

STATEMENT OF ENVIRONMENTAL EFFECTS

**APPLICATION TO MODIFY PROJECT APPROVAL MP06_0228
SHOALHAVEN STARCHES EXPANSION PROJECT**

**MODIFICATION APPLICATION No. 24 (Mod 24)
(MADE PURSUANT TO SECTION 4.55(1A) OF THE
ENVIRONMENTAL PLANNING & ASSESSMENT ACT)**

**PROPOSED MODIFICATION TO APPROVED
PRODUCT DRYER (GLUTEN DRYER NO. 8)**

**Shoalhaven Starches
Bolong Road, Bomaderry**

**Prepared for
Shoalhaven Starches Pty Ltd
December 2021**

Statement of Environment Effects

Project	Application to Modify Project Approval MP06_0228, Shoalhaven Starches Expansion Project (Modification Application No. 24 (Mod 24)) Proposed Modification to Approved Product Dryer (Gluten Dryer No. 8)
Address	Bolong Road, Bomaderry
Our ref:	21/120
Prepared by	Stephen Richardson
Final	15 December 2021

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EXECUTIVE SUMMARY

Shoalhaven Starches is a member of the Manildra Group of companies. The Manildra Group is a wholly Australian owned business and the largest processor of wheat in Australia. It manufactures a wide range of wheat-based products for food and industrial markets both locally and internationally.

The Shoalhaven Starches factory located on Bolong Road, Bomaderry produces a range of products for the food, beverage, confectionary, paper and motor transport industries including starch, gluten, glucose and ethanol.

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

Following the Minister's determination Shoalhaven Starches have been implementing and commissioning works in accordance with this Project Approval.

Following the original Minister's Determination, under Mod 16 the Independent Planning Commission approved on the 18th June 2019 a new Gluten Dryer (No. 8) (GD8) in conjunction with a proposed Specialty Product Building which it was to adjoin, with both buildings to be located to the west of Abernethy's Creek. The new Gluten Dryer was to replace the capacity lost by the conversion of Dryers Nos. 1 and 2 to starch production that also formed part of Mod 16.

Under Mod 17, the Independent Planning Commission subsequently approved an increase in the floor area of the proposed GD8 building. The increase in the footprint of the GD8 building under Mod 17 arose to enable the reorientation of the dryer from that approved under Mod 16 to provide operational efficiencies and to enable the installation of a Wet End Processing Plant within the building.

Following further detailed design work however Shoalhaven Starches have identified the need to further re-design the siting and footprint of the GD8 building for the following reasons:

- The GD8 building needs to be fire separated from the adjacent Specialty Product Building. Under Mod 17 the GD8 building adjoined the Specialty Products Building. It is now

proposed to set the GD8 Building 6 metres to the west of the Specialty Product Building (that is currently under construction) to provide sufficient fire separation under the BCA.

- The separation of these buildings will also enable improved operational access to remove / install equipment for maintenance purposes between these two buildings.
- In addition, the internal dimensions of the GD8 building have been required to be revised to accommodate paths of travel within the building to comply with the BCA, as well as improve operational manoeuvrability.
- In addition, it is also proposed to provide a stair tower adjacent to the western wall of the relocated GD8 building to provide compliant paths of travel under the BCA which has further added to the footprint of the proposal.
- To accommodate the shifting of the GD8 building footprint to the west as proposed it is now proposed to demolish the Maintenance Building which the GD8 building was to originally adjoin under Mod 17.
- The roof of the GD8 building has also been raised to provide a skillion roof form to improve stormwater design to better meet BCA requirements.

This Modification Applications seeks to address the above aspects.

The Shoalhaven Starches Expansion Project was a ‘transitional Part 3A Project’ for the purposes of Schedule 6A of the Environmental Planning & Assessment Act. As of the 1st March 2018 the transitional arrangements for former Part 3A projects have been discontinued. The discontinuation of the transitional arrangements for Part 3A projects and concept plans means that modifications are assessed through the State Significant Development (SSD) pathway. As such this Modification Application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act 1979.

This SEE is supported by the following expert consideration:

- The Modification Application has been reviewed by GHD who undertook the original Air Quality Assessment that was undertaken in relation to Mod 17. According to GHD, the proposed modifications are minor, with no significant changes to the air quality modelling outcomes and results detailed in their Mod 17 Air Quality Assessment. Therefore, according to GHD, Mod 24 is acceptable from an air quality perspective.
- The Modification Application has been reviewed by Pinnacle Risk Management who undertook the original Preliminary Hazard Analysis that was undertaken in relation to Mod 17. According to Pinnacle Risk Management:

- The overall process safety risk from the GD8 is the same as outlined in their original PHA for Mod 17;
- The hazardous plant operation and safeguarding in the PHA remain unchanged; and
- The conclusions in the PHA are therefore unchanged, ie. the proposed changes will still result in compliance with the DoP's risk criteria in HIPAP No. 4.
- The Modification Application has been reviewed by Harwood Acoustics who undertook the original Environmental Noise Impact Assessment that was undertaken in relation to Mod 17. According to Harwood Acoustics there will be no appreciable change to the acoustical impacts associated with GD8 as a result of these changes.
- The Modification Application has been reviewed by WMAwater who undertook the original Flood Compliance Assessment that was undertaken in relation to Mod 17. According to WMAwater the Modification Proposal will result a minor reduction in peak flood level for the 1% and 0.5% AEP events upstream of the GD8 Building. This occurs as the proposed amendments create a larger flow path through the site than previously. This results in a minor increase in flood level downstream which is largely contained with the Shoalhaven Starches land. In the Extreme event there is minimal change in peak level.

The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in overall production rates from the site, nor will it involve any significant changes in level of impacts arising from the approved development.

The SEE concludes that the proposed modifications will not have significant adverse environmental impacts and the development to which Project Approval MP06_0228 as modified by the Modification Application relates, will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

1.0 INTRODUCTION

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

Following the Minister's determination, Shoalhaven Starches have been implementing and commissioning works in accordance with this approval.

Following the original Minister's Determination, under Mod 16 the Independent Planning Commission approved on the 18th June 2019 a new Gluten Dryer (No. 8) (GD8)) in conjunction with a proposed Specialty Product Building which it was to adjoin, with both buildings to be located to the west of Abernethy's Creek. The new Gluten Dryer was to replace the capacity lost by the conversion of Dryers Nos. 1 and 2 to starch production that also formed part of Mod 16.

Under Mod 17, the Independent Planning Commission approved an increase in the floor area of the proposed GD8 building. The increase in the footprint of the GD8 building under Mod 17 arose to enable the reorientation of the dryer from that approved under Mod 16 to provide operational efficiencies and to enable the installation of a Wet End Processing Plant within the building.

Following further detailed design work however Shoalhaven Starches have identified the need to further re-design the siting and footprint of the GD8 building for the following reasons:

- The GD8 building needs to be fire separated from the adjacent Specialty Product Building. Under Mod 17 the GD8 building adjoined the Specialty Products Building. It is now proposed to set the GD8 Building 6 metres to the west of the Specialty Product Building (that is currently under construction) to provide sufficient fire separation under the BCA.
- The separation of these buildings also enables improved operational access to remove / install equipment for maintenance purposes between the two buildings.
- In addition, the internal dimensions of the GD8 building have been required to be revised to accommodate paths of travel within the building that comply with the BCA, as well as improve operational manoeuvrability.

- In addition, it is also proposed to provide a stair tower adjacent to the western wall of the relocated GD8 building to provide compliant paths of travel under the BCA which has further added to the footprint of the proposal.
- To accommodate the shifting of the GD8 building footprint to the west as proposed it is now proposed to demolish the Maintenance Building which the GD8 building was to originally adjoin under Mod 17.
- The roof of the GD8 building has also been raised to provide a skillion roof form to improve stormwater design to better meet BCA requirements.

This Modification Applications seeks to address the above aspects.

This Modification Application will seek to relocate the footprint of the GD8 building 5.63 metres in a westerly direction from the approved footprint under Mod 17, excluding a stair tower that will be constructed on the western extremity of the building which will intrude a further 2.87 metres to the west.

It is also proposed to increase the footprint of the GD8 building from 1680.36 m² to 1858.68 m² to accommodate compliant paths of travel as required by the BCA.

In addition to an increase in the footprint of the building, it is also proposed to increase the height of the GD8 building from that which was originally approved by constructing a skillion roof form on the building increasing the maximum building height of the GD8 building from 24.23 metres (as currently approved) to 27.33 metres, an increase of 3.1 metres.

It is also proposed to relocate one of the silos and associated dust collectors from its approved position adjacent to the Specialty Product Building to the west of the modified GD8 building to improve production process and efficiencies. This silo and dust collector will have a height above ground level of 35.2 metres, consistent with that which was originally approved.

To facilitate the increased footprint of the GD8 Building, the existing maintenance building that was to be retained under Mod 17 will be demolished.

The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in production rates from the site, nor will it involve any changes in level of impacts arising from the approved development.

The Modification Application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act. This SEE has been prepared in support of the Modification Application.

The Modification Application is supported by plans included in **Annexure 1**, and expert assessment reports.

This Modification Application has been reviewed by the following expert consultants and compared to the approved development under Mods 16 & 17 as follows:

- GHD who undertook the original Air Quality Assessment that was undertaken in relation to Mod 17 (**Annexure 2**).
- Pinnacle Risk Management who undertook the original Preliminary Hazard Analysis that was undertaken in relation to Mod 17 (**Annexure 3**).
- Harwood Acoustics who undertook the original Environmental Noise Impact Assessment that was undertaken in relation to Mod 17 (**Annexure 4**).
- WMAwater who undertook the original Flood Compliance Assessment that was undertaken in relation to Mod 17 (**Annexure 5**).

It is considered that the components associated with this Modification Application will not have any significant adverse environmental impacts; and as a result of this Modification Application the development to which Project Approval MP06_0228 as modified relates will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

2.0 SITE AND SURROUNDS

The Shoalhaven Starches factory complex is situated upon various allotments of land along Bolong Road, Bomaderry, within the Shoalhaven local government area. The factory site is located on the southern side of Bolong Road on the northern bank of the Shoalhaven River with some operations located on the northern side of Bolong Road. The Shoalhaven Starches site (excluding the former Dairy Farmers and former Paper Mill sites) has an area of approximately 12.5 hectares.

The works associated with this modification proposal are all located on Lots 31 DP 1222627.

Figure 1 is a site locality plan.

The land associated with this Modification Proposal is zoned IN1 (General Industrial) zone under the provisions of SLEP 2014.

The town of Bomaderry is located 0.5 km (approx.) to the west of the factory site, and the Nowra urban area is situated 2.0 km to the south-west of the site. The “Riverview Road” area of the Nowra Township is situated approximately 1000 metres immediately opposite the factory site across the Shoalhaven River.

The village of Terara is situated approximately 1.5 kilometres to the south-east of the site, across the Shoalhaven River. Burruga (Pig) Island is situated between the factory site and the village of Terara and is currently used for dairy cattle grazing.

There are a number of industrial lands uses which have developed on the strip of land between Bolong Road and the Shoalhaven River. Industrial activities have included a metal fabrication factory, the Shoalhaven Starches site and the former Dairy Farmers factory and Shoalhaven Paper Mill (now owned by the Manildra Group of Companies). The industrial area is serviced by a privately owned spur railway line that runs from just north of the Nowra-Bomaderry station to the Starches Site.

The state railway terminates at Bomaderry with a separate, privately owned spur line to the factory site. Shoalhaven City Council sewerage treatment works is situated between the railway line and the factory.

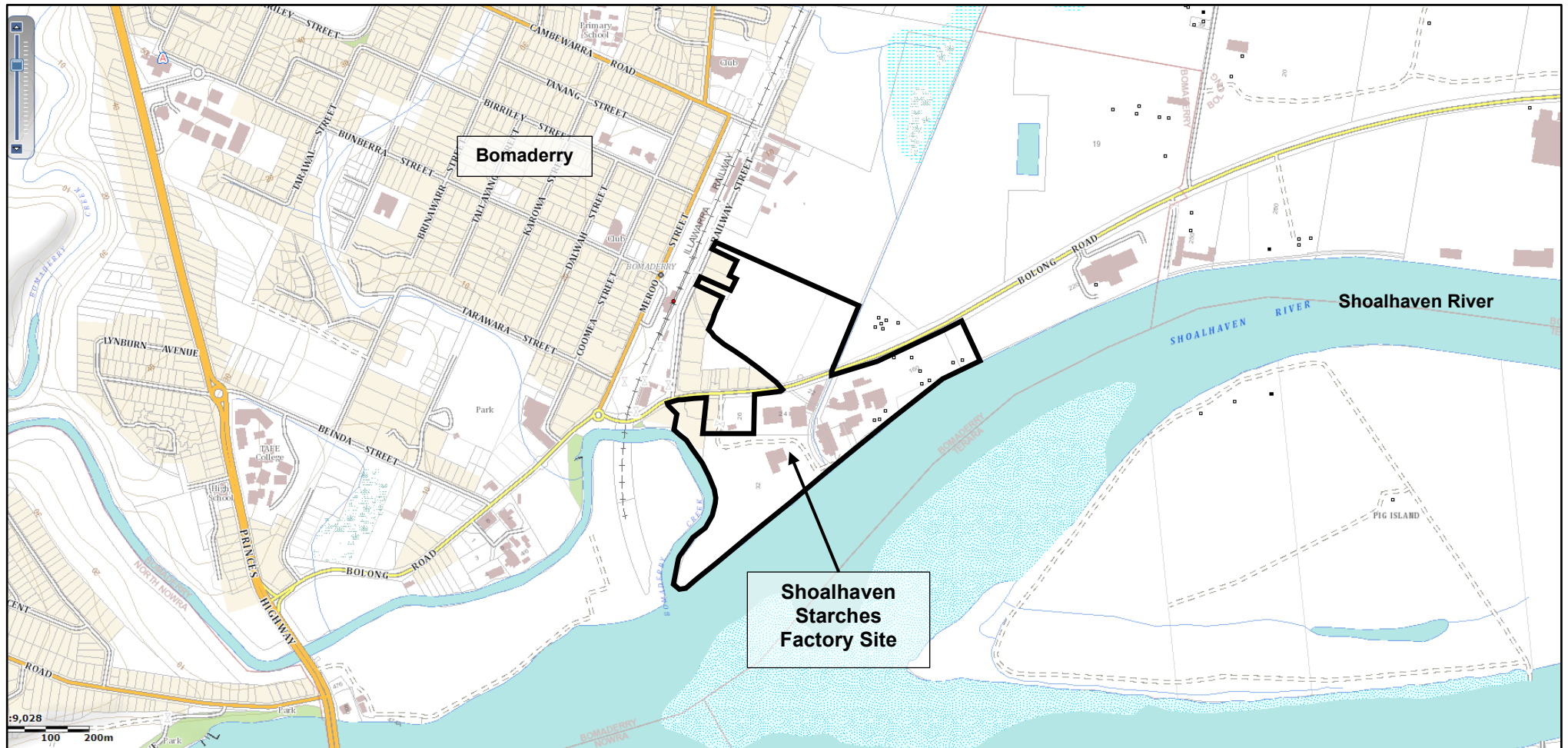


Figure 1: Site Locality Plan.

The Company also carries out irrigation activities on the Company's Environmental Farm located over 1000 hectares on the northern side of Bolong Road. This area is cleared grazing land and also contains a wastewater treatment plant, wet weather storage ponds and spray irrigation lines. The wet weather storage ponds on the farm form part of the irrigation management system for the factory. The Environmental Farm stretches over a broad area of the northern floodplain of the Shoalhaven River stretching from Bolong Road in the south towards Jaspers Brush in the north. Apart from the Environmental Farm this broad area is mainly used for grazing (dairy cattle).

The factory site has direct road frontage to Bolong Road to the north. The Shoalhaven River flows along the southern boundary of the factory site.

Figures 2 and 3 are aerial photographs of the locality and the site respectively. **Figure 4** provides an aerial photograph of the location of the works associated with this Modification Application.



Figure 2: Aerial photograph of locality.



Figure 3: Aerial photograph of Shoalhaven Starches factory site.

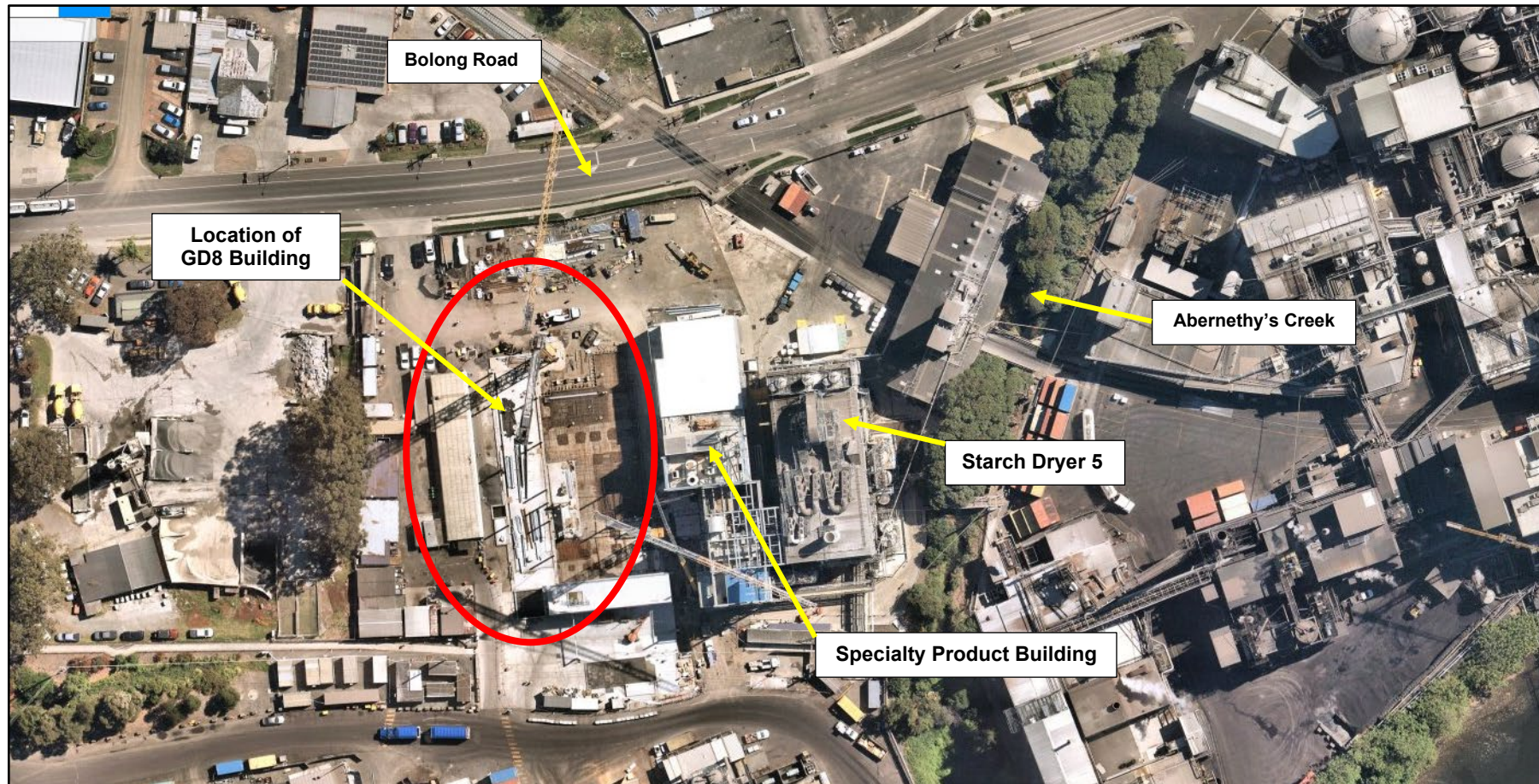


Figure 4: Aerial view of location of GD8 Building

3.0 BACKGROUND

3.1 PRODUCTION PROCESSES

The production process at the Shoalhaven Starches plant have evolved over a number of decades. Originally the plant was primarily concerned with the production of starch and gluten from flour. However, the Company has pursued a number of technological innovations particularly with respect to reducing the environmental impacts of the Company's operations. As a result, Shoalhaven Starches has been moving towards a "closed" system of production. Essentially this entails the efficient use of end products to ensure wastage is reduced to a minimum.

The first step in the production process is the delivery of flour and grain, by rail, from the Company's flour mills at Manildra, Gunnedah and Narrandera. The trainloads are brought into the plant via the switching yard at Bomaderry.

The Company received approval from the Minister for Planning for the erection of flour mills on site to enable the milling of part of the Company's flour requirements to be processed directly on the site. The remainder of the Company's flour requirements continue to be sourced from the Company's off-site flour mills.

Flour is transferred via storage to the "wet end" of the plant where fresh water is added. The subsequent mixing and separation process produces starch and gluten. The gluten is dried to enable it to be packaged and distributed as a high protein food additive for human consumption. This product is then taken from the site after packaging for both local and export markets.

The starch that is separated from the flour is either dried or remains in liquid form. The dried and liquid starch is sold to the paper and food industries. The starch is used for food, cardboard, paper and other industrial purposes. Liquid starch is used in the ethanol production process.

Starch is also used in the production of syrups on the site. The syrups plant products include glucose and brewer's syrup. These are used for foods, chocolates, confectionery, beer, soft drinks and fruit juice. The syrups plant products can also be used in the ethanol process.

The by-products from the starch, gluten and syrup production processes are combined to feed the fermentation and distillation stage of ethanol production. The outputs are fuel, industrial, beverage and hand sanitising grade alcohol. Industrial grade ethanol is used in producing pharmaceuticals, printer's ink and methylated spirits.

Ethanol production results in some liquid and solid by-products, which are processed through the stillage recovery process plant (which was approved as part of PRP No. 7 in 2005). The solids in the stillage are recovered as Dried Distillers Grains and Syrup (DDGS), dried and sold as a high protein cattle feed with the remaining water used for irrigation.

The wastewater resulting from the ethanol production is treated in the wastewater treatment plant located on the northern side of Bolong Road and is re-used in the Starch Plant and the surplus is irrigated onto Shoalhaven Starches Environmental Farm to the north of Bolong Road. This farmland is used for fodder crops, pasture and cattle grazing.

Boilers are used to produce steam which is used for a multitude of purposes throughout the factory site wherever product is dried, evaporated or heated.

3.2 RECENT DEVELOPMENT AND APPROVAL HISTORY

3.2.1 Project Approval MP 06_0228

On the 28th January 2009 the then Minister for Planning, issued Project Approval MP 06_0228 for the Shoalhaven Starches Expansion Project.

The primary objective of the Shoalhaven Starches Expansion Project was to increase the Company's ethanol production capacity to meet the expected increase in demand for ethanol primarily, arising from the then NSW Government's mandate to increase ethanol content by volume in petrol in NSW from 2% to 6% from October 2011, by upgrading the existing ethanol plant.

The approval, subject to certain conditions, enabled Shoalhaven Starches to increase ethanol production in a staged manner at its Bomaderry Plant from 126 million litres per year to 300 million litres per year.

To accomplish the increase in ethanol production, the Project Approval enabled Shoalhaven Starches to upgrade plant and increase throughput of raw materials, principally comprising flour and grain.

Following the Minister's determination Shoalhaven Starches have been implementing and commissioning works in accordance with this approval.

As outlined in previous modifications the expected increase in demand for ethanol to meet the demand arising from the NSW Government's mandate to increase the blending of ethanol in the total volume of petrol sold in NSW has however not occurred. This is due largely from a failure of the mandate to be imposed on petroleum suppliers. As a result, Shoalhaven Starches have been investigating alternative markets for products used in the

manufacture of ethanol and Shoalhaven Starches now propose to undertake further modifications to the Shoalhaven Starches Expansion Project Approval (MP06_0228) as listed below. Cowman Stoddart Pty Ltd has prepared this Environmental Assessment on behalf of Shoalhaven Starches Pty Ltd for the following modifications.

Under Mod 16 Shoalhaven Starches obtained approval to utilise grain, that was approved to directly feed the fermentation process in the ethanol production process, to instead increase the amount of flour that was produced on site (with the installation of an additional Flour Mill) to in effect increase starch and gluten production.

In addition, under Mod 16 Shoalhaven Starches obtained approval for the construction of a new industrial building adjoining the recently constructed Starch Dryer No. 5 building to the west of Abernethy's Creek. This new industrial building will contain:

- The construction of a Specialty Product Building within which a range of modified gluten products for the food industry; and modified starches for both paper manufacturing as well as food production.
- The resultant increase in starch and gluten production would require the conversion of two existing Gluten Dryers (Nos. 1 and 2) into starch production. Mod 16 therefore included the construction of a new Gluten Dryer (D8), to replace the capacity lost by the conversion of Dryers Nos. 1 and 2 to starch.

The footprint of the GD8 building was subsequent increased under Mod 17. The increase in the footprint of the GD8 building under Mod 17 provided for the reorientation of the dryer to provide operational efficiencies and to enable the installation of a Wet End Processing Plant within the building.

3.2.2 Approval History following MP 06_0228

DA 10/1843 – Upgrade Vehicle Entrance (Former Dairy Farmers Factory Site)

Project Approval MP 06_0228 required vehicle access points to the Bomaderry site to be upgraded to the satisfaction of Council and the RMS. The subsequent upgrading works included the construction of a concrete median along the centre of Bolong Road to the east of Abernethy's drain in such a manner that prevented vehicles travelling east along Bolong Road turning right into the central vehicle access point to the Shoalhaven Starches site and prevented vehicles turning right out from this access point and travelling east along Bolong Road.

These works also prevented vehicles turning right out from the BOC Carbon Dioxide Plant located opposite the Shoalhaven Starches site. Shoalhaven Starches therefore sought approval from Shoalhaven City Council to upgrade the former Dairy Farmers site vehicular

access and relocate the access to enable vehicles to enter Access Point 2 from the east. These works would also allow vehicles wishing to travel west from BOC Carbon Dioxide Plant to leave this site to first travel east; by allowing vehicles to travel to the former Dairy Farmers Factory Complex and using the upgraded access to turn around before travelling west along Bolong Road.

RA 11/1002 Interim Packing Plant

Following Project Approval MP 06_0228 Shoalhaven Starches also obtained a separate development approval to use an existing factory building located at 22 Bolong Road (Lot 21 DP 100265) as an Interim Packing Plant from Shoalhaven City Council (RA 11/1002 dated 26th October 2011). This Interim Packing Plant operates in conjunction with the Company's existing Packing Plant which is located within the existing factory site.

DA 11/1855 – Widening of Driveway

A further development application (DA 11/1855) was submitted to Shoalhaven City Council on the 4th August 2011 seeking approval to widen the driveways serving 22 Bolong Road Bomaderry (i.e., the site of the Interim Packing Plant) to accommodate semi-trailers. This development application was approved by Shoalhaven City Council on the 24th August 2011.

DA 13/1713 – Demolition of Dimethyl Ether Plant

On the 5th July 2013 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking the demolition of a Dimethyl Ether Plant on the site. This development application was approved by Shoalhaven City Council on the 15th July 2013.

DA 14/2161 – Additional Two (2) Grain Silos

On the 19th September 2014 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking development consent to erect two additional grain silos on the factory site within the vicinity of the existing Flour Mill, to provide security of raw material storage and supply when there are closures of the Illawarra rail line serving the Shoalhaven Starches site. Shoalhaven City Council approved this development application on the 27th April 2017.

DA 16/1827 – Demolition of Existing Air Compressor Shed

On the 7th July 2016 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking the demolition of an existing air compressor shed on the site. This development application was approved by Shoalhaven City Council on the 29th July 2016.

Other Approvals

There have been other approvals that have been issued by Shoalhaven City Council that are associated with the Shoalhaven Starches operations, but which do not directly relate to the operations of Shoalhaven Starches including:

- DA 11/1936 – Algae Demonstration Plant for evaluation of algae production and processing for alternative fuel and CO₂ sequestration. Proponent - Algae Tec Pty Ltd at 220 Bolong Road (former Dairy Farmers factory site).
- DA 14/1327 – Alterations to existing building (former Dairy Farmers Factory Building) and re-use as a meat processing plant. Proponent – Candal Investments Pty Ltd at 220 Bolong Road (former Dairy Farmers factory site).
- DA 15/1892 – Installation of Liquid Oxygen Vessel (6,000 L). Proponent – Argyle Prestige Meats Ltd at 220 Bolong Road (former Dairy Farmers factory site).

Modification Applications

Project Approval MP 06_0228 has also been the subject of the following modifications applications (**Table 1**).

Table 1
Summary of Recent Modification Applications

<i>Modification</i>	<i>Summary of Modifications</i>	<i>Approval Date</i>
Modification 1	<ul style="list-style-type: none"> • Removed the requirement for dried distillers grain (DDG) pelletising plant from the list of mandatory odour controls. • Implement alternate odour controls including a new loading chute with dust extractor and extension of the load-out shed to fully enclose truck loading. 	30/9/2011
Modification 2	<ul style="list-style-type: none"> • Install additional infrastructure to improve operational and energy efficiency, including two additional fermenter tanks, an evaporator, beer column, heat exchangers, substation and compressors. 	14/9/2012
Modification 3	<ul style="list-style-type: none"> • Relocate approved 60 space staff car park to the former Dairy Farmers site and include the site in the project approval, following acquisition by the Applicant. 	9/10/2012
Modification 4	<ul style="list-style-type: none"> • Relocate the approved DDG pelletising plant within the factory site, increases its footprint and approved height, from 21 m to 28 m. 	24/3/2014
Modification 5	<ul style="list-style-type: none"> • Modify the design, footprint and odour controls on the DDG pelletising plant including a 49 m air discharge stack and eight storage silos. 	16/9/2015

Table 1 (continued)

Modification	Summary of Modifications	Approval Date
Modification 6	<ul style="list-style-type: none"> Demolish a disused industrial building “Moorehouse” purchased by the Applicant Construct a temporary car park on the northern side of Bolong Road. 	25/11/2015
Modification 7	<ul style="list-style-type: none"> Relocate the approved Starch Dryer No. 5 to the former “Moorehouse” site, increase the footprint and construct a substation, pipework and pipe gantry. 	18/12/2016
Modification 8	<ul style="list-style-type: none"> Extend the existing flour mill to increase flour production from 265,000 to 400,000 tonnes per annum (tpa) and offset imports of flour to the factory from mills in western NSW. 	1/3/2016
Modification 9	<ul style="list-style-type: none"> Increase the size of the approved packing plant to increase the type and volume of packaged dried products. Construct a container storage and truck loading area with noise barriers. Extend and duplicate the approved rail spur line. Install product pipes under Bolong Road, a small bag packer at the DDG pellet plant and a new stormwater detention tank. 	8/3/2017
Modification 10	<ul style="list-style-type: none"> Construct a new flour mill B and increase flour production on site from 400,000 tpa to 842,400 tpa. Relocate storage silos and construct a mill feed structure. 	18/4/2017
Modification 11	<ul style="list-style-type: none"> Reducing the number of approved DDGS Dryers from six to four. A minor modification to the footprint of the four DDG dryers. Relocation of the cooling towers in the DDG Plant. A Mill Feed Silo and structure to feed DDG dryers. Expanded use of the existing coal and woodchip storage area within the SS Environmental farm. The addition of two biofilters to cope with the increased number of DDG Dryers. A forklift maintenance building adjacent to the relocated DDG dryers, along with a container preparation area adjacent to the relocated DDG Dryers. 	1/9/2017
Modification 12	Modifications to the existing Ethanol Distillery Plant to increase the proportion of ‘beverage’ grade ethanol that is able to be produced on the site. This modification will enable increased flexibility in terms of the range of types of ethanol produced at the site (i.e.. between fuel, industrial and beverage grade ethanol) to meet market demands; and modify the type and location of the Water Balance Recovery Evaporator that has been previously approved under Mod 2 adjacent to the Ethanol Plant.	1/9/2017
Modification 13	<ul style="list-style-type: none"> Modification of boilers 2 and 4, with the conversion of boiler 4 from gas fired to coal fired. Installation of an additional baghouse on boiler 6. 	18/1/2018
Modification 14	Modifications to the former paper mill site.	27/4/2018
Modification 15	Construction of the SupaGas CO ₂ plant at the former Dairy Farmers factory site.	7/8/2018

Table 1 (continued)

Modification	Summary of Modifications	Approval Date
Modification 16	<ul style="list-style-type: none"> • Installation of a third flour mill C within the existing flour mill B building. • Undertaking modifications to flour mills A and B. • The construction of a new industrial building adjoining the Starch Dryer No. 5 building containing: <ul style="list-style-type: none"> – The new product dryer; – Plant and equipment associated with the processing of specialised speciality products. • Addition to Starch Dryer No. 5 building to house a baghouse for this dryer <ul style="list-style-type: none"> – Conversion of two existing gluten dryers (1 and 2) to starch dryers. – Additional sifter for the interim packing plant. – Construction of a coal-fired co-generation plant to the south of the existing boiler house complex. The co-generation plant will house a new boiler (no. 8). – Construction of lime silos: The lime injection system will consist of two storage silos and associated equipment for injecting powdered lime into each of the coal fired boilers. – Relocation of the existing boiler no. 7 to the northern side of the overall boiler house complex. – Construction of an indoor electrical substation on the northern side of Bolong Road. – Construction of an additional rail intake pit for the unloading of rail wagons. – Extension of the existing electrical substation located within the main factory area. • An additional coal fired co-generation plant was also approved under Mod 16. This coal fired co-generation plant was to be sited immediately to the south of the existing boiler house complex situated to the east of Abernethy's Creek. This coal fired co-generation plant would generate a total of 15 MW of power for the site. It is proposed that this coal fired co-generation plant will be in part replaced by the proposed gas fired co-generation plant as part of this Modification Application. 	18/6/2019
Modification 17	<ul style="list-style-type: none"> • Relocation of Baghouse for Starch Dryer No. 5. • Installation of Service Lift adjacent to Starch Dryer No. 5. • Elevating Service Conduit extending from factory site on southern side of Bolong Road to approved packing plant on northern side of Bolong Road above ground. • Use of woodchips as fuel source in Boilers 2 and 4. • Modification to condition 14J(e) – Amendment to design specification for silencers to exhaust fans for Flour Mill B. • The increase in the building footprint of Product Dryer Building (PDB). • The increase in the building footprint of the Specialty Products Building (SPB) which adjoins the PDB building. • The provision of additional bulk chemical storage to the south of the PDB and SPB buildings. 	23/10/2020

Table 1 (continued)

Modification	Summary of Modifications	Approval Date
	<ul style="list-style-type: none"> • Demolition of part of the existing Maintenance Office and Stores to facilitate the extension of the PDB and SPB buildings to the west. • Repurposing the remaining part of the Maintenance building to provide staff amenities and Plant Operation Control Rooms. • To facilitate internal truck movements associated with the amendments to the SPB, existing car parking (48 spaces) currently located to the north and west of the Maintenance Building will be relocated to an existing approved car parking located on the north side of Bolong Road. • Extend the sifter room situated on top of the interim packing plant. • Install a Product Dryer (No. 9) within the footprint of the SPB as approved under Mod 16. 	
Modification 18	<ul style="list-style-type: none"> • Relocation of Approved Gas Fired Boiler and other Associated Works to Facilitate Production of 'Hand Sanitiser' Alcohol in response to COVID 19 Crisis. 	4/9/2020
Modification 19	<ul style="list-style-type: none"> • Expansion of the ethanol distillery plant including new distillery columns, three ethanol storage tanks and cooling towers to facilitate the production of 100 mega litres (ML) of beverage grade ethanol within the approved limits and additional site infrastructure. 	8/3/21
Modification 20	<ul style="list-style-type: none"> • Alterations to Existing CO2 Plant (Supagas) 	26/10/21

4.0 PROPOSED MODIFICATION TO PROJECT APPROVAL MP06_0228

4.1 SUMMARY OF MODIFICATION PROPOSAL

Table 2 below provides a summary of the proposed works associated with this Modification Application.

Table 2
Summary of Proposed Works under Mod 24

Factory Component	Proposed Works associated with Modification Application No. 24 (Mod 4)
Modifications to Approved GD8 Building	
GD8 Building	<ul style="list-style-type: none"> • Demolition of the existing maintenance building • Re-site the approved GD8 Building slightly to the west by 5.63 metres. • Increase the footprint of the GD8 building from 1,680.36 m² to 1858.68 m². • Increase height of the approved GD8 Building from 24.23 m to 27.63 metres, with the GD8 stack rising to 30.7 metres above ground level. • Relocate one of the silos and associated dust collectors from its approved position adjacent to the Specialty Product Building to the west of the modified GD8 building.

4.2 MODIFICATIONS TO APPROVED GD8 BUILDING

This Modification Application seeks to shift the footprint of the GD8 building 5.63 metres in a westerly direction from the approved footprint under Mod 17. In addition, it is proposed to construct a stair tower adjacent to the western wall of the GD8 building which will intrude a further 2.87 metres to the west from that which was originally approved.

It is also proposed to amend the footprint of the GD8 building. The approved GD8 building comprised a footprint with dimensions of 26.8 metres width and 62.7 metres length, with an area of 1,680.36 m². It is proposed to amend the footprint of the GD8 building to provide a width of 30.978 metres, length of 60 metres and an overall footprint area (excluding the western stairwell) of 1858.68 m² (an increase of 178.08 m²).

It is also proposed to construct a maintenance lift and stairwell to the west of the GD8 building. The lift and stair tower will comprise a footprint of 22.113 m². This will result in the overall footprint of the modified GD8 building comprising 1880.79 m² compared to the Mod 17 approved footprint of 1680.36 m².

In addition, it is also proposed to increase the height of the GD8 building from that which was originally approved by constructing a skillion roof form which will increase the maximum building height from 24.23 AGL metres (as currently approved) to 27.33 metres, an increase of 3.1 metres. The GD8 emissions stack will rise up above the GD8 building to a height of 30.07 metres.

To accommodate the shifting of the GD8 building footprint to the west it is now proposed to demolish the Maintenance Building which the GD8 building was to originally adjoin under Mod 17.

The rationale for these changes is due to:

- The GD8 building needs to be fire separated from the adjacent Specialty Product Building. Under Mod 17 the GD8 building adjoined the Specialty Products Building. It is now proposed to set the GD8 Building 6 metres to the west of the Specialty Product Building (that is currently under construction) to provide sufficient fire separation under the BCA.
- The separation of these buildings also enables improved operational access to remove / install equipment for maintenance purposes between the two buildings.
- In addition, the internal dimensions of the GD8 building have been required to be revised to accommodate paths of travel within the building that comply with the BCA, as well as improve operational manoeuvrability.
- In addition, it is also proposed to provide a stair tower adjacent to the western wall of the relocated GD8 building to provide compliant paths of travel under the BCA which has further added to the footprint of the proposal.
- The roof of the GD8 building has also been raised to provide a skillion roof form to improve stormwater design to better meet BCA requirements.

It is also proposed to relocate one of the silos and associated dust collectors from its approved position adjacent to the Specialty Product Building to the west of the modified GDB building to improve production process and efficiencies. This silo and dust collector will have a height above ground level of 35.2 metres, consistent with that which was originally approved. See **Figures 5 and 6**.

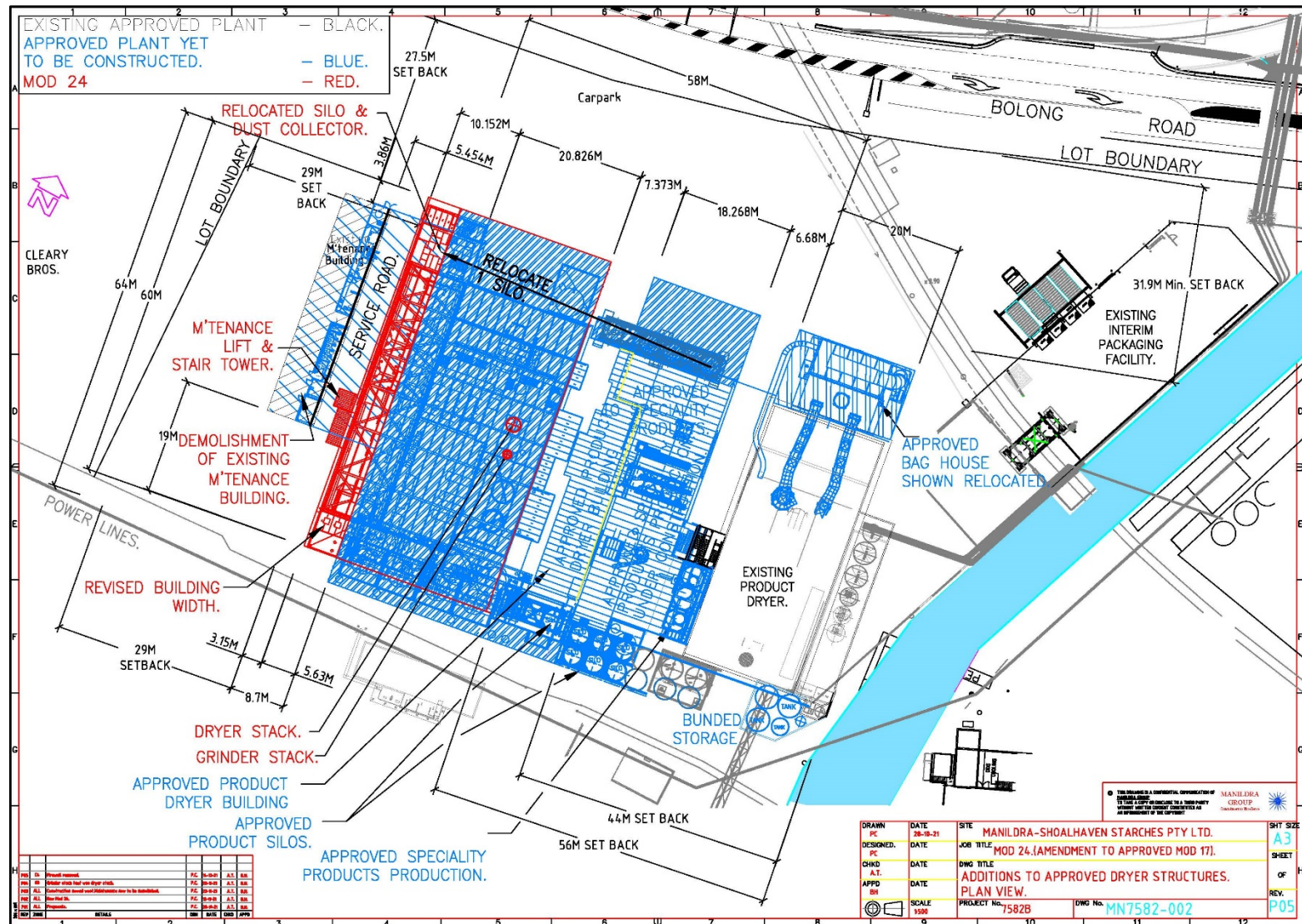


Figure 5: Plan of proposed modification to GD8 building and relocation of silo and associated dust collectors.

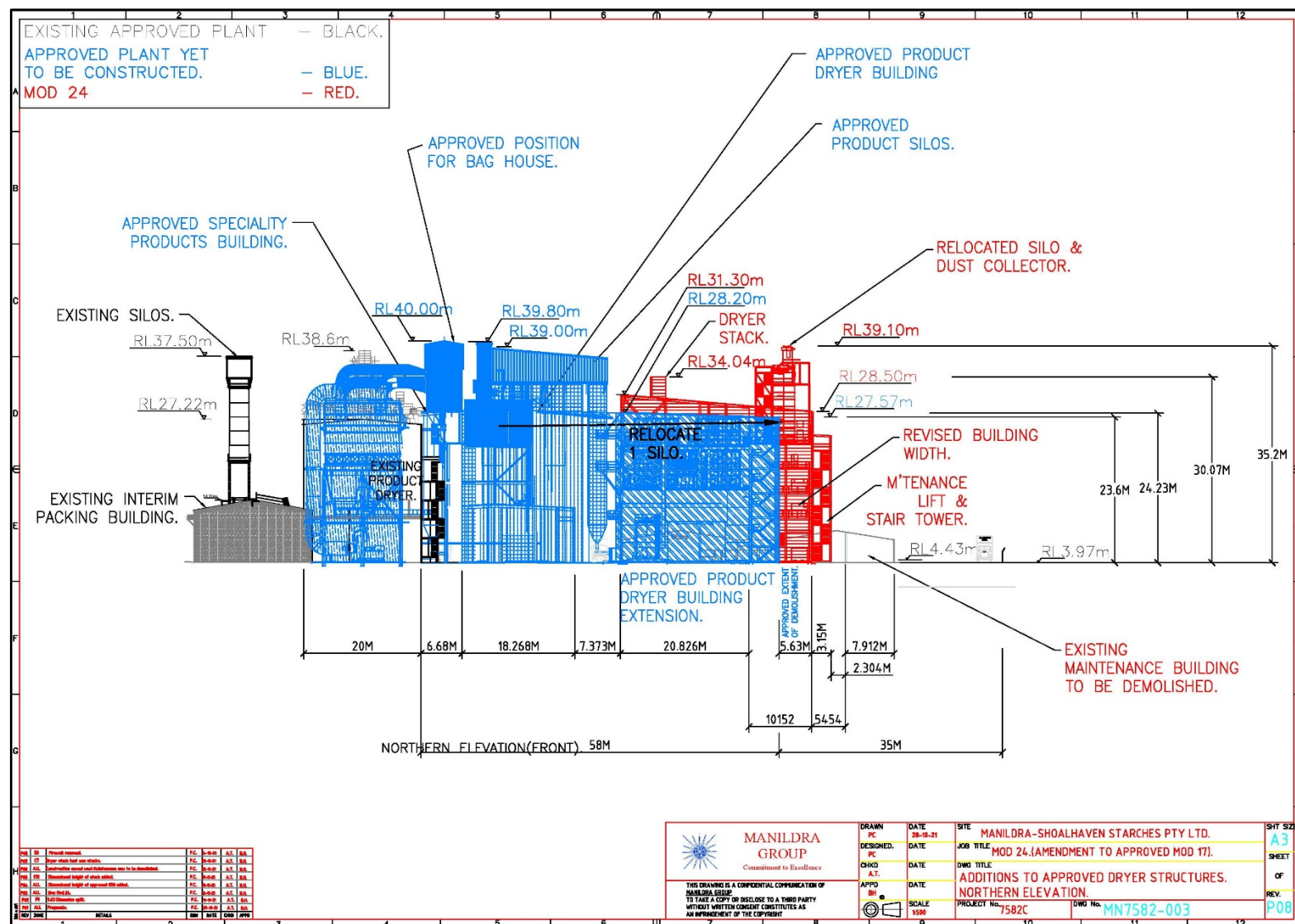


Figure 6: Elevation details (northern) of proposed modification to GD8 Building and relocation of silo and associated dust collectors.

The Modification Proposal essentially arises from the need to ensure the development satisfies BCA requirements in term of fire separation and paths of travel. The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in production rates from the site, nor will it involve any changes in level of impacts arising from the approved development.

The Modification Application is supported by plans included in **Annexure 1**, and the following expert advice:

- Submission prepared by GHD in terms of air quality impacts (**Annexure 2**);
- Submission prepared by Pinnacle Risk Management in terms of hazards (**Annexure 3**);
- Submission prepared by Harwood Acoustics in terms of noise impacts (**Annexure 4**); and
- Submission prepared by WMAwater in terms of flooding (**Annexure 5**).

5.0 SECTION 4.55(1A) OF THE EP&A ACT

This application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment (EP&A) Act.

Section 4.55(1A) of the EP&A Act reads:

4.55 Modification of consents—generally

(1A) **Modifications involving minimal environmental impact** A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if—

- (a) *it is satisfied that the proposed modification is of minimal environmental impact, and*
- (b) *it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*
- (c) *it has notified the application in accordance with—*
 - (i) *the regulations, if the regulations so require, or*
 - (ii) *a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and*
- (d) *it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.*

Subsections (1), (2) and (5) do not apply to such a modification.

Fundamentally an application made pursuant to Section 4.55(1A) must demonstrate that the development to which the consent as modified relates will have minimal environmental impact; and is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified.

Such an assessment would typically need to appreciate both the qualitative and quantitative aspects of the development being compared in its proper context as described by Bignold J at paragraphs 54 to 56 in *Moto Projects (No.2) Pty Ltd v North Sydney C* [1999] NSWLEC 280. This judgment includes the following comments:

54. *The relevant satisfaction required by s 96(2)(a) to be found to exist in order that the modification power be available involves an ultimate finding of fact based upon the primary facts found. I must be satisfied that the modified development is substantially the same as the originally approved development.*

55. *The requisite factual finding obviously requires a comparison between the development, as currently approved, and the development as proposed to be modified. The result of the comparison must be a finding that the modified development is “essentially or materially” the same as the (currently) approved development.*
56. *The comparative task does not merely involve a comparison of the physical features or components of the development as currently approved and modified where that comparative exercise is undertaken in some type of sterile vacuum. Rather, the comparison involves an appreciation, qualitative, as well as quantitative, of the developments being compared in their proper contexts (including the circumstances in which the development consent was granted).*

The *Modifying an Approved Project* draft guidelines produced as part of the *Draft Environmental Impact Assessment Guidance Series* by the NSW Department of Planning and Environment in June 2017, provides some guidance when assessing modifications of State Significant development:

For SSD, a proponent must demonstrate that the change, if carried out, would result in a development that would be substantially the same development as the original development. In order to draw this conclusion, a proponent must have regard to the following considerations, which have been established through decisions of the NSWLEC:

- *“Substantially” means “essentially or materially” or “having the same essence.”*
- *A development can still be substantially the same even if the development as modified involves land that was not the subject of the original consent (provided that the consent authority is satisfied that the proposal is substantially the same).*
- *If the development as modified, involves an “additional and distinct land use”, it is not substantially the same development.*
- *Notwithstanding the above, development as modified would not necessarily be substantially the same solely because it was for precisely the same use as that for which consent was originally granted.*
- *To determine whether something is “substantially the same” requires a comparative task between the whole development as originally approved and the development as proposed to be modified. In order for the proposal to be “substantially the same”, the comparative task must:*
 - *result in a finding that the modified development is “essentially or materially” the same*
 - *appreciate the qualitative and quantitative differences in their proper context*
 - *in addition to the physical difference, consider the environmental impacts of proposed Modification Applications to approved developments.*

“Substantially” means “essentially or materially” or “having the same essence.”

Comments

It is considered the modification proposal is substantially the same as that approved and is development that could be considered *“materially the same as that previously approved”*. Furthermore, it is considered that the modifications proposed are of the same ‘essence’ as the approved development given that:

- The Modification Proposal arises to satisfy fire separation and pathway requirements of the BCA.
- the proposal maintains the current land use approved at the site and does not seek to alter the over-riding character of development;
- the proposed built form is substantially the same as that already approved, in that development is to consist of industrial buildings, plant and equipment located within the general confines of the overall approved Shoalhaven Starches Factory site.
- The proposed modifications do not represent an expansion of the of Shoalhaven Starches’ footprint and the modifications will be located within the areas of the site that already contain approved development.
- The proposed buildings maintain the same form as that approved with due consideration given in the Modification Application to relevant issues pertaining to air quality, noise and flood impacts; and
- The proposal does not seek to increase overall production from the site, nor will it involve the generation of any additional significant environmental impacts.

A development can still be substantially the same even if the development as modified involves land that was not the subject of the original consent (provided that the consent authority is satisfied that the proposal is substantially the same).

Comment

The Modification Proposal arises to satisfy fire separation and pathway requirements of the BCA. The proposal does not involve land that was not the subject of the approval which was in place at the time that the Shoalhaven Starches Expansion Project site transitioned from the Transitional Part 3A provisions to being assessed as State Significant Development.

If the development as modified, involves an “additional and distinct land use”, it is not substantially the same development.

Comment

The proposal does not involve an “additional and distinct land use”. The proposed modification to the GD8 Building does not represent an additional distinct land use

Notwithstanding the above, development as modified would not necessarily be substantially the same solely because it was for precisely the same use as that for which consent was originally granted.

Comment

The modification proposal does not seek to change the nature of the approved use of the site, it will remain as originally approved. Rather the modification proposal arises from more detailed design and the need to satisfy fire separation and pathway requirements of the BCA.

To determine whether something is “substantially the same” requires a comparative task between the whole development as originally approved and the development as proposed to be modified. In order for the proposal to be “substantially the same”, the comparative task must:

- ***result in a finding that the modified development is “essentially or materially” the same***
- ***appreciate the qualitative and quantitative differences in their proper context***
- ***in addition to the physical difference, consider the environmental impacts of proposed Modification Applications to approved developments.***

Comment

Quantitatively, the proposal does not represent any increases in production in the terms of processing of flour and starch / gluten or overall ethanol production.

The qualitative elements of the proposal demonstrate that the environmental and amenity impacts of the modification proposal are limited and justifies this proposal being considered as a modification.

This proposal will not expand the overall footprint of the approved Shoalhaven Starches factory. The proposed modification is located within the site that have existing or approved development. The proposed development will have a limited additional visual impact. The bulk, character and scale of the structures associated with this modification application will not be dissimilar to that of other industrial type development associated with the existing factory site. Furthermore, the proposed works will be sited within proximity of similar structures of a similar nature. The works will be sited in the midst of the existing factory complex and will be viewed within this context.

The proposed modification does not raise additional air quality or noise impacts over those already considered as part of the Project as approved.

The works associated with this modification application do not represent an additional and or distinct land use as all proposed modifications facilitate and improve the existing approved production processes.

The proposal will not comprise any qualitative or quantitative changes in overall production from the site. The proposal essentially seeks to ensure that the site will be able to generate sufficient electrical power to accommodate the demand of the approved (as modified) development.

The modified proposal represents a scale of development that will be commensurate with the bulk, scale and character of the approved development.

It is our view that the proposed modification will have minimal environmental impacts and the modified development is substantially the same as approved Project. As such the modification proposal is considered consistent with provisions of Section 4.55(1A) of the Act in this instance.

Given the above circumstances it is our view that the modification proposal; will have minimal environmental impact when compared to the original approved development; and the development as modified by this modification application will be substantially the same development as the development for which consent was originally granted having regard to both the qualitative and quantitative elements of that development.

6.0 SECTION 4.15(1)(A) – ENVIRONMENTAL PLANNING PROVISIONS

In determining an application made pursuant to Section 4.55 of the EP&A Act the consent authority must take into consideration such of the matters referred to in Section 4.15(1) as are of relevance to the development the subject of the application.

6.1 ENVIRONMENTAL PLANNING INSTRUMENTS

6.1.1 State Environmental Planning Policies

Table 3 details State Environmental Planning Policies (SEPP) that apply to the land and whether they are applicable to the proposal.

Table 3
State Environmental Planning Policies that Apply to the Subject Site

<i>State Environmental Planning Policy</i>	<i>Applicable Yes/No</i>
State Environmental Planning Policy (Affordable Rental Housing) 2009 (pub. 2009-07-31)	No
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (pub. 2004-06-25)	No
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (pub. 2008-12-12)	No
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (pub. 2004-03-31)	No
State Environmental Planning Policy (Infrastructure) 2007 (pub. 2007-12-21)	Yes
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (pub. 2007-02-16)	No
State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007 (pub. 2007-09-28)	No
State Environmental Planning Policy No 1-Development Standards (pub. 1980-10-17)	No
State Environmental Planning Policy No 21-Caravan Parks (pub. 1992-04-24)	No
State Environmental Planning Policy No 30-Intensive Agriculture (pub. 1989-12-08)	No
State Environmental Planning Policy No 33-Hazardous and Offensive Development (pub. 1992-03-13)	Yes
State Environmental Planning Policy No 36-Manufactured Home Estates (pub. 1993-07-16)	No
State Environmental Planning Policy No 50-Canal Estate Development (pub. 1997-11-10)	No
State Environmental Planning Policy No 55-Remediation of Land (pub. 1998-08-28)	No

Table 3 (continued)

State Environmental Planning Policy	Applicable Yes/No
State Environmental Planning Policy No 62-Sustainable Aquaculture (pub. 2000-08-25)	No
State Environmental Planning Policy No 64-Advertising and Signage (pub. 2001-03-16)	No
State Environmental Planning Policy No 65-Design Quality of Residential Apartment Development (pub. 2002-07-26)	No
State Environmental Planning Policy No 70-Affordable Housing (Revised Schemes) (pub. 2002-05-01)	No
State Environmental Planning Policy (Primary Production and Rural Development) 2019	No
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017: Subject Land (pub. 2017-08-25)	No
State Environmental Planning Policy (Coastal Management) 2018	Yes

SEPP – Infrastructure

This SEPP aims to facilitate the effective delivery of infrastructure across the state and those appropriate agencies are made aware of and are given an opportunity to make representations in respect of certain development, including traffic generating developments. Division 17 relates to Road and Traffic infrastructure while Schedule 3 of the SEPP outlines traffic generating development which requires referral to Roads and Maritime Services (RMS). The proposal does not trigger the criteria in this Schedule that would warrant the development application being referred to the RMS, and therefore the provisions of this SEPP would not apply to this proposal.

Schedule 3 includes the following criteria that may have relevance to this proposal:

Development purpose	Column 1: Size or capacity – site with access to any road	Column 2 Size or capacity—site with access to classified road or to road that connects to classified road (if access within 90m of connection, measured along alignment of connecting road)
Car parks	200 or more car parking spaces	50 or more car parking spaces
Industry	20,000m ² in site area or (if the site area is less than the gross floor area) gross floor area	5,000 m ² in site area or (if the site area is less than the gross floor area) gross floor area
Any other purpose	200 or more motor vehicles per hour	50 or more motor vehicles per hour

The modification proposal does not specifically trigger the above criteria. Under these circumstances the RMS is not required to be notified of this proposal.

SEPP No.33 – Hazardous and Offensive Development

The objectives of SEPP No. 33 are set out in clause 2 of the SEPP and include:

- (a) to amend the definitions of hazardous and offensive industries where used in environmental planning instruments, and*
- (b) to render ineffective a provision of any environmental planning instrument that prohibits development for the purpose of a storage facility on the ground that the facility is hazardous or offensive if it is not a hazardous or offensive storage establishment as defined in this Policy, and*
- (c) to require development consent for hazardous or offensive development proposed to be carried out in the Western Division, and*
- (d) to ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and*
- (e) to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact, and*
- (f) to require the advertising of applications to carry out any such development.*

The Modification Proposal is supported by a submission prepared by Pinnacle Risk Management Pty Ltd who undertook the Preliminary Hazard Analysis in relation to both Mod 16 and 17. This matter is further addressed in Section 6.2.4 of this SEE.

SEPP (Coastal Management) 2018

This SEPP seeks to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016 by:

- a) managing development in the coastal zone and protecting the environmental assets of the coast, and*
- b) establishing a framework for land use planning to guide decision-making in the coastal zone, and*
- c) mapping the 4 coastal management areas which comprise the NSW coastal zone, in accordance with the definitions in the Coastal Management Act 2016.*

This Policy applies to land within the coastal zone. Section 5 of the *Coastal Management Act 2016* provides that the **coastal zone** means the area of land comprised of the following coastal management areas:

- a) the coastal wetlands and littoral rainforests area;
- b) the coastal vulnerability area;

- c) the coastal environment area;
- d) the coastal use area.

Part 2 of the Coastal Management SEPP stipulates the Development Controls for Coastal Management Areas. Division 1 outlines the controls to be applied to development in the Coastal Wetlands and Littoral Rainforests Area.

Coastal Wetlands and Littoral Rainforests Area.

Mapping supporting the SEPP outlines the subject land is not mapped as containing coastal wetlands or littoral rainforest.

Coastal Environment Area

Division 3 of the SEPP stipulates the controls to be applied to development in the Coastal Environment Area.

The subject land is mapped under the NSW Coastal Management SEPP Mapping as being located within the Coastal Environment Area as seen below in **Figure 7**.

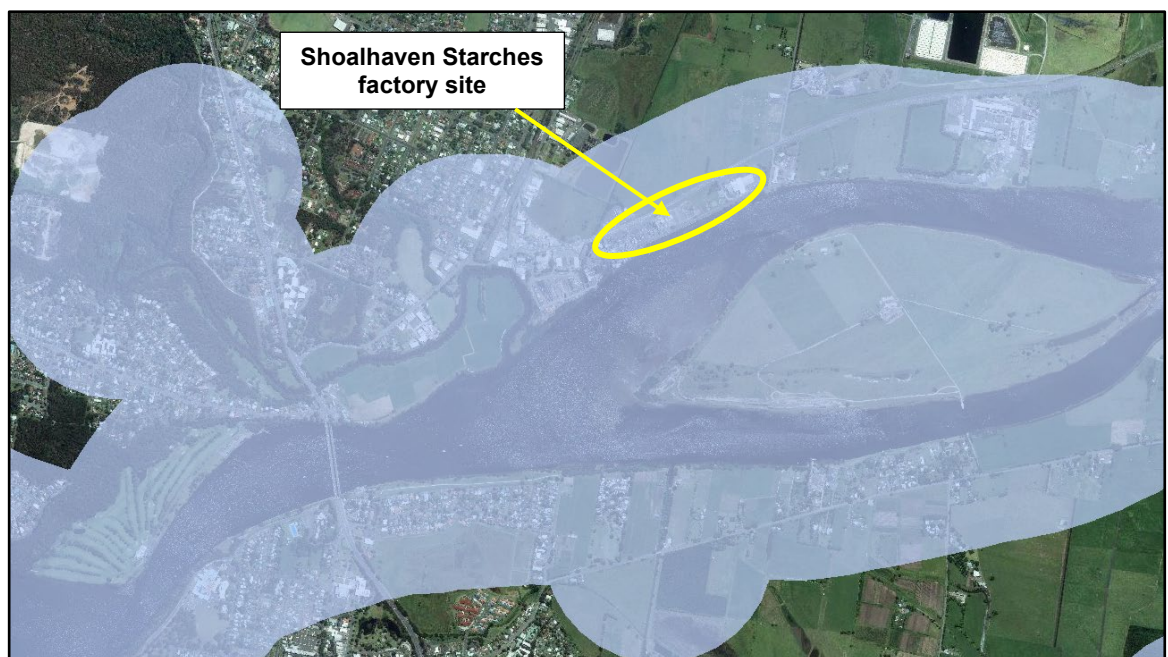


Figure 7: NSW Coastal Management SEPP: Coastal Environment Area Map.

Clause 13 of the SEPP specifies matters that must be considered in determining development applications on land within the Coastal Environment Area. Clause 13 reads:

- 1) *Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:*

- a) *the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,*
 - b) *coastal environmental values and natural coastal processes,*
 - c) *the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,*
 - d) *marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,*
 - e) *existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*
 - f) *Aboriginal cultural heritage, practices and places,*
 - g) *the use of the surf zone.*
- 2) *Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*
- a) *the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or*
 - b) *if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*
 - c) *if that impact cannot be minimised—the development will be managed to mitigate that impact.*

Comment:

- The proposal is not near a headland or rock platform and as such does not impact on public access to these areas.
- The proposal will not adversely impact on the visual amenity and scenic qualities of the coast.
- The proposal involves works within an existing developed industrial site and is unlikely to impact on items of Aboriginal cultural heritage.
- The proposal involves works within an existing developed industrial site and will not impact upon the integrity or resilience of the biophysical or ecological environment.
- The proposal will incorporate erosion and sediment control measures to minimise impact on the water quality of the adjoining watercourses.
- The proposal will not involve any significant adverse impact on marine or native vegetation.
- The proposed development is not located within close proximity to the surf zone and will not impact on coastal environmental values or natural coastal processes.

Coastal Use Area

Division 4 of the SEPP specifies the controls to be applied to development in the Coastal Use Area. The subject land is also within the Coastal Use zone as seen below in **Figure 8**. As such the provisions which apply to this mapping are relevant to the proposed development.



Figure 8: NSW Coastal Management SEPP: Coastal Use Area Map.

Clause 14 of the SEPP specifies matters that must be considered in determining development applications on land within the Coastal Use Area. Clause 14 reads:

- (1) *Development consent must not be granted to development on land that is within the coastal use area unless the consent authority:*
 - (a) *has considered whether the proposed development is likely to cause an adverse impact on the following:*
 - (i) *existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*
 - (ii) *overshadowing, wind funneling and the loss of views from public places to foreshores,*
 - (iii) *the visual amenity and scenic qualities of the coast, including coastal headlands,*
 - (iv) *Aboriginal cultural heritage, practices and places,*
 - (v) *cultural and built environment heritage, and*
 - (b) *is satisfied that:*

- (i) *the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or*
 - (ii) *if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*
 - (iii) *if that impact cannot be minimised—the development will be managed to mitigate that impact, and*
- (c) *has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.*

Comment:

- The proposal will not impact on existing safe access to the foreshore. The proposal is not near a beach, headland or rock platform and as such does not impact on public access to these areas.
- The works associated with this modification proposal will not cause overshadowing of the foreshore area or wind funnelling. The development will not block views from public places. The proposal will not adversely impact on the visual amenity and scenic qualities of the coast.
- As detailed above, the proposal will not adversely impact on Aboriginal cultural heritage and places.
- The works associated with this modification proposal are of a bulk, scale and size that are consistent with existing industrial development on the site and will not create an adverse visual impact in this locality.

Under these circumstances the proposal is considered to be consistent with the objectives

6.1.2 Local Environmental Plan

Shoalhaven Local Environmental Plan 2014

The parcels of land associated with this modification application are zoned IN1 General Industrial under the provisions of the Shoalhaven LEP 2014 (refer **Figure 9**).

Table 4
Land Use Permissibility – IN1 Zone (Shoalhaven LEP 2014)

Permitted without consent	Nil.
Permitted with consent	Bulky goods premises; Depots; Freight transport facilities; General industries ; Industrial training facilities; Kiosks; Light industries; Markets; Neighbourhood shops; Roads; Take away food and drink premises; Timber yards; Warehouse or distribution centres
Prohibited	Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Correctional centres; Crematoria; Eco-tourist facilities; Educational establishments; Environmental facilities; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Highway service centres; Home-based childcare; Home businesses; Home occupations; Home occupations (sex services); Information and education facilities; Marinas; Mooring pens; Moorings; Office premises; Open cut mining; Places of public worship; Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Retail premises; Sex services premises; Tourist and visitor accommodation; Water recreation structures; Wharf or boating facilities.

The SLEP 2014 also has a number of specific provisions that apply to the land. The implications that these provisions have in relation to this proposal are discussed in **Table 5** below:

Table 5
Shoalhaven Local Environment Plan Provisions

SLEP 2014 Clause	Provisions	Comments
<i>Clause 4.3 Height of Buildings</i>	<p>(1) <i>The objectives of this clause are as follows:</i></p> <p>(a) <i>to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of a locality,</i></p> <p>(b) <i>to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,</i></p> <p>(c) <i>to ensure that the height of buildings on or in the vicinity of a heritage item or within a heritage conservation area respect heritage significance.</i></p> <p>(2) <i>The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.</i></p> <p>(2A) <i>If the Height of Buildings Map does not show a maximum height for any land, the height of a building on the land is not to exceed 11 metres.</i></p>	<p>Although there is no maximum height specified for the subject land, Clause 4.3(2A) imposes a maximum building height of 11 m where no specific height limit is designated.</p> <p>The proposal will involve:</p> <ul style="list-style-type: none"> • The GD8 building will have an increased maximum height above ground level of 24.23 metres; • The GD8 emissions stack will have a maximum height above ground level of 30.7 metres. • The relocated solo and dust collector will have a maximum height above ground level of 35.2 metres (consistent with the original Modification Approval for Mod 17). <p>Under these circumstances this SEE is supported by a Written Request made pursuant to Clause 4.6 (Annexure 6) justifying non-compliance with this maximum building height limit.</p>
<i>Clause 4.6 Exceptions to development standards</i>	<p>(1) <i>The objectives of this clause are as follows:</i></p> <p>(a) <i>to provide an appropriate degree of flexibility in applying certain development standards to particular development,</i></p> <p>(b) <i>to achieve better outcomes for and from development by allowing flexibility in particular circumstances.</i></p> <p>(2) <i>Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.</i></p> <p>(3) <i>Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:</i></p>	<p>The proposal will involve the erection of a range of structures that will exceed the 11 metres building height limit set by Clause 4.3(2A).</p> <p>The proposed development will be erected within the broader approved Shoalhaven Starches factory site.</p> <p>As the proposed works will be built within the existing industrial complex it is not expected that the new structures will have an undue effect due to its height.</p> <p>This Modification Application is supported by a Clause 4.6 Written Request (Annexure 6) justifying a departure to Clause 4.3(2A) under the specific circumstances of this case.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
4.6 continued	<p>(a) <i>that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and</i></p> <p>(b) <i>that there are sufficient environmental planning grounds to justify contravening the development standard.</i></p> <p>(4) <i>Development consent must not be granted for development that contravenes a development standard unless:</i></p> <p>(a) <i>the consent authority is satisfied that:</i></p> <p style="padding-left: 40px;">(i) <i>the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and</i></p> <p style="padding-left: 40px;">(ii) <i>the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and</i></p> <p>(b) <i>the concurrence of the Director-General has been obtained.</i></p> <p>(5) <i>In deciding whether to grant concurrence, the Director-General must consider:</i></p> <p style="padding-left: 40px;">(a) <i>whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and</i></p> <p style="padding-left: 40px;">(b) <i>the public benefit of maintaining the development standard, and</i></p> <p style="padding-left: 40px;">(c) <i>any other matters required to be taken into consideration by the Director-General before granting concurrence.</i></p> <p>(6) <i>Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone E2 Environmental Conservation, Zone E3 Environmental Management or Zone E4 Environmental Living if:</i></p> <p style="padding-left: 40px;">(a) <i>the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or</i></p>	

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
4.6 continued	<p>(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.</p> <p><i>Note. When this Plan was made it did not include all of these zones.</i></p> <p>(7) After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).</p>	
Clause 5.10 Heritage Conservation	<p>(1) The objectives of this clause are:</p> <p>(a) to conserve the environmental heritage of Shoalhaven; and</p> <p>(b) to conserve the heritage significance of heritage items and heritage conservation areas including associated fabric, settings and views; and</p> <p>(c) to conserve archaeological sites; and</p> <p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p> <p>(2) Development consent is required for any of the following:</p> <p>(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):</p> <p>(i) a heritage item,</p> <p>(ii) an Aboriginal object</p> <p>(iii) a building, work, relic or tree within a heritage conservation area,</p> <p>(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,</p>	<p>There are no heritage items within the subject land, and the subject site is not located within a heritage conservation area.</p> <p>The site is a highly disturbed industrial site that has been used for industrial purposes for decades. As such the proposal is not expected to disturb any Aboriginal objects or relics.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
5.10 continued	<ul style="list-style-type: none"> (c) <i>disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being, discovered, exposed, moved damaged or destroyed,</i> (d) <i>disturbing or excavating an Aboriginal place of heritage significance,</i> (e) <i>erecting a building on land:</i> <ul style="list-style-type: none"> (i) <i>on which a heritage item is located or that is within a heritage conservation area;</i> (ii) <i>on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,</i> (f) <i>subdividing land:</i> <ul style="list-style-type: none"> (i) <i>on which a heritage item is located or that is within a heritage conservation area, or</i> (ii) <i>on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.</i> 	
Clause 5.21 Flood Planning	<ul style="list-style-type: none"> (1) <i>The objectives of this clause are as follows—</i> <ul style="list-style-type: none"> (a) <i>to minimise the flood risk to life and property associated with the use of land,</i> (b) <i>to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,</i> (c) <i>to avoid adverse or cumulative impacts on flood behaviour and the environment,</i> (d) <i>to enable the safe occupation and efficient evacuation of people in the event of a flood.</i> (2) <i>Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—</i> <ul style="list-style-type: none"> (a) <i>is compatible with the flood function and behaviour on the land, and</i> 	<p>Mod 17 was supported by a Flood Compliance Report prepared by WMAwater dated 1st May 2020. This report concluded that there is no change in the 1% AEP flood level outside land associated with the Shoalhaven Starches plant as a result of this previous modification proposal. This SEE is supported by a submission prepared by WMAwater (Annexure 5). This issue is further addressed in Section 6.2.6 of this SEE.</p> <p>According to WMAwater the Modification Proposal will result a minor reduction in peak flood level for the 1% and 0.5% AEP events upstream of the GD8 Building. This occurs as the proposed amendments create a larger flow path through the site than previously. This results in a minor increase in flood level downstream which is largely contained with the Shoalhaven Starches land. In the Extreme event there is minimal change in peak level.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
	<p>(b) <i>will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and</i></p> <p>(c) <i>will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and</i></p> <p>(d) <i>incorporates appropriate measures to manage risk to life in the event of a flood, and</i></p> <p>(e) <i>will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.</i></p> <p>(3) <i>In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—</i></p> <p>(a) <i>the impact of the development on projected changes to flood behaviour as a result of climate change,</i></p> <p>(b) <i>the intended design and scale of buildings resulting from the development,</i></p> <p>(c) <i>whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,</i></p> <p>(d) <i>the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.</i></p> <p>(4) <i>A word or expression used in this clause has the same meaning as it has in the Considering Flooding in Land Use Planning Guideline unless it is otherwise defined in this clause.</i></p> <p>(5) <i>In this clause—</i></p> <p>Considering Flooding in Land Use Planning Guideline means the Considering Flooding in Land Use Planning Guideline published on the Department's website on 14 July 2021.</p>	

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments												
	<p>Flood planning area has the same meaning as it has in the Floodplain Development Manual.</p> <p>Floodplain Development Manual means the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.</p>													
Clause 7.1 Acid sulfate soils	<p>(1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.</p> <p>(2) Development consent is required for the carrying out of works described in the Table to this subclause on land shown on the Acid Sulfate Soils Map as being of the class specified for those works, except as provided by this clause.</p> <table><tr><th>Class of Land</th><th>Works</th></tr><tr><td>1</td><td>Any works.</td></tr><tr><td>2</td><td>Works below the natural ground surface. Works by which the watertable is likely to be lowered.</td></tr><tr><td>3</td><td>Works more than 1 metre below the natural ground surface. Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.</td></tr><tr><td>4</td><td>Works more than 2 metres below the natural ground surface. Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.</td></tr><tr><td>5</td><td>Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.</td></tr></table>	Class of Land	Works	1	Any works.	2	Works below the natural ground surface. Works by which the watertable is likely to be lowered.	3	Works more than 1 metre below the natural ground surface. Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.	4	Works more than 2 metres below the natural ground surface. Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.	5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.	An Acid Sulphate Soils Management Plan in accordance with Condition 21 of the original Project Approval has been formulated for the site. This plan will need to be updated to reflect this modification proposal; however, it is not considered necessary, that further assessment is required to be undertaken in relation to this Modification Application in terms of ASS.
Class of Land	Works													
1	Any works.													
2	Works below the natural ground surface. Works by which the watertable is likely to be lowered.													
3	Works more than 1 metre below the natural ground surface. Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.													
4	Works more than 2 metres below the natural ground surface. Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.													
5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.													

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.1 continued	<p>(3) <i>Development consent must not be granted under this clause for the carrying out of works unless an acid sulfate soils management plan has been prepared for the proposed works in accordance with the Acid Sulfate Soils Manual and has been provided to the consent authority.</i></p> <p>(4) <i>Despite subclause (2), development consent is not required under this clause for the carrying out of works if:</i></p> <p style="padding-left: 20px;">(a) <i>a preliminary assessment of the proposed works prepared in accordance with the Acid Sulfate Soils Manual indicates that an acid sulfate soils management plan is not required for the works, and</i></p> <p style="padding-left: 20px;">(b) <i>the preliminary assessment has been provided to the consent authority and the consent authority has confirmed the assessment by notice in writing to the person proposing to carry out the works.</i></p> <p>(5) <i>Despite subclause (2), development consent is not required under this clause for the carrying out of any of the following works by a public authority (including ancillary work such as excavation, construction of access ways or the supply of power):</i></p> <p style="padding-left: 20px;">(a) <i>emergency work, being the repair of the works of the public authority required to be carried out urgently because the works have been damaged, have ceased to function or pose a risk to the environment or to public health and safety,</i></p> <p style="padding-left: 20px;">(b) <i>routine management work, being the periodic inspection, cleaning, repair or replacement of the works of the public authority (other than work that involves the disturbance of more than 1 tonne of soil).</i></p> <p style="padding-left: 20px;">(c) <i>minor work, being work that costs less than \$20,000 (other than drainage work).</i></p> <p>(6) <i>Despite subclause (2), development consent is not required under this clause to carry out any works if:</i></p> <p style="padding-left: 20px;">(a) <i>the works involve the disturbance of less than 1 tonne of soil, and</i></p> <p style="padding-left: 20px;">(b) <i>the works are not likely to lower the watertable.</i></p>	

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
Clause 7.4 Coastal Risk Planning	<p>(1) <i>The objectives of this clause are as follows:</i></p> <ul style="list-style-type: none"> (a) <i>to avoid significant adverse impacts from coastal hazards,</i> (b) <i>to ensure uses of land identified as coastal risk are compatible with the risks presented by coastal hazards,</i> (c) <i>to enable the evacuation of land identified as coastal risk in an emergency,</i> (d) <i>to avoid development that increases the severity of coastal hazards.</i> <p>(2) <i>This clause applies to the land identified as “Coastal Risk Planning Area” on the Coastal Risk Planning Map.</i></p> <p>(3) <i>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:</i></p> <ul style="list-style-type: none"> (a) <i>will avoid, minimise or mitigate exposure to coastal processes, and</i> (b) <i>is not likely to cause detrimental increases in coastal risks to other development or properties, and</i> (c) <i>is not likely to alter coastal processes and the impacts of coastal hazards to the detriment of the environment, and</i> (d) <i>incorporates appropriate measures to manage risk to life from coastal risks, and</i> (e) <i>is likely to avoid or minimise adverse effects from the impact of coastal processes and the exposure to coastal hazards, and</i> (f) <i>provides for the relocation, modification or removal of the development to adapt to the impact of coastal processes and coastal hazards, and</i> (g) <i>has regard to the impacts of sea level rise.</i> <p>(4) <i>A word or expression used in this clause has the same meaning as it has in the NSW Coastal Planning Guideline: Adapting to Sea Level Rise (ISBN 978-1-74263-035-9) published by the NSW Government in August 2010, unless it is otherwise defined in this clause.</i></p>	<p>The <i>Coastal Risk Planning Map</i> that accompanies the SLEP 2014 does <u>not</u> identify the subject land as a “<i>Coastal Risk Planning Area</i>”.</p> <p>The provisions of this clause therefore do not apply to the subject site.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.4 continued	(5) <i>In this clause: coastal hazard has the same meaning as in the Coastal Protection Act 1979.</i>	
Clause 7.5 Terrestrial Biodiversity	<p>(1) <i>The objective of this clause is to maintain terrestrial biodiversity, by:</i></p> <ul style="list-style-type: none"> (a) <i>protecting native flora and fauna,</i> (b) <i>protecting the ecological processes necessary for their continued existence, and</i> (c) <i>encouraging the recovery of native flora and fauna, and their habitats.</i> <p>(2) <i>This clause applies to land:</i></p> <ul style="list-style-type: none"> (a) <i>identified as “Biodiversity—habitat corridor” or “Biodiversity—significant vegetation” on the Terrestrial Biodiversity Map, and</i> (b) <i>situated within 40m of the bank (measured horizontally from the top of the bank) of a natural waterbody.</i> <p>(3) <i>Before determining a development application for development on land to which this clause applies, the consent authority must consider:</i></p> <ul style="list-style-type: none"> (a) <i>whether the development is likely to have:</i> <ul style="list-style-type: none"> (i) <i>any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and</i> (ii) <i>any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and</i> (iii) <i>any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and</i> (iv) <i>any adverse impact on the habitat elements providing connectivity on the land, and</i> (b) <i>any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</i> <p>(4) <i>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:</i></p>	<p>The Terrestrial Biodiversity Map that accompanies the SLEP 2014 does <u>not</u> identify the subject land as including areas of Biodiversity - habitat corridor and/or Biodiversity - significant vegetation.</p> <p>Given the developed industrial nature of the site the proposal is unlikely to have any adverse impacts on the ecological value of the land.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.5 continued	<p>(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</p> <p>(b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or</p> <p>(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.</p> <p>(5) For the purpose of this clause: bank means the limit of the bed of a natural waterbody. bed, of a natural waterbody, means the whole of the soil of the channel in which the waterbody flows, including the portion that is alternatively covered and left bare with an increase or diminution in the supply of water and that is adequate to contain the waterbody at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.</p>	
Clause 7.6 Riparian land and watercourses	<p>(1) The objective of this clause is to protect and maintain the following:</p> <p>(a) water quality within watercourses,</p> <p>(b) the stability of the bed and banks of watercourses,</p> <p>(c) aquatic and riparian habitats,</p> <p>(d) ecological processes within watercourses and riparian areas.</p> <p>(2) This clause applies to all of the following:</p> <p>(a) land identified as “Riparian Land” on the Riparian Lands and Watercourses Map,</p> <p>(b) land identified as “Watercourse Category 1”, “Watercourse Category 2” or “Watercourse Category 3” on that map,</p> <p>(c) all land that is within 50 metres of the top of the bank of each watercourse on land identified as “Watercourse Category 1”, “Watercourse Category 2” or “Watercourse Category 3” on that map.</p>	<p>The Riparian Lands and Watercourses Map that accompanies the SLEP 2014 identifies a category 1 watercourse (Shoalhaven River), adjacent to the southern boundary of the Shoalhaven Starches factory site and a category 2 watercourse Abernethy’s Creek flowing through the factory site (north south)</p> <p>The site is industrial land with no existing vegetation and is beyond the influence of normal fluvial geomorphic processes. As such the development will not have any adverse effect on water quality, flows within the watercourse, aquatic and riparian species or habitats and ecosystems of the watercourse.</p> <p>A geotechnical assessment was undertaken by Coffey Geosciences as part of the previous Mod 16 which included an assessment in relation to riverbank stability. The Coffey</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.6 continued	<p>(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:</p> <p>(a) whether or not the development is likely to have any adverse impact on the following:</p> <p>(i) the water quality and flows within the watercourse,</p> <p>(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,</p> <p>(iii) the stability of the bed and banks of the watercourse,</p> <p>(iv) the free passage of fish and other aquatic organisms within or along the watercourse,</p> <p>(v) any future rehabilitation of the watercourse and its riparian areas, and</p> <p>(b) whether or not the development is likely to increase water extraction from the watercourse, and</p> <p>(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</p> <p>(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:</p> <p>(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</p> <p>(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or</p> <p>(c) if that impact cannot be minimised—the development will be managed to mitigate that impact</p> <p>(5) For the purpose of this clause:</p> <p>bank means the limit of the bed of a watercourse.</p> <p>bed, of a watercourse, means the whole of the soil of the channel in which the watercourse flows, including the portion that is alternatively covered and left bare with an increase or diminution in the supply of</p>	<p>report that supported Mod 16 made the following comments about works associated with Starch Dryer No. 5 at that time:</p> <p><i>“The various structures proposed are located on the western side of Abernethy’s Creek. The main structures are relatively remote from the nearest point of the creek bank. The sifter room and pipework associated with the new structures are close to the top of the western creek bank. Our recent observations of the creek bank did not reveal any obvious change to the creek banks since the previous observations by Coffey. Construction of concrete paving has occurred over the near level area to the west of the creek bank as part of the Starch Dryer No. 5 development. No evidence of erosion or slumping of the bank was observed.”</i></p> <p>The Coffey Report, in support of Mod. 16, made the following recommendations in relation to the works to be sited within proximity of Starch Dryer No. 5 at that time:</p> <p><i>“Site 1 – Product Dryer Building and Warehouse. Only the minor structures including the sifter room developed along the top of the bank have the potential to disturb the ground or locally load the top of the bank. These structures may be founded on shallow footings positioned at least 2m from the top of bank or alternatively may be supported on deep footings below the zone of influence of the creek bank. In this case these structures will not influence the stability of the creek bank. The larger structures for this part of the development are more remote from the creek bank and will be founded on deep piles to rock, and therefore will have no influence on the stability of the creek bank.”</i></p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.6 continued	<i>water and that is adequate to contain the watercourse at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.</i>	The proposed works associated with this Modification Application however are to be sited 56 metres from Abernethy's Creek, and further away from Abernethy's Creek than those works considered by the Mod 16 Coffey report.
Clause 7.7 Landslide risk and other land degradation	<p>(1) <i>The objective of this clause is to maintain soil resources and the diversity and stability of landscapes, including protecting land:</i></p> <p style="margin-left: 20px;">(a) <i>comprising steep slopes, and</i></p> <p style="margin-left: 20px;">(b) <i>susceptible to other forms of land degradation.</i></p> <p>(2) <i>This clause applies to the following land:</i></p> <p style="margin-left: 20px;">(a) <i>land with a slope in excess of 20% (1:5), as measured from the contours of a 1:25,000 topographical map, and</i></p> <p style="margin-left: 20px;">(b) <i>land identified as "Sensitive Area" on the Natural Resource Sensitivity—Land Map.</i></p> <p>(3) <i>Before determining a development application for development on land to which this clause applies, the consent authority must consider any potential adverse impact, either from, or as a result of, the development in relation to:</i></p> <p style="margin-left: 20px;">(a) <i>the geotechnical stability of the site, and</i></p> <p style="margin-left: 20px;">(b) <i>the probability of increased erosion or other land degradation processes.</i></p> <p>(4) <i>Before granting consent to development on land to which this clause applies, the consent authority must be satisfied that:</i></p> <p style="margin-left: 20px;">(a) <i>the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</i></p> <p style="margin-left: 20px;">(b) <i>if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or</i></p> <p style="margin-left: 20px;">(c) <i>if that impact cannot be minimised – the development will be managed to mitigate that impact.</i></p>	<p>The proposed works involve land identified as sensitive land under the SLEP 2014 mapping. Under these circumstances the provisions of this clause will apply to this proposal.</p> <p>As outlined above in relation to Clause 7.6 Coffey Geosciences previously undertook a geotechnical assessment of the site and concluded these larger structures for this part of the development are more remote from the creek bank and will be founded on deep piles to rock, and therefore will have no influence on the stability of the creek bank.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.7 continued	(5) <i>In this clause, topographical map means the most current edition of a topographical map, produced by Land and Property Information division of the Department of Finance and Services, that identifies the Council's local government area and boundary.</i>	
Clause 7.8 Scenic protection	<p>(1) <i>The objective of this clause is to protect the natural environmental and scenic amenity of land that is of high scenic value.</i></p> <p>(2) <i>This clause applies to land identified as "Scenic Protection" on the Scenic Protection Area Map.</i></p> <p>(3) <i>In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must:</i></p> <p style="padding-left: 20px;">(a) <i>consider the visual impact of the development when viewed from a public place and be satisfied that the development will involve the taking of measures that will minimise any detrimental visual impact, and</i></p> <p style="padding-left: 20px;">(b) <i>consider the number, type and location of existing trees and shrubs that are to be retained and the extent of landscaping to be carried out on the site, and</i></p> <p style="padding-left: 20px;">(c) <i>consider the siting of the proposed buildings.</i></p>	<p>The subject land is <u>not</u> identified as being within a "Scenic Protection" area by <i>Scenic Protection Area Mapping</i> that accompanies the SLEP 2014.</p> <p>The provisions of this clause therefore do not apply to the subject site.</p> <p>The visual impact associated with this proposal are discussed in Section 6.2.5 of this SEE.</p>
Clause 7.9 HMAS Albatross airspace operations	<p>(1) <i>The objectives of this clause are as follows—</i></p> <p style="padding-left: 20px;">(a) <i>to provide for the effective and on-going operation of the HMAS Albatross Military Airfield by ensuring that such operation is not compromised by proposed development that penetrates the Limitation or Operations Surface for that airport,</i></p> <p style="padding-left: 20px;">(b) <i>to protect the community from undue risk from that operation.</i></p> <p>(2) <i>If a development application is received and the consent authority is satisfied that the proposed development will penetrate the Limitation or Operations Surface, the consent authority must not grant development consent unless it has consulted with the relevant Commonwealth body about the application.</i></p> <p>(3) <i>The consent authority may grant development consent for the development if the relevant Commonwealth body advises that—</i></p>	<p>Consultation with the Department of Defence was undertaken as part of Mod 16; however at that time the Department did not respond to this specific project.</p>

Table 5 (continued)

SLEP 2014 Clause	Provisions	Comments
7.9 continued	<p>(a) the development will penetrate the Limitation or Operations Surface but it has no objection to its construction, or</p> <p>(b) the development will not penetrate the Limitation or Operations Surface.</p> <p>(4) The consent authority must not grant development consent for the development if the relevant Commonwealth body advises that the development will penetrate the Limitation or Operations Surface and should not be carried out.</p> <p>(5) In this clause—</p> <p>Limitation or Operations Surface means the Obstacle Limitation Surface or the Procedures for Air Navigation Services Operations Surface as shown on the Obstacle Limitation Surface Map or the Procedures for Air Navigation Services Operations Surface Map for the HMAS Albatross Military Airfield.</p> <p>Relevant Commonwealth body means the body, under Commonwealth legislation, that is responsible for development approvals for development that penetrates the Limitation or Operations Surface for the HMAS Albatross Military Airfield</p>	

6.1.3 Development Control Plans (DCP) and Policies

Shoalhaven Development Control Plan (DCP) 2014

Given the nature of the works associated with this modification proposal the most relevant chapter of the Shoalhaven DCP 2014 would be the provisions of *Chapter G9: Development on Flood Prone Land*.

Mod 17 was supported by a Flood Compliance Report prepared by WMAwater which addressed flooding issues which arose in relation to this Modification Proposal. This report concluded that there is no change in the 1% AEP flood level outside land associated with the Shoalhaven Starches plant as a result of this previous modification proposal.

Table 6 below addresses the relevant provisions (section 5.1) of Chapter G9 of the Shoalhaven DCP 2014 having regard to the findings of the original Flood Compliance Report prepared by WMA water in relation to Mod 17 when compared with this Modification Proposal.

Table 6
Performance Criteria – General (Section 5.1 DCP 2014)

<i>Performance Criteria</i>	<i>Response</i>
P1 Development or work on flood prone land will meet the following:	
<i>The development will not increase the risk to life or safety of persons during a flood event on the development site and adjoining land.</i>	No additional workers will be on the site as a result of this Modification Proposal.
<i>The development or work will not unduly restrict the flow behaviour of floodwaters.</i>	Refer original Hydraulic Impact Assessment associated with Mod 17.
<i>The development or work will not unduly increase the level or flow of floodwaters or stormwater runoff on land in the vicinity.</i> <i>The development or work will not exacerbate the adverse consequences of floodwaters flowing on the land with regard to erosion, siltation and destruction of vegetation.</i>	The proposed development is within existing built-up industrial land with minimal vegetation on the site. All runoff under existing and future conditions will reach the ground in nearly identical locations and thus the works will have no impact on erosion or siltation.
<i>The structural characteristics of any building or work that are the subject of the application are capable of withstanding flooding in accordance with the requirements of the Council.</i>	A separate structural report will be provided.
<i>The development will not become unsafe during floods or result in moving debris that potentially threatens the safety of people or the integrity of structures.</i>	A separate structural report on the potential failure of existing buildings and stored equipment and product will be provided.
<i>Potential damage due to inundation of proposed buildings and structures is minimised.</i>	Inundation of the site and the proposed plant and / or debris impact may cause damage to electrical and other components feeding the

Table 6 (continued)

Performance Criteria	Response
	equipment as well as damage to the plant itself. These issues will be considered in an updated Shoalhaven Starches Flood Plan taking into account the proposed works.
<i>The development will not obstruct escape routes for both people and stock in the event of a flood.</i>	The proposed works will not occupy escape routes or cause workers to become trapped. Possible failure of lifts during flood with workers inside will be considered in an updated Shoalhaven Starches Flood Plan.
<i>The development will not unduly increase dependency on emergency services.</i>	The works will not increase the number of workers from Shoalhaven Starches who may be subject to flood risk as a result of the proposed works.
<i>Interaction of flooding from all possible sources has been taken into account in assessing the proposed development against risks to life and property resulting from any adverse hydraulic impacts.</i>	Refer Hydraulic Impact Assessment.
<i>The development will not adversely affect the integrity of floodplains and floodway's, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.</i>	The works will be constructed on land that is partly designated as high hazard floodway in the 1% AEP event. The site is industrial land with limited existing vegetation and is beyond the influence of normal fluvial geomorphic processes. The works will have no impact on water quality.

This Modification Proposal has been further reviewed by WMAwater having regard to the findings of their earlier Flood Compliance Assessment in relation to this Modification Proposal.

According to WMAwater, the Modification Proposal does not alter the outcomes provided in their 1st May 2020 Flood Compliance Report.

6.1.4 Protection of the Environment Operations Act and Associated Regulations

The existing Shoalhaven Starches factory site and Environmental Farm are subject to an Environmental Protection Licence (EPL) under the Protection of the Environment Operations Act 1997 (POEO Act) (EPL No. 883) issued by the EPA. The licence imposes requirements in terms of:

- discharges to air, water and land;
- irrigation controls;
- management of irrigation;
- maintenance of irrigation reticulation;

- odour control;
- noise.

If approved, the proposed modification may necessitate the terms/provisions of this licence to be also reviewed.

6.2 THE LIKELY IMPACTS OF THE DEVELOPMENT, INCLUDING ENVIRONMENTAL IMPACTS ON BOTH NATURAL AND BUILT ENVIRONMENTS, AND SOCIAL AND ECONOMIC IMPACTS IN THE LOCALITY

6.2.1 Risk Assessment of Potential Environmental Impacts

The purpose of this section of the SEE is to provide a risk assessment of the potential environmental impacts associated with the modification proposal. This section (**Table 7**) compares the potential impacts from the proposed modification against the approved project. The comparison uses the key environmental impacts assessed in the original EA that supported the original MP06_0228 and summarises the relative change in environmental impacts associated with the proposed modification.

Table 7
Risk Assessment

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Air Quality (including Odour) Assessment		
<p>One of the primary issues that was addressed in the original EA for the Shoalhaven Starches Expansion Project concerned the need for a comprehensive air quality assessment (including odour assessment) and reduction of odours as part of the project.</p> <p>Mods 16 & 17 were supported by Air Quality Impact Assessments (AQIA) prepared by GHD. This assessment included consideration of the GD8 emissions stack which is part of the current Modification Proposal. The most recent AQIA for Mod 17 concluded in part that:</p> <p><i>The odour criteria is met at all residential sensitive receptors and it is considered highly unlikely that the increase in odour would be detected at sensitive receptors. Air quality impacts are predicted to comply with the criteria at all residential sensitive receptors. Manildra have implemented reasonable and feasible mitigation measures on site to reduce the potential air quality impacts from the new boiler. Overall, the proposal should be acceptable from an air quality perspective.</i></p> <p>This Modification Proposal has been further reviewed by GHD having regard to the findings of their previous assessments for this project (Annexure 2). In relation to this Modification Proposal GHD conclude:</p> <p><i>The proposed modifications are minor, with no significant changes to the air quality modelling outcomes and results detailed in the Mod 17 air quality assessment. Therefore, Mod 24 is acceptable from an air quality perspective.</i></p>	<p>No additional management or mitigation measures for the Modification Proposal.</p>	<p>This issue is further addressed in Section 6.2.2 of this SEE.</p>

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Transport and Traffic		
<p>The Mod 16 and 17 applications identified that the works associated with this proposed modification overall did not involve; any significant increases in traffic generated to the site; any changes to vehicle entrances to the site; or alternations to the layout of approved car parking areas.</p> <p>Given these circumstances it is considered this subsequent relatively minor Modification Proposal will not raise any traffic issues that will require further consideration as part of any Modification Application.</p>	No additional management or mitigative measures are proposed in terms of traffic or car parking.	Not a key issue. This issue is not further addressed in this SEE.
Site Contamination		
<p>The original EAs for Project Approval and the subsequent EA for Mod. 16 were supported by a Contamination Assessments prepared by Coffey's and GHD respectively. The assessment undertaken by GHD in relation to Mod 16 identified the likelihood for widespread contamination within the proposed development areas, including the area associated with the location for the relocated dryer and baghouse associated with this previous modification application was considered low. The GHD assessment identified an abandoned underground storage tank (UST) within the vicinity of the proposed Specialty Products Building the subject of the Mod 16 approval. The Project Approval subsequently required further investigations to be undertaken to determine the location of the UST and provide a report of these investigations and any implement any recommendations of this report. It should be noted that the works associated with this modification application, are consistent with the location of works that was originally considered as part of the GHD assessment. Under these circumstances this Modification Proposal does not warrant any further investigation in relation to this issue, as this part of the site was considered as part of the GHD assessment report as part of Mod. 16.</p>	No additional management or mitigative measures are proposed in terms of this issue.	Not a key issue. This issue is not further addressed in this SEE.

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Acid Sulphate Soils		
The original EAs for Project Approval and the subsequent EA for Mod 16 were supported by an Acid Sulphate Soil (ASS) Assessments prepared by Coffey's and GHD respectively. The ASS assessment carried out by GHD identified that ASS could be encountered within alluvial soils underlying fill materials at depths below 3 m. GHD recommended that should proposed development involve the excavation of soils to depths greater than 3 m at any proposed development site and / or dewatering that could result in lowering of the water table, then an acid sulphate soil management plan should be developed and actioned. Conditions of the Project Approval already make provision for the need for the preparation of ASS management plan for the site. As outlined above the works associated with this modification application, are consistent with the location of this plant that was originally considered in the GHD assessment. Under these circumstances this Modification Proposal does not warrant any further investigation in relation to this issue, as this part of the site was considered as part of the GHD assessment report as part of Mod 16.	No additional management or mitigative measures are proposed in terms of this issue.	Not a key issue. This issue is not further addressed in this SEE.
Noise		
An Environmental Noise Impact Assessment (ENIA) prepared by Harwood Acoustics Pty Ltd was prepared in relation to the Mod 17. The ENIA included a number of noise control recommendations for the GD8 building and concluded that the proposal, subject to the implementation of these recommendations being implemented, would be within the noise design goals derived from Environment Protection Licence 883 noise limits at each receptor location. This Modification Proposal has been further reviewed by Harwood Acoustics having regard to the findings of their previous assessment for this project (Annexure 4). In relation to this Modification Proposal Harwood Acoustics state that there will be no appreciable change to the acoustical impacts associated with GD8 as a result of these changes.	No additional management or mitigative measures are proposed in terms of this issue.	Noise impacts are further addressed in Section 6.2.3 of this SEE.

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Hazards		
<p>Pinnacle Risk Management have reviewed the Modification Proposal having regard to the findings of their earlier PHA's that supported Mod 16 and 17. In relation to this Modification Proposal Pinnacle Risk Management conclude:</p> <ul style="list-style-type: none"> <i>The overall process safety risk from the GD8 is the same as per the abovementioned PHA;</i> <i>The hazardous plant operation and safeguarding in the PHA remain unchanged; and</i> <i>The conclusions in the PHA are therefore unchanged, i.e. the proposed changes will still result in compliance with the DoP's risk criteria in HIPAP No. 4;</i> 	No additional management or mitigative measures are proposed in terms of this issue.	This issue is further addressing Section 6.2.4 of this SEE.
Flooding		
<p>The subject site is inundated during the 1% Annual Exceedance Probability (AEP) flood event by floodwaters from the Shoalhaven River. The sites are categorised as high hazard floodway and high hazard flood storage. Mod 17 was supported by a Flood Compliance Report prepared by WMAwater dated 1st May 2020 . This report concluded that there is no change in the 1% AEP flood level outside land associated with the Shoalhaven Starches plant as a result of this previous modification proposal.</p> <p>This Modification Proposal has been reviewed by WMAwater. In relation to this Modification Proposal WMAwater state the Modification Proposal will result a minor reduction in peak flood level for the 1% and 0.5% AEP events upstream of the GD8 Building. This occurs as the proposed amendments create a larger flow path through the site than previously. This results in a minor increase in flood level downstream which is largely contained with the Shoalhaven Starches land. In the Extreme event there is minimal change in peak level.</p>	No additional management or mitigation measures proposed.	This issue is further addressed in Section 6.2.6 of this SEE.

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Waste Management		
The proposed modifications will not alter the way waste is managed on the site. The site is already subject to an existing Waste Management Plan prepared in accordance with the original Project Approval.	No additional management or mitigation measures proposed, although any approval for this Modification Application should require the existing Waste Management Plan to be revised to incorporate the elements that form part of this Modification Application.	Not a key issue. This issue is not further addressed in this SEE.
Site Stormwater Management		
<p>A Stormwater Management Plan (SMP) has been prepared by Stephenson Environmental Management (SEMA) for the Shoalhaven Starches site in accordance with condition 22 (Schedule 3) of the original Project Approval dated March 2009. It is understood the preparation of this SMP included preparation with Shoalhaven City Council.</p> <p>The SMP identifies that Shoalhaven Starches has a Surface Water (Stormwater) Management Plan for the Factory site (EN-P-0180 Rev 1 – Stormwater Management Factory). This plan illustrates the existing stormwater areas on the site and outlines how the controls work. The management system is divided into three main zones. The works associated with this Modification Application are confined to within the area nominated as Zone 3. All stormwater generated in this zone is collected and pumped to the Environmental Farm during small storm events. Stormwater is discharged to the Shoalhaven River during heavy rainfall events.</p> <p>Whilst this proposal will increase the overall footprint of the gas fired co-generator from that which was approved; this will have little impact on the level of stormwater that need to be treated and disposal from this area of the site give the area is already sealed and stormwater from this part of the site is already treated in accordance with the existing Surface Water (Stormwater) management Plan. This proposal does not warrant any changes to the SMP.</p>	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Visual Impact		
The majority of the works associated with this modification will be situated within the vicinity of existing industrial development of a similar scale to that which is proposed.	No additional management or mitigation measures proposed.	The visual impacts associated with this modification proposal are addressed in Section 6.2.5 of this SEE.
Flora and Fauna		
<p>The proposed works associated with this modification will all be located within the factory site, which is largely devoid of vegetation.</p> <p>The original Flora and Fauna Assessment carried out by Kevin Mills & Associates for the Expansion Project did not identify any specific ecological constraints with this part of the site.</p> <p>The proposal will not require any additional native vegetation to be disturbed. No change in environmental impacts from that originally identified in the EA are envisaged.</p>	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.
Heritage and Archaeological		
<p>The proposed works associated with this modification will be located within the factory site which was not previously identified by the EA for the Shoalhaven Starches Expansion Project as an area subject to either Aboriginal or European cultural heritage significance. The original Aboriginal Archaeological Assessment that supported the EA prepared by South East Archaeology did not identify any constraints with respect to the parts of the site associated with this modification proposal. The proposed works will have no additional impact in terms of indigenous or non-indigenous heritage.</p> <p>No change in environmental impacts from that originally identified in EA.</p>	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.

Table 7 (continued)

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
Effluent Irrigation and Storage		
This Modification Proposal will not increase waste waters that will need to be generated, treated and disposed. This Modification Application does not seek to alter the existing approve wastewater treatment and disposal measures for the existing site operations.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.
Wastewater Treatment		
<p><u>Water Discharges</u></p> <p>The Shoalhaven Starches Factory and Environmental Farm are licensed premises under the Protection of the Environmental Operations Act. Wastewater discharges from the site are licensed by the DEC (EPL 883).</p> <p>The plant has a licensed outfall into the Shoalhaven River. The outfall point is a 50 cm diameter metal pipe discharging at the end of an existing jetty. It also has a cooling water discharge comprising a 50 cm diameter pipe which discharges onto a gabion spillway.</p> <p>Under the terms of the Company's EPL discharge streams associated with the plant include:</p> <ul style="list-style-type: none"> • river water passed through the boiler condensers and the primary side of the heat exchangers; • boiler water treatment plant regeneration waters; and • pH adjusted glucose plant ion exchange unit regeneration waters. <p>All these must be discharged from the cooling water discharges.</p> <p>The limiting conditions in relation to these discharges include:</p> <ul style="list-style-type: none"> • The volume of water discharged from the cooling water discharges must not exceed 100,000 kilolitres per day. • The wastewaters discharged at both points shall not exceed a temperature of 32°C. • This Modification Proposal will not involve any changes to these discharge waters. 	No additional management or mitigation measures.	Not a key issue. This issue is not further addressed in this SEE.

6.2.2 Air Quality Issues

GHD were engaged to conduct an air quality impact assessment for the proposed modifications associated with this Modification Application (**Annexure 3**). This section of the SEE provides a summary of the findings of the GHD Air Quality Impact Assessment for this Modification Application.

With respect to this Modification Proposal GHD e-run the Mod 17 Air Quality odour model with the modified building layouts. The changes to the building layouts are shown in **Figure 10**. The location of GD8 stack was also slightly adjusted to accommodate the proposed changes to the buildings.



Figure 10: Adjusted building dimensions (red) and existing site buildings (blue).

The predicted odour concentrations from the Modified Proposal at all sensitive receptors are provided in **Table 8** and compared against the results from Mod 17. In accordance with recent EPA advice, for commercial receptors, results are provided assuming 24 hour operations.

According to GHD, the results indicate that the modifications to the building layouts are not predicted to significantly change the Mod 17 modelling outcomes. Predicted odour concentrations are within ± 0.2 OU at all sensitive receivers as a result of the modification.

Table 8
Predicted peak (99th percentile, short term averaged)
odour impact at nearby receptors

Receptor	Range, m	To nearest odour source	Direction	2009 EA approved 'base case' Odour criterion	Odour impact, OU, 99 th percentile, nose-response time	
					Mod 17	Mod 24
R1 Bomaderry	150	Packing Plant	W	6	4.1	4.1
R2 North Nowra	1300	Factory	SW	3	3.3	3.3
R3 Nowra	700	Factory	S	5	4.8	4.8
R4 Terara	1300	Factory	SE	5	3.9	4.1
C1	45	Factory	N	n/a	14.4	14.3
C2	20	Factory	N	n/a	8.2	8.0
C3	30	Factory	N	n/a	7.8	7.9
C4	75	Factory	NW	n/a	7.3	7.5
C5	125	Factory	NW	n/a	6.6	6.7
C6	30	Factory	NW	n/a	9.1	9.3
C7	55	Factory	NW	n/a	8.4	8.5

Note: Results at non-residential receptors (Receptors C1 to C7) are provided based on 24/7 operations, in line with recent EPA advice.

GHD conclude:

“The proposed modifications are minor, with no significant changes to the air quality modelling outcomes and results detailed in the Mod 17 air quality assessment. Therefore, Mod 24 is acceptable from an air quality perspective.”

6.2.3 Noise Impact Issues

Harwood Acoustics undertook an assessment of the proposed changes to GD8 associated with this Modification Application (**Annexure 4**). A copy of Harwood Acoustics findings in relation to this current Modification Application as a result of this review is included as **Annexure 4** to this SEE. The submission prepared by Harwood Acoustics states:

“At the time of the Mod 17 application, Harwood Acoustics Pty Ltd prepared an Environmental Noise Assessment, reference 1909010, dated June 2020 (the ENA).

The ENA, among other things, provided an assessment of the noise emission from GD8 during both the operational and construction phases.

There will be no changes to the internal plant and equipment associated with this proposed modification to the GD8 building, nor will there be any changes to the construction methods and materials to be used.

The proposed relocation of the GD8 building is shown in Appendix A and full details can be seen in Manildra-Shoalhaven Starches Pty Ltd's building design plan MN7582-002 for Project No. 7582B, dated November 2021.

I have reviewed the proposed changes and additions associated with this Modification and am pleased to confirm that there will be no appreciable change to the acoustical impacts associated with GD8 as a result of these changes."

6.2.4 Preliminary Hazard Analysis

Pinnacle Risk Management were engaged to undertake a Preliminary Hazard Analysis (PHA) for the proposed modifications associated with Mods 16 and 17. Pinnacle Risk Management were engaged to undertake a review of the current Modification Proposal in light of their previous assessments for this overall project. A copy of Pinnacle Risk Management's advice in connection with this Modification Application is included as **Annexure 3** to this SEE.

Pinnacle Risk Management make the following conclusion in relation to this Modification Proposal:

I have reviewed these changes to determine if modification of the PHA is required.

Given my assessment on the proposed changes, I conclude the following:

- *The overall process safety risk from the GD8 is the same as per the abovementioned PHA;*
- *The hazardous plant operation and safeguarding in the PHA remain unchanged; and*
- *The conclusions in the PHA are therefore unchanged, i.e. the proposed changes will still result in compliance with the DoP's risk criteria in HIPAP No. 4;*

It is, of course, possible to update the PHA, however, the conclusions will not change.

6.2.5 Visual Impact

The Shoalhaven Starches factory site is situated on Bolong Road, the gateway to Bomaderry, within an area currently containing a mixture of rural and industrial land uses. These different land uses contrast with each other and result in a mixed visual character.

The rural areas, much of which comprises the Shoalhaven Starches Environmental Farm, are generally flat to gently undulating and planted with pasture grasses. These areas have a typical rural/agricultural character, common throughout the region. To the north and forming a background to the rural landscape are the timbered slopes of the Cambewarra escarpment.

The Shoalhaven Starches factory complex is characterised by typical industrial structures with an overall bulk and scale that dominates the surrounding locality. The site, despite being partially screened by vegetation along Bolong Road, the Shoalhaven River and Abernethy's Creek visually dominates the immediate locality. The development is particularly exposed to view along Bolong Road. This view reveals some of the internal structures within the site including recovery and storage tanks, car park, fermentation tanks and the Ethanol Plant. Overall, the appearance of the site is typical of an industrial facility of this scale and nature.

The most relevant vantage points from where the overall factory site is visible (see **Figure 11**) would include:

- The Princes Highway – views of the existing factory site are possible from selected locations along the Princes Highway north of Bomaderry, travelling in both a northerly and southerly direction. Whilst the factory site is visible in the landscape, its overall visual impact is reduced by virtue of the distance between the plant; the intermittent nature of the views; a rise in topography which screens the site from view; and vegetation.
- Burruga (Pig) Island – Burruga Island is situated in the middle of the Shoalhaven River and provides the closest vantage point to the southern boundary of the site. The island however is privately owned and not accessible to the public. Vegetation screening along the riverbank adjacent to the site also reduces the visibility of the existing buildings and structures.
- Bolong Road – Bolong Road runs along the frontage of the site. Views of the factory are possible when travelling in either an easterly or westerly direction. Some attempts have been made to provide some tree planting along the boundaries to “soften” the appearance of the development. The existing building forms and structures are however clearly visible to motorists travelling along this stretch of Bolong Road.
- Nowra Bridge – The Nowra Bridge crosses the Shoalhaven River and provides limited opportunities for views of the factory site. The dominant visual elements from the bridge are the river, vegetation along the riverbanks and the escarpment. The visual impact of the factory site is reduced by distance as well as the bridge structure which permits only glimpses of the site.

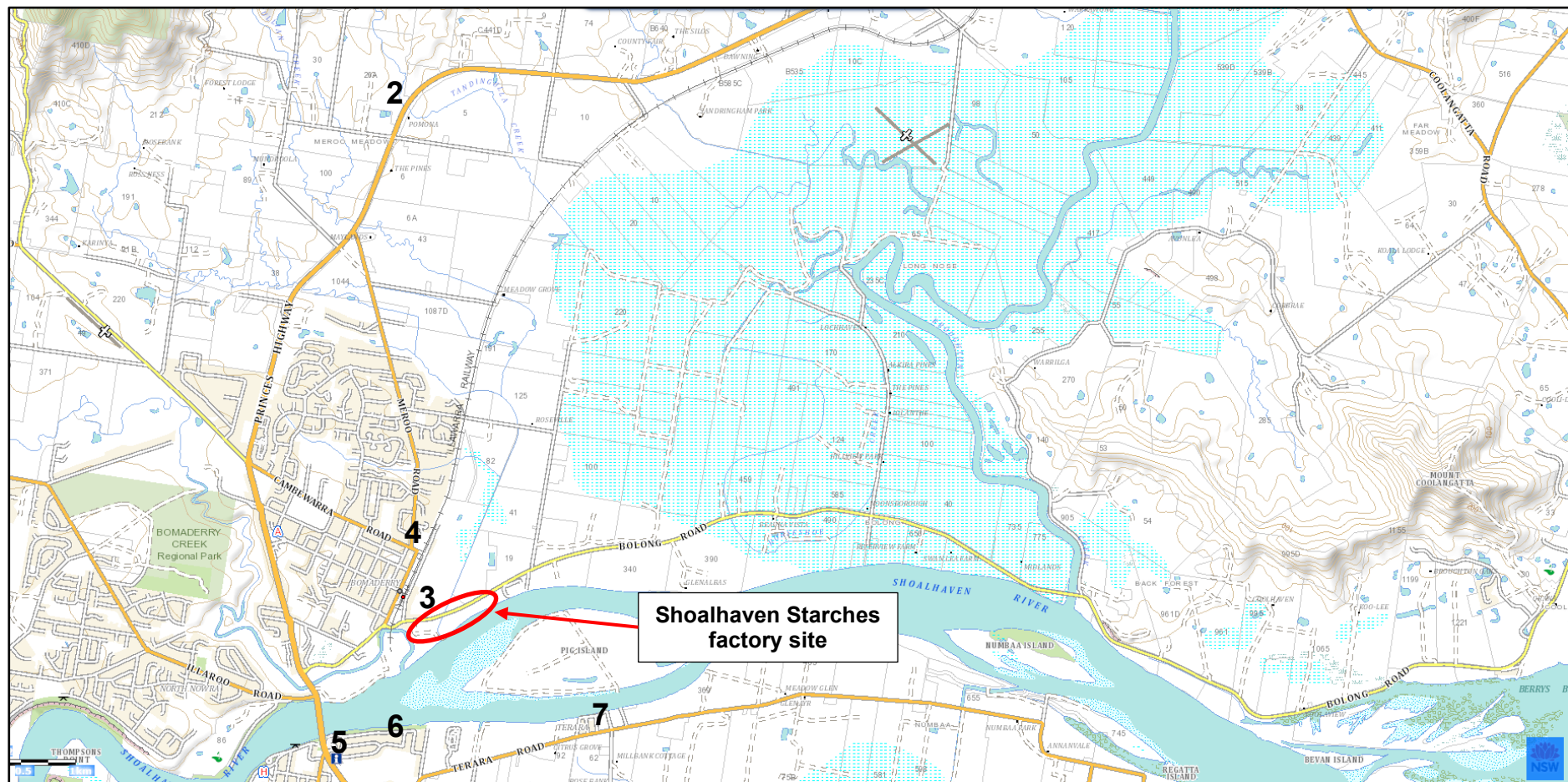


Figure 11: Vantage Points for Plates 2 – 7.

- Bomaderry urban area – The existing plant is visible from a number of locations within the eastern outskirts of Bomaderry. Bomaderry is slightly elevated and some locations within the urban area do have extensive views of the site.
- Terara – Distant views of the Plant are possible from a number of vantage points in and around the village of Terara on the southern bank of the Shoalhaven River. The visual impact of the site however is reduced by distance, the intervening landform of Burraga (Pig) Island and the vegetated riverbanks.
- Riverview Road – Views of the site are available from residential development on the southern bank of the Shoalhaven River. Vegetation along both the northern and southern banks of the river partially screen the site from view.
- Cambewarra Lookout – Cambewarra lookout is a popular tourist lookout providing panoramic views over the Shoalhaven floodplain and estuary. Shoalhaven Starches, like the other significant industrial sites, is visible from the lookout.

The Proposal

This Modification Proposal seeks to:

- Shift the footprint of the GD8 building 5.63 metres in a westerly direction from the approved footprint under Mod 17.
- Increase the footprint of the GD8 building to 1858.68 m² (an increase in footprint of 178.08 m²).
- Increase the height of the GD8 building from that which was originally approved by constructing a skillion roof form which will result in the increasing the maximum building height from 24.23 metres (as currently approved) to 27.33 metres an increase of 3.1 metres. The GD8 emissions stack will rise up above the GD8 building to a height of 30.07 metres.
- To accommodate the shifting of the GD8 building footprint to the west as it is proposed to demolish the Maintenance Building.
- Relocate one of the silos and associated dust collectors from its approved position adjacent to the Specialty Product Building to the west of the modified GDB building. This silo and dust collector will have a height above ground of 35.2 metres.

The Princes Highway

The Shoalhaven Starches factory is mainly visible from a section of the Princes Highway between Boxsells Lane and Devitts Lane, Jaspers Brush (refer **Plate 2**). Due to the configuration of the highway and the siting of the factory, only southbound vehicles view

the site. Vantage points along this section of the highway are 4.5 to 5.0 km from the site. The site becomes less exposed and is eventually obscured by a rise in topography further south of Boxsells Lane.

Given the distance from these vantage points the factory site is only barely visible. The rising topography upon which Bomaderry is sited screens the western portion of the site, as does intervening vegetation.

Given the distance of these views, and the screening of the site attributed to terrain and vegetation it is considered the works associated with this Modification Proposal will not adversely impact on views from these vantage points.

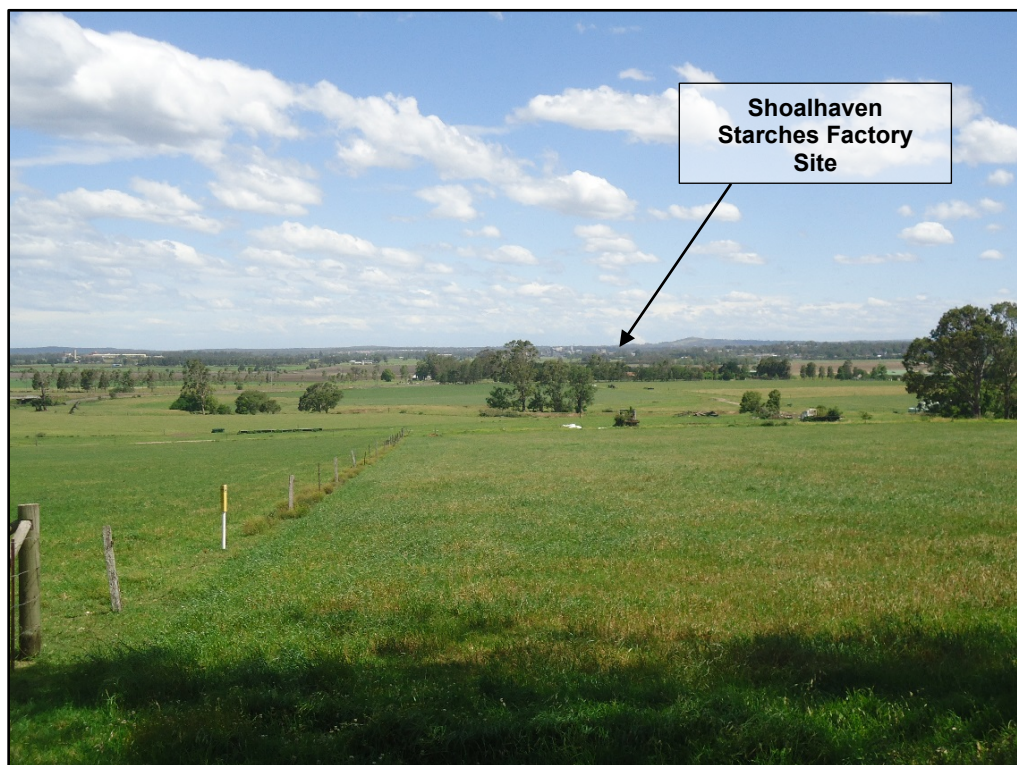


Plate 2: View of Shoalhaven Starches Factory from Princes Highway
(within vicinity of Devitts Lane).
(Site of proposed works not clearly visible from this vantage point.)

Bolong Road

The existing factory site is clearly visible from Bolong Road by vehicles approaching from the east and west, and along the frontage of the site refer (**Plate 3**).

The works associated with this Modification Proposal will be set back 27.5 metres from the Bolong Road frontage of the site. This setback will be consistent with the adjacent approved Specialty Product Building (currently under construction) and the completed Starches Dryer No. 5 building.

The works associated with this Modification Proposal do not significantly change the bulk and massing of the approved GD8 Building. The Modified Proposal will also be of a similar height, scale and massing as the existing adjacent Specialty Product and Starches Dryer No. 5 buildings.



Plate 3: View of Shoalhaven Starches factory site from Bolong Road.

Bomaderry Urban Area

The township of Bomaderry is slightly elevated and some locations within this urban area have extensive views of the site (refer **Plate 4**).

In light of the prevailing scale of existing development located within Shoalhaven Starches site the proposed modification works will be largely viewed as part of the Shoalhaven factory site. With respect to the works shown in **Plate 4** below, the proposed works will have a similar scale as the approved and under construction Specialty Product Building and existing Starch Dryer 5 building.



Plate 4: View of Shoalhaven Starches factory site from corner of Railway Street and Cambewarra Road, Bomaderry.

Nowra Bridge

The view from Nowra Bridge to the east is mainly dominated by the river, riparian vegetation and the floodplain (refer **Plate 5**).



Plate 5: View of Shoalhaven Starches factory site from Nowra Bridge over the Shoalhaven River.

The site is largely obscured by riverside vegetation. The DDG Pellet Plant building is partially visible from this vantage point.

The works associated with this Modification Proposal will not be visually prominent from the view shown in **Plate 5** above.

Riverview Road

Plate 6 below provides a view of the Shoalhaven Starches factory site from Riverview Road located on the south side of the Shoalhaven River. This view is from a distance of about 750 metres. Riparian vegetation along both the northern and southern banks of the river soften much of the site from view. The proposed works associated with this Modification will rise visually above the riparian vegetation, much as the existing DDG Pellet Mill does from this vantage point. In this regard the proposed works will not be as large as the DDG Pellet Mill building.

As with the view from the Nowra Bridge in **Plate 5**, the works associated with this Modification Proposal will not be visually prominent from the view shown in **Plate 6**.



Plate 6: View of Shoalhaven Starches factory site from Riverview Road area.

Terara

The village of Terara is approximately 1.5 kilometres from the factory. The view of the Shoalhaven Starches factory site as seen from the banks of the Shoalhaven River adjacent to the village of Terara is shown in **Plate 7**.

The view from this vantage point is across and over Burraga (Pig) Island. Vegetation on the island and along the northern banks of Shoalhaven River also help to obscure the view of the existing factory site.

Various parts of the existing factory site are visible from this vantage point, although somewhat obscured by vegetation. The works associated with the Modification Proposal will be mainly obscured by existing buildings associated with the Shoalhaven Starches operations from this vantage point and will not be visually prominent.



Plate 7: View of Shoalhaven Starches factory site from village of Terara.

Cambewarra Lookout

Cambewarra Lookout is situated about 7 km to the north-west of the site. Views from the lookout are from an elevation over 620 m ASL and encompass the Shoalhaven River floodplain and the coast including Jervis Bay. Whilst the factory site is visible from this vantage point, due to scale of the view, it would be extremely difficult to make out the works associated with the project from this vantage point.

Overall, it is considered that the proposed works will not create a significant adverse visual impact due, principally, due to the works comprising a scale and character consistent with existing development on the site. There are however measures which Shoalhaven Starches could undertake to minimise the visual impact of the proposal. Where appropriate and possible, the proposed structures should be constructed of similar materials as those previously used on the site and be of a non-reflective nature. Colours should blend with existing structures on the site to ensure visual harmony. Consideration should be given to incorporating a cladding colour, if possible, which will match existing development on the site.

6.2.6 Flooding

WMAwater undertook a Flood Compliance Report for the original Mod 17. WMAwater were engaged to undertake a review of the current Modification Proposal in light of this previous assessment (**Annexure 5**).

Modelling Approach

The hydraulic effects (change in flood levels) caused by the Modified Proposal were analysed by WMAwater using the TUFLOW hydraulic model established for the Shoalhaven Starches 2013 *Shoalhaven River Flood Study* and used in their 30 April 2018 and 1st May 2020 assessments. This model was calibrated to match the historical flood level data for the 1974, 1975, 1978 and 1988 floods and used to provide updated design flood levels for the Shoalhaven River downstream of Nowra.

The modelling process was to compare the Modified Proposal peak flood levels in each grid cell to the *Existing* scenario adopted in WMAwater's 1st May 2020 report. The *Existing* scenario represents the existing floodplain including all proposed but un-built approved Shoalhaven Starches structures at the time of their 1st May 2020 report.

In addition, the Modified Proposal was compared to the 1st May 2020 *Proposed* scenario. The 1st May 2020 *Proposed* scenario reflects the 1st May 2020 *Existing* scenario floodplain but including the works proposed in WMAwater's 1st May 2020 report.

The comparison between the scenarios is termed a flood impact map with the different colours reflecting the change in peak water levels. In summary the purple tones reflect a decrease in flood level whilst the blue/green/brown tones reflect an increase in peak level.

More frequent events, smaller than the 1% AEP, have not been modelled by WMAwater as the northern riverbank of the Shoalhaven River is not overtopped to any significant extent until an event larger than the 5% AEP. Thus, in these small more frequent events there would be nil impact on peak flood levels of the proposed amendments. Larger

events than the 1% AEP will occur but these events are obviously extremely rare and are not used for flood related planning determinations by Councils except when their failure has potential catastrophic consequences (such as dam failure).

Results

Compared to the 1st May 2020 Proposed scenario

According to WMAwater, the results indicate the incremental change due to the Modified Proposal compared to the works proposed in their 1st May 2020 Proposed scenario will be a minor reduction in peak flood level for the 1% and 0.5% AEP events upstream of the GD8 Building. This occurs as the proposed amendments create a larger flow path through the site than previously. This results in a minor increase in flood level downstream which is largely contained within the Shoalhaven Starches land. In the Extreme event there is minimal change in peak level.

Compared to the 1st May 2020 Existing scenario (Figures A to D)

According to WMAwater, there will be similar results to their 1st May 2020 report (refer **Figures 12 and 13**) with increases in peak level within Shoalhaven Starches property and minor decreases in peak level on land to the north.

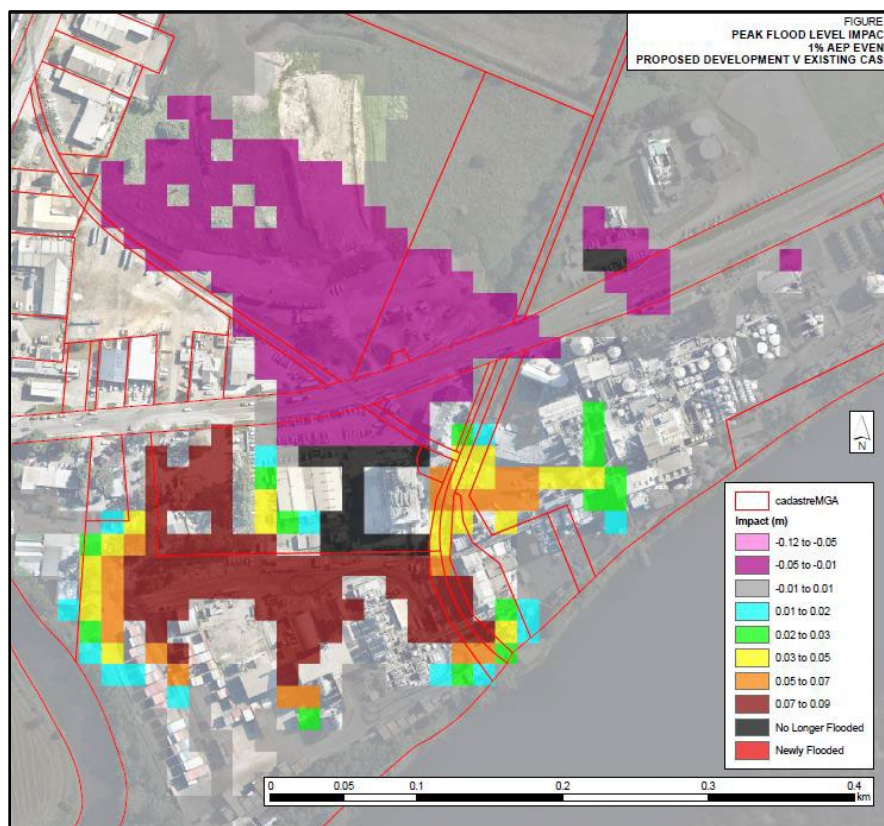


Figure 12: Results from May 2020 Study.

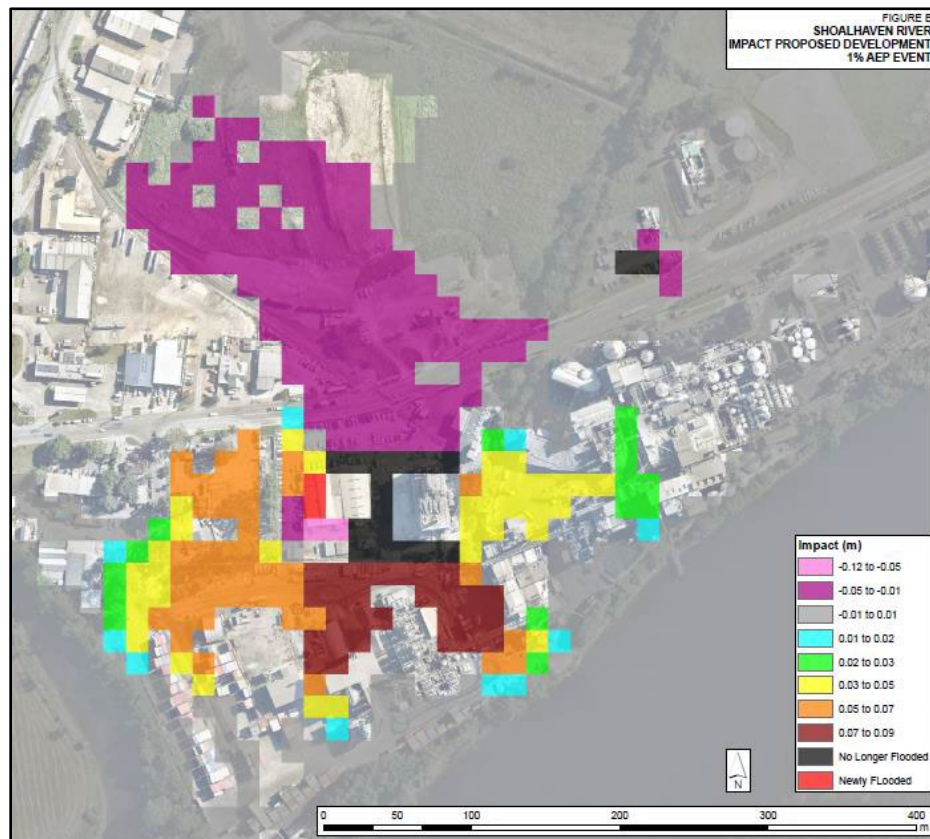


Figure 13: Results from Current Study.

6.3 THE SUITABILITY OF THE SITE FOR DEVELOPMENT

In our view the site is suitable for the development, and including the development as modified by this application:

- The subject land is suitably zoned, and the proposal satisfies state and local planning provisions applying to the land.
- The modified proposal will not have any significant additional impacts on the environmental values of this locality over and above those envisaged by the original approved development.
- The modified development will not result in any significant adverse effects on local amenity.
- The modification proposal does not seek to alter the approved physical extent of operations. Under these circumstances the proposal will not result in any increased inputs to the production process; increased production; or increases in traffic or other impacts on the locality.

Given these circumstances it is our view that the subject site is suitable for the proposed development.

6.4 SUBMISSIONS

It is envisaged that the development application once submitted to the Department will be placed on public exhibition; and the general public will be afforded an opportunity to review the documentation supporting the application.

Any public submissions made following the exhibition will need to be taken into consideration by Council when it determines the application.

6.5 THE PUBLIC INTEREST

It is our view that the modification proposal is in the public interest:

- The proposal is consistent with the objectives of state and local planning provisions applying to the site.
- The modified proposal will not result in any significant adverse environmental impacts.
- The modified proposal will not result in any significant amenity impacts in the locality.
- The modified proposal will be substantially the same development as that approved under the Project Approval.

7.0 CONCLUSION

The Shoalhaven Starches factory located on Bolong Road, Bomaderry produces a range of products for the food, beverage, confectionary, paper and motor transport industries including starch, gluten, glucose and ethanol.

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

Following the Minister's determination Shoalhaven Starches have been implementing and following the original Minister's Determination, under Mod 16 the Independent Planning Commission approved on the 18th June 2019 a new Gluten Dryer (No. 8) (GD8) in conjunction with a proposed Specialty Product Building which it was to adjoin, with both buildings to be located to the west of Abernethy's Creek. The new Gluten Dryer was to replace the capacity lost by the conversion of Dryers Nos. 1 and 2 to starch production that also formed part of Mod 16.

Under Mod 17, the Independent Planning Commission approved an increase in the floor area of the proposed GD8 building. The increase in the footprint of the GD8 building under Mod 17 arose to enable the reorientation of the dryer from that approved under Mod 16 to provide operational efficiencies and to enable the installation of a Wet End Processing Plant within the building.

Following further detailed design work however Shoalhaven Starches have identified the need to further re-design the siting and footprint of the GD8 building for the following reasons:

- The GD8 building needs to be fire separated from the adjacent Specialty Product Building. Under Mod 17 the GD8 building adjoined the Specialty Products Building. It is now proposed to set the GD8 Building 6 metres to the west of the Specialty Product Building (that is currently under construction) to provide sufficient fire separation under the BCA.
- The separation of these buildings also enables improved operational access to remove / install equipment for maintenance purposes between the two buildings.

- In addition, the internal dimensions of the GD8 building have been required to be revised to accommodate paths of travel within the building that comply with the BCA, as well as improve operational manoeuvrability.
- In addition, it is also proposed to provide a stair tower adjacent to the western wall of the relocated GD8 building to provide compliant paths of travel under the BCA which has further added to the footprint of the proposal.
- To accommodate the shifting of the GD8 building footprint to the west as proposed it is now proposed to demolish the Maintenance Building which the GD8 building was to originally adjoin under Mod 17.
- The roof of the GD8 building has also been raised to provide a skillion roof form to improve stormwater design to better meet BCA requirements.

This Modification Applications seeks to address the above aspects.

This SEE is supported by the following expert advice:

- The Modification Application has been reviewed by GHD who undertook the original Air Quality Assessment that was undertaken in relation to Mod 17. According to GHD the proposed modifications are minor, with no significant changes to the air quality modelling outcomes and results detailed in the Mod 17 air quality assessment. Therefore, Mod 24 is acceptable from an air quality perspective.
- The Modification Application has been reviewed by Pinnacle Risk Management who undertook the original Preliminary Hazard Analysis that was undertaken in relation to Mod 17. According to Pinnacle Risk Management:
 - The overall process safety risk from the GD8 is the same as per the abovementioned PHA;
 - The hazardous plant operation and safeguarding in the PHA remain unchanged; and
 - The conclusions in the PHA are therefore unchanged, ie. the proposed changes will still result in compliance with the DoP's risk criteria in HIPAP No. 4.
- The Modification Application has been reviewed by Harwood Acoustics who undertook the original Environmental Noise Impact Assessment that was undertaken in relation to Mod 17. According to Harwood Acoustics: there will be no appreciable change to the acoustical impacts associated with GD8 as a result of these changes.
- The Modification Application has been reviewed by WMAwater who undertook the original Flood Compliance Assessment that was undertaken in relation to Mod 17. According to

WMAwater, the Modification Proposal will result a minor reduction in peak flood level for the 1% and 0.5% AEP events upstream of the GD8 Building. This occurs as the proposed amendments create a larger flow path through the site than previously. This results in a minor increase in flood level downstream which is largely contained with the Shoalhaven Starches land. In the Extreme event there is minimal change in peak level.

The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in overall production rates from the site, nor will it involve any significant changes in level of impacts arising from the approved development.

The SEE includes an assessment of the proposal having regard to the relevant matters for consideration as listed under Section 4.15 of the Environmental Planning and Assessment Act, 1979. The assessment concludes that the modification proposal, within its local context, is satisfactory and should be approved.

Approval for this Modification Application is sought.



Stephen Richardson RPIA
COWMAN STODDART PTY LTD

ANNEXURE 1

Plans of Proposal

**Shoalhaven Starches
Bolong Road, Bomaderry**

ANNEXURE 2

Review of Air Quality Assessment

**prepared by
GHD Pty Ltd**

**Shoalhaven Starches
Bolong Road, Bomaderry**

ANNEXURE 3

Review of Preliminary Hazard Assessment

**prepared by
Pinnacle Risk Management**

**Shoalhaven Starches
Bolong Road, Bomaderry**

ANNEXURE 4

Review of Environmental Noise Impact Assessment

**prepared by
Harwood Acoustics**

**Shoalhaven Starches
Bolong Road, Bomaderry**

ANNEXURE 5

Review of Flood Compliance Report

**prepared by
WMA Water**

**Shoalhaven Starches
Bolong Road, Bomaderry**

ANNEXURE 6

Clause 4.6 Written Request

**prepared by
Cowman Stoddart Pty Ltd**

**Shoalhaven Starches
Bolong Road, Bomaderry**