensitive vegetation type.* *The AQIA has not adequately demonstrated that the general land use IAC is appropriate. For determination of HF impacts, the Approved Methods specifies assessment criteria for general land-use and for specialised land-use which is applicable to all areas with vegetation sensitive to fluoride.* *The EPA requests that the proponent provide a detailed land use and vegetation assessment to evaluate current and potential future land uses and vegetation that may be sensitive to fluoride.*	fluoride impacts were identified in the nearby surrounding areas. Based on the modelling, an impact assessment zone was identified, which is explained below by Airlabs. It is cosnidered unlikely that there would be any fluoride sensitive vegetation within this zone. Modelling shows that amongst the various averaging periods for the assessment of HF impacts, the 24-hour average was the most critical. The impact assessment zone (i.e. the assessment criteria contour) for the 24-hour average general land-use assessment criteria stretches to a maximum of 370 m from the Subject Site boundary. Similarly, the impact assessment zone for the specialised land-use assessment criteria stretches to a maximum distance of approximately 1.25 km in all directions. Within this impact assessment zone, no existing wineries / vegetation sensitive to fluoride were identified based on an aerial survey. Taking into consideration the existing industries located in the immediate surrounding areas of the proposed brick manufacturing operations, it is unlikely that there would be any fluoride sensitive vegetation, especially within the impact assessment zones as noted above. With respect to land use zones as defined by the Wingecarribee Shire Council, modelling undertaken by Airlabs demonstrates that the general land-use assessment criteria contour for the 24-hour average period does not extend towards the E2 Environmental Conservation and E3 Environmental Management Zones. When the sensitive land-use assessment criteria is applied, the criteria contour marginally extends into the E3 Environmental Management zoned land. Accordingly, modelling of HF emissions has been based on a maximum discharge concentration of 20 mg/m^3, which is consistent with Austral Bricks' best practice measures for reducing fluoride impacts.
<u>Hydrogen chloride has not been adequately assessed.</u> 7. *The AQIA has predicted modelled maximum (100th percentile) cumulative concentrations at the nearest sensitive receptor for all of the assessed pollutants (TSP, PM10, PM2.5, HF, SO2, NO2 and deposited dust levels), with the exception of sulfuric acid, for which the maximum (99.9th percentile)*	As per the NSW EPA's request, an assessment of HCl emissions has been conducted which is presented in the revised AQIA (refer to **Appendix 1**). Modelling shows that the maximum ground level concentration is approximately 22% of the assessment criteria. Therefore, impacts from HCl are not considered to be a major concern.

incremental impacts (from the proposed facility) have been predicted at or beyond the facility site boundary. *The assessment has not considered emissions or potential impacts of hydrogen chloride (HCl). HCl is a known pollutant from the brick making process and is classed as an individual toxic air pollutant. Table 7.2b of the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2016) lists the IAC, as 0.14mg/m^3.* *As per the Protection of the Environment Operations (Clean Air) Regulation (2010) the Group 6 limit for HCl for ceramic works activities is 100mg/m^3. The assessment should also consider all cumulative sources of hydrogen chloride, including the Boral Berrima Cement Works.* *The EPA requests that the AQIA be revised to include an assessment of hydrogen chloride (HCl). HCl must be assessed at and beyond the boundary of the facility and consider cumulative sources including the Boral Berrima Cement Works.*	
Significant incremental impacts are predicted *8. The following significant incremental impacts are predicted:* ▪ *HF is predicted to be;* o *26% of the assessment criteria for the 90-day averaging period.* o *18% of the assessment criteria for the 30-day averaging period.* o *22% of the assessment criteria for the 7-day averaging period; and* o *52% of the assessment criteria for the 24-hour averaging period* ▪ *Sulfuric acid is predicted to be 84% of the assessment criteria (99.9th percentile 1-hour average).* ▪ *NO2 is predicted to be 32% of the assessment criteria (100th percentile, 1-hour average).* ▪ *Sulfur dioxide is predicted to be 18% of the assessment criteria (100th percentile, 10 minute average).* *The EPA considers these incremental impacts to be significant. The proposed facility is in the Moss Vale Enterprise Corridor (MVEC), and increased industrial premises are approved or seeking approval for development in the local vicinity to the facility. As such, the EPA consider that all facilities must*	The NSW EPA's concerns with regards to significant incremental impacts have been exclusively addressed in Section 11.3 of the revised AQIA (refer to **Appendix 1**). For HF, the proposed Brick Manufacturing Facility is the dominant source in the modelled airshed and as such, it can be safely assumed the likelihood of increase in cumulative impacts are considered to be very low. Airlabs and Brickworks undertook a detailed aerial review and could not identify any fluoride sensitive vegetation within the impact assessment zone – which is approximately 370 m for the most critical averaging period (the 24-hour averaging period), when the general land use assessment criteria is applied and approximately 1.2 km when the specialised land use assessment criteria is applied. Within these zones no wineries or fluoride sensitive vegetation were identified. Furthermore, the HF modelling has been based on a maximum discharge concentration of 20 mg/m^3, which is consistent with Austral Bricks' best practice measures for reducing fluoride impacts.

aim to reduce emissions as far as practicable to minimise impacts to the localised air quality. *The AQIA indicates that the proponent proposes to install a cascade scrubber to limit the discharge concentration of HF from the kiln stack to a maximum of 20 mg/m^3. However, no controls are discussed for other pollutants including sulfur dioxide, sulfur trioxide, hydrogen chloride or nitrogen oxides.* *All reasonable and feasible options must be considered and assessed to minimise emissions of air pollutants as far as practicable. Additional control measures and options for improved dispersion should also be considered.* *The height of the kiln stack for the proposed facility is 35m above ground level. A higher stack would generally facilitate better dispersion of pollutants and minimise building wake effects that can potentially disrupt / impact the plume dispersion.* *The EPA requests that the proponent identify and evaluate further mitigation measures to minimise emissions of pollutants including sulfur trioxide, nitrogen oxides and sulfur dioxide in a revised AQIA. Additionally, options to improve dispersion, such as increasing the stack height, should also be considered.*	With respect to H_2SO_4, although modelling shows that the maximum predicted ground level concentration is 84% of the assessment criteria, the actual spatial spread of the elevated H_2SO_4 concentrations is very limited and confined to a very small region. Spatial extent corresponding to 75% of the assessment criteria is confined to a very small area just outside the eastern boundary of the site facility. Across the rest of the areas in the modelling domain (where the majority of sensitive receptors are located), the impacts are well below 50% of the assessment criteria. Airlabs take cognisance of the NSW EPA comment that the predicted maximum 1-hour average incremental NO_2 concentration is approximately 32% of the assessment criteria. However, careful observation of the predicted 1-hour average concentrations across all the sensitive receptors demonstrates that the concentrations are >30% of the assessment criteria, only at one (1) receptor. Predicted concentrations for the majority of the receptors is <20% of the assessment criteria, as observed from the ranking chart of the incremental NO2 concentrations. Also, it is to be noted that the NOx modelling has been based on a conservative assumption of 100% NOx to NO_2 conversion. As incremental concentrations are well below the respective modelled pollutants assessment criteria, no further mitigation measures are deemed necessary including raising the stack height and increasing the exit velocity.
Assessment of nitrogen dioxide impacts is less conservative. 9. *The cumulative maximum predicted ground level concentration of NO2 is 153.9 ug/m^3, which is 63% of the IAC (1-hour average). Incremental impacts from the project alone are predicted to be 78.6 ug/m^3 which is 32% of the IAC (1-hour average).* *NO2 emissions data from the Boral Cement has been sourced from 2017/18 NPI data. There is no justification given for the selected year/date. It is shown in the table below that some reported pollutant emissions (i.e. NOx) were significantly lower for the 2017/18 reporting period compared with the 2016/17 and 2018/19 reporting periods. The adoption of the lower emissions data means that the assessment is less conservative.*	Airlabs take note of the comments provided by the NSW EPA and have made necessary adjustments in the revised AQIA for a re-assessment of nitrogen dioxide concentrations. Essentially, the modified NO_2 assessment comprises the following changes: ▪ Instead of using the 2017-18 NPI emissions from the Boral Cement for the cumulative assessment, an average of NO_2 emissions reported over the last five (5) years to the NPI by Boral Cement Plant has been determined and used in the cumulative assessment. ▪ Justification for using an average of the last five (5) years to inform the NO_2 emissions from Boral Cement Plant has been presented in the revised AQIA (refer to **Appendix 1**). ▪ Upon the NSW EPA's request, the modified NO_2 cumulative assessment included contribution from the Austral Masonry Plant.

Period	Substance	Air Total (kg)	Air Fugitive (kg)	Air Point (kg)	Total (kg)
2016/2017	Oxides of Nitrogen	3,000,000	34,000	3,000,000	3,000,000
2017/2018	Oxides of Nitrogen	2,300,000	20,000	2,300,000	2,300,000
2018/2019	Oxides of Nitrogen	4,000,000	20,000	4,000,000	4,000,000

Additionally, NO2 emissions from the Austral masonry plant have not been included in the cumulative assessment. Only particulate matter (TSP, PM10, PM2.5 and deposited dust) impacts from the Austral Masonry Plant were considered. Justification is provided by Airlabs in Section 7.4 of the AQIA that following review of the AQIA for the masonry plant (Airlabs, 2018), the maximum 1-hour average NO2 incremental concentrations predicted at the worst impacted receptor was approximately 1% of the assessment criteria". While the justification provided is reasonable, the omission of this data further adds to the uncertainty of the predicted ground level impacts for NO2.

The EPA requests that the AQIA be revised to include a refined assessment of nitrogen dioxide, accounting for all nearby emission sources.

Airlabs note that the ground level concentrations were predicted based on the conservative assumption that all of the NO_x emissions generated from the modelled sources would be converted to NO_2 instantly and in the immediate vicinity of the emission source (i.e. 100% NO_x to NO_2 conversion).

<u>Kiln emissions during reducing conditions have not been discussed or assessed</u>

10. *A reduction kiln is proposed to be used at the plant to produce dry pressed brick products including 'Bowral Blues'. To produce this type of brick oxidised (high oxygen) and reduced (high gas) firing techniques are required.*

    Under reduced oxygen (high gas) conditions increased emissions of pollutants, including carbon monoxide, particles and VOC's are typically expected. The AQIA does not discuss the expected impact on emissions from the proposed two firing techniques. As such, the assumed emission concentrations and adopted emission rates have not been adequately justified.

    The EPA requests that the AQIA be revised to include a discussion on the expected emissions profiles from the kiln stack under oxidised and reduced conditions. All pollutant emissions associated with the proposed two firing techniques, including carbon monoxide, volatile organic compounds and particles must be adequately evaluated and assessed. Justification for all adopted emission rates should be appropriately supported.

Modelling of the kiln emissions have been based on a maximum discharge concentration, considering every kiln condition.

Therefore, irrespective of whether the kiln is operating in an oxidation or reduction mode, emissions from either condition would never exceed the modelled emission rates.

<u>Solid particles emissions control performance is inconsistent with best practice</u>

Airlabs note that the proposed discharge concentration of 45 mg/m^3, is

11. The assessment predicts minor incremental impacts from particles (TSP, PM10 and PM2.5). The design concentration for total solid particles (TSP), adopted by Airlabs in the AQIA is 45 mg/ m^3. This is marginally below the standard of concentration (50mg/m^3) prescribed in the POEO Clean Air Regulation (2010) for Ceramic Works (Group 6, Schedule 3). *The POEO Clean Air Regulation Group 6 prescribed standards of concentration have applied since 2005. As advised during the planning focus meeting on 7 November 2019, it is expected that the emission control performance of current pollution control systems should aim to achieve emissions performance well below the prescribed standards of the Regulation. All reasonable and feasible control measures for minimising particle emissions should be considered and evaluated against current performance standards for emission controls.* *The EPA requests that additional information is provided to demonstrate that all reasonable and feasible control measures have been considered and evaluated in the AQIA to achieve an emission performance of particles, which is reflective of best practice controls and benchmarked against comparable emission performance standards for newly installed pollution control systems.*	marginally under the Group 6 limit of 50 mg/m^3. However, modelling shows that incremental particulate concentrations are well below the respective assessment criteria for all size fractions. Furthermore, a range of fugitive dust control measures are being proposed to contain dust emissions as far as practicable. Since, impacts from kiln stack only represent a small portion of overall impacts from the facility, further improvement in emission rates or stack characteristics is unlikely to provide a substantial improvement in overall emissions from the facility. Modelling also shows that the operations from the facility are not expected to significantly contribute to the overall particulate ground level concentrations. As such, the low-level incremental impacts – which are a direct consequence of the control measures proposed by Austral Bricks demonstrate that all reasonable and feasible measures are in fact a reflection of best practice control measures. A detailed explanation on the impacts from the proposed facility with respect to particulate concentrations has been presented in Section 11 of the revised AQIA (refer to **Appendix 1**).
Fugitive dust emissions from the operational activities not adequately assessed *12. It has been proposed that the Brickworks will operate 24 hours, 7 days a week. To estimate dust emissions from the material handling activities (loader operations, conveyor operations etc.), emissions have only been calculated for a 12-hour period every day of the year (Section 8.2). This approach is likely to underpredict emissions from the operations, if activities occur over a 24-hour period. The AQIA does not appear to provide any justification for the reduced hours.* *The EPA requests that the AQIA be revised to model emissions of fugitive dust from operational activities over a 24-hour period, unless adequate justification can be provided for adopting a 12-hour period.*	Airlabs have taken note of this submission comment and have amended the assessment of fugitive dust emissions. A revised assessment of fugitive dust emissions as presented in the revised AQIA (refer to **Appendix 1**) has been based on each modelled source (point and fugitive) releasing emissions continuously (i.e. emissions released every hour of the year).
Noise Impact Assessment	
13. Section 3.1 of the NIA, pertaining to background noise monitoring, states that "The gathered data showed higher than expected background noise levels from natural sources such as insects and cicadas…"	Benbow Environmental note, that consideration pertaining to seasonal variation regarding the RBLs is not necessary, because the most stringent criteria is the night criteria which is governed by the amenity noise level. This is a criteria level

Part A4 of the Noise Policy for Industry (NPfI, 2017) provides guidance for approaches to ensure that seasonal variations in noise (such as cicada noise) is adequately considered in the assessment. Table 3.4 of the NIA indicates that insect/cicada noise was between 36 and 40 dBA at the measurement locations. The Rating Background Level (RBL) selected for the site indicates that there is a possibility that this insect/cicada noise has increased the background noise level over and above what would be measured out-of-season. *The EPA requests that additional information be provided to clarify whether the seasonal variation has been considered in deriving the RBL for the site, and therefore determining the appropriate Project Trigger Noise Levels (PTNLs). The NIA has selected the minimum RBL for the Day period, however the Evening and Night period may be elevated as a result of the inclusion of the insect/cicada noise. The NIA indicates that several receivers are within 1 or 2 dB of the PTNL presented within the report. Minor variations of the RBL could affect the Predicted Noise Levels for Operational Activities presented in Table 5.2 of the NIA.*	of 38 dB(A). The RBL would need to be less than 33 dB(A) during the night to result in a lower noise criteria, which is considered to be unlikely, given the RBLs measured were between 36-42 dB(A). Additionally, Benbow Environmental note that *the cicada season in Australia lasts between September and May, but November and December are prime time for cicada emergences"* (www.cicadamania.com) representing 75% of the year and that measurements were undertaken in March (not the November/December prime time). Further consideration is not considered to be required in this respect.
14. *Section 3.2 of the EIS states that the plant would operate as a dry press brick plant which involves material being pressed into a steel mould to produce the finished brick shape. Section 2.4 of the NIA describes the process as an extrusion process using a pugmill. Table 5.1 of the NIA also includes an extruder as a nominated noise source. The NIA must ensure that the correct process and/or equipment proposed to be used at the new brickworks plant are assessed to ensure the accuracy of the predicted noise levels. The EPA requests that NIA should be reviewed to assess its accuracy and suitability in assessing any proposed noise impacts from the development.*	The equipment modelled in the Noise Impact Assessment has been reviewed by Benbow to confirm the correct process and/or equipment proposed to be used at the new Brickworks plant. The plant will primarily operate as a dry press brick plant, which would not utilise an extruder. The noise sources associated with this operation of a dry press brick plant have been included in the assessment undertaken by Benbow. The inclusion of the extruder was based on equipment details provided by the Proponent with the aim of future-proofing the proposed Brick Manufacturing Facility for the potential use of this equipment, which would in practice not operate simultaneously to the dry press. As the sound power level of the extruder is more than 10 dB(A) less than the press and other dominant sources and is located within the main building, it will not influence the total predicted noise impacts at nearest sensitive receptors. The model undertaken for the NIA is an accurate representation of the worst-case scenario and is considered suitable in assessing proposed noise impacts from the Proposed Development. Further consideration is not considered to be required in this respect.

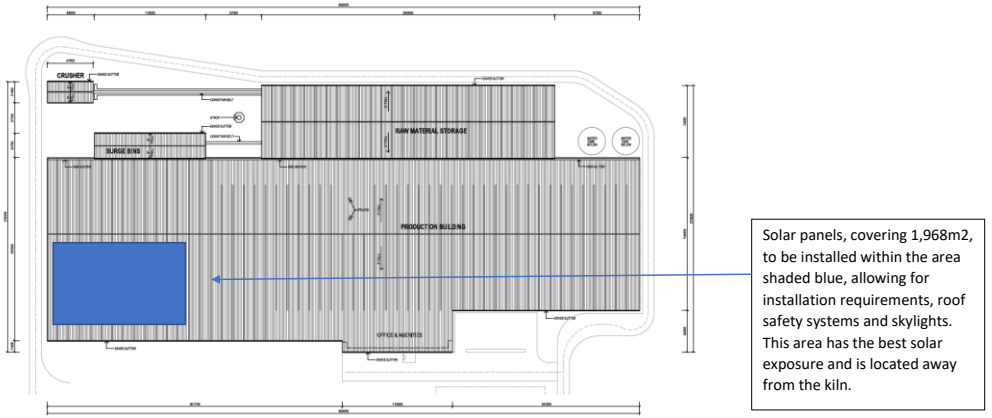
Table 7: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
TfNSW (Chris Millet – Manager Land Use – Southern Region)	
1. *TfNSW notes B-Doubles are being proposed to service this development. TfNSW notes an extension to the gazetted B-Double route is being sought (attachment 2). TfNSW advises this request would need to be submitted to the National Heavy Vehicle Regulator (NHVR). The NHVR will then forward the request to the road manager (in this case, Wingecarribee Shire Council) for consideration. TfNSW does not have a role in considering the application although, if gazetted, TfNSW would be responsible for mapping the route.* *Further to the above, TfNSW recommends the proponent give consideration to opportunities to utilise higher productive vehicles to service the site. In this regard, TfNSW draws the proponent's attention to both the NSW Freight and Ports Plan as well as the Performance Based Standards (PBS) scheme (links to both documents provided below). TfNSW recognises the merit of using PBS vehicles for any particular development needs to be considered on a case by case basis, including matters such as the cost/benefits from the proponent's perspective, the suitability of the road environment and the environmental benefits or impacts from a community perspective.* *https://www.transport.nsw.gov.au/projects/strategy/nsw-freight-and-ports-plan* *https://www.transport.nsw.gov.au/operations/freight-hub/heavy-vehicle-access-policy-framework*	The Submission comments raised by TfNSW are noted; however, it should be acknowledged that the modifications to the route are in relation to the section of road from Taylor Avenue into the Site. Furthermore, Ason Group note, that whilst the status quo of using road transport currently remains the most efficient and economically viable option for the Site, it is noted that the currently approved B-Double route is also a pre-approved PBS route. Therefore, should alternative options become viable, a similar application can be readily made to extend the short distance required from Taylor Avenue to the Site. Additionally, the use of rail will impact on delivery time. Products supplied to Metro Sydney are called for delivery on short notice (1-2 days on average) due to tight construction schedules and limited storage capacity on building sites. Once called forward, the products are typically used immediately upon arrival to a building site. The use of rail would slow down the loading and unloading of products due to logistics associated with the handling of containers. The status quo of using road transport is recommended as the most efficient and economically viable option for delivering finished goods to customers.
2. *The submitted EIS mentions opportunities for material exportations, however it is unclear if this relates to the export container area identified on the submitted site plan. TfNSW seeks clarification on how the export container area will operate and the traffic volume associated with it.*	Containers are required when exporting product overseas as well as transporting product interstate, with Western Australia currently the main beneficiary of this method of shipping from the existing Bowral plant. While the volume of containers cannot be confirmed, it is expected that the export / interstate market will grow as the proposed new Brick Manufacturing Plant will increase its product range offering.

	Empty containers will be dropped off by side lifter container trucks and positioned in a designated container loading area in the yard. Using a forklift, the containers will be loaded with product. Turnaround time from dropping off an empty container to picking up a loaded container is typically 1-3 days, but this can be longer depending on the shipping company. 20 ft. containers will be utilised because there is no volume benefit in using larger containers due to weight restrictions. Loading of containers will typically take place during normal yard operating hours, 6am-6pm; however, loading outside these hours may be required to fulfil other yard duties, as well as meet the prescribed shipping deadlines.
3. *The construction traffic assessment provided in the submitted TIA is to be amended to include details of the types of heavy vehicles to be used during the construction phase of the development.*	As previously noted in the *Transport Assessment* prepared by Ason Group, it is difficult to confirm details of construction until such a time that a contractor is appointed, for which would be detailed within the finalised Construction Traffic Management Plan (CTMP) forming part of the requirements of a Condition of Consent. However, it is expected at this stage that the largest vehicle to be utilised during the construction phase of the Proposal would be a 19.6 m 'Truck & Dog'.
4. *TfNSW notes that the submitted EIS and TIA mentions an extraction limit of 150, 000 tpa of shale/clay from the New Berrima Quarry. However, the EIS also mentions that 200, 000 tpa of Ashfield shale will be supplied from the New Berrima Quarry to the Brickworks facility. The proponent is to clarify the volume of shale/clay and confirm what figures have been used to determine the traffic generation. TfNSW notes that this may have an impact on the submitted traffic assessment given additional shale/clay tonnage may result in additional traffic generation to and from the site.*	The New Berrima Quarry site has approval under PA 08_0212 granted on 7 July 2012 and more recently Modified and approved on 6 July 2017. Section 2.1 of the New Berrima Quarry – Transport Management Plan refers to: "The Proponent must not transport more than: ▪ 150,000 tonnes of product from site in a calendar year. ▪ 68 laden trucks from the site in a day. ▪ Eight (8) laden trucks per hour." These numbers were set for the current output at the existing Bowral Plant at approximately 30 Million bricks. The extraction limit can be increased to cover the extra volume required with the upgraded plant and size through a further Modification to the PA. It is acknowledged, that the issue is the EIS numbers are allowing for the increase in production at the new plant at Chesley Park to 50 Million Bricks (220,000 tonnes of Material – 200,000 of Ashfield Shale from New Berrima and 20,0000 tonnes of

	material imported from other sources). It is acknowledged, that the assumption has been made that the 200,000 tonnes from the New Berrima Quarry will be carted to the New Berrima Plant on external roads where in fact it will be all carted on internal roads because the properties are adjoining. Only 20,000 tonnes will need to be carted in on external roads and approval of the project will remove approximately 6,250 trucks from the roads which will be required if they must cart into the existing Bowral Plant.

Table 8: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
Berrima Residents Association (Eric Savage – President)	
Water Quality & Biodiversity	
Wingecarribee is almost entirely in the Water Catchment Area and the brickworks site, which includes a major riparian zone along Stony Creek, is in need of special protection. We ask that it be a condition of consent that 30 metres on each side of Stony Creek be restored with native vegetation. In addition, the entire perimeter of the Lot (Lot 1 DP 785111) be planted out with a 20-metre wide planting of native trees and shrubs. *In the past the land has been largely denuded of native vegetation, and as a result the biodiversity of the land has been compromised. This is an important location, being close to the Wingecarribee River and the biodiversity hotspot around the Berrima Weir. The native plantings will act as wildlife corridors to and from the river.* *The native planting will to some extent offset the massive carbon footprint the brickworks is to have (23,000 tonnes of CO2 per year, in addition to the methane leakages).*	The Riparian corridor was assessed by Cumberland Ecology and a 20 m wide buffer zone either side of the creek was proposed. This creates a total planting area which is 40 m wide. Geoscapes have followed recommendations within the VMP for endemic species selection and planting numbers. In total 687 trees and 1,030 shrubs are proposed to be planted within the Riparian corridor. This is expected to create a future mature tree canopy cover along Stony Creek of approximately 19,500 m^2. Within Lot 1 DP 785111, it is proposed to retain 49 existing trees with a canopy cover of approximately 2,783 m^2. It is also proposed to plant an additional 122 trees which are planted in isolated groups to comply with bushfire planning principles (including *Planning for Bushfire Protection 2019*) and to match and maintain the character of the existing site and local area. This is expected to provide an additional 6,870 m^2 of canopy cover at maturity.
Air and Noise Quality	
Dust is a particular problem in this location, because of the proximity of the villages of New Berrima and Berrima and the heightened risk of silicosis. The impact of dust will be cumulative and additional to the serious dust problem that presently exits with the adjacent Boral Cement Works. Similarly, the now approved Austral Masonry Plant will compound the dust problem. *It is imperative, therefore, that the crushing of the material both at the quarry and the brickworks be conducted in filtered closed spaces. Also, the conveyor belts from the quarry to the brickworks need to be covered.*	A detailed cumulative assessment of dust impacts has been conducted. Although modelling shows that there would be at least one (1) exceedance of the 24-hour average cumulative PM_{10} concentration at all of the identified sensitive receptors, it is clearly demonstrated in the revised AQIA (refer to **Appendix 1**) that this exceedance is not due to the proposed brick manufacturing operations. This exceedance is attributed to the existing air quality levels, which are explained in Section 7 of the revised AQIA. Furthermore, modelling clearly shows that the proposed brick manufacturing operations would not cause any 'additional exceedances' of the predicted 24-hour average PM_{10} concentrations. This implies that the proposed brick manufacturing

	operations would not considerably add to the existing air quality levels. As noted in the revised AQIA, a suite of dust control measures are being proposed by Austral Bricks which included enclosed crusher and conveyor infrastructure. Another notable measure is that external material stockpiles would be avoided, thereby greatly limiting the potential for wind erosion emissions from stockpiles. Also, with respect to material haulage, haul trucks would be commuting on sealed roads which significantly reduces the potential for wheel generated dust emissions. As such, based on the low incremental (i.e. proposed facility only) dust impacts as predicted from the modelling and combined with the mitigation measures proposed by Austral Bricks, dust emissions are not considered a major pollutant of concern from the proposed brick manufacturing operations.
As for the noise problem, it is essential to keep the crushing and conveyance of the material from the quarry to the brickworks under cover.	The CVR crusher will be located in a purpose built building. The recycling crusher from the already approved masonry facility has been shown to comply without an awning. An awning above this crusher and conveyors are not expected to make a significant reduction to noise levels. Further consideration is not considered to be required in this respect.
Climate Action	
Mention of this has been made above, but it deserves special emphasis, because of the need for industry to play its part in reducing carbon and methane emissions. The project should provide for non-fossil fuels, if not now, then in the future. The use of natural gas needs to be adaptable to the use of hydrogen produced from water by the use of renewable energy. The brickworks is intended to last many decades, and the technology proposed will be well out of date and entirely inappropriate by the time climate change really starts to grip in a decade's time.	As previously mentioned Brickworks continues its commitment to reduce energy use and carbon emissions. A range of energy reduction initiatives / measures proposed by Brickworks across their entire operations, including the proposed Brick Manufacturing Facility are presented in Section 12.3 of the revised Air Quality Impact Assessment (AQIA) (refer to **Appendix 1**).
The land parcel owned by Austral is sufficiently large to accommodate a large solar array that can generate renewable electricity to run the lighting, vehicles, conveyor belts and other ancillary operations of the plant. Such a solar array should be made a condition of development consent for the project.	It is noted that Brickworks have considered the Submission item and have subsequently included provisions pertaining to a solar design solution to be integrated into the overall design. Solar panels covering approximately 1,968 m^2 of the roof area are to be installed within the area shaded blue in the schematic provided below, allowing for installation requirements, roof safety systems and skylights to be installed. The area chosen comprises the most optimal sunlight and solar exposure and is located away from the kiln proposed to be installed.

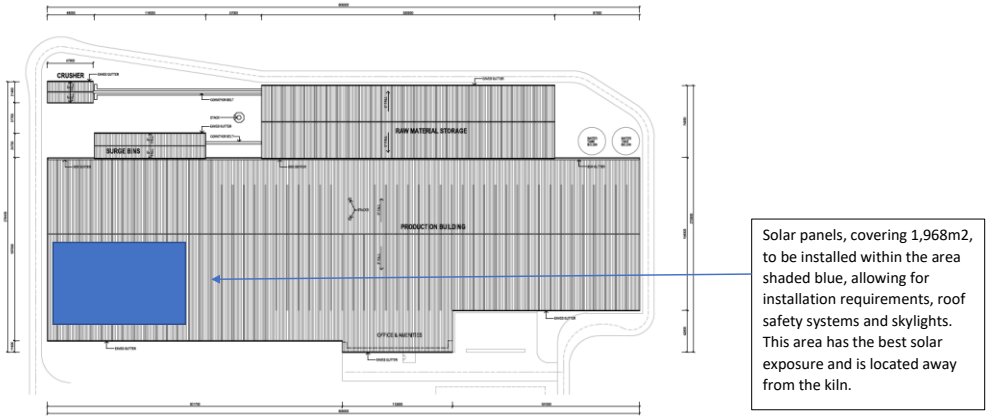
	
Similarly, the plant construction should use low carbon concrete, high level heat insulation and other measures to be as energy efficient as current technology allows.	It is noted, that best-practice measures would be implemented accordingly to ensure an environmentally and ecologically sustainable development is achieved.
Recent advances in technology make co-generation of electricity using the heat from the kilns highly profitable when the co-generated electricity is fed into the grid at peak times. This co-generation of electricity should be made a condition of consent, thus creating an environmental benefit and making the multi billion dollar parent company (Brickworks Ltd) responsible for its climate actions.	As above. It is not considered that this is required to be made a condition of consent.
Given the vast amount of greenhouse gases that will be created by the use of natural gas (CO2 and methane), the company must be required to have extensive plantings of native vegetation around the perimeter of the lot and along riparian zones, to at least partially offset the climate damaging consequences of their operations.	This is not an ecological issue. There is no requirement under the NSW *Biodiversity Conservation Act 2016* to plant vegetation to offset greenhouse gases. Creation of greenhouse gases is not listed as an indirect or prescribed impact requiring offsetting in the Biodiversity Assessment Method manual. Further consideration is not considered to be required in this respect. Furthermore, Greenhouse gas emissions from Brickworks Australian operations are on a downward trend. In 2019, Brickworks emissions were 27% lower than their baseline in 2006, reflecting a step change in their manufacturing efficiencies. From its very early operational onset, Brickworks Building Products have committed to investing in the latest manufacturing technologies to contain costs and improve productivity and product quality. Today, that same commitment is applied to lowering the carbon intensity of their operations and building a sustainable future. Brickworks are doing this by implementing energy efficiency opportunities and exploring the use of

	hydrogen fuel in their kilns. Brickworks is aligning its greenhouse gas reduction strategy with the recognised standard of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, including risk management disclosures, metrics and targets. Through this process, Brickworks are exploring long term carbon management strategies and working to include their North American business into the long term targets. These future goals are underpinned by their overarching target to achieve a 10% improvement in gas efficiency for the Austral Bricks business by 2030, based on 2018 levels.
Revegetation of the Banks of the Wingecarribee River	
Although this area of the land owned by Austral is not part of the brickworks site, it is part of the overall integrated project, which includes both the quarry and the brickworks (and in the future, the Austral Masonry Plant). *The appalling state of the completely denuded riverbank should have been addressed in the conditions of consent for the quarry, but it was not. DPIE now has the opportunity to remedy this and require that the bank of the river be revegetated to a depth of 50 metres (as per Clause 7.5(5)(a) of Wingecarribee LEP 2010). This will not only screen the noise and dust from the quarry from impacting on the river, but also provide valuable habitat for land animals, birdlife and aquatic animals (such as the platypus whose habitat finishes abruptly immediately downstream from the boundary of the Austral land).* *The importance of this revegetation of the land in the Austral parcel of lots must be emphasised. It will help offset at least some of the carbon emissions from the combined operations on the lots. It will also address the concerns over air quality, water quality, noise, visual impact, biodiversity and residential amenity for New Berrima and Berrima.*	Austral Bricks has for the last 6 months, been discussing, through the New Berrima Quarry - Community Consultative Committee, revegetating a 20 m deep section of the Wingecarribee River riverbank, which is consistent with the landscaping strategy and Vegetation Management Plan included as part of the SSD Application, as well as the landscaping strategy approved on the adjoining Masonry Plant site.

Table 9: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
Heritage NSW (Anna London – A/Senior Team Leader, Customer Strategies)	
The subject site is not listed on the State Heritage Register (SHR), nor is it in the immediate vicinity of any SHR items. Further, the site does not contain any known historical archaeological deposits. Therefore, no further heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW. *As the site is in the vicinity of a landscape conservation area, advice should be sought from the relevant local council.*	Noted and agreed.

Table 10: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
WinZero	
Introduction	
1. *By way of introduction, WinZero is a not-for-profit incorporated association established to transition the Wingecarribee Shire to net zero emissions over the next 10 to 15 years. On 12 February 2020 Wingecarribee Shire Council made a Climate Emergency Declaration, recognising that carbon emissions must be reduced as far as possible throughout the Shire. Unfortunately, the Development Application for the new brickworks at New Berrima fails to utilise technology that addresses this need to reduce Green House Gases (GHG). In particular, the use of natural gas to fire the bricks will not only emit carbon on an industrial scale, but also inevitably leak methane (an even more potent GHG).*	As previously mentioned Brickworks continues its commitment to reduce energy use and carbon emissions. A range of energy reduction initiatives / measures proposed by Brickworks across their entire operations, including the proposed Brick Manufacturing Facility are presented in Section 12.3 of the revised Air Quality Impact Assessment (AQIA) (refer to **Appendix 1**).
2. *The State authorities need to address climate change as a primary concern of this and other major industrial developments, and require technology that addresses the climate emergency we are in.*	Noted. This is rather subjective in nature; however, has been considered within the revised AQIA (refer to **Appendix 1**).
Brief Outline of Project	
3. *Capital Investment Value of approximately $80m, therefore a State Significant Development (because it is valued at more than $30m).*	Noted.
4. *It triggers the EPA to issue an Environment Protection Licence ("EPL") under the Protection of the Environment Operations Act 1997.*	Noted.
5. *Comprises an area of 51.68ha, tributaries of Stony Creek.*	Noted.
6. *EPA requirements are set out in a letter dated 21 January 2020 to Shaun Williams (DPIE). Briefly, the key issues to be addressed in the Secretary's Environmental Assessment Requirements (SEARS) are:* *(a) Air Quality,* *(b) Water Quality,* *(c) Noise,* *(d) Waste Management* *(e) (Contaminated Land Management, but this does not appear to apply).*	All areas have been appropriately addressed.

7. The Planning Secretary's Environmental Assessment Requirements dated 11/02/2020, also require consideration of Visual, Greenhouse Gas, Soils and Water, Biodiversity and Cumulative Impacts.	
Greenhouse Gas: Technologies to be Employed in Brick Manufacture	
8. The Environmental Impact Statement, prepared by Willow Tree Planning, ("EIS") states on page 19: ***Stage Four - Firing in a Tunnel Kiln*** *Bricks are fired (baked) at temperatures between 1000°C and 1200°C depending on the clay. Light colours are usually fired at the lower temperature and darker colours at the higher. They are* ***fuelled by natural gas*** *[emphasis added]. A tunnel kiln is continuous, with the bricks moving on kiln cars past stationary fires. Spent combustion gases preheat unfired bricks and airflow over cooling bricks is used to dry green bricks.*	Noted.
9. On page 159 of the EIS, it states: *The total estimated annual operational GHG emissions from the Proposed Development are expected to be approximately 23,238.3 tonnes of Carbon Dioxide (CO2-e). …/… The Proposed Development annual emissions contribute to approximately 0.02% and 0.004% of the State and National GHG emissions respectively.*	Noted.
10. Whilst the total Green House Gas (GHG) emissions may "only" be 0.02% to 0.04% of the national total, this is still a massive amount of GHG to be emitting annually over the coming decades.	A range of energy reduction initiatives are being investigated by Austral Bricks including the use of alternate / renewable fuel sources, which are outlined in Section 12.3 of the revised AQIA (refer to **Appendix 1**).
11. With climate change a major concern for our Shire, nation and the world, natural gas is an inappropriate form of fuel for firing the bricks. Hydrogen, produced from water by the use of renewable energy, itself becomes a renewable energy source. Australia should be leading the world with this technology. Accordingly, Austral should be required to use hydrogen derived through renewable energy for the firing of the bricks, if not immediately, then in the future (meaning that the kilns and piping need to be adaptable to hydrogen). In addition, there are now new technologies which can also dramatically reduce the CO^2 and methane emissions that are produced as a result of the use of natural gas. Thus, hydrogen used in conjunction with microwave technology is a much better technology to use in brickworks.	As previously mentioned, Brickworks continues its commitment to reduce energy use and carbon emissions. A range of energy reduction initiatives / measures proposed by Brickworks across their entire operations, including the proposed Brick Manufacturing Facility are presented in Section 12.3 of the revised Air Quality Impact Assessment (AQIA) (refer to **Appendix 1**).

Ancillary Greenhouse Gas Emissions	
12. *The proposed project will also employ many vehicles, which could be electrical. The extensive conveyor belts could be powered by renewable electricity. The general lighting of the site and other operations drawing on electricity could be powered by renewable electricity. The nearby land owned by Austral is sufficient in area to install a major solar array large enough to provide the necessary power. The electricity generated should be stored in a battery system. This should be addressed in the conditions of development consent.*	As previously mentioned, Brickworks continues its commitment to reduce energy use and carbon emissions. A range of energy reduction initiatives / measures proposed by Brickworks across their entire operations, including the proposed Brick Manufacturing Facility.
13. *The industrial site will have a very large area of concrete or other surface treatment for the factory and the yards. This surface material should be low-carbon in both content and in its production method.*	Noted. All materials proposed on-site are considered satisfactory and representative of best-practice sustainable building products.
Co-generation and other Alternative Technologies for Energy Efficiency	
14. *There are also design features, such as passive solar, insulation and re-use of waste heat that should be incorporated into the design. Indeed, the use of heat from the kilns is a major opportunity for co-generation of electricity that can be fed back into the grid at times of peak electricity demand. The return of income from the peak demand electricity price would be a major offset against the running costs of the plant. This technology has been used in Germany for an aluminium smelting plant. That plant now earns as much from the peak demand electricity as the smelting.*	It is noted that Brickworks have considered the Submission item and have subsequently included provisions pertaining to a solar design solution to be integrated into the overall design. Solar panels covering approximately 1,968 m^2 of the roof area are to be installed within the area shaded blue in the schematic provided below, allowing for installation requirements, roof safety systems and skylights to be installed. The area chosen comprises the most optimal sunlight and solar exposure and is located away from the kiln proposed to be installed. 

15. ***Accordingly, the EPL should stipulate that it be a condition of development consent that hydrogen gas be used in the firing of the bricks. If this is not possible initially, the kilns and piping should be such as to be adaptable to hydrogen in the future. The company should also be encouraged, if not required, to install a solar array on the land or adjoining land owned by the company, sufficient in size to produce enough electricity to run the electrical components of the plant and vehicles on site. Co-generation of electricity from the heat of the kilns should be required to be incorporated into the design. Finally, all materials used in the construction and running of the plant should be low carbon content (e.g. cement used in the concrete covered areas) and aimed at energy efficiency (e.g. insulation).***	Whilst the submission item is highly subjective, it is actually factually incorrect, as the requirement for an EPL will be a Condition of Consent and not how the respondent has suggested. Additionally, under Schedule 1 of the *Protection of the Environment Operations Act 1997*, there is no pre-requisite to utilise hydrogen gas during brick manufacturing, nor has the NSW EPA raised this as a matter for consideration. Notwithstanding, best-practice measures would be implemented accordingly to ensure an environmentally and ecologically sustainable development is achieved.
Water Quality & Biodiversity: Protection and Enhancement of Riparian Zones	
16. Of all Shires in NSW, Wingecarribee Shire has the highest percentage of its area in the Sydney Drinking Water Catchment Area (95% of the Shire). It is now recognised that protection and restoration of riparian zones is an essential part of the protection of the Sydney Water Catchment Area. This can best be done by replanting the riparian zones with native vegetation that is endemic to the area. This not only protects and filters the water, but also provides important shelter and habitat corridors for the local fauna.	Revegetation is not considered to be an offset under the BAM, it is a mitigation measure only. Offsetting of vegetation removal is done through retirement of biodiversity credits.
17. Figure 3 (Riparian Lands and Watercourses) on page 5 of the EIS, shows that the actual building site is traversed by tributaries to Stony Creek. To the extent that the construction site for the brickworks will destroy these riparian zones, then as a minimum, by way of offset, there needs to be additional protection of Stony Creek to that afforded under the conditions of consent for the Austral Masonry Plant, approved by WSC in December 2019. That approval only required protection of 20 metres on either side of Stony Creek. The LEP requirement is that 30 metres on each side of Stony Creek be identified as a Category 2 stream (LEP 2010 Clause 7.5(5)(b)). The impact of the brickworks and the masonry plant will be cumulative, and the requirements should be increased from 20 metres on each side of Stony Creek to 30 metre in accordance with the LEP.	Austral Bricks has for the last 6 months, been discussing, through the New Berrima Quarry - Community Consultative Committee, revegetating a 20 m deep section of the Wingecarribee River riverbank, which is consistent with the landscaping strategy and Vegetation Management Plan included as part of the SSD Application, as well as the landscaping strategy approved on the adjoining Masonry Plant site.
18. The EIS conducted on behalf of the company by Willow Tree Planning, states:	Noted.

It [the site] is mapped within the Wingecarribee River sub-catchment of the Sydney Drinking Water Catchment under State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (Drinking Catchment SEPP).	
*19. Because of its proximity to the Wingecarribee River and the importance of that river and the water catchment to the State of NSW and Sydney in particular, special protection needs to be given to the revegetation of Stony Creek and its major tributary to the West (marked in red on the accompanying aerial view, **ATTACHMENT 1**). In addition, the removal of the native forest shown on page 114 of the EIS (Figure 35 of the EIS and reproduced as **ATTACHMENT 2** below) justifies the requirement for offsets by planting native vegetation around the perimeter of the Lot and along the riparian zones outlined above. The wildlife corridor created as a result will also strengthen the protection and enhancement of the area's biodiversity. The SEARS requirements regarding biodiversity require the project to include the number of trees to be planted. This needs to be calculated on the basis of the area of the revegetated riparian zones, together with the appropriate density of planting.*	As noted above, revegetation is not considered to be an offset under the BAM, it is a mitigation measure only. Offsetting of vegetation removal is done through retirement of biodiversity credits. Further consideration is not considered to be required in this respect.
20. The provisions for the protection and enhancement of biodiversity, set out on page 166 of the EIS, are inadequate and need to be supplemented with the requirement for the native plantings set out above.	The landscape planting strategy supported by the corresponding VMP is considered comprehensive and satisfactory with respect to the landscaping requirements for the Site.
*21. **Accordingly, the EPL should stipulate that it be a condition of development consent that the 60 metre wide Stony Creek riparian zone and the 20 metre wide riparian zone of the tributary of Stony Creek should be revegetated with native plant species, including koala food trees and E.macarthurii. Both of these are endemic to the area and in need of increased planting to offset the general environmental degradation of the site due to overgrazing from cattle and the coming intense industrial use of the land. See Attachment 1 below (riparian zones to be revegetated marked in red, 30 metres each side of Stony Creek and 10 metres each side of its tributary)***	As noted above, revegetation is not considered to be an offset under the BAM, it is a mitigation measure only. Offsetting of vegetation removal is done through retirement of biodiversity credits. Further consideration is not considered to be required in this respect.
Air and Noise Quality: Perimeter Native Plantings for Filtering Dust and Visual Amenity	
22. On page 6 of the Environment Assessment, there is the following description of the treatment and conveyance of raw material:	Noted.

3.1.2 Raw Materials *A raw materials area would be located to the west of the proposed factory building. These raw materials would be delivered to the site from the Mandurama quarry via a conveyor (with tunnels under the existing quarry road). Raw materials conveyed to the site would be crushed and ground onsite before being stored onsite in raw materials bunkers prior to processing.*	
23. In addition to the dust created by the approved Austral Masonry Plant, the conveyance and crushing of the rock will create more dust. And it is important to note that the site is close to the village of New Berrima, which already suffers periodic "dust events" from the adjacent massive Boral cement works. The combination of cement dust and rock dust raises a heightened risk of silicosis for the residents of New Berrima, and if the wind is strong enough for the residents of Berrima which lies just beyond New Berrima.	It is noted, that the crusher has been revised to be an internal and not an external operational outcome as previously advised. Potential for dust to be generated as a result of the crusher has been significantly ameliorated as a result of the internal functionality proposed. Further consideration is not considered to be required in this respect.
24. To address the dust issue and to provide screening of the industrial site, there needs to be a 20 metre perimeter native plantings around the total site (i.e. the brickworks <u>and</u> the masonry plant). This planting would reinforce the environmental benefits of the riparian zone revegetation discussed above.	This request is purely subjective and should not account as a 'unique' submission. There is no correlation between dust prevention / mitigation and landscape planting as a screening mechanism to prevent dust. All mitigation measures pertaining to dust control have been satisfactorily addressed within the Planned Management and Mitigation Measures identified as part of the EIS prepared by Willowtree Planning. Further consideration is not considered to be required in this respect.
*25. **Accordingly, the EPL should stipulate that it be a <u>condition of development consent</u> that the entirety of the boundary of Lot 1 DP785111 have a 20 metre wide native vegetation planting, to act as a dust and sound filter for the industrial activities and as a screen to maintain the visual amenity of this area which is going to be increasingly impacted by heavy industry development.***	Not agreed for the reasons stated above. There is no correlation between dust prevention / mitigation and landscape planting as a screening mechanism to prevent dust. All mitigation measures pertaining to dust control have been satisfactorily addressed within the Planned Management and Mitigation Measures identified as part of the EIS prepared by Willowtree Planning. Further consideration is not considered to be required in this respect.
Air and Noise Quality: Covering of Conveyor Belt Carrying Raw Materials from the Quarry to the Brickworks	
26. As explained above, dust is of particular concern, and the crushing and grinding of the materials needs to be under cover and confined to an enclosed building. There is an initial crushing at the quarry site, and this should be done in a fully enclosed building. The secondary crushing at the brickworks should also be done in a fully enclosed building. Finally, there is the secondary crushing by grinding of the raw materials, which also needs to be done in a fully enclosed building. These measures would greatly reduce the noise as well as	As mentioned above, the crusher has been revised to be an internal and not an external operational outcome as previously advised. Potential for dust to be generated as a result of the crusher has been significantly ameliorated as a result of the internal functionality proposed. Further consideration is not considered to be required in this respect.

dust pollution from the operations, and in doing so address the amenity of the nearby villages of New Berrima and Berrima.	
27. Similarly, the conveyer of the materials from the quarry needs to be covered for the length of its journey from the quarry to the brickworks.	This does not form part of the SSD Application. Further consideration is not considered to be required in this respect.
28. The covered conveyor belts will also address the significant noise issues associated with this project. The amenity of the nearby villages of New Berrima and Berrima will be adversely affected if the conveyor belts are not covered.	As above.
29. ***Accordingly, the EPL should stipulate that it be a condition of development consent that the conveyor belt of the raw materials should be covered for the entire length of the conveyor's journey from the quarry to the brickworks for crushing. It should also be a condition of consent that the crushing of the material be confined to enclosed buildings.***	As above.
Cumulative Impacts: Need for 20-metre wide Native Planting Around the Perimeter of the Brickworks Lot; and Revegetation of the Banks of the Wingecarribee River	
30. As stated above, the EPL must take into account the cumulative impact of the Brickworks project in relation to air, noise, traffic and biodiversity associated with nearby industrial operations.	Noted. Part F of the EIS prepared by Willowtree Planning appropriately and satisfactorily addresses all parameters outlined in the adjoining submission item. This includes mitigation measures and recommendations where deemed appropriate.
31. There is presently a very large industrial site in very close proximity to the site for the brickworks, namely, the Boral Cement Works which already generates significant noise, and dust, as well as traffic (see ***ATTACHMENT 3*** *below: aerial view of the Boral Cement Works in close proximity to the Brickworks site).*	Noted.
32. In addition, Austral received approval in December 2019 for the development of its massive masonry plant, to be constructed and operated on the same lot (Lot 1 DP785111) as the brickworks.	Noted.
33. Finally, there is the nearby Austral shale quarry, which forms part of the parcel of lots adjacent to each other, thus forming a cohesive industrial operation.	Noted that all sites are industrial; however, they sit on separate parcels and operate in isolation to one another.
34. It is because of the cumulative impact of these activities that we ask for the 20 metre native plantings around the entire perimeter of ***Lot 1 DP785111.***	Austral Bricks has for the last 6 months, been discussing, through the New Berrima Quarry - Community Consultative Committee, revegetating a 20 m deep section of the Wingecarribee River riverbank, which is consistent with the landscaping strategy and Vegetation Management Plan included as part of the SSD Application, as well as the landscaping strategy approved on the adjoining Masonry Plant site.
35. The parcel of land impacted on by these activities includes the bank of	As above.

the Wingecarribee River, which is of particular concern to the State's water authorities. Accordingly, consideration should be given to the imposition of a condition of consent to revegetate the riverbank of the Wingecarribee River, that runs alongside the Austral quarry site.	
36. At present, the banks of the river next to the quarry have been completely denuded by cattle grazing to the edge of the river and entering, creating bare muddy banks of the river at this point. The platypus habitat has been adversely affected and there should be native plantings to extend the platypus habitat from the nearby Berrima Weir upstream past the Austral Shale Quarry site. The Wingecarribee LEP 2010 stipulates that the Wingecarribee River riparian zone be 50 metres on each side of the river (LEP 2010 Clause 7.5(5)(a)).	The Wingecarribee River is not part of the Subject Land of the Proposed Development. It should be noted the Platypus is not listed as a threatened species under the NSW *Biodiversity Conservation Act 2016*, NSW *Fisheries Management Act 1994*, or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The VMP and riparian works proposed for the ephemeral first and second order streams within the Subject Land will result in neutral to beneficial impacts on water quality entering Stony Creek and downstream ecology, compared to current conditions, where the streams are draining agricultural areas dominated by exotic species.
*37. Below is the aerial view of Lot1 DP414246, showing the denuded banks of the river (**ATTACHMENT 4**), together with an aerial view of the shale quarry site (**ATTACHMENT 5**). It is clear that the 50m wide revegetation of the riverbank will not impinge at all on the quarry operations but will offset the cumulative negative environmental effects of the three major Austral projects on this very significant environmental location.*	Not agreed.
*38. Accordingly, the EPL should stipulate that it be a **condition of development consent for the brickworks,** because of the cumulative impact of the brickworks combined with their quarry and masonry plant, that Austral be required, to revegetate the banks of the Wingecarribee River on Lot 1 DP414246 with a 50 metre-wide native planting.*	Not agreed.

Table 11: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
Boral Land & Property Group	
Berrima Cement Works	
Boral owns and operates the Berrima Cement Works located at Taylor Avenue, New Berrima. Operating since 1929, the site produces an array of cement products for use in domestic and international construction markets, dispatched to domestic customers by train and truck and international customers through Port Kembla. The Cement Works is a State Significant Development which supplies 60% of the cement sold in NSW and ACT. *The proposed SSD application would establish a new operation close to the Cement Works site. It would introduce operations which would have a direct impact on the road network, which the Cement Works utilises.*	Noted. The Proposed Development has appropriately and satisfactorily considered all potential impacts as a result of the Subject Site, as well as cumulative impacts of adjoining sites on the road network within the Traffic Impact Assessment prepared by Ason Group. Further consideration is not considered to be required in this respect.
Traffic Impacts	
Given the proximity of our site to the New Berrima Township, Boral has a strong appreciation for and understanding as to the implications any increase of traffic activity along the Berrima Road & Taylor Avenue road network can have on the day to day lives of residents. *The primary route of egress for the site is proposed to be Taylor Avenue and would result in up to 115 trucks accessing the site per day, equating to 230 movements to and from the site per day, and 26 movements per hour, during the peak hours.* *The EIS and the Traffic Impact Assessment included in Appendix 11, do not establish that traffic generating operations such as the Cement Works have been factored into the assessment, to ensure that the impacts of surrounding developments have been taken into consideration.* *Whilst the report does identify it has taken into consideration the amount of traffic to be generated by the New Berrima Clay/Shale Quarry, by*	As noted within Section 3.4 of the *Transport Assessment* prepared by Ason Group (2020), automatic traffic count surveys were undertaken between 2 March 2018 and 8 March 2018 to determine the volume of traffic along Berrima Road and Taylor Avenue. Table 5 of the report outlined the peak network hour traffic flows recorded along Berrima Road; and Table 6 outlines the peak traffic flows along Taylor Avenue (refer to the extract below).

referencing data from 2010, the report does not take into account the maximum operating potential of the Cement Works. In doing so, the proposal does not consider the implications Boral's already approved activities will have on the proposal and the community.

In the interests of ensuring that any traffic impacts on the road network, and thereby the community are properly considered, we submit that a revised Traffic Impact Assessment should be completed. The report needs to take into account the traffic impacts associated with the Cement Works, but also any other significant developments which contribute to the road network.

Table 5: Berrima Road Existing Traffic Flows

Time	Northbound		Southbound		Total
	Lights	Heavies	Lights	Heavies	
AM (8.00 – 9.00)	87	7	55	2	151
PM (5.00 – 6.00)	58	0	63	3	124

Table 6: Taylor Avenue Existing Traffic Flows

Time	Northbound		Southbound		Total
	Lights	Heavies	Lights	Heavies	
AM (8.00 – 9.00)	157	25	138	23	343
PM (5.00 – 6.00)	118	14	117	14	263

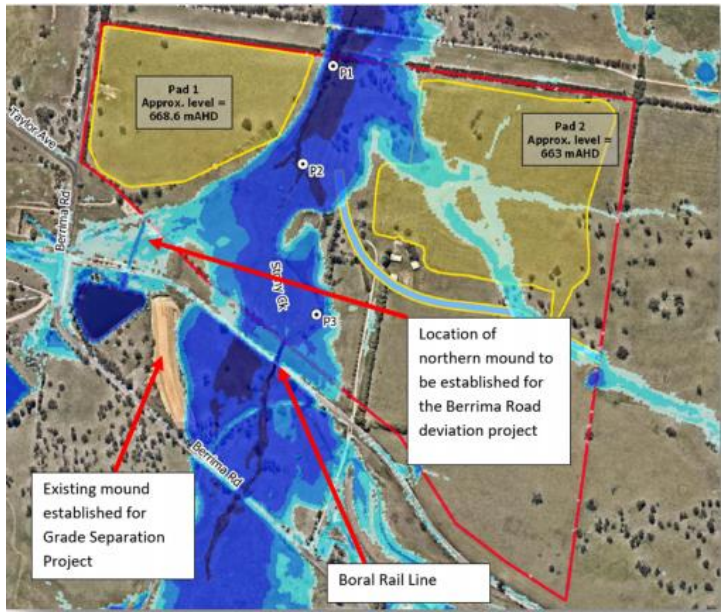
From the extract detailed above, it is noted, that along Berrima Road, the heavy vehicle volumes represent 6% and 2% of the total AM and PM peak hours volumes respectively, whilst in Taylor Avenue they represent 14% and 11% of the total AM and PM peak hour volumes respectively.

Accordingly, from the surveys undertaken by Ason Group, both Berrima Road and Taylor Avenue currently generate flows well below the initial threshold of Level of Service (LoS) B, and as such could be considered to actually operate at a LoS A.

Additionally, Section 7.3 of the *Transport Assessment* confirms that the cumulative traffic generation anticipated from the quarry, the proposed masonry plant and the proposed Brick Manufacturing Plant would include an additional 68 vehicles on the existing road network for which the LoS on the road network would remain unchanged.

The report concluded that the net traffic generation volumes arising from the Proposed Development are of a sufficiently low order, that once distributed on to the

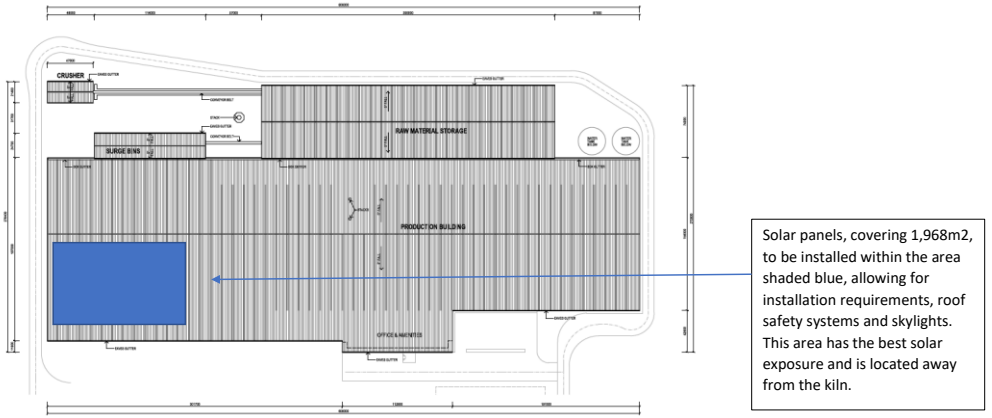
	surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate as currently occurs.
Claimed Stakeholder Engagement	
The SEARS issued for the proposal, on page 2 identified that Community and Stakeholder engagement is a key issue which needs to be addressed as part of the EIS. Specifically, the SEARS identifies that stakeholders must be consulted with, and the report must outline the findings of this consultation. *Page 60 of the Environmental Impact Assessment, identified that the Boral Cement Works, and the Community Consultation Committee, established for the Cement Works, is a Tier 1 Stakeholder for the project, as shown in the following extract:* With regard to **Figure 20** above, Tier 1 stakeholders were identified as occupants of neighbouring properties and residents in the surrounds as follows: ▪ Residents of New Berrima. ▪ Community Consultation Committee (existing for Boral Cement Works). ▪ Boral Cement Works. ▪ Inghams Enterprises. ▪ Cromford Pipe. ▪ Sports Ground Users (Blue Wren Campervan and Motorhome Club of Australia). ▪ Berrima Clay Target Club. ▪ Illawarra Aboriginal Land Council. ▪ Tobas Archery. *Page 147, makes the following claim:* The holders of nearby mining titles (Boral and Hume Coal) were consulted with as part of the preparation of this EIS. Neither party raised any concerns about future mining access issues resulting from the Proposed Development. *Boral can confirm that it has not been consulted as part of the preparation of the SSD proposal, nor has the applicant made any representations concerning the proposal at the Community Consultation Committee, or its meetings, which has been specifically established to serve the Cement Works site and its operations.*	Further ongoing consultation has been undertaken with Boral, for which the correspondence has been attached within **Appendix 10** of this Submission. The consultation is considered adequate and comprehensive, for which further consideration is not considered to be required in this respect.

We request that the applicant provide evidence of any attempts to communicate with Boral and the CCC, prior to the submission of the EIS for assessment with DPIE.	
Flooding Impacts to Rail Line	
The proposal has attempted to clarify the potential implications on the area immediately surrounding the proposed development, through the Civil Engineering Report found in Appendix 8. More specifically concerning flood impacts, associated with the establishment of the new building pads, SMEC provided a Flood Impact Assessment which can be found on Page 49 of Appendix 8. *The assessment fails to take into account the proposed Berrima Road Deviation project, and only appears to have modelled the existing mound partially constructed directly to the south of the existing Boral Rail line, as illustrated below.*  *By failing to consider the Berrima Road deviation project in its entirety, the flood modelling has not appropriately considered the potential impacts the*	A revised Flood Impact Assessment has been prepared and is located within **Appendix 9** of this Submission which appropriately considers the Pre and Post-Development scenarios of the Proposal on the Subject Site, including the potential cumulative impacts on surrounding sites. Further consideration is not considered to be required in this respect.

establishment of the new development pad will have on flood activity, and effects to Boral's rail line. The Berrima Road Deviation is illustrated in the following image:  *Should flood impacts on the rail line change as a result of the proposal, appropriate mitigation measures must be implemented to ensure that rail line servicing the Cement Works, is not detrimentally impacted from either an operational or structural integrity perspective.*	
Gas and Visual Assessment	
We note a minor error on page 20 of the EIS which states that the Cement Works site accesses and utilises a gas pipeline at the site; this is not correct. *In relation to visual impacts, we believe a minor error exists in the photomontage provided in Figure 22 of Appendix 7, as it appears that the Stack from the Cement Works has been inadvertently erased. The following images illustrate this.*	It is noted, that a revised Landscape and Visual Impact Assessment has been prepared by Geoscapes (refer to **Appendix 4**) which is considered to satisfactorily addresses all potential visual impacts as a result of the Proposed Development. Further consideration is not considered to be required in this respect.
Conclusion	
Whilst Boral does not explicitly object to the proposal proceeding on the site, we consider that the matters identified in this letter, must be addressed before a determination is reached.	Noted. It is considered that all matters raised have been considered where appropriate within the revised documentation, for which this RTS Submission ameliorates any further concerns raised by Boral.

We note that many of the matters raised in our letter, could have been addressed before the submission of the proposal for assessment, had the proponent undertaken meaningful consultation at an earlier date.	

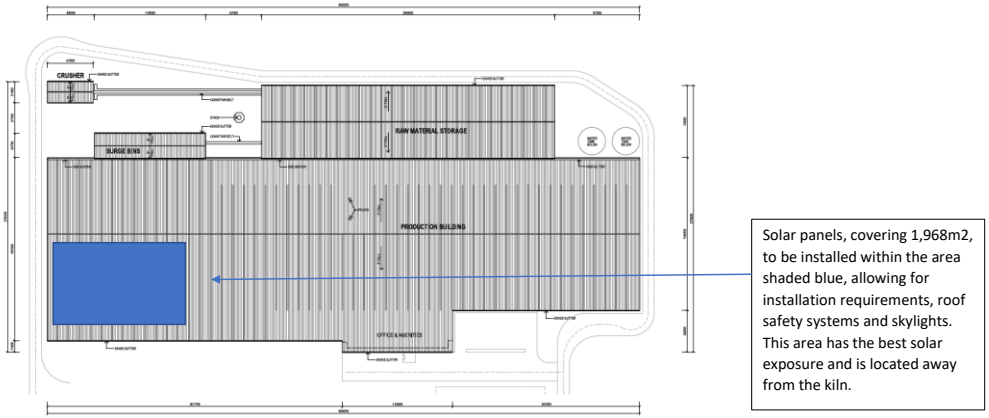
Table 12: Response Matrix	
Relevant Entities Response to Submissions	**Formalised Response**
Public Submissions	
Clive West	
Our Shire Council has recently declared a "Climate Emergency", following strong community demands that it do so. The DA for the brickworks makes no provision for the use of renewable energy, and is to use natural gas in the firing process. At the very least, the company should be required to plant wide plantings of native trees and shrubs around the perimeter of the large lot on which the brickworks is to be sited to partially offset the carbon emissions (23,000 tonnes of CO2 per year). This perimeter planting should be at least 20 metres wide around d the entirety of Lot 1 DP785111. The plantings would also filter dust and noise from the industrial activity. It must be noted that the dust from the brickworks and quarry is cumulative to that generated but the massive Boral cement works over the road and the dust that will be generated in the future by the now approved Austral Masonry Plant to be adjacent to the brickworks. The dust and the risk of silicosis is a particular risk to the nearby residents of New Berrima and Berrima. In addition there needs to be native plantings along Stony Creek. This should be 30 metres on each side of the creek, as per the Shire's LEP 2010 (Clause 7.5(5) ... Riparian Zone Category 2).	The Riparian corridor was assessed by Cumberland Ecology and a 20 m wide buffer zone either side of the creek was proposed. This creates a total planting area which is 40 m wide. Geoscapes have followed recommendations within the VMP for endemic species selection and planting numbers. In total 687 trees and 1,030 shrubs are proposed to be planted within the Riparian corridor. This is expected to create a future mature tree canopy cover along Stony Creek of approximately 19,500 m^2. Within Lot 1 DP 785111, it is proposed to retain 49 existing trees with a canopy cover of approximately 2,783 m^2. It is also proposed to plant an additional 122 trees which are planted in isolated groups to comply with bushfire planning principles (including *Planning for Bushfire Protection 2019*) and to match and maintain the character of the existing site and local area. This is expected to provide an additional 6,870 m^2 of canopy cover at maturity.
As to the failure of the DA to provide for renewables, the gas fittings and pipelines should be adaptable to hydrogen, which in future can be produced from water by the use of renewable energy. There should also be a requirement that solar arrays be installed to generate electricity for the general operation of the plant and its vehicles.	As previously mentioned above, Brickworks have considered the Submission item and have subsequently included provisions pertaining to a solar design solution to be integrated into the overall design. Solar panels covering approximately 1,968 m^2 of the roof area are to be installed within the area shaded blue in the schematic provided below, allowing for installation requirements, roof safety systems and skylights to be installed. The area chosen comprises the most optimal sunlight and solar exposure and is located away from the kiln proposed to be installed.

	
Anonymous Submission & Cecilia Kemp	
a. The use of natural gas for the kilns will give rise to 23,000 tonnes of CO2 per year. Hydrogen should be stipulated for the long term. The plant needs to be adaptable to the use of hydrogen produced from renewable energy in the future.	Under Schedule 1 of the *Protection of the Environment Operations Act 1997*, there is no pre-requisite to utilise hydrogen gas during brick manufacturing, nor has the NSW EPA raised this as a matter for consideration. Notwithstanding, best-practice measures would be implemented accordingly to ensure an environmentally and ecologically sustainable development is achieved.
b. The Austral parcel of land at New Berrima is sufficiently large to allow a major solar array to be used for electricity to run the non-kiln operations of the plant (e.g. lighting, conveyor belts and forklifts).	Refer to comment above.
c. The land contains a sensitive 60-metre wide riparian zone along Stony Creek, which should be revegetated with native trees, shrubs and grasses (LEP 2010 Clause 7.5(5)(b)). Similarly, the tributary riparian zone of Stony Creek should have a 20-metre wide native planting (LEP 2010 Clause 7.5(5)(c)).	The Riparian corridor was assessed by Cumberland Ecology and a 20 m wide buffer zone either side of the creek was proposed. This creates a total planting area which is 40 m wide. Geoscapes have followed recommendations within the VMP for endemic species selection and planting numbers. In total 687 trees and 1,030 shrubs are proposed to be planted within the Riparian corridor. This is expected to create a future mature tree canopy cover along Stony Creek of approximately 19,500 m^2. Within Lot 1 DP 785111, it is proposed to retain 49 existing trees with a canopy cover of approximately 2,783 m^2. It is also proposed to plant an additional 122 trees which are planted in isolated groups to comply with bushfire planning principles (including *Planning for Bushfire Protection 2019*) and to match and maintain the character of the existing site and local area. This is expected to provide an additional 6,870 m^2 of canopy cover at maturity.
d. The site is close to New Berrima and Berrima, which need to be protected with native plantings to screen the dust and noise from the	As above.

plant.	
e. Austral must be required to have extensive native plantings to offset the greenhouse gases emitted as a result of the operation of the brickworks (CO2 and Methane).	As above.
f. The dust and noise impacts will be cumulative to those emanating from the Boral Cement Works, and the massive adjoining Austral Masonry Plant approved December last year (24/7 operation).	Noted. The Noise Impact Assessment prepared by Benbow Environmental assesses the cumulative noise impacts of both the recently approved masonry manufacturing plant and the proposed brick manufacturing plant in accordance with the Noise Policy for Industry 2017.
g. Silicosis is a real health threat to the residents of New Berrima and Berrima, with particular vulnerability of children in the villages and also attending Berrima Public School. *A perimeter native planting 20 metres wide should be required around the entire lot to maintain the visual amenity of the surrounding rural environment, as well as screen from dust and noise. The plantings will partially offset the greenhouse emissions resulting from the use of fossil fuel in the kilns, which are expected to give rise to 23,000 tonnes of CO2 per year.*	Modelling of the dust emissions generated from the proposed Brick Manufacturing Facility clearly shows that it is not expected to significantly contribute to the existing particulate concentrations in the background environment. Inventoried dust emissions include – emissions from the kiln stack and fugitive dust emissions as result of the material handling / crushing activities. Although the cumulative assessment of the 24-hour average PM_{10} impacts demonstrates an exceedance of the assessment criteria, this exceedance is not due to the operations at the Brick Manufacturing Facility. This exceedance is attributed to the existing background concentrations. Modelling clearly shows that no additional exceedances are predicted due to commissioning of the facility, which corroborates the observation that no significant dust impacts are predicted from the facility. There is no correlation between dust prevention / mitigation and landscape planting as a screening mechanism to prevent dust. All mitigation measures pertaining to dust control have been satisfactorily addressed within the Planned Management and Mitigation Measures identified as part of the EIS prepared by Willowtree Planning.
h. The conveyor belts conveying crushed material from the nearby Austral quarry (due to be operative in 2 years' time) and the crushing plants both at the quarry and in the brickworks plant, must be covered to minimise the dust and noise impacts on the amenity of the villages of New Berrima and Berrima.	It is noted, that the crusher has been revised to be an internal and not an external operational outcome as previously advised. Potential for dust to be generated as a result of the crusher has been significantly ameliorated as a result of the internal functionality proposed. Further consideration is not considered to be required in this respect.
i. The Austral industrial complex at New Berrima will include the brickworks, the masonry plant (approved in December 2019) and the shale quarry (expected to be completed in 2022). This massive industrial complex is in a particularly environmentally sensitive location adjacent to the Wingecarribee River. There should, at the very least, be a condition of consent that the completely denuded banks of the Wingecarribee River be revegetated with native plants to a width of 50 metres (see LEP 2010 Clause 7.5(5)(a)).	The Proposed Development is not located within the 'Waterfront Land' of Wingecarribee River, as defined in the NSW *Water Management Act 2000* (WM Act), and as such there is no requirement to revegetate. Stony Creek occurs adjacent to the Subject Land; however, the Proposed Development will not impact on Waterfront Land associated with the creek. The Proposed Development will divert an unnamed ephemeral first order stream, and works will be undertaken to improve the second order stream it will be diverted into, prior to its entry into Stony Creek. As such a Vegetation Management Plan has been prepared

	which is consistent with the *Guidelines for development on waterfront land – Riparian Corridors* (NRAR 2018), and the *Guidelines for vegetation management plans on waterfront land* (DPI 2012) as required under the WM Act. The sensitivity mapping referred to in Clause 7.5 shows that Stony Creek is classified as Category 2 - Aquatic & Terrestrial Habitat. This means the sensitive area is only within 30 m of the top of the creek bank. The Subject Land is >40 m away from the top bank of Stony Creek, and areas nearest to Stony Creek are Asset Protection Zones only in which no development works will occur, and no vegetation will be removed, thus the existing ground layer will be mown only for maintenance purposes. The unnamed first and second order streams which do occur in the Subject Land are being managed as per the WM Act. A VMP has been prepared to revegetate the waterfront land of the diverted streams, and works are being undertaken in the stream beds to ensure flows are managed without erosion occurring and to prevent entry of pollutants into Stony Creek. As such, the requirements of Clause 7.5 of the WLEP2010 are being met. Clause 7.5 does not however detail any specific requirement for revegetation. Accordingly, further consideration is not considered to be required in this respect.
j. The Shire is a biodiversity hotspot, and the Austral complex is on land that abuts the Wingecarribee River, where the platypus habitat finishes on the Austral boundary. The platypus habitat there because the riverbank is completely denuded for the entire length of the Austral land along the river. The company has a moral obligation to protect this threatened species by revegetating the riverbank and fencing off the riverbank to prevent the cattle entering the river. Again, the revegetation will partly offset the enormous greenhouse gas emissions generated by the operation of the complex.	The Wingecarribee River is not part of the Subject Land of the Proposed Development. It should be noted the Platypus is not listed as a threatened species under the NSW *Biodiversity Conservation Act 2016*, NSW *Fisheries Management Act 1994*, or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The VMP and riparian works proposed for the ephemeral first and second order streams within the Subject Land will result in neutral to beneficial impacts on water quality entering Stony Creek and downstream ecology, compared to current conditions, where the streams are draining agricultural areas dominated by exotic species.
Derek White & Gaye White	
Design: ▪ *Focus on the use of solar passive design principles wherever possible.* ▪ *Installation of suitable insulation to minimise the need for heating and cooling.* ▪ *Reuse of waste heat wherever possible.* ▪ *Use of native vegetation where possible to minimise temperature*	Noted. The design will consider these items where possible during the Detailed Design phase of the Proposal.

build up. ▪ *Investigation and implementation where possible of alternatives to gas-fired heating – in particular taking into account the future promise of renewables- produced hydrogen.* ▪ *Installation of the maximum amount of renewable energy production.*	
Construction: ▪ *Use of low embodied carbon materials wherever possible – particularly with regard to the large expanses of concrete proposed.*	Noted.
Operation: ▪ *Electrification of the vehicle fleet.* ▪ *Establishment of operating procedures that minimise the use of coal-fired grid electricity and maximise the use of renewable energy. Establishment of "green" energy Power Purchase Agreements in partnership with renewables producers to supplement energy needs that cannot be met by on-site renewables production.* ▪ *Installation of large-scale battery banks to enable the most effective use of renewable power over the 24-hour operational cycle.*	Environmental and ecologically sustainable initiatives will be considered across the Site where possible in line with best practice measures. As previously mentioned, a solar solution is being investigated by the Proponent as part of the Proposal.
Anonymous Submission	
1. *At the moment, there seems to be little, or no, effort to alleviate the effects that this huge complex will have on people living less that half a kilometer away. With Austral, an operation that is going to operate 24 hrs a day, seven days a week , 365 days a year, in a relatively built up area, the problem with dust and noise for New Berrima residents in particular, is beyond comprehension.*	Disagree. Numerous noise controls will be implemented at the Site. These include the majority of operations occurring indoors and acoustic controls around noise generating plant equipment to ensure where practical noise levels meet the occupational noise limits for workers within the building. The noise modelling shows that no additional noise measures other than the ones planned in the initial design are required to meet the criteria of the Noise Policy for Industry 2017.
2. *As the Austral complex borders the Wingecarribee River - a river it is important to state is part of the Sydney water catchment system - it is imperative that strict controls be placed on Austral to ensure that the Wingecarribee is not polluted , in any way, by fall-out from the proposed brickworks and masonary plant.*	Noted and agreed.
3. *Austral must be compelled to install a solar system large enough to run the non-kiln operations (lights; conveyor belts etc): thus helping*	Brickworks have considered the Submission item and have subsequently included provisions pertaining to a solar design solution to be integrated into the overall design.

to partially off-set the enormous 23,000 tonnes of CO2 emissions per year then will come for Austral's of use natural gas.	Solar panels covering approximately 1,968 m^2 of the roof area are to be installed within the area shaded blue in the schematic provided below, allowing for installation requirements, roof safety systems and skylights to be installed. The area chosen comprises the most optimal sunlight and solar exposure and is located away from the kiln proposed to be installed. In addition to the solar panels, other energy reduction initiatives are being investigated by Brickworks which are outlined in Section 12.3 of the revised AQIA (refer to **Appendix 1**). 
Geoffrey Wright	
Alarmingly I see little in the planned new brickworks that indicates the proponent's interest in reducing GHG emissions. This development offers Austral the perfect opportunity to construct a state of the art, low emissions brick making facility that would demonstrate to the community and industry what a modern environmentally responsible brickworks should be. For example, the massive roof area of the production building as well as the nearby land owned by Austral could accommodate thousands of solar panels which in combination with battery storage would be a mini power plant. The installation of electricity producing windmills should also be a priority consideration. It's entirely feasible the facility could produce all of its electricity requirements from renewables. The long-tern financial benefits to Austral would be considerable whilst also	Greenhouse gas emissions are not assessed under the Biodiversity Conservation Act and are outside the scope of the BDAR/ecological assessment. There is no legal requirement for a 20 m wide screening corridor to surround the proposed Brick Manufacturing Facility. The Proposed Development does not occur on the waterfront land of Stony Creek, and as such no revegetation is required under the WM Act. The development does not occur within the area defined as a sensitive riparian area in Clause 7.5 of the Wingecarribee LEP 2010 for Stony Creek. It does occur in the sensitive area of two ephemeral creek lines. As such a VMP has been prepared to guide the revegetation of these areas which meets legislative requirements.

massively reducing emissions. *Austral's EIS displays no plan for the use of or future adoption of new brick firing technologies, such as microwave heating or the use of hydrogen produced by renewables to eliminate the use of natural gas, once again a massive reduction in green house gases would be the result. Also, wherever possible all vehicles and plant equipment should be electric.* *Austral must also guarantee to surround the facility with a closely planted corridor of native vegetation at least 20 metres wide to provide screening, habitat and movement for wildlife. This would also serve to offset for the removal of native vegetation during the construction phase. Special attention must also be given to the revegetation of Stoney Creek and the Wingecarribee River, which runs along side the quarry site. The restoration and the protection of the riparian zones 50 metres wide along the riverbanks and 30 metres wide along Stoney Creek are essential. This revegetation is required to protect water, provide habitat and corridors for wild life and also act as a carbon sink.* *This project and the already approved shale quarry and masonry plant next door will particularly impact the communities of New Berrima and the historic village of Berrima. When combined with the impacts of the neighbouring Boral cement works, the threat to health from respiratory diseases such as silicosis is very real. This further reinforces the importance of the 20 metre wide native vegetation screening around the perimeter of the facility.*	Revegetation is not considered to be an offset under the BAM, it is a mitigation measure only. Offsetting of vegetation removal is done through retirement of biodiversity credits.
Mim Merrick	
There is no reason why the 'Enterprise Corridor' of industry such as that proposed between Moss Vale and New Berrima cannot operate and still take into account all the above mentioned environmental considerations of clean air, protected native vegetation, re-establishment and protection of the Wingecarribee/Stony Creek riparian zones and the well-being of Southern Highlanders. In this respect the following should be considered: *i. in lieu of natural gas that generates huge quantities of atmospheric pollution Austral should consider renewable energy such as hydrogen for its kilns and solar power for its other*	Noted.

operations. When worldwide focus is on renewable energy Austral could aim to be regarded as a leader in the field of renewables rather than attempting to exempt itself from innovative practices.	
ii. Austral should undertake native plantings in the riparian zone along Stony Creek and the vicinity of the Wingecarribee River as recommended (LEP 2010 Clause 7.5(5)(a)(b)and (c). The revegetated riverbanks should then be fenced off to provide protection to platypus and other wildlife.	The Proposed Development does not occur on the waterfront land of Wingecarribee River or Stony Creek, and as such no revegetation is required under the WM Act. Requirements of Clause 7.5 of the WLEP2010 have been met as detailed above. As Wingecarribee River does not occur within the direct or indirect development footprint of the Proposed Development, offsets / mitigation measures are not required under the BAM.
iii. The plant is within close proximity of New Berrima and Berrima and while the impacts of environmental pollution that would be generated by the plant would extend beyond these townships, serious consideration needs to be given to the vulnerability of children in the immediate vicinity and attending the local schools. Native plantings would provide a screen from dust, noise and also maintain the visual amenity of the surrounding rural environment and contribute generally to the well being of the wider community.	This is not a legal requirement under the Biodiversity Conservation Act 2016 and is outside of the scope of a BDAR prepared under the BAM.
Louis Flower	
In general, I believe that the project as a whole has some merits as a foundation for the development of a local small industrial complex in the Wingecarribee Shire. However, there are several serious faults and omissions in the overall plan as proposed which render the project as a dangerous and harmful exercise which should be rejected in its present form by the NSW Government. *The dangerous and harmful aspects of the existing proposal are related to the impacts of three components of the development:* 1. *its fossil fuel requirements for all of its energy and heating requirements which will result in significant increased greenhouse gas emissions leading to furthe global warming;* 2. *the harmful pollution effects resulting from various phases of the entire processing sequence. In the atmosphere there will be large quantities of dust emanating from the several stages of crushing and transportation via conveyor belts and other phases of the manufacturing, all accompanied by high levels of noise - a serious*	Although natural gas is the primary source of fuel for the proposed kiln, a range of energy reduction measures including the use of alternative / renewable fuel sources are being investigated, which are detailed in Section 12.3 of the revised AQIA (refer to **Appendix 1**). At Austral Bricks' other sites – bio-fuel sources namely sawdust and landfill gas are currently being used, which allow in offsetting carbon emissions. This, along with a range of other measures showcase Brickworks' commitment towards reducing energy consumption and therefore carbon emissions. With regards to dust emissions generated from the proposed facility, modelling clearly shows that no significant dust emissions are generated from the brick manufacturing operations which would adversely impact the local airshed environment. Furthermore, a suite of dust control measures are being proposed by Austral Bricks, which will ensure that dust emissions are limited as far as practicable. Dispersion modelling shows that impacts from the modelled pollutants released from the proposed facility are confined to a small region and therefore are not expected to contribute towards environmental degradation and would not be considered a deterrent to the biodiversity.

danger risk to the children and adults of the relatively close inhabited areas of Berrima and New Berrima towns. 3. *along the nearby creeks and rivers there is high risk of environmental degradation which can affect the biodiversity in and around the waters and riparian zones.* *I am absolutely astounded by the total absence of recognition of modern day technology, science, environmental experience and social consideration of the proposed development. In its present form it would be a wonderful new and exciting undertaking in the era of the turn of the century, the early 1900s. But today it ignores all of the advances humans have made in technology, ecology and health management. It completely ignores all of the negative impacts of the processes, energy and resource utilisation, and degradation of natural environment.* *Surprisingly, it is and will become even more simple to rectify these harmful deficiencies, because the technology is here now. A major solution to the energy problem is by replacing the fossil fuel requirements with renewables and some battery storage arrangements. All engineering and economic studies show that this will not significantly increase costs and over the longer term will greatly reduce costs.* *As for the pollution problems, rectification involving enclosing operations that enclose dust and noise are not expensive. And proper well designed revegetation schemes are readily available at minimal costs.* *There are no valid reasons for ignoring the possible solutions to the damaging proposed design and development program proposed by the company. It is mandatory that the Government authorities respect the demands of the community, whose welfare is at risk, and therefore impose much more restrictive requirements for such a project.*	
Anonymous Submission	
New Berrima is a residential village in the Southern Highlands. Latest statistics show a population of 584 people with children 14 years and under comprising 21.8%. The health and wellbeing of these children needs to be protected. They comprise nearly a quarter of the village population.	The Noise Policy for Industry 2017 is a NSW EPA guideline that is designed to protect the acoustic amenity of the surrounding residences. The noise criteria based on this guideline will be adopted as conditions of consent and in the Site's Environmental Protection Licence (EPL). If the Site complies with these limits, they will not generate an unbearable auditory environment. This is what the

For years the village coped with the unnecessarily high industrial noise and dust fall out from the Boral cement factory. In recent times, under environmental laws, the factory has done much to ameliorate the noise and dust levels. This has been a great relief and has made a marked improvement to the quality of life in the village. *For the last few years we have been under the cloud of the potential Hume Coal development just 3 kms from the village. Now we have been presented with another industrial development which will have a myriad of factory noises from the different processes, the generation of air particulates (including Brickworks pollution and diesel particle pollution) and noise and congestion with the increased movement of heavy vehicles.* *The expert reports on these issues are weighty and difficult for lay people to understand. The summaries indicate that noise and pollution "should not" be a problem. "Should not" is hardly any guarantee that the village will not be grossly impacted in the future. The proposed Brickworks would only be 500 metres from the village.* *The other concern is the potential for noise from the Brickworks to oscillate with the noises from the Cement factory. With so many different processes happening 24 hours a day, 7 days a week, with the changes in wind direction and atmospheric conditions, we question if there is a possibility that the noises will combine to form an unbearable auditory environment. We have already experienced the unbearable impact that can occur when a group of different industrial processes from the Cement factory were not properly insulated.* *Furthermore, at a meeting with Wingecarribee Shire Council about the proposed Enterprise Corridor, when the issues of noise, traffic and pollution were raised we were informed that the Council was only interested in new clean, low impact businesses coming into the corridor. This proposed Brickworks does not fit that profile. It is alarmingly close to the residential village of New Berrima.*	noise modelling undertaken has predicted. The Site will need to comply with this criteria or they will be issued with a notice by either Council or the EPA and will be required by law to perform remedial measures to ensure the surrounding community is not exposed to noise levels above these limits. Benbow Environmental agrees that these assessments are notoriously unwieldy and difficult for lay people to understand. This is due to the high level of technical detail required by the regulatory authorities (NSW EPA/Council) in such reports. Please feel free to call Benbow Environmental to discuss any aspects of the report 02 9896 0399 (ask for Emma).
Mary Moore	
Please make it a condition of consent that Austral undertake native plantings around the lot perimeter and along the riparian zones.	This is not a legal requirement under the Biodiversity Conservation Act 2016 and is not required under the BAM.

Appendix 1
Air Quality Impact Assessment

Appendix 2
Operational Flow Diagram

Appendix 3
Brick Types and Specifications

Appendix 4
Landscape and Visual Impact Assessment

Appendix 5
Waste Management Plan

Appendix 6
Vehicle Movement Diagram

Appendix 7
Swept Path Analysis

Appendix 8
Biodiversity Development Assessment Report

Appendix 9
Flood Impact Assessment Report

Appendix 10
Consultation with Boral