STATEMENT OF ENVIRONMENTAL EFFECTS AND PLANNING REPORT

SHOALHAVEN STARCHES EXPANSION PROJECT MP 06_0228
MODIFICATION APPLICATION NO. 18 (MOD 18)

RELOCATION OF APPROVED GAS FIRED BOILER AND OTHER ASSOCIATED WORKS TO FACILITATE PRODUCTION OF 'HAND SANITISER' ALCOHOL IN RESPONSE TO COVID 19 CRISIS

Lot 1 DP 1838753
Part Lot 241 DP 1130535
Lot 143 DP 11069758
Bolong Road, Bomaderry

Prepared for

Shoalhaven Starches Pty Ltd
May 2020

COWMAN STODDART PTY LTD

Statement of Environment Effects
and Planning Report

Project	Shoalhaven Starches Expansion Project MP 06_0228 Modification Application No. 18 Relocation of Approved Gas Fired Boiler and other Associates Works to Facilitate Production of 'Hand Sanitiser' Alcohol in response to COVID 19 Crisis
Address	Lot 1 DP 1838753, Part Lot 241 DP 1130535, Lot 143 DP 11069758 Bolong Road, Bomaderry
Our ref:	20/12
Prepared by	Stephen Richardson
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1.0 INTRODUCTION

The Federal Government's Department of Industry, Sciences and Energy have requested Shoalhaven Starches to produce more hand sanitizer alcohol in response to the current Coronavirus COVID 19 crisis (**Annexure 1**).

One of the means available to reduce the spread of Coronavirus COVID 19 is practicing good hygiene, and in particular by washing hands often with soap and water. Where soap and water is not available the Federal Department of Health recommends the use alcohol-based hand sanitisers. Alcohol-free hand rubs have not been shown to be effective against viruses like COVID-19, and the Federal Department of Health recommend against using them. As a result there has been an increased demand for alcohol-based hand rubs which has resulted in a shortage of supply. This has led to the Federal Government seeking to increase the supply of these products.

In 2017, Shoalhaven Starches modified the existing Ethanol Distillery Plant (Mod 12) to:

- Increase the proportion of beverage grade ethanol produced on the site to 110 ML/year. This modification included:
    - A new beverage grade ethanol plant;
    - Additional ethanol storage tanks (x5);
    - An emergency Isocontainer (for ethanol) storage area (located to the east of the relocated evaporator – see below);
    - Cooling water towers;
    - Electrical substation; and
    - Pipebridge (for fluids transfers to/from the additional syrup tank – see below); and
- Modify the type and location of the Water Balance Recovery Evaporator that was previously approved under MOD 2 adjacent to the Ethanol Plant.

Shoalhaven Starches have the ability to meet the Federal Government's request in their existing ethanol distillery located at their Bomaderry factory site without exceeding the approved production limit of 300 ML per annum under MP 06_0228. Shoalhaven Starches will be able to achieve this by rearranging the mix of grades they manufacture. However, in order to readjust their production processes to produce the higher grade quality hand sanitizer alcohol they will need to ensure a stable supply of steam to ensure the higher quality of alcohol required for hand sanitizer, as well as additional storage to accommodate this specific product. Shoalhaven

Starches intend to produce 120 ML per annum of hand sanitizer grade alcohol, out of the overall 300 ML per annum approved production limit imposed by Project Approval MP 06_0228.

Under MP 06_0288, Shoalhaven Starches have planning approval for a new gas fired boiler to be located at the boiler house, however this gas fired boiler has not yet been installed. The original intent of this approved gas fired boiler was to ensure a stable supply of steam for the production processes at the site.

Shoalhaven Starches propose to relocate this approved gas fired boiler as part of the Modification Application (Mod 18) from its approved location adjacent to the boiler house, to an alternative location to the east of the site to better service the distillery to ensure a stable supply of steam necessary to enable production of the higher grade hand sanitizer alcohol as requested by the Federal Government.

In addition to relocating the approved gas fired boiler, this proposal will also require:

- The extension of existing gantries to carry pipework between the proposed relocated gas fired boiler and the distillery;
- The installation of an additional two storage tanks to store the hand sanitizer alcohol.
- An undercover storage area for the hand sanitizer alcohol.

Mod 18 will involve a Capital Investment Value (CIV) of $ 7.8 million.

The construction works associated with Mod 18 will employ up to 20 people. Once operational Mod 18 will employ an additional 4 staff.

Mod 18 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 significant changes in level of impacts arising from that originally envisaged by the original approved development.

This SEE has been prepared to describe the works associated with this modification application, the processes involved, and the implications that the proposed modifications will have in terms of the approved development for the site and its impacts on the surrounding environment.

This Modification Application has been made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act. In this regard this SEE concludes that the proposed modifications will have minimal 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.

2.0 THE SITE

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 situated on the following parcels of land:

- Lot 1 DP 1838753
- Part Lot 241 DP 1130535
- Lot 143 DP 11069758

Figure 1 is a site locality plan.

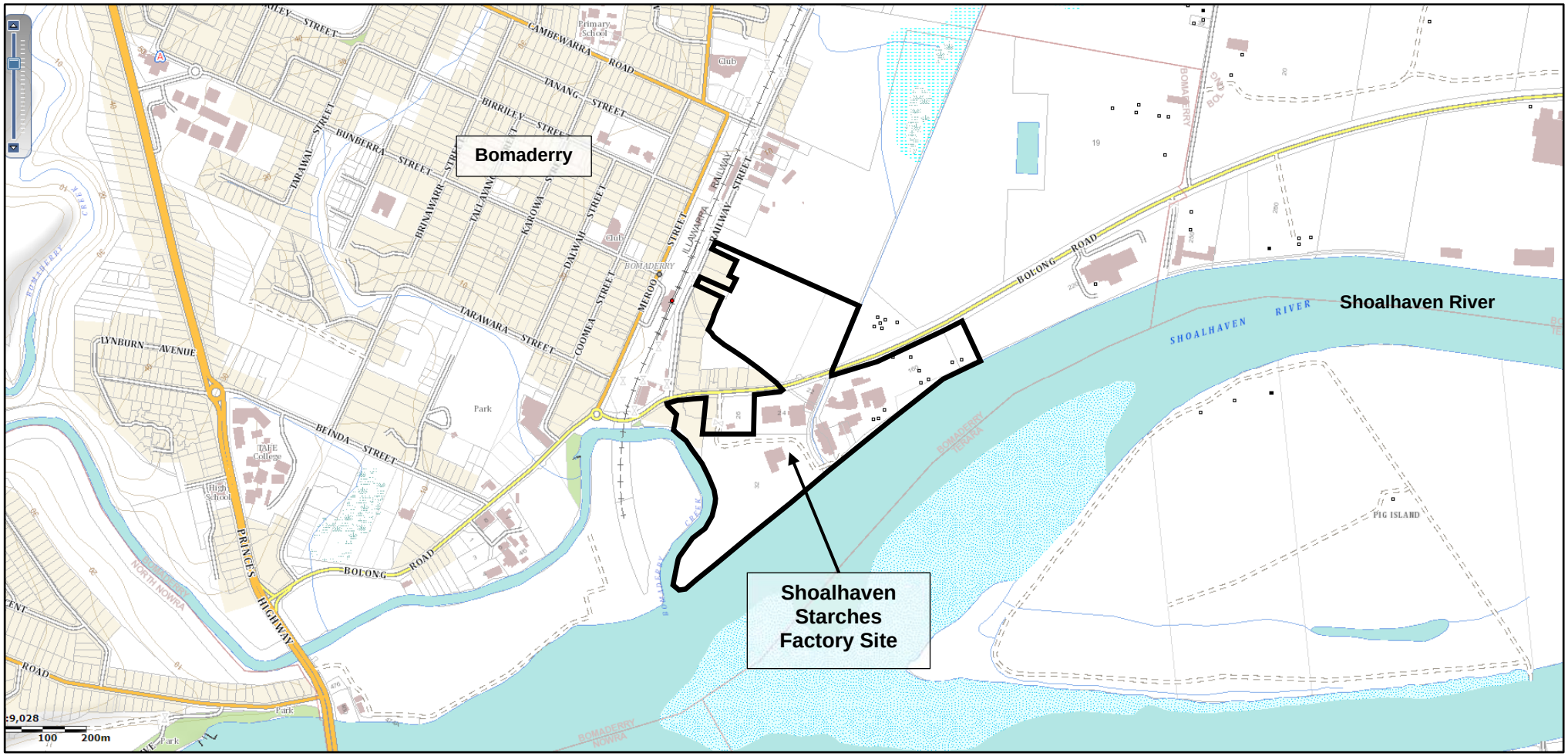

Figure 1: Site Locality Plan.

3.0 THE PROPOSED MODIFICATION

3.1 PROCESS DESCRIPTION

The production process at the Shoalhaven Starches plant has developed over a number of years. 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.

Flour is processed at the plant with water with subsequent mixing and separation processes producing starch and gluten.

Gluten is dried to enable it to be packaged and distributed as a high protein food additive for human consumption.

Starch is either dried or remains in liquid form and sold to the paper and food industries. The starch is used for food, cardboard, paper and other industrial purposes.

Starch is also used in the production of syrups on the site, including glucose and brewer's syrup. These are used in the production of food products, chocolates, confectionery, beer, soft drinks and fruit juice.

The by-products 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 and beverage grade ethanol. Industrial grade ethanol is used in producing pharmaceuticals, printer's ink and methylated spirits.

Under MP 06_0266, approved on the 29th January 2009, Shoalhaven Starches received Project Approval to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year.

The ethanol produced at the Bomaderry Plant comprises grades ranging from fuel, industrial to a small proportion of "beverage" grade ethanol. As the name implies "beverage" grade ethanol is suitable for human consumption and is used in the production of alcoholic drinks.

The objective of Shoalhaven Starches Expansion Project approved Project Approval MP06_0228 sought to increase ethanol production at the site to meet the expected increase in demand for ethanol arising from the NSW Government's mandate to increase the blending of ethanol in the total of volume of petrol sold in NSW towards an ethanol

content of 10% by 2011. Unfortunately, the expected increase in demand for ethanol to meet the demand arising from this mandate has not occurred 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 the ethanol that is and will be produced at their Bomaderry plant in accordance with the Project Approval. One such market is the "beverage" market where ethanol is further treated and purified to enable it to meet stringent beverage grade specifications and pass organoleptic testing requirements (i.e. taste and odours)) to enable it to be utilised in the production of alcoholic drinks.

Shoalhaven Starches subsequently obtained a Modification Approval (Mod 12) on the 12th September 2017, to undertake modifications to the existing ethanol distillation plant to enable an increase in production of up to 110 ML/year of beverage grade ethanol. Mod 12 did not involve an increase in overall ethanol production above the current approved 300 ML/year. Rather it enabled greater flexibility in the type of ethanol that is produced from the plant.

The production of higher grade beverage and also hand sanitiser grade ethanol (96.5 vol%) from raw ethanol (92 vol%) is performed in a rectification process involving the following steps.

First Step: Purification Performed in the Hydroselection Column D530

Raw ethanol at 80°C is transferred from the rectifier columns to the hydroselection column, i.e. a distillation column, via a vessel containing copper chips. Copper chips remove impurities such as trace levels of mercaptans. Raw ethanol contains other impurities in low concentrations such as esters and aldehydes whose relative volatilities in ethanol increase when water is added. These are separated from the ethanol in the hydroselection column by having a high flow of water to the top of the column. The impurities are carried out the top of the column with the ethanol vapours and condensed. Any impurities bleed stream is transferred to the existing dehydration unit (molecular sieves). The hydroselection column bottoms will contain approximately 10-12% ethanol by volume and importantly, the majority of impurities have been removed.

The hydroselection column operates at vacuum conditions (0.6 bara).

Second Step: Rectification Performed in Two Rectifications Columns

Purified ethanol at 10-12% from the hydroselection column feeds two rectifications columns, which operate in parallel. Approximately 70% of the flow enters one rectification

column with the remainder entering the other. The main functions of the rectification columns are:

- To strip the 10 - 12% ethanol in the hydroselection column bottom's stream to below 0.03% ethanol. This water stream is sent to the Manildra wastewater treatment plant for processing;
- To concentrate the ethanol to obtain a concentration of at least 96.5 vol%; and
- To eliminate all of the residual heavy impurities.

The two rectification columns operate at different pressures to allow heat integration to be performed.

Some heads (impurities such as aldehydes and acetaldehydes) are concentrated on the top of the two rectification columns. Therefore, a small bleed stream of heads is sent to the existing dehydration unit.

The concentrated ethanol at the top of the rectification columns is at least 96.5 vol%.

Third Step: Refining Performed in the Refining Column

The ethanol from the 2 rectification columns feed a refining column.

The purpose of the refining column is:

- To eliminate the last light impurities, i.e. mainly methanol remaining in the ethanol coming from the rectification columns; and
- To improve the sensor quality of the final ethanol.

The higher grade ethanol, referred to as extra neutral alcohol (ENA), is obtained at the bottom of the refining column and is transferred to the ethanol storage tanks.

Shoalhaven Starches have the potential to produce two 2 different grades of hand sanitiser grade alcohol depending on application.

1. *TBA 94* – the raw ethanol is put through the beer column and then through the rectifying columns as outlined above. The fusel components are removed and produce an alcohol strength at a minimum of 94%
2. *British Pharmacopoeia* (*BP) grade* – this is a higher grade ethanol that involves a number of column process. The raw ethanol is put through the beer column, then to concentration column (fusel oil reduction) through to a hydroselection column to the rectifier column and then through the demethyliser column. As a result of this process a very pure alcohol with alcohol strength of 96.5% is able to be produced.

The production of hand sanitiser then uses the above alcohol as a base with additives to meet formula requirements.

Overall Shoalhaven Starches intend to produce 120 ML per annum of hand sanitizer grade alcohol, out of the overall 300 ML per annum approved production limit imposed by Project Approval MP 06_0228. This proposal will not however involve production increasing above the 300 ML per annum limit imposed by MP 06_0228.

The works associated with Mod 18 will involve a Capital Investment Value (CIV) of $ 7.8 million.

The construction works associated with Mod 18 will employ up to 20 people. Once operational Mod 18 will employ an additional 4 staff.

3.2 THE RELOCATION OF THE APPROVED GAS FIRED BOILER

Under Major Project Approval MP 06_0266 a gas fired boiler was proposed to be constructed to the north and adjacent to the existing boiler house situated within the main factory site on the south side of Bolong Road. To date this gas fired boiler has not been constructed.

The approved gas fired boiler could produce up to 100 t/h steam and was originally intended to be used as a standby system should any coal-fired units fail or to supplement the steam supply should the coal-fired boilers not meet demand.

To produce the higher grade alcohol required for hand sanitiser there is a need for a constant stable supply of steam to the distillery. It is therefore proposed to relocate the approved gas fired boiler from the location that it was originally approved adjacent to the boiler house to a position adjacent to the approved ISO container storage area located to the east of the site.

The proposed gas fired boiler will be a 30 MW gas fired D type (i.e. vertical steam drum) Water Tube boiler. The boiler will have a reduced steam production capacity compared to the original approved gas fired boiler. The proposed gas fired boiler will produce up to 45 t/h of steam. The supply pressure and temperature will be 12 bar and 192^{o}C respectively.

The proposed gas fired boiler will be supplied by gas from the existing gas header on site at the Bolong Road frontage of the site. Gas pressure is 210 KPa and reduced at the boiler. Valve train gas flow is 3450 m^3/hr normal. The pipe run is in schd40 steel pipe and will be located on existing pipe racks. The boiler operating system will be set up to AS2593.

The boiler will operate in a continuous state allowing for more stable steam production at the plant in the case that other boilers are down for maintenance or troubleshooting. The boiler will be a typical design involving a steam drum and a mud drum.

Water will be treated in water softeners and stored in a feedwater tank. It will then be pumped into the boiler to maintain level. The boiler design will include provision for blowdown to prevent high conductivity in the boiler water. The blowdown water will be treated at the wastewater treatment plant located on the Environmental Farm on the northern side of Bolong Road.

Natural gas and biogas will be the fuel sources for the furnace. Natural gas is already piped throughout the site. Biogas is available from the wastewater treatment plant and is also already piped throughout the site. The fuel gas train to the boiler will be compliant with the relevant standards, e.g. AS3814, Industrial and commercial gas-fired appliances.

The gas supply pressure is 210 kPa and will be reduced at the boiler valve train. The gas flow is approximately 3,450 m^3/hr.

A forced-draught fan will supply air to the furnace. The flue gas will be vented to atmosphere via a stack (approximately 24 m high).

The boiler will be installed in an open area, i.e. a well-ventilated area. The boiler is intended to have a similar process and inherent safety design as per the three existing gas boilers at the site.

Boiler high pressure is to be protected with the control system and relief valves. Boiler low and high level and potential furnace explosion are to be protected via a boiler management system (hard-wired). This is to include an air purge prior to ignition of the burners. The control system will be compliant with AS2593, Boilers - Safety management and supervision systems, and the Australian Gas Association codes.

The boiler and associated piping and vessels will be constructed from carbon steel. All pipework and associated equipment will be designed to AS4041 or an equivalent standard

The need to relocate the gas fired boiler has arisen due to:

- Following detailed design of the gas fired boiler it is evident that the footprint of the boiler is larger than that which was identified by the original Project Approval.
- As a result of the larger footprint the gas fired boiler could not be sited within the approved location due to the presence of other structures in this location and would interfere with safe passage of train and forklift movements which also occur within this area.

Due to the constrained nature of the Shoalhaven Starches factory site, particularly that part of the factory site on the southern side of Bolong Road, it has been decided to relocate the gas-fired boiler to a location adjacent and to the south of the approved ISO container storage area to the east of the site. This alternative location will be situated between the ISO Container storage area, and the train lines that run along the southern boundary of the site and adjacent to the banks of the Shoalhaven River. The gas fired boiler will be set back 23 metres from the banks of the Shoalhaven River.

The proposed gas fired boiler will have a footprint of 25 m by 15 m. It will sit within a compound structure with a height above ground level of 11 metres, with an emissions stack with a height of 24.5 metres.

Annexure 2 to this submission includes plan and elevation details of the proposal including the gas fired boiler.

3.3 EXTENSION TO EXISTING GANTRIES

Steam generated by the relocated gas fired boiler will be directed to the distillery by pipework attached to gantries.

In addition, the gas fired boiler will be fuelled by gas from the existing gas site distribution header located at the Bolong Road frontage of the site at Bolong Road. This gas will also be directed by pipework from this site distribution header along the extended and existing gantries.

Existing gantries will need to be extended to enable the gas and steam pipework to be extended between the gas fired boiler and the distillery for the supply of steam; and from the gas site distribution header located at the Bolong Road frontage to the gas fired boiler. The additional pipework will increase the height of the existing gantries structures from their present 9.75 metres above ground level to 10.8 metres above ground level.

Details of the extent to which the existing pipework pantries will need to be extended, as well as elevation details of the proposed gantry structures, are detailed in the drawing set included as **Annexure 2** to this submission.

3.4 ADDITIONAL STORAGE TANKS

The hand sanitiser alcohol that is produced will need to be stored in storage tanks separate to the other grades of ethanol produced at the site. As a result, it is proposed to erect two 236,000 litre storage tanks for the storage of the hand sanitiser adjacent to and immediately to the south of existing ethanol tank farm.

The tanks will be constructed from 304 L stainless steel and are fixed roof. The two tanks will be 236 m^3 each, have a 4.5 m diameter and a height of 18 metres above ground level, matching the height of the existing adjacent tanks. The tanks will be designed to AS1692 or an equivalent standard

The tanks will be located within the existing day tank bund (ex Ethanol recovery area bund). The two tanks will operate as batching tanks, ie. any off-specification ethanol product from the plant is diverted from these tank to other existing tanks or processes rather than flow to the larger bulk tank or the unloading facilities which should only handle on-specification product for the customer.

The hand sanitiser tanks are intended to have a similar process and fire safety design, as well as similar equipment to the four existing beverage grade ethanol day tanks. The plant that feeds these tanks is design to produce 250 m^3/day and would take approximately 1 day to fill each tank.

The alcohol will be pumped to the tanks at approximately 35^oC although the temperature in the tanks may change with the ambient conditions if the ethanol is stored for extended periods. With the inclusion of nitrogen blanketing (explosion prevention control), the tanks will have a pressure slightly higher than atmospheric pressure although this will be less than the vent lifting pressure during steady state. The tanks will have a vacuum / vent relief device to avoid over-pressurising or pulling vacuum in the tank.

The inclusion of these tanks should not increase the number of road vehicles to or from the facility although will potentially change a number of their destinations. These tanks do not change the production rate of the Beverage grade distillery rather will increase ENA storage on site for the use in hand sanitiser products.

Details of the storage tanks and their location are detailed in the drawing set included as **Annexure 2** to this submission.

3.5 COVERED STORAGE AREA

It is also proposed to provide a covered storage area for the storage of smaller containers of finished hand sanitiser product. This area will be used to store smaller containers including 200 litre to 1000 litre IBC containers.

The covered storage area will comprise an open sided shed structure with a footprint of 16 m by 30.3 m and a height above ground level of 7.00 m.

Plan details of the proposed covered storage area are detailed in the drawing set included as **Annexure 2** to this submission.

4.0 ASSESSMENT ISSUES

4.1 STATUTORY PLANNING

4.1.1 Environmental Planning & Assessment (EP&A) Act

4.1.1.1 Section 4.55(1A) EP&A Act

This application is made pursuant to section 4.55(1A) of the 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 proposed modification will have minimal environmental impact; and the development to which the consent as modified relates 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 Serie*s 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 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 Shoalhaven Starches Factory site;
- The proposed modifications do not represent an expansion of the of the overall Shoalhaven Starches' footprint as the works associated with this Modification are located within the approved factory footprint.
- The proposed works maintain the same form as that approved.
- The proposal does not seek to increase overall production of ethanol from the site nor will it involve the generation of any additional 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 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'.* None of the proposed modifications represent an additional and distinct land use. Whilst this modification

proposal involves a number of individual components these modifications all relate to existing approved development on the site.

> ***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

This Modification Application only seeks to modify elements that have already been approved and will not change the scale or use of these aspects.

> ***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 increase in production in the terms of processing of flour and starch / gluten or ethanol production. The proposal merely seeks to alter the mix of grades of ethanol that will be produced at the site. The overall volume of ethanol produced from the site will remain within the total production limits imposed under the Project Approval for the site.

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. All of the proposed modifications are located within the approved footprint of the Shoalhaven factory site. 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 proposal:

- is not anticipated to generate additional air quality impacts given the gas fired boiler comprises a reduced steam production capacity to that originally approved and will therefore result in reduced emissions compared to that originally approved.
- is not anticipated to generate noise impacts given the fan associated with the proposed gas fired boiler will be smaller compared to that associated with the original approved boiler given the reduced steam production capacity to that originally approved and will therefore result in reduced noise emissions compared to that originally approved.
- A Preliminary Hazard Analysis by Pinnacle Risk Pty Ltd (**Annexure 3)** which assesses the risk factors associated with the proposal in light of risk criteria prepared by the DPIE. The PHA concludes in relation to this proposal that societal risk, area cumulative risk and environmental risk are acceptable. According to the PHA, the primary reasons for the low risk levels from the modifications are that significant levels of radiant heat from potential fires are contained on-site and the likelihood of catastrophic equipment failures leading to off-site impact from flash fires and explosions is acceptably low.

None of the proposed modifications represent an additional and 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 production from the site.

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

The Modification Application the Modified proposal will not result in any significant qualitative or quantitative environmental impacts when compared to the approved development.

It is our view that the 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 not result in any significant adverse 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.

4.1.1.2 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.

4.1.2 State Environmental Planning Policies (SEPP)

4.1.2.1 SEPP No. 33 – Potentially Hazardous and Offensive Industry

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 Preliminary Hazard Assessment prepared by Pinnacle Risk Pty Ltd prepared in accordance with the provisions of this SEEP. A copy of this PHA is included as **Annexure 3** to this SEE. This is further discussed in Section 4.2 of this SEE.

4.1.2.2 State Environmental Planning Policy (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 2.**

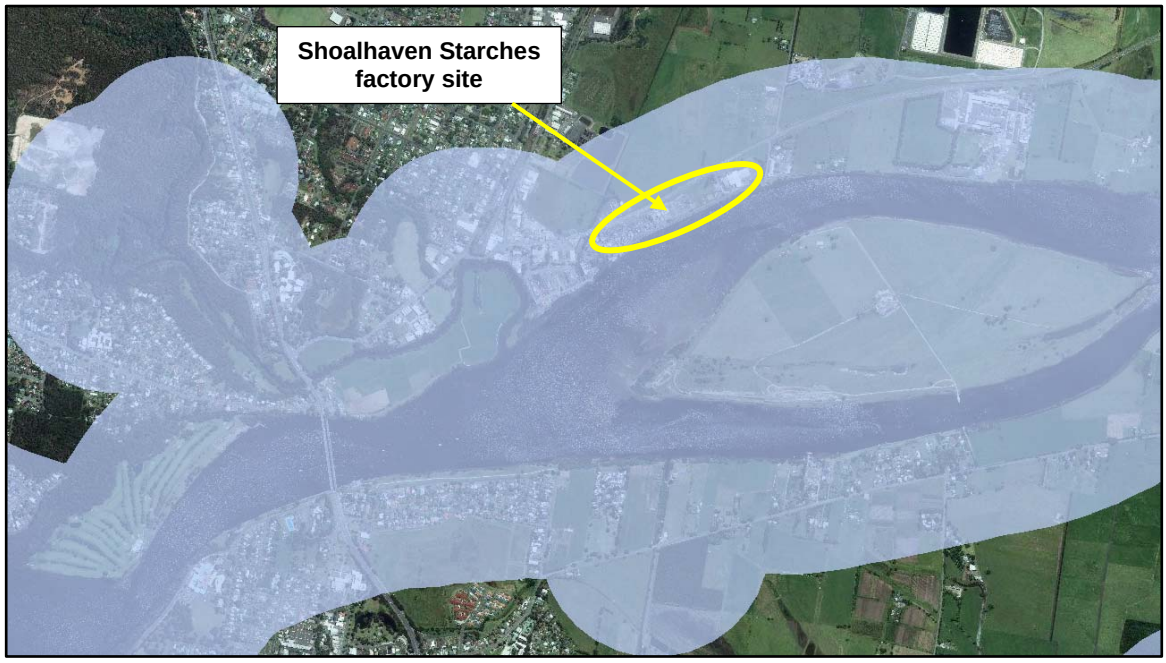

Figure 2: NSW Coastal Management SEPP: Coastal Environment Area Map.

Clause 13 of the SEPP specifies matters that must be considered in determining development applications on land within the Coastal Environment Area. Having regard to the provisions of Clause 13 of this SEPP the following comments are made:

- 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 3**. As such the provisions which apply to this mapping are relevant to the proposed development.

Figure 3: 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. Having regard to the provision of Clause 14 the following comments are made.

- 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 and provisions of the Coastal Management SEPP.

4.1.3 Local Environmental Planning Provisions

4.1.3.1 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 4**).

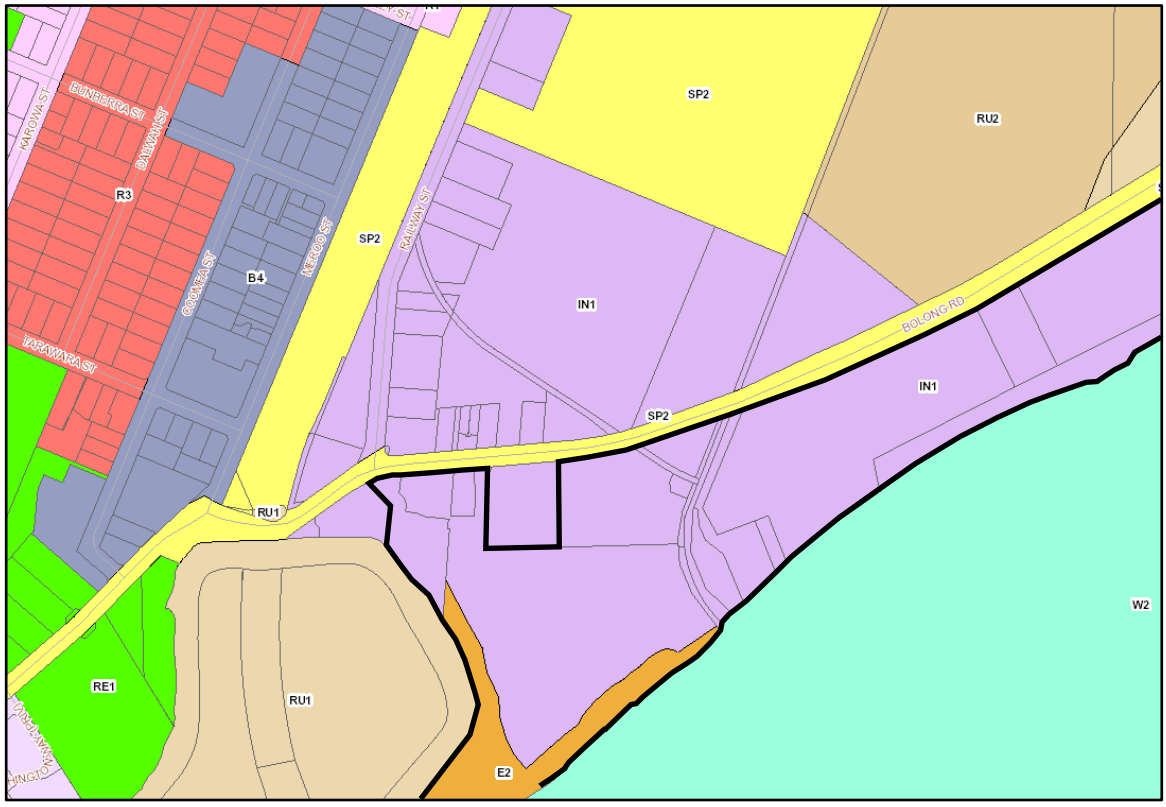

Figure 4: Extract of zoning map under the SLEP 2014.

"*General industries*" are permissible within the IN1 zone subject to consent. The proposal involves modifications to an existing industrial development and is therefore permissible with consent.

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 1** below:

Table 1
Shoalhaven Local Environment Plan Provisions

SLEP 2014 Clause	*Provisions*	*Comments*
Clause4.3 *Height of Buildings*	*(1) The objectives of this clause are as follows:* *(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of a locality,* *(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,* *(c) 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.* *(2) 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.* *(2A) 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.*	The proposal will involve the erection of a range of structures with heights above ground level ranging from 7.0 m to 24.5 m. 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. Under these circumstances this SEE is supported by a Written Request made pursuant to Clause 4.6 (**Annexure 4**) justifying non-compliance with this maximum building height limit.
Clause 4.6 *Exceptions to development standards*	*(1) The objectives of this clause are as follows:* *(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,* *(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.* *(2) 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.* *(3) 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:* *(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*	The proposal will involve the erection of a range of structures with heights above ground level ranging from 7.0 m to 24.5 m that will exceed the 11 metre maximum as specified in Clause 4.3(2A). The proposed development will be erected within the broader approved Shoalhaven Starches factory site. As the proposed works will be built within the existing industrial complex it is not expected that the new development will have an undue effect due to its height. This Modification Application is supported by a Clause 4.6 Written Request justifying a departure to Clause 4.3(2A) under the specific circumstances of this case.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
4.6 continued	*(b) that there are sufficient environmental planning grounds to justify contravening the development standard.* *(4) Development consent must not be granted for development that contravenes a development standard unless:* *(a) the consent authority is satisfied that:* *(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and* *(ii) 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* *(b) the concurrence of the Director-General has been obtained.* *(5) In deciding whether to grant concurrence, the Director-General must consider:* *(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and* *(b) the public benefit of maintaining the development standard, and* *(c) any other matters required to be taken into consideration by the Director- General before granting concurrence.* *(6) 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:* *(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or*	

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
4.6 continued	*(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.* *Note. When this Plan was made it did not include all of these zones.* *(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).*	
Clause 5.5 *Development within the coastal zone*	*(1) The objectives of this clause are as follows:* *(a) to provide for the protection of the coastal environment of the State for the benefit of both present and future generations through promoting the principles of ecologically sustainable development,* *(b) to implement the principles in the NSW Coastal Policy, and in particular to:* *(i) protect, enhance, maintain and restore the coastal environment, its associated ecosystems, ecological processes and biological diversity and its water quality, and* *(ii) protect and preserve the natural, cultural, recreational and economic attributes of the NSW coast, and* *(iii) provide opportunities for pedestrian public access to and along the coastal foreshore, and* *(iv) recognise and accommodate coastal processes and climate change, and* *(v) protect amenity and scenic quality, and* *(vi) protect and preserve rock platforms, beach environments and beach amenity, and* *(vii) protect and preserve native coastal vegetation, and* *(viii) protect and preserve the marine environment, and* *(ix) ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and*	The subject land is located within the coastal zone. The proposal is not considered to adversely affect the coastal zone based on the following: • The proposal does not affect or impinge on public access to or along the coastal foreshore. • The proposed development will be undertaken within an existing industrial site. Such is considered suitable development given its type, location and design. The development is also consistent with the zoning objectives for the land. • The development will not lead to overshadowing of foreshore areas. • The scenic qualities of the area will not diminish. Visual impact is further addressed in Section 4.6 of this SEE. • The proposal will not lead to adverse impacts on threatened fauna and flora.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
5.5 continued	*(x) ensure that decisions in relation to new development consider the broader and cumulative impacts on the catchment, and* *(xii) protect and preserve items of heritage, archaeological or historical significance* *(xi) protect Aboriginal cultural places, values and customs, and* *(2) Development consent must not be granted to development on land that is wholly or partly within the coastal zone unless the consent authority has considered:* *(a) existing public access to and along the coastal foreshore for pedestrians (including persons with a disability) with a view to:* *(i) maintaining existing public access and, where possible, improving that access, and* *(ii) identifying opportunities for new public access, and* *(b) the suitability of the proposed development, its relationship with the surrounding area and its impact on the natural scenic quality, taking into account:* *(i) the type of the proposed development and any associated land uses or activities (including* *compatibility of any land-based and water-based coastal activities), and* *(ii) the location, and* *(iii) the bulk, scale, size and overall built form design of any building or work involved, and* *(c) the impact of the proposed development on the amenity of the coastal foreshore including:* *(i) any significant overshadowing of the coastal foreshore, and* *(ii) any loss of views from a public place to the coastal foreshore, and* *(d) how the visual amenity and scenic qualities of the coast, including coastal headlands, can be protected, and*	

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
5.5 continued	*(e) how biodiversity and ecosystems, including:* *(i) native coastal vegetation and existing wildlife corridors, and* *(ii) rock platforms, and* *(iii) water quality of coastal waterbodies, and* *(iv) native fauna and native flora, and their habitats, can be conserved, and* *(f) the cumulative impacts of the proposed development and other development on the coastal catchment.* *(3) Development consent must not be granted to development on land that is wholly or partly within the coastal zone unless the consent authority is satisfied that:* *(a) the proposed development will not impede or diminish, where practicable, the physical, land-based right of access of the public to or along the coastal foreshore, and* *(b) if effluent from the development is disposed of by a non-reticulated system, it will not have a negative effect on the water quality of the sea, or any beach, estuary, coastal lake, coastal creek or other similar body of water, or a rock platform, and* *(c) the proposed development will not discharge untreated stormwater into the sea, or any beach, estuary, coastal lake, coastal creek or other similar body of water, or a rock platform, and* *(d) the proposed development will not:* *(i) be significantly affected by coastal hazards, or* *(ii) have a significant impact on coastal hazards, or* *(iii) increase the risk of coastal hazards in relation to any other land.*	

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
Clause 5.10 *Heritage Conservation*	*(1) The objectives of this clause are:* *(a) to conserve the environmental heritage of Shoalhaven; and* *(b) to conserve the heritage significance of heritage items and heritage conservation areas including associated fabric, settings and views; and* *(c) to conserve archaeological sites; and* *(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.* *(2) Development consent is required for any of the following:* *(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):* *(i) a heritage item,* *(ii) an Aboriginal object* *(iii) a building, work, relic or tree within a heritage conservation area,* *(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,* *(c) 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,* *(d) disturbing or excavating an Aboriginal place of heritage significance,* *(e) erecting a building on land:* *(i) on which a heritage item is located or that is within a heritage conservation area;* *(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*	There are no heritage items within the subject land, and the subject site is not located within a heritage conservation area. The site is a highly disturbed industrial site that has been used for industrial purposes for decades. No excavation is proposed as such the proposal is not expected to disturb any Aboriginal objects or relics.

Table 1 (continued)

<table>
<tr><th>SLEP 2014 Clause</th><th>Provisions</th><th>Comments</th></tr>
<tr><td>5.10 continued</td><td>(f) subdividing land:
(i) on which a heritage item is located or that is within a heritage conservation area, or
(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.</td><td></td></tr>
<tr><td>Clause 7.1
Acid sulfate soils</td><td>(1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.
(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.
<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>
(3) 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.</td><td>Whilst the subject site is identified as potentially containing acid sulphate soils – class 3 and 4, the EA that supported Mod 12 and which included the areas of the site associated with this proposal, and particularly the area of the site associated with the proposed location of the relocated gas fired boiler, were subject to an acid sulphate soils assessment carried out by Coffey Geosciences. Coffey's did not specifically identify these sites as being subject to ASS. The report by Coffey's concluded in terms of ASS:
"Based on previous investigations soils beneath depths of 2m in the proposed car park, and 3m in the central and western Main Manildra Factory areas, are considered to be acid sulfate soils. At shallower depths, there is a low risk that acid sulfate soils are present, however this may be influenced by the presence of fill within the site. Should dark grey, high plasticity estuarine clays be encountered in the current site at depths shallower than 3m, these soils should be considered potential acid sulfate soils unless otherwise tested.
Should the proposed development involve excavation of soils from depths greater than 2m at the site, and/or dewatering that could result in a drop in the water table, this could also impact acid sulfate soils, then an acid sulfate management plan (ASSMP) should be developed and actioned. An ASSMP will present the approach and methodology of acid sulfate soil management at the site during the construction phase</td></tr>
</table>

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.1 continued	*(4) Despite subclause (2), development consent is not required under this clause for the carrying out of works if:* *(a) 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* *(b) 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.* *(5) 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):* *(a) 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,* *(b) 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).* *(c) minor work, being work that costs less than $20,000 (other than drainage work).* *(6) Despite subclause (2), development consent is not required under this clause to carry out any works if:* *(a) the works involve the disturbance of less than 1 tonne of soil, and* *(b) the works are not likely to lower the watertable.*	*of the project which is to be followed by Manildra and/or their subcontractors. The ASSMP should be prepared in accordance with the relevant sections of the 1998 ASS Manual prepared by ASSMAC. The detail of the ASSMP can be refined based on the likely volumes to be extracted. For small volumes a simple work plan may be sufficient. If possible, avoidance of disturbing the ASS is preferred.*

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
Clause 7.3 *Flood Planning*	*(1) The objectives of this clause are as follows:* *(a) to minimise the flood risk to life and property associated with the use of land,* *(b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change,* *(c) to avoid significant adverse impacts on flood behaviour and the environment.* *(2) This clause applies to land at or below the flood planning level.* *(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:* *(a) is compatible with the flood hazard of the land, and* *(b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and* *(c) incorporates appropriate measures to manage risk to life from flood, and* *(d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses, and* *(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding, and* *(f) will not affect the safe occupation or evacuation of the land.* *(4) A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005, unless it is otherwise defined in this Plan.* *(5) (Repealed)*	The subject land is flood prone land. The EA that supported Mod 12 and which included the areas of the site associated with this proposal, and particularly the area of the site associated with the proposed location of the relocated gas fired boiler, were subject to a flood assessment carried out by WMA Water. This issue is further addressed in Section 4.7 of this SEE.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
Clause 7.4 *Coastal Risk Planning*	*(1) The objectives of this clause are as follows:* *(a) to avoid significant adverse impacts from coastal hazards,* *(b) to ensure uses of land identified as coastal risk are compatible with the risks presented by coastal hazards,* *(c) to enable the evacuation of land identified as coastal risk in an emergency,* *(d) to avoid development that increases the severity of coastal hazards.* *(2) This clause applies to the land identified as "Coastal Risk Planning Area" on the Coastal Risk Planning Map.* *(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:* *(a) will avoid, minimise or mitigate exposure to coastal processes, and* *(b) is not likely to cause detrimental increases in coastal risks to other development or properties, and* *(c) is not likely to alter coastal processes and the impacts of coastal hazards to the detriment of the environment, and* *(d) incorporates appropriate measures to manage risk to life from coastal risks, and* *(e) is likely to avoid or minimise adverse effects from the impact of coastal processes and the exposure to coastal hazards, and* *(f) provides for the relocation, modification or removal of the development to adapt to the impact of coastal processes and coastal hazards, and* *(g) has regard to the impacts of sea level rise.* *(4) 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.*	The *Coastal Risk Planning Map* that accompanies the SLEP 2014 does not identify the subject land as a "*Coastal Risk Planning Area"*. The provisions of this clause therefore do not apply to the subject site.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.4 continued	*(5) In this clause:* ***coastal hazard** has the same meaning as in the Coastal Protection Act 1979.*	
Clause 7.5 *Terrestrial Biodiversity*	*(1) The objective of this clause is to maintain terrestrial biodiversity, by:* *(a) protecting native flora and fauna,* *(b) protecting the ecological processes necessary for their continued existence, and* *(c) encouraging the recovery of native flora and fauna, and their habitats.* *(2) This clause applies to land:* *(a) identified as "Biodiversity—habitat corridor" or "Biodiversity—significant vegetation" on the Terrestrial Biodiversity Map, and* *(b) situated within 40m of the bank (measured horizontally from the top of the bank) of a natural waterbody.* *(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:* *(a) whether the development is likely to have:* *(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and* *(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and* *(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and* *(iv) any adverse impact on the habitat elements providing connectivity on the land, and* *(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.* *(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*	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. Given the nature of the site the proposal is unlikely to have any adverse impacts on the ecological value of the land.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.5 continued	*(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or* *(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* *(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.* *(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 bear 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.*	
Clause 7.6 *Riparian land and watercourses*	*(1) The objective of this clause is to protect and maintain the following:* *(a) water quality within watercourses,* *(b) the stability of the bed and banks of watercourses,* *(c) aquatic and riparian habitats,* *(d) ecological processes within watercourses and riparian areas.* *(2) This clause applies to all of the following:* *(a) land identified as "Riparian Land" on the Riparian Lands and Watercourses Map,* *(b) land identified as "Watercourse Category 1", "Watercourse Category 2" or "Watercourse Category 3" on that map,* *(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.*	The *Riparian Lands and Watercourses Map* that accompanies the SLEP 2014 identify 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). 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. A geotechnical assessment was undertaken by Coffey Geosciences as part of the previous Mod. 12 which included an assessment in relation to riverbank stability. As

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.6 continued	*(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:* *(a) whether or not the development is likely to have any adverse impact on the following:* *(i) the water quality and flows within the watercourse,* *(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,* *(iii) the stability of the bed and banks of the watercourse,* *(iv) the free passage of fish and other aquatic organisms within or along the watercourse,* *(v) any future rehabilitation of the watercourse and its riparian areas, and* *(b) whether or not the development is likely to increase water extraction from the watercourse, and* *(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.* *(4) 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 any significant adverse environmental impact, 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* *(5) For the purpose of this clause:* ***bank** means the limit of the bed of a watercourse.* ***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 bear with an increase or diminution in the supply of 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.*	detailed earlier in this report, the proposed relocation of the gas fired boiler is sited within part of the site that was originally proposed to site the ISO Container storage area. The potential impact of the proposed works on riverbank stability are further addressed in Section 4.5 of this SEE.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
Clause 7.7 *Landslide risk and other land degradation*	*(1) The objective of this clause is to maintain soil resources and the diversity and stability of landscapes, including protecting land:* *(a) comprising steep slopes, and* *(b) susceptible to other forms of land degradation.* *(2) This clause applies to the following land:* *(a) land with a slope in excess of 20% (1:5), as measured from the contours of a 1:25,000 topographical map, and* *(b) land identified as "Sensitive Area" on the Natural Resource Sensitivity—Land Map.* *(3) 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:* *(a) the geotechnical stability of the site, and* *(b) the probability of increased erosion or other land degradation processes.* *(4) Before granting consent to development on land to which this clause applies, the consent authority must be satisfied that:* *(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, 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.* *(5) 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.*	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. As outlined above in relation to Clause 7.6, Coffey Geo-sciences previously undertook a geotechnical assessment of the site associated with the ISO container storage area and concluded 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.

Table 1 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.8 Scenic protection	*(1) The objective of this clause is to protect the natural environmental and scenic amenity of land that is of high scenic value.* *(2) This clause applies to land identified as "Scenic Protection" on the Scenic Protection Area Map.* *(3) In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must:* *(a) 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* *(b) 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* *(c) consider the siting of the proposed buildings.*	The subject land is not identified as being within a "*Scenic Protection"* area by *Scenic Protection Area Mapping* that accompanies the SLEP 2014. The provisions of this clause therefore do not apply to the subject site.

4.1.3.2 Shoalhaven Development Control Plan (DCP) 2014

Given the nature of the works associated with this modification proposal it is considered the provisions of the Shoalhaven DCP 2014 are not directly relevant to this modification application apart from the provision of *Chapter G9: Development on Flood Prone Land*.

Table 2 below addresses the relevant provisions (section 5.1) of Chapter G9 of the Shoalhaven DCP 2014.

Table 2

Performance Criteria – General (Section 5.1 DCP 2014)
Extract form WMA Water Flood Compliance Report

Performance Criteria	***Response***
P1 Development or work on flood prone land will meet the following:	
The development will not increase the risk to life or safety of persons during a flood event on the development site and adjoining land.	No additional workers will be on the site as a result of the proposed works.
The development or work will not unduly restrict the flow behaviour of floodwaters.	Refer Hydraulic Impact Assessment carried out by WMA Water for Mod 12 – refer Section 4.7.
The development or work will not unduly increase the level or flow of floodwaters or stormwater runoff on land in the vicinity. 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.	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.
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.	A separate structural report will be provided.
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.	A separate structural report on the potential failure of existing buildings and stored equipment and product will be provided.
Potential damage due to inundation of proposed buildings and structures is minimised.	Inundation of the site and the proposed plant and / or debris impact may cause damage to electrical and other components feeding the 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.
The development will not obstruct escape routes for both people and stock in the event of a flood.	The proposed works will not occupy escape routes or cause workers to become trapped. Possible failure of the lift during a flood with workers inside will be considered in an updated Shoalhaven Starches Flood Plan.

Table 2 (continued)

Performance Criteria	***Response***
The development will not unduly increase dependency on emergency services.	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.
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.	Refer Section 4.7.
The development will not adversely affect the integrity of floodplains and floodway's, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.	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.

4.2 HAZARDS

This SEE is supported by a Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management Pty Ltd (**Annexure 3**). The PHA prepared by Pinnacle Risk management concludes:

> *"The risks associated with the proposed modifications at the Shoalhaven Starches Bomaderry site have been assessed and compared against the DoP risk criteria.*
>
> *The results are as follows and show compliance with all risk criteria.*

Description	***Risk Criteria***	***Risk Acceptable?***
Fatality risk to sensitive uses, including hospitals, schools, aged care	*0.5 x 10^{-6} per year*	*Yes*
Fatality risk to residential and hotels	*1 x 10^{-6} per year*	*Yes*
Fatality risk to commercial areas, including offices, retail centres, warehouses	*5 x 10^{-6} per year*	*Yes*
Fatality risk to sporting complexes and active open spaces	*10 x 10^{-6} per year*	*Yes*

Fatality risk to be contained within the boundary of an industrial site	*50 x 10^{-6} per year*	*Yes*
Injury risk – incident heat flux radiation at residential areas should not exceed 4.7 kW/m^2 at frequencies of more than 50 chances in a million per year or incident explosion overpressure at residential areas should not exceed 7 kPa at frequencies of more than 50 chances in a million per year	*50 x 10^{-6} per year*	*Yes*
Toxic exposure - Toxic concentrations in residential areas which would be seriously injurious to sensitive members of the community following a relatively short period of exposure	*10 x 10^{-6} per year*	*Yes*
Toxic exposure - Toxic concentrations in residential areas which should cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community	*50 x 10^{-6} per year*	*Yes*
Propagation due to Fire and Explosion – exceed radiant heat levels of 23 kW/m^2 or explosion overpressures of 14 kPa in adjacent industrial facilities	*50 x 10^{-6} per year*	*Yes*

Societal risk, area cumulative risk and environmental risk is also concluded to be acceptable.

The primary reasons for the low risk levels from the modifications are that significant levels of radiant heat from potential fires are contained on-site and the likelihood of catastrophic equipment failures leading to off-site impact from flash fires and explosions is acceptably low.

There are no further recommendations from this PHA review.

4.3 AIR QUALITY

The gas-fired boiler associated with this Modification Application was approved under the original Project Approval. The original Project Approval Application was supported by an Air Quality Assessment (GHD 2008 AQA) prepared by GHD (July 2008).

The GHD 2008 AQA described the then gas fired boiler as:

> *Shoalhaven Starches proposed to install an additional natural gas-fired boiler (20 MW), which would be used as a stand-by system should any coal-fired units fail or are used to supplement the steam supply should the coal-fired boilers not meet demand.*

> *The proposed gas-fired boiler would be equipped with premixed flame combustion (dry low NOx combustion) systems or equivalent.*

Under the GHD 2008 AQA the then proposed gas fire boiler was not identified as a potential source for odours.

The primary source of particulate matter emissions at Shoalhaven Starches factory according to the GHD 2008 AQA were the coalfired boilers used for steam generation. Coal ash from the boilers may either settle out in the boiler (bottom ash) or be entrained in the flue gas (fly ash). The secondary source of this type of emission according to the GHD 2008 AQA are the significant material dryers, grinders and material handling units within the factory. These are equipped with fabric filters (baghouses) or wet-scrubbers to control emissions to air and substantially reduce TSP and PM10 emissions.

Whilst the GHD 2008 AQA identified the coal fired boilers as a source of particulates, this assessment identified that:

> *"… the (stand-by) gas-fired boilers at the factory. PM10 is emitted in very low amounts from natural gas combustion. Hence the infrequent operation of these stand-by systems is not anticipated to result in a significant increase to PM10 emissions or offsite impact."*

According to the GHD 2008 AQA the primary pollutants gas fired boiler emissions are oxides of nitrogen (NOx), formed by the high temperatures in the combustors, sulphur dioxide (SO_2), formed from the sulphur content of the fuel, VOCs, polycyclic aromatic hydrocarbons (PAH) and carbon monoxide (CO), all formed by incomplete combustion of the fuel.

Odour, particulates and products of combustion were assessed by the GHD 2008 AQA against the then DECC air quality impact assessment criteria. All constituents assessed over the relevant averaging times were below their respective assessment criteria at the nearest sensitive receptors for the adopted emission characteristics, with the exception of odour. Odour was found to be the critical constituent for compliance with the DECC air quality impact criteria. As outlined above however, the gas fired boiler was not found to potential source for odours.

Mod 18 seeks to relocate the approved gas fired boiler from one location on the site to another location of the factory site. Furthermore, the proposed relocated gas fired boiler will have a reduce production capacity compared to the approved gas fired boiler. As a result, the proposed gas fired boiler will result in a reduction in air emissions compared to the gas fired boiler as originally approved.

Under these circumstances it is not envisaged that the proposed relocated gas fired boiler will increase air quality impacts arising from this Modification Application.

4.4 NOISE

The gas-fired boiler associated with this Modification Application was approved under the original Project Approval. The original Project Approval Application was supported by an Acoustical Assessment prepared by The Acoustic Group dated June 2008 (Acoustic Group 2008 AA).

The Acoustic Group 2008 AA outlined in relation to the gas fired boiler:

> *We have been provided with the sound power level of the discharge duct of the boiler. To maintain compliance with the design criteria the discharge of the duct is to achieve an attenuation of 25 dB(A) so that the sound pressure level from the discharge duct does not exceed 72 dB(A) at 1 metre.*

Mod 18 only seeks to relocate the approved gas fired boiler from one location on the site to another location of the factory site. As previously described the proposed relocated gas fired boiler will also have a reduced production capacity compared to the approved gas fired boiler. As a result, the proposed relocated gas fired boiler will result in a reduction in noise generation compared to the gas fired boiler as originally approved.

Under these circumstances it is not envisaged that the proposed relocated gas fired boiler will increase noise impacts arising from this Modification Application.

4.5 RIVERBANK STABILITY

The proposed gas fired boiler is proposed to be sited between the current approved ISO Containers Storage area and the rail lines that serve the Shoalhaven Starches' sites. Adjacent to the rail line to the site are the banks of the Shoalhaven River. The proposed gas fired boiler will be situated 23 metres from the banks of the Shoalhaven River.

The location of the proposed gas fired boiler will be situated within part of the original location of the ISO Container Storage area, approved originally under Mod 12. Coffey Geosciences undertook a geotechnical assessment of this part of the site as part of the EA for Mod 12. With respect to the impacts of development on riverbank stability, this assessment concluded:

> *Based on the proposed layout plan provided, the positions of the new structures and storage areas are relatively remote from the northern bank of the Shoalhaven River. Any new heavily loaded structures should be supported on deep piled foundations to rock and therefore should not add any additional load to the soils behind the riverbank, including the sections of riverbank protected by the existing rock revetment wall and steel sheet pile walls.*

In summary the proposed structures and storage areas for the ethanol plant expansion should have no effect on the stability of the current riverbank and banks of Abernethy's Creek provided the following general recommendations are complied with:-

- *All heavily loaded structures should be supported on deep foundation systems to rock so that no additional loads are applied to the soil mass close to the banks;*
- *Cranes or other large temporary surface loads such as building materials should not be located within 10m of the riverbank or within 5m of the Abernethy's Creek bank, unless a specific assessment of the crane loads and ground condition is carried out;*
- *Construction activities that involve significant ground vibration such as pile driving should be avoided in close proximity to the river and Abernethy's Creek.*

Given the siting of the relocated gas fired boiler is to be situated within the same area as that which included the approved ISO Container Storage area in part, it is considered the above findings of the previous Coffey's assessment are relevant to this proposal.

4.6 VISUAL IMPACTS

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 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 nature.

Visual Impact of Proposal

This modification proposal involves several relatively minor amendments to the Project Approval that have relevance in terms of potential visual impacts including:

- The relocated gas fired boiler.
- The additional two storage tanks
- The covered storage area.

The Relocated Gas Fired Boiler

The modification proposal seeks to relocate the Gas Fired Boiler to the south side of the ISO Container Storage area and the Shoalhaven River. The relocated gas fired boiler will be contained within a compound that will have a height of 11 metres above ground level, with a stack with a height of 24.5 m above ground level.

The Additional Two Storage Tanks

The additional two storage tanks will be situated adjacent to and to the rear (as seen from Bolong Road) of an existing four storage tanks of similar heights and scale. The storage tanks will have a diameter of 4.5 metres and height above ground level of 18 m.

The Covered Storage Area

The covered storage area will consist of an open sided shed with dimensions of 30.3 m by 16 metres and a height above ground level of 7.0 metres. This structure will be sited between the truck loading bay and the storage tank location.

The most relevant vantage points from where the overall factory site is visible 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. The works associated with this Mod would not be discernible from these vantage points.
- Burraga (Pig) Island – Burraga 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. Only the gas fired boiler could potentially be visible from this location, however it will be largely obscured by vegetation.
- 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. The works associated with this Mod will be partially visible from vantage points along Bolong Road. However, in large part they will each be screened from view by existing structures; and if visible such views will be in context of the existing factory development. In this case the structures reflect a scale and appearance of existing structures on the site. The proposed works will therefore not be out of context with the prevailing character of development on the site when viewed from these vantage points.

- 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. The works associated with this Mod will not be visually prominently from this vantage point.
- 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. Given the sting of works within the site however the works associated with this Mod will not be visually prominently from this vantage point.
- 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 River. The visual impact of the site however is reduced by distance, the intervening landform of Burraga (Pig) Island and the vegetated riverbanks. The works associated with this Mod will not be visually prominently from this vantage point.
- 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. The works associated with this Mod will not be visually prominently from this vantage point and will be in character with the prevailing form of development when viewed from this location.
- 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. Given the scale of

the works involved however, this proposal will not be visually prominent 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.

4.7 FLOODING

The gas fired boiler is proposed to be relocated to a position between the current approved ISO Containers Storage area and the rail lines that serve the Shoalhaven Starches sites. Adjacent to the rail line to the site are the banks of the Shoalhaven River.

The location of the proposed gas fired boiler will be situated within part of the original location of the ISO Container Storage area, approved originally under Mod 12. WMA Water undertook a flooding assessment of this part of the site as part of the EA for Mod 12.

> *In conclusion the proposed works do not increase the 1% AEP flood level on lands outside those owned by Shoalhaven Starches. Consequently, it was not considered necessary to consider the cumulative effects of the proposed works as there is no significant incremental increase (greater than 0.015m) as a result of these works.*

Given the siting of the relocated gas fired boiler is to be situated within the same area as that which included the approved ISO Container Storage area in part, it is considered the above findings of the previous WMA Water assessment are relevant to this proposal.

5.0 CONCLUSION

The Federal Government's Department of Industry Sciences and Energy have requested Shoalhaven Starches to produce more hand sanitizer alcohol in response to the current Coronavirus COVID 19 crisis.

Shoalhaven Starches have the ability to meet the Federal Government's request in their existing ethanol distillery without exceeding the approved production limit of 300 ML per annum under MP 06_0228. Shoalhaven Starches intend to produce 120 ML per annum of hand sanitizer grade alcohol, out of the overall 300 ML per annum approved production limit imposed by Project Approval MP 06_0228.

Shoalhaven Starches will be able to achieve this by rearranging the mix of grades they manufacture. However, in order to readjust their production processes to produce the higher-grade quality hand sanitizer alcohol they will need to ensure a stable supply of steam as well as additional storage to accommodate this specific product.

Under MP 06_0288, Shoalhaven Starches have planning approval for a new gas fired boiler to be located at the boiler house, however this gas fired boiler has not yet been installed. The original intent of this approved gas fired boiler was to ensure a stable supply of steam for the production processes at the site.

Shoalhaven Starches propose to relocate this approved gas fired boiler as part of the Modification Application (Mod 18) from its approved location adjacent to the boiler house, to an alternative location to the east of the site to better service the distillery to ensure a stable supply of steam necessary to enable production of the higher grade hand sanitizer alcohol as requested by the Federal Government.

In addition to relocating the approved gas fired boiler, this proposal will also require:

- The extension of existing gantries to carry pipework between the proposed relocated gas fired boiler and the distillery;
- The installation of an additional two storage tanks to store the hand sanitizer alcohol.
- An undercover storage area for the hand sanitizer alcohol.

The works associated with Mod 18 will involve a Capital Investment Value (CIV) of $7.8 million.

The construction works associated with Mod 18 will employ up to 20 people. Once operational Mod 18 will employ an additional 4 staff.

Mod 18 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 significant changes in level of impacts arising from that originally envisaged by the original approved development.

This SEE describes the works associated with this modification application; the processes involved; and the implications that the proposed modifications will have in terms of the approved development for the site and its impacts on the surrounding environment.

This SEE concludes that the proposed modifications will have minimal 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.

Approval is therefore sought for this Modification Application.

Stephen Richardson RPIA
COWMAN STODDART PTY LTD

ANNEXURE 1

Correspondence from Australian Government's Department of Industry, Sciences, Energy and Resources

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ANNEXURE 2

Plans of Proposal

prepared by

Shoalhaven Starches Pty Ltd

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ANNEXURE 3

Preliminary Hazard Assessment

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ANNEXURE 4

Written Request made pursuant to Clause 4.6

prepared by

Cowman Stoddart Pty Ltd

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