

ASSESSMENT REPORT

Shoalhaven Starches Ethanol Expansion Project Demolition of Building and Construction of Temporary Car Park Section 75W Modification - MP 06_0228 MOD 6

1. BACKGROUND

This report assesses a modification application by Shoalhaven Starches Pty Ltd (the Proponent) to demolish an industrial building and construct a temporary car park on its factory site.

The Proponent operates a factory off Bolong Road, immediately east of Bomaderry in the Shoalhaven local government area (see **Figure 1**). The factory has operated since 1979.

The factory processes wheat and grain transported by rail from central NSW to produce starch, gluten, ethanol and other related products for the food, beverage, confectionary, paper and motor transport industries. The wastewater from the factory is treated and irrigated on a nearby 'environmental farm' also owned by the Proponent and covering over 1,000 hectares (ha) which is located to the north of the factory (see **Figure 1**).

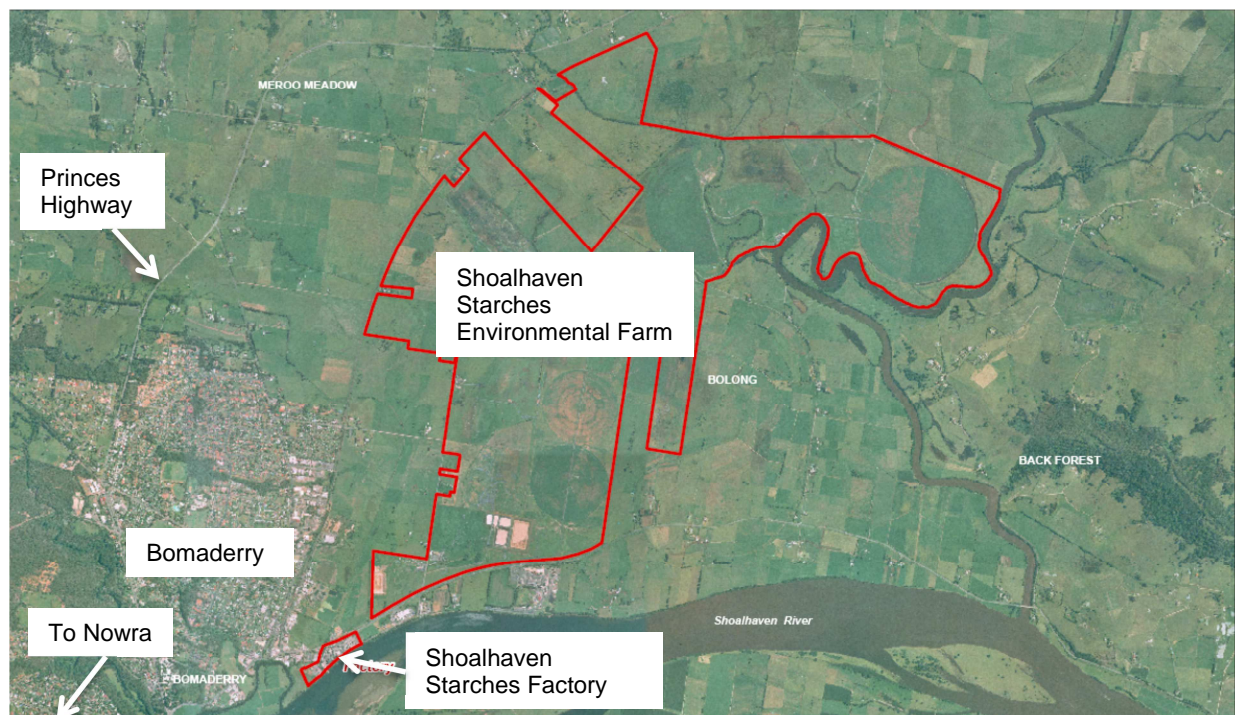


Figure 1 - Shoalhaven Starches factory and environmental farm near Bomaderry

The factory and environmental farm are located on the eastern fringe of Bomaderry on the northern bank of the Shoalhaven River. The factory is located 2 kilometres (km) to the north-east of Nowra. Primarily industrial uses are located adjacent to the factory, including a metal

fabrication factory, meat packaging works and a paper mill. The Shoalhaven City Council sewage treatment works is located 180 metres (m) to the north of the factory. Bomaderry railway station is located 300m to the north-west with a private rail spur line crossing Bolong Road into the factory site. The nearest residences in Bomaderry are located approximately 500m to the west of the factory and environmental farm. The environmental farm extends across 1,000ha of the northern floodplain of the Shoalhaven River and contains the wastewater treatment plant, wet weather storage ponds and an irrigation system for managing wastewater from the factory.

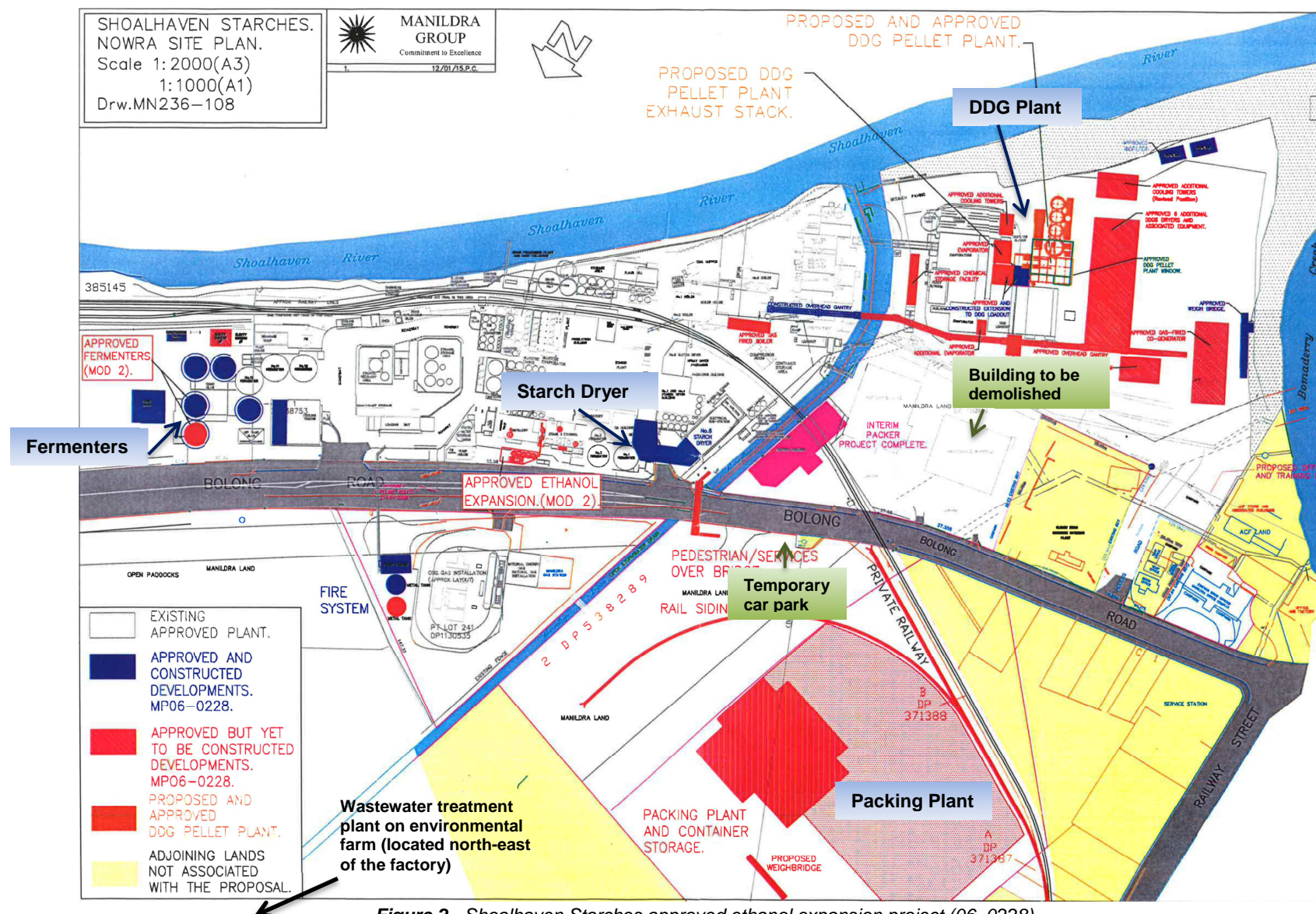
In January 2009, the then Minister for Planning approved the Shoalhaven Starches Ethanol Expansion Project (06_0228) which involved staged production increases of ethanol following successful implementation of a range of odour controls. The expansion project involved:

- implementation of mandatory odour controls; and
- construction of additional infrastructure to enable an increase in ethanol production from 126 megalitres a year (ML/yr) to 300ML/yr (see **Figure 2**).

By June 2012, Shoalhaven Starches had installed the mandatory odour controls including the installation of a wastewater treatment plant and a biofilter. In June 2012, in accordance with the project approval the Department approved the increase in ethanol production to the maximum volume permitted being 300 megalitres per year (ML/yr).

To date, Shoalhaven Starches has installed only some of the approved infrastructure for the expansion project as demand for ethanol has not increased as predicted. Shoalhaven Starches reported ethanol production levels in 2014 in the order of 230ML/yr. Notwithstanding, Shoalhaven Starches have implemented the mandatory odour controls and carried out quarterly odour monitoring and annual odour audits as required by the project approval.

Given that the demand for ethanol has not increased as predicted, Shoalhaven Starches is progressively installing approved components of the ethanol expansion project that will allow them to optimise the production of other products including starch and gluten. Shoalhaven Starches now propose to install an additional starch dryer (No. 5), which was approved by the former Minister for Planning in 2003 (DA 223-7-2002), and was subsequently consolidated into the 2009 expansion project approval. In order to enable construction of the starch dryer, Shoalhaven Starches needs to demolish an existing industrial building on the site to provide sufficient space. **Figure 2** shows the key approved components, including the No. 5 starch dryer, the packing plant, DDG plant and fermenter tanks. The location of the building proposed to be demolished is also shown on **Figure 2**. Demolition of the building would also require the temporary relocation of car parking to the northern side of Bolong Road to accommodate for spaces lost as a result of building demolition.



2. PROPOSED MODIFICATION

On 23 October 2015, Shoalhaven Starches lodged a modification application under Section 75W of the EP&A Act to modify the ethanol expansion project to allow for demolition of an industrial building on the 'Moorehouse' site and construction of a temporary car park on the northern side of Bolong Road. The modification is described in the Environmental Assessment (EA) in Appendix B and is illustrated on **Figures 3** and **4**.

Demolition of industrial building

Shoalhaven Starches propose to demolish a single storey industrial building on its 'Moorehouse' site. The building is partly used as a workshop and for the storage of electric motors, with approximately half of the building not in use. The majority of the building is constructed of a steel and timber frame with steel cladding. The remaining parts of the building comprise of brick and mortar walls with corrugated asbestos roofing and box gutters. The building covers an area of around 1,660 square metres (m²). The concrete floor slab would be retained.

The workshop activities and stored items within the building would be moved and amalgamated with other workshops on the factory site. An asbestos removal program would first be undertaken and then the building would be demolished over a period of 4 weeks. The roof and framework would be dismantled by hand and the masonry walls would be pushed over using an excavator. Some concrete cutting may also be required. Building waste would be loaded into trucks for removal from the site. Demolition would require the temporary removal of 30 of the 118 car parking spaces adjacent to the building.

Construction of temporary car park

Shoalhaven Starches proposes to construct a temporary car park of 60 spaces on the approved, but not yet constructed, packing plant site on the northern side of Bolong Road (see **Figure 3**). Construction of the temporary car park would be undertaken before demolition to provide for the 30 spaces lost on the Moorehouse site due to demolition and an additional 30 spaces to accommodate demolition related vehicles. The car park would be removed once the No. 5 starch dryer is constructed on the Moorehouse site, which is subject to a separate modification submitted to the Department in November 2015. The car park would be constructed of hardstand using steel mill slag and a bitumen surface.

No change is proposed to the approved starch, gluten, glucose or ethanol production rates at the factory or to the volume of wastewater generated and treated on the environmental farm.



Figure 3 – Location of proposed temporary car park

3. STATUTORY CONTEXT

Approval Authority

The Minister was the approval authority for the original project application, and is consequently the approval authority for this application.

However, as reportable political donations were made by the Proponent, the application will be determined by the Planning Assessment Commission (the Commission) in accordance with the Minister's Instrument of Delegation, dated 14 September 2011.

Section 75W

In accordance with Clause 12 of Schedule 6A of the EP&A Act, Section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects.

Under Section 75W of the EP&A Act, the Minister is obliged to be satisfied that what is proposed is indeed a modification of the original proposal, rather than being a new project in its own right.

The Department notes that:

- the primary function and purpose of the approved project would not change as a result of the proposed modification;
- the modification is of a scale that warrants the use of Section 75W of the EP&A Act;
- the approved production rates of the project would remain unchanged as a result of the proposed modification; and
- any potential environmental impacts would be minimal and appropriately managed through the existing or modified conditions of approval.

Therefore, it is considered that the proposed modification is within the scope of Section 75W of the EP&A Act. Consequently, the Department considers that the application should be assessed and determined under Section 75W of the EP&A Act rather than requiring a new development or project application to be lodged.

4. CONSULTATION

Under Section 75W of the EP&A Act, the Department is not required to notify or exhibit the application. Upon receipt, the application was placed on the Department's website and following a review of the application, the Department did not consider that further consultation was necessary. Notwithstanding, the Department sought comments from the Environment Protection Authority (EPA) and Shoalhaven City Council (Council).

Environment Protection Authority

The EPA did not object to the modification and raised no specific issues to be addressed. However, the EPA recommended a condition requiring that any use of waste, such as steel slag, in construction of the temporary car park must meet all requirements of a valid Resource Recovery Exemption and Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*. The Department has included this recommendation in the modified conditions.

Shoalhaven City Council

Council did not object to the modification and noted that the design of the temporary car park should comply with Council's standards and relevant Australian Standards in relation to access and aisle widths, sealing, line marking and lighting. The Department has included these requirements in the recommended conditions. Council also recommended conditions relating to the removal and disposal of asbestos and demolition. The Department has

included additional conditions relating to the removal and disposal of asbestos and demolition.

Shoalhaven Water, part of Council that owns the pumping station on the northern side of Bolong Road, confirmed that it was satisfied with the use of the temporary car park and that access to its pumping station would not be affected.

5. CONSIDERATION

The Department has assessed the merits of the proposed modification. During this assessment, the Department has considered the:

- EA and Director-General's assessment report for the original project application;
- existing conditions of approval (as modified);
- the EA supporting the proposed modification (Appendix B);
- submissions from government authorities (Appendix C);
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the Act.

The Department considers that the modification would have only minor impacts, with dust, asbestos, noise, traffic, waste, erosion and sediment control and risk management the key issues. The Department's assessment of the key issues is provided in **Table 1**.

Table 1: Assessment of key issues

Issue	Assessment	Recommendation
Dust	<ul style="list-style-type: none"> • The EA included a qualitative analysis of the dust sources from demolition, the risks for sensitive receptors and a dust management plan, prepared by Environment and Natural Resource Solutions. • Demolition has the potential to generate dust over the short period of demolition, from existing accumulated dust within the building structure, steel, timber, insulation materials, bricks, mortar and concrete. Vehicle movements would be a minor dust contributor. • The nearest residential receptors are located 500m to the west in Bomaderry and are unlikely to be impacted by dust from the demolition works or construction of the temporary car park, hence the assessment focused on the impacts to demolition workers, factory workers and pedestrians on Bolong Road. • The assessment concluded that dust would be effectively managed by implementation of the dust management plan included in the EA. The proposed measures include: <ul style="list-style-type: none"> - erection of fencing fitted with mesh around the building to prevent wind-blown dust leaving the site; - daily weather monitoring and stop work procedures for periods of moderate and high winds; - removal of asbestos prior to the commencement of demolition and issue of clearance certificates (discussed further below); - daily visual monitoring to identify excessive dust and progression to monitoring of dust deposition and particulate matter if excessive dust is identified or complaints are received; - use of water sprays during demolition of the brick and concrete walls; - maintain clean and tidy work site, cover and wet down stockpiles of demolition waste; and - storage of waste in covered bins and transport off-site on covered trucks. • The EPA did not raise any concerns regarding dust. • The Department is satisfied that dust from demolition of the building and construction of the temporary car park would be minor and short-term, with the works expected to take a total of 6 weeks. The works would be effectively controlled by the dust management plan, therefore the Department has recommended a condition requiring the plan to be implemented. 	<ul style="list-style-type: none"> • The Proponent shall implement the dust management plan included in the EA for the modification.

Issue	Assessment	Recommendation
Asbestos	<ul style="list-style-type: none"> The EA included an Asbestos Removal and Control Plan (ARCP) prepared by P&D Envirotech, who hold a Class A (friable and non-friable) asbestos removal licence from WorkCover (now SafeWork). The ARCP identified that the industrial building contains non-friable asbestos rooves and box gutters with an estimated volume of 40 cubic metres (m³). The ARCP details the procedures for safely removing asbestos in accordance with relevant work health and safety legislation. A fenced 10m exclusion zone would be established around the affected area for the duration of the removal works, estimated to take 10 days. Asbestos air monitoring would be conducted during and after the works by a licensed asbestos assessor, until such time as the area is determined to be clear of asbestos. Following the completion of work, a clearance inspection and certificate would be issued by a licensed asbestos assessor in accordance with work health and safety legislation. Council requested that details of asbestos removal (contractor details, clearance certificates and waste receivable receipts) be provided to Council. The Department notes that the notification and reporting of asbestos removal, handling and disposal is regulated by SafeWork in accordance with work health and safety legislation. Therefore, the Department recommends that the Proponent comply with the requirements of SafeWork and the relevant legislation. The Department is satisfied that the EA includes detailed procedures and controls for the safe removal of asbestos prior to commencing demolition works. The Department has included conditions requiring all asbestos to be removed, transported, disposed of and cleared in accordance with relevant work health and safety legislation and codes of practice. 	<ul style="list-style-type: none"> The Proponent shall ensure that any asbestos is removed, transported and disposed of by licensed contractors in accordance with the requirements of SafeWork and relevant legislation and guidelines.
Noise and vibration	<ul style="list-style-type: none"> The EA included a noise assessment, prepared by Day Design in accordance with the <i>Interim Construction Noise Guideline 2009</i> (ICNG). Construction and demolition works would be undertaken during standard construction working hours (day time only) and would take 6 weeks. The key noise sources include a mobile crane, excavator, concrete saw and trucks. The nearest residential receptors are in Meroo Street and Coomea Street Bomaderry approximately 500m to the north west, Terara over 1km to the south east and Nowra 1km to the south west. The noise assessment utilised measured background noise levels from the residential receptor locations to establish the noise management levels (NMLs) for the modification in accordance with the ICNG. The NMLs range from 43 to 50 dB(A). The prediction of noise from the modification was conservative, assuming all demolition equipment operating simultaneously. The assessment determined that noise from the modification would comply with the noise management levels at all receptor locations, being between 7 to 13 dB(A) below the noise management levels. The assessment also considered the potential for ground vibration and concluded that vibration would be imperceptible given the significant distance to residential receptors. The noise assessment concluded that no noise control measures would be necessary. The EPA did not raise any concerns regarding noise. The Department agrees with the conclusions of the noise assessment and considers that the existing conditions are adequate for managing any noise impacts from the modification. 	<ul style="list-style-type: none"> Manage through existing conditions of approval.
Traffic	<ul style="list-style-type: none"> ARC Traffic and Transport prepared a traffic assessment for the modification. <p><u>Access</u></p> <ul style="list-style-type: none"> The factory fronts a long section of Bolong Road and has multiple points of access. As part of the ethanol expansion project approval, Shoalhaven Starches upgraded the access points and part of Bolong Road to improve safety. A further access point was also approved for the packing plant on the northern side of Bolong Road. Demolition related vehicles would access the Moorehouse site via the 	<ul style="list-style-type: none"> The Proponent shall ensure that the temporary car park and its access described in MOD 6: a) is designed and constructed to the satisfaction of Council and in

Issue	Assessment	Recommendation
	<p>existing access point at the western end of the factory and internal roads, without the need for any upgrades or changes to the access.</p> <ul style="list-style-type: none"> The approved access on the northern side of Bolong Road would be used for the temporary car park (see Figure 4), however the Proponent proposes to construct it on a different alignment to that approved. The approved access was to be constructed at a 45° angle to safely enable left turn in movements only for heavy vehicles. Exiting vehicles were to use the approved Railway Street access further to the north. As the temporary car park would be for light vehicles only, Shoalhaven Starches do not propose to construct the access at a 45° angle, and also propose to enable light vehicles to exit from the same access point. The approved heavy vehicle access would only be constructed once the packing plant is built. Given the proposed design is intended for light vehicles only, the Department recommends a condition limiting the use of this access point and the temporary car park to light vehicles only. This excludes heavy vehicles associated with construction of the temporary car park, which would utilise the access for a period of two weeks. The Department notes the Proponent's intention to use the car park only until the parking is reinstated on the Moorehouse site following construction of the No.5 starch dryer. The Department has therefore included a condition requiring its removal following completion of the No. 5 starch dryer. In addition, the Department notes the proximity of this access point to the Shoalhaven Water pumping station and has recommended a condition requiring the Proponent to retain access to the pumping station. Shoalhaven Water confirmed that it was satisfied with the use of the temporary car park and that access to its pumping station would not be affected. Council noted that the design of the temporary car park should comply with Council's standards and relevant Australian Standards in relation to access and aisle widths, sealing, line marking and lighting. Council also recommended a condition to ensure that the car park is not used for the storage of equipment. The Department has included these requirements in the modified conditions. Council requested written confirmation that the temporary car park has been constructed in accordance with relevant guidelines, prior to the commencement of demolition works. The Department notes that the sequence of works described in the EA involves construction of the car park first before proceeding to demolition. Hence, the general conditions of consent that requires the Proponent to comply with the EA, addresses Council's request. Council also raised concerns about the Proponent's compliance with the existing traffic and access conditions, noting that the southern car park remains unsealed and unmarked and that factory related vehicles have been parking on the public road network, despite restrictions in the consent. The Department has referred Council's concerns to its compliance unit for review and action if required. <p><u>Traffic movements</u></p> <ul style="list-style-type: none"> Construction of the temporary car park is estimated to generate a maximum of 6 heavy vehicle trips per day (vpd) over a two week period and demolition would generate a maximum of 8 heavy vpd, over a four week period. There would also be a redistribution of light vehicle trips as 30 spaces from the Moorehouse site would be removed and 60 created at the temporary car park on the northern side of Bolong Road. ARC analysed the potential impacts on intersection performance using SIDRA and concluded that there would be no significant impact on the operation of the local traffic network with no changes in delay, capacity or queue lengths. ARC noted that there would be a minor delay for heavy vehicles turning right out of the temporary car park site, however this would only occur once or twice a day for a two week period. Hence, no traffic control measures are required for the modification. Council did not raise any issues regarding the predicted traffic movements. The Department agrees that the traffic increases associated with the modification are minor, short-term and can be accommodated on the existing road network without the need for traffic control measures or 	<p>accordance with AS2890:2009 <i>Parking Facilities</i> and AS1158:2010 <i>Lighting for Roads and Public Spaces</i>, or their latest versions;</p> <p>b) is used for light vehicles only, with the exception of heavy vehicles used to construct the temporary car park;</p> <p>c) is removed following the completion of construction of the No. 5 starch dryer at the Moorehouse site as described in MOD 6;</p> <p>d) is not used for the storage of plant, equipment or materials at any time.</p> <ul style="list-style-type: none"> The Proponent shall ensure that access to the Shoalhaven Water pumping station is maintained at all times. The Proponent shall carry out the project as described in the EA for MOD 6.

Issue	Assessment	Recommendation
	<p>upgrades. The Proponent has upgraded this section of Bolong Road in recent years with a number of safety improvements such as central barriers, turning bays, lighting and pedestrian refuges. Traffic on this section of Bolong Road is speed limited to 60km/hr. The Department concludes that the works can be managed via minor amendments to the existing conditions, including restricting the use of the temporary car park to light vehicles, retaining access to the pumping station and removing the car park on completion of the No. 5 starch dryer.</p>	
Waste	<p><u>Demolition</u></p> <ul style="list-style-type: none"> • Demolition of the building would generate general solid waste including approximately 180 tonnes (t) of bricks, 40t of scrap metal and 22t of timber. The Proponent has identified the facilities where these materials would be taken for recycling. • Non-recyclable waste including glass, plastic, cables and other general rubbish would be disposed of to the landfill at west Nowra. • Asbestos waste would be managed and disposed of in accordance with relevant legislation and guidelines (detailed above). • The existing conditions require all waste to be classified and managed in accordance with EPA Guidelines. These conditions would be adequate for managing waste generated from demolition. <p><u>Car park construction</u></p> <ul style="list-style-type: none"> • The Proponent proposes to construct the car park using steel mill slag and bitumen. Steel mill slag is a waste material, however there is a current Resource Recovery Order and Exemption under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> for its application to land. • The Exemption details specific conditions that must be complied with including the material meeting all specific chemical properties, its use being limited to certain applications, such as engineering fill material in earthworks for road making and the requirement for its use as road pavement to meet relevant Australian Standards. • The EPA recommended a condition requiring the use of any waste, including steel mill slag, to be in accordance with the relevant Resource Recovery Order and Exemption. • Provided the material meets the criteria detailed in the Exemption, the Department considers its use as a fill material for the car park construction to be appropriate. • The Department has included the EPA's recommendation in the modified conditions. The Department has also included a condition requiring removal of the temporary car park once the No. 5 starch dryer is constructed and the parking spaces are reinstated (discussed above). • When the temporary car park is removed, the steel mill slag and bitumen material may be reused to maintain other roads on the Proponent's environmental farm or for use as a fill material when constructing the packing plant. Any future use of the material would also be subject to the requirements of the Exemption and Order. The recommended condition covers the use of the material generally, including any future use following removal of the car park. • The Department is satisfied that waste generated by the demolition works and construction of the temporary car park would be appropriately managed. 	<ul style="list-style-type: none"> • The Proponent shall ensure that the use of any waste, including steel mill slag, is in accordance with a Resource Recovery Order and Exemption issued under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>.
Soils and water	<ul style="list-style-type: none"> • The EA included an erosion and sediment control plan (ESCP) detailing specific measures for minimising erosion from demolition and construction works. <p><u>Demolition</u></p> <ul style="list-style-type: none"> • The building to be demolished is located immediately adjacent to Abernethy's Creek, which drains to the Shoalhaven River. • Whilst the concrete slab would be retained, building debris and dust from demolition works has the potential to enter Abernethy's Creek if not appropriately managed. • The ESCP identified that straw bales and kikuyu turf should be used on the bank of Abernethy's Creek which has a steep eroding batter in the vicinity of the building, to capture any sediment generated from demolition activities. The ESCP also identified an existing straw bale near the packing plant that should be replaced with a steel grate to prevent building debris or rubbish from being washed into the creek. 	<ul style="list-style-type: none"> • The Proponent shall implement the ESCP prior to the commencement of demolition and construction works, to the satisfaction of the Secretary. • The Proponent shall provide a stormwater management plan to Council

Issue	Assessment	Recommendation
	<ul style="list-style-type: none"> The Department is satisfied that the proposed erosion and sediment control measures are adequate for the modification and recommends a condition requiring implementation of the ESCP prior to the commencement of demolition works. <p><u>Car park construction</u></p> <ul style="list-style-type: none"> Construction of the car park requires removing the top 20cm of topsoil which would be retained in stockpiles to the north of the car park for future use on other areas of the site for landscaping. Erosion is expected to be limited given the area is covered by dense pasture and the soils have low erodibility. The ESCP nominates areas for sediment fencing on the northern and eastern sides of the car park and around the topsoil stockpiles to limit sediment run off. The Department is satisfied that erosion and sediment from construction works would be adequately managed by implementation of the ESCP. Council recommended that the Proponent provide a stormwater management plan to Council describing the stormwater design, discharge location and pollution controls for the temporary car park. The Department has recommended a condition requiring a stormwater management plan to be provided to Council prior to the commencement of construction of the car park. 	<p>prior to the commencement of construction of the car park.</p>
Hazards and risk	<ul style="list-style-type: none"> The EA included a risk assessment prepared by All Construction Engineering identifying health and safety hazards during demolition works. The EA also noted the distance of demolition works from existing potentially hazardous plant including the ethanol distillery, ethanol storage tanks and the boiler house. The building to be demolished is surrounded by an administration building, packaging building and staff car park. The Proponent would establish fencing to segregate the demolition area from the surrounding buildings. The Department's hazards specialist reviewed the risk assessment and noted that there is adequate separation distances between the demolition work and existing potentially hazardous plant. The demolition work is unlikely to interact and affect these hazardous areas, or vice versa. The Department's review concluded that off-site risk is unlikely as a result of the demolition works. The Department also notes that appropriate safety measures are recommended for managing health and safety during the works. Based on the above, no additional hazard related safety conditions are required for the modification. However, the Department has included a standard condition requiring demolition works to be undertaken by licensed demolition experts in accordance with the requirements of SafeWork and work health and safety legislation. The existing hazard related conditions remain appropriate for the modified project and include the requirement for an Emergency Plan and a Safety Management System for the facility. 	<ul style="list-style-type: none"> Manage through existing conditions of approval. The Proponent shall ensure that demolition is undertaken by licensed demolition experts in accordance with the requirements of SafeWork and work health and safety legislation.

6. CONCLUSION

The Department has assessed the proposed modification in accordance with the requirements of Clause 8B of the Regulations. This assessment has found that the proposed modification would result in minimal environmental impacts beyond the approved facility.

The modification would enable Shoalhaven Starches to clear a suitable area for future construction of an approved starch dryer and ensure timely progression of works on the site. The modification would not increase production volumes at the factory and would ensure that impacts remain consistent with the original approval.

Consequently, the Department is satisfied that the modification should be approved subject to conditions.

7. RECOMMENDATION

It is RECOMMENDED that the Planning Assessment Commission:

- approve the proposed modification under Section 75W of the EP&A Act; and
- sign the attached notice of modification (in Appendix A).

Deana Burn
Specialist Planner, Industry Assessments



Chris Ritchie
A/Director
Industry Assessments

19/11/15.



David Gainsford
A/Executive Director
Key Sites & Industry Assessments
Planning Services

19/11/15

APPENDIX A – NOTICE OF MODIFICATION

APPENDIX B – ENVIRONMENTAL ASSESSMENT

https://majorprojects.affinitylive.com/?action=view_job&id=7346

APPENDIX C – SUBMISSIONS