

# MODIFICATION REPORT

APPLICATION TO MODIFY CONCEPT PLAN (MP 10\_0144)  
AND PROJECT APPROVAL (MP 10\_0108)  
TRANSITIONAL STATE SIGNIFICANT INFRASTRUCTURE  
SHOALHAVEN STARCHES GAS PIPELINE PROJECT

MODIFICATION APPLICATION No. 2 (Mod 2)  
(MADE PURSUANT TO SECTION 5.25 OF THE  
ENVIRONMENTAL PLANNING & ASSESSMENT ACT)

PROPOSED RELOCATION OF LOW-PRESSURE GAS PIPELINE  
TO SERVICE FACTORY SITE

Shoalhaven Starches  
Bolong Road, Bomaderry

Prepared for  
SHOALHAVEN STARCHES PTY LTD  
March 2022

## Modification Report

<b>Project</b>	Application to Concept Plan (MP 10_0144 and Project Approval (MP 10_0108), Transitional State Significant Infrastructure Shoalhaven Starches Gas Pipeline Project (Modification Application No. 2 (Mod 1)) Proposed Relocation of Low-Pressure Gas Pipeline to service Factory Site
<b>Address</b>	Bolong Road, Bomaderry
<b>Our ref.</b>	21/1098
<b>Prepared by</b>	Stephen Richardson
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## **EXECUTIVE SUMMARY**

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

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

On the 30<sup>th</sup> October 2012 the Independent Planning Commission approved Concept Plan (MP10\_0144) and Project Application (MP\_10\_0108) for the Shoalhaven Starches Gas Pipeline Project. This project provided for the installation of a 5.5 km gas pipeline connecting the Shoalhaven Starches factory site located at Bolong Road, Bomaderry directly to the Eastern Gas Pipeline (EGP) at Pestells Lane, Meroo Meadow. The pipeline would tie directly into the EGP and provide gas directly to the Shoalhaven Starches factory.

Shoalhaven Starches have recently submitted a Modification Application (Mod 1) that seeks to undertake the following modifications to the project / concept approval:

- The relocation of the approved Gas Pressure Reduction Station (GPRS) that is to be located on the approved Packing Plant site to the north of Bolong Road; and
- The alteration of the diameter of the pipeline which will result in an increase in the diameter of the pipeline from DN 150 to DN 300.

In addition to the above modifications, Shoalhaven Starches now also seek to modify the approved alignment of the low-pressure gas pipeline that will extend from the relocated Gas Pressure Reduction Station (Mod 1) to supply low pressure gas to the existing factory site. Various plant and equipment within the factory site use gas but require it delivered at a lower pressure than that which will be delivered directly to the Gas Fired Co-generation Plant.

It was envisaged under the original Project Approval that the gas from the approved Gas Pressure Reduction Station would directly cross Bolong Road and then be directed through the Shoalhaven Starches factory site. However, following review potential alignments both through the factory site as well as along the southern side of Bolong Road have been found to be constrained by the existence of underground services and infrastructure.

It is therefore proposed to amend the alignment of the low-pressure gas pipeline so that it will travel from the proposed relocated Gas Pressure Reduction Station east across the Shoalhaven

Starches Packing Plant site, under Abernethy's Creek to a point adjacent to the existing low pressure gas pipeline crossing point to the factory site.

Concept Plan Approval 10\_0144 and Project Approval 10\_0108 were transitioned on the 30<sup>th</sup> April 2021 (Government Gazette 174 – Environment) to the State Significant Infrastructure (SSI) under clause 5 of Schedule 2 to the *Environmental; Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*.

As State Significant Infrastructure, any modifications are required to obtain approval from the NSW Minister for Planning pursuant to Section 5.25 of the Environmental Planning & Assessment Act.

The preparation of this Modification Report has been undertaken following consultation with the DPIE, the EPA, The Natural Resource Access Regulator (NRAR), Fire & Rescue NSW, and Shoalhaven City Council.

The Modification Report is supported by the following expert assessments:

- The Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management (PRM) for the Shoalhaven Starches Expansion Project Mod 23 (Co-generation Plant Modification) also addressed the pipeline connections from the Gas Pressure Reduction Station to the site, including the low-pressure gas pipeline the subject of this Modification Application. PRM have revised this previous PHA, with respect to the relocation of this low-pressure gas pipeline (**Annexure 3**), that assesses the risks associated with the proposed modification and provides a comparison against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable. With specific reference to the low-pressure gas pipeline the PHA recommends that:
  - *Include the pipe design controls as detailed in AS2885, in particular, for the section of the low-pressure pipe under Abernethy's Creek given the risk of corrosion and possible scouring and wash-away events.*
- A Geotechnical – Creek Bank Stability, Contamination and Acid Sulphate Soil Assessment prepared by GHD (**Annexure 4**) that addresses, site contamination, acid sulphate soils and riverbank stability issues. This assessment concludes:
  - In terms of the impacts on the stability of the banks of Abernethy's Creek based on the current site conditions, GHD's previous stability assessment of the western bank of the creek and recommended control measures to be implemented by the contractor, according to GHD the proposed development of the pipeline under the creek should not result in an increased risk of slope instability of the creek banks for this section of Abernethy's Creek.

- With respect to site contamination, GHD indicate the likelihood for contamination to exist at the site is low. GHD conclude no further investigation is warranted. Although the likelihood for contamination was assessed as low, GHD recommend that a Construction Environmental Management Plan (CEMP) be prepared to manage the occurrence of potential contamination, buried waste, demolition waste, ACM, etc. in all parts of the site during construction. The CEMP should also include an Unexpected Finds Protocol (UFP). GHD advise that they have prepared a CEMP on behalf of National Australian Pipelines Pty Ltd, contracted by Manildra for the installation of the proposed gas pipeline.
- In relation to the potential presence of Acid Sulphate Soils (ASS), GHD indicate that ASS are likely to be encountered within the lower lying areas, within the north and east, adjacent to Abernethy's Creek. ASS are likely to be sporadic and possibly occur in lenses. Soft to very soft soils were encountered approximately adjacent to Abernethy's Creek, to depths between 4.0 m and 9.8 m bgl. The clays were estuarine and described as dark grey high plasticity with silts, sands and shell fragments. The section of the proposed gas pipeline crossing Abernethy's Creek is likely to pass through these soft soil areas and likely to intercept ASS, and groundwater.

According to GHD an acid sulphate soil management plan (ASSMP) should be prepared to appropriately manage the disturbance of ASS and mitigating potential acid generation and impacts to groundwater and adjacent waterbodies. GHD advise that they have prepared an ASSMP on behalf of the National Australian Pipelines Pty Ltd, contracted by Manildra for the installation of the proposed gas pipeline.

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

The Modification Report concludes that the proposed modifications will not have significant adverse environmental impacts and the development to which Concept Plan (MP 10\_0144) and Project Approval (MP 10\_0108) as modified by the Modification Application relates, will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

## **1.0 INTRODUCTION**

On 30<sup>th</sup> October 2012, the Independent Planning Commission approved Concept Plan (MP 10\_0144) and Project Application (MP 10\_0108) for the Shoalhaven Starches Gas Pipeline Project. This project provided for the installation of a 5.5 km gas pipeline connecting the Shoalhaven Starches factory site located at Bolong Road, Bomaderry directly to the Eastern Gas Pipeline (EGP) at Pestells Lane, Meroo Meadow. The pipeline would tie directly into the EGP and provide gas directly to the Shoalhaven Starches factory.

Shoalhaven Starches have recently submitted a Modification Application (Mod 1) that seeks to undertake the following modifications to the project / concept approval:

- The relocation of the Gas Pressure Reduction Station (GPRS) that is to be located on the approved Packing Plant site to the north of Bolong Road; and
- The increase in the diameter of the pipeline from DN 150 to DN 300.

In addition to the above modifications, Shoalhaven Starches now also seek to modify the approved alignment of the low-pressure gas pipeline that will extend from the relocated Gas Pressure Reduction Station (Mod 1) to supply low pressure gas to the existing factory site. Various plant and equipment within the factory site use gas but require it to be delivered at a lower pressure than that which will be delivered directly to the Gas Fired Co-generation Plant.

It was envisaged under the original Project Approval that the gas from the approved Gas Pressure Reduction Station would directly cross Bolong Road and then be directed through the Shoalhaven Starches factory site. However, following review potential alignments both through the factory site as well as along the southern side of Bolong Road have been found to be constrained by the existence of underground services and infrastructure.

It is therefore proposed to amend the alignment of the low-pressure gas pipeline so that it will travel from the proposed relocated Gas Pressure Reduction Station east across the Shoalhaven Starches Packing Plant site, under Abernethy's Creek to a point adjacent to the existing low pressure gas pipeline crossing point to the factory site.

Concept Plan Approval 10\_0144 and Project Approval 10\_0108 were transitioned on the 30<sup>th</sup> April 2021 (Government Gazette 174 – Environment) to the State Significant Infrastructure under clause 5 of Schedule 2 to the *Environmental; Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*.

As State Significant Infrastructure, any modifications are required to obtain approval from the NSW Minister for Planning pursuant to Section 5.25 of the Environmental Planning & Assessment Act.

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

The Modification Application is made pursuant to Section 5.25 of the Environmental Planning & Assessment Act. This Modification Report has been prepared in support of the Modification Application.

The Modification Report has been prepared following consultation with the:

- DPIE;
- EPA;
- NRAR;
- Fire & Rescue NSW;
- Shoalhaven City Council.

Responses from the above government agencies that have been received at the time of preparing this Modification Report are included as **Annexure 1** to this report.

The Modification Application is supported by plans included in **Annexure 2**, and the following expert assessment reports:

- A Preliminary Hazard Analysis prepared by Pinnacle Risk Management (**Annexure 3**).
- A Geotechnical – Creek Bank Stability, Contamination and Acid Sulfate Soil Assessment, prepared by GHD (**Annexure 4**).

It is considered that the components associated with this Modification Application will not have any significant adverse environmental impacts; and as a result of this Modification Application the development to which Concept Plan (MP 10\_0144) and Project Approval (MP 10\_0108) as modified relates will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

## **2.0 SUBJECT LAND**

The Shoalhaven Starches Gas Pipeline Project provided for the installation of a 5.5 km gas pipeline connecting the Shoalhaven Starches factory site located at Bolong Road, Bomaderry directly to the Eastern Gas Pipeline (EGP) at Pestells Lane, Meroo Meadow. The pipeline would tie directly into the EGP and provide gas directly to the Shoalhaven Starches factory.

Section 3.2.1 of the Environmental Assessment that supported the original Concept Plan and Project Application outlined the pipeline would tie-in to the EGP at the existing Bomaderry Meter Station and travel along the following general route as denoted in **Figure 1**.

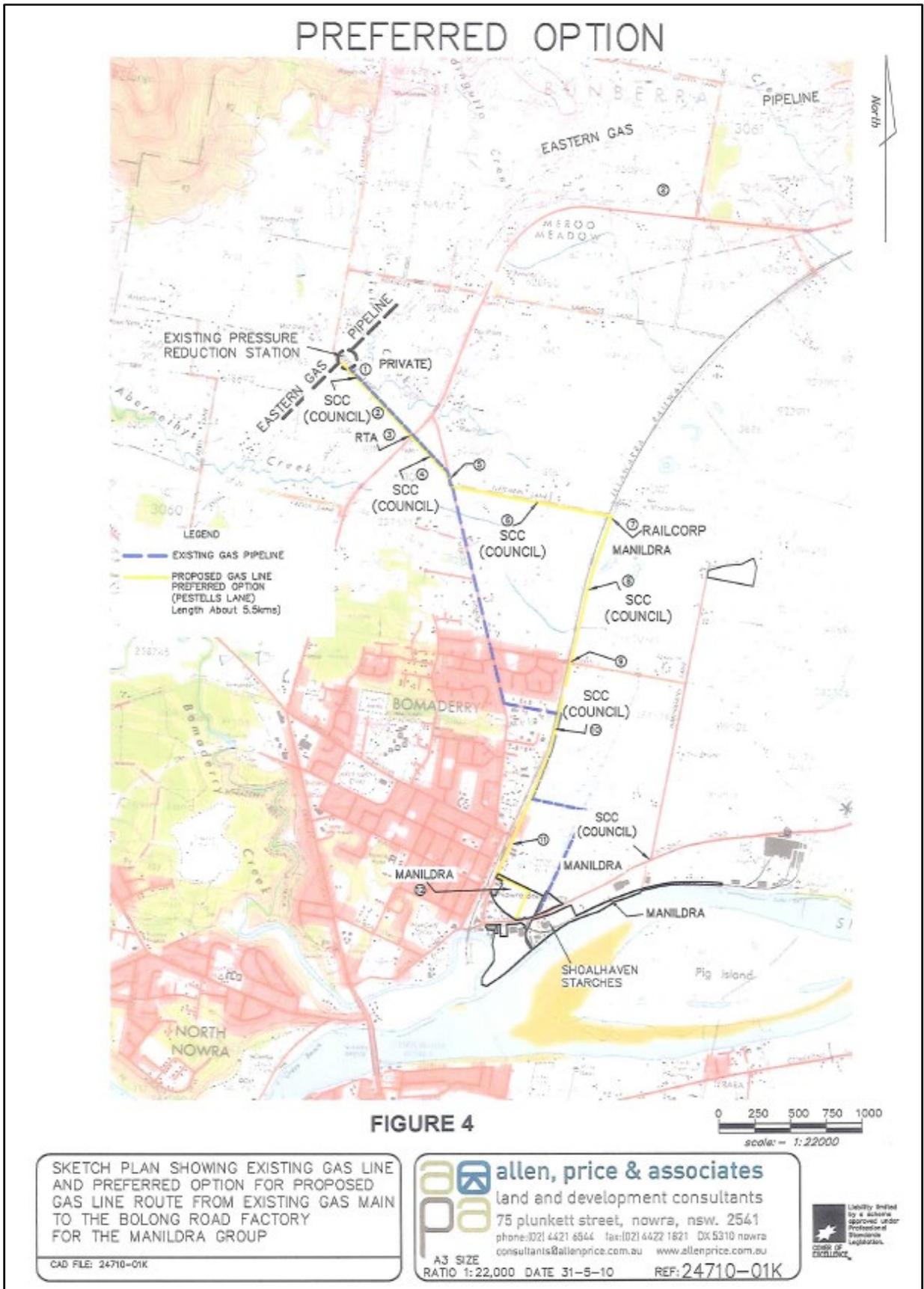
- Follow Pestells Lane in a south-easterly direction;
- Cross Princes Highway and follow the transmission line easement to Meroo Road;
- Cross Meroo Road and travel south to Fletchers Lane;
- Follow Fletchers Lane east to the railway tracks;
- Cross railway tracks and follow road easement adjacent to rail easement in a generally southerly direction to Edwards Avenue;
- Cross Edwards Avenue and continue in a southerly direction;
- Change of direction – head in an easterly direction; and
- Change of direction – head in a southerly direction until pressure reduction facility is reached.

This Modification Application does not seek to change the approved route of the pipeline, except for a short section of the low pressure gas pipeline extending from the Gas Pressure Reduction Station (as proposed to be modified under Mod 1) that is situated within the approved Packing Plant site east across the Shoalhaven Starches Packing Plant site, under Abernethy's Creek, to a point adjacent to the existing low pressure gas pipeline crossing point to the factory site (ie. under Bolong Road similar to the existing natural gas supply pipeline).

The land associated with this Modification Application comprises:

- Lot 2 DP 538289;
- Lot 16 DP 1121337
- Lot 1 DP 3885;
- Lot 241 DP 1130535; and
- Lands under Abernethy's Creek and Bolong Road.

**Figure 2** is a site locality plan identifying the location of these allotments; **Figures 3** and **4** are aerial photographs of these allotments.



**Figure 1: Approved route of Gas Pipeline Project.**

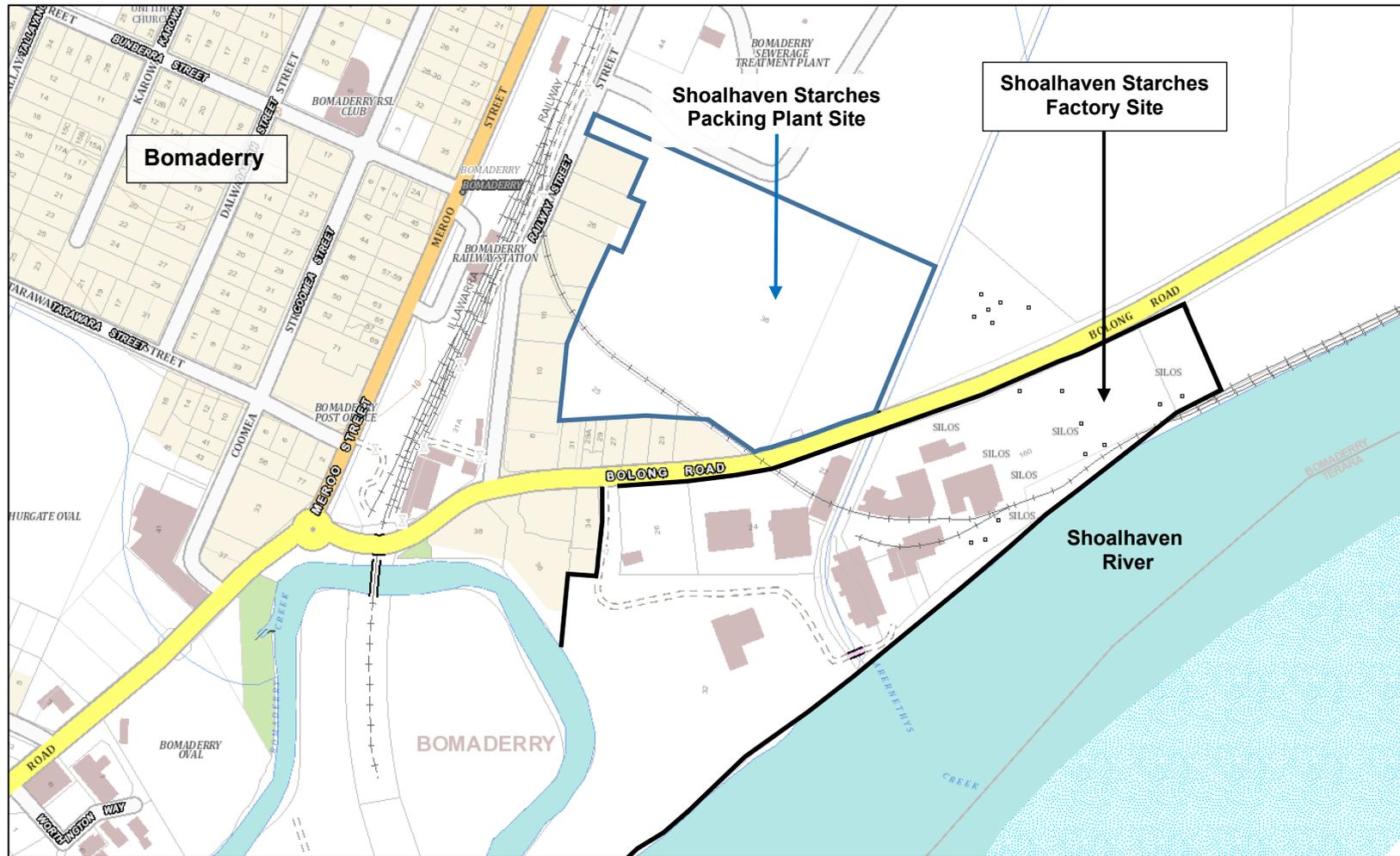


Figure 2: Site Locality Plan.



**Figure 3: Aerial photograph of locality.**

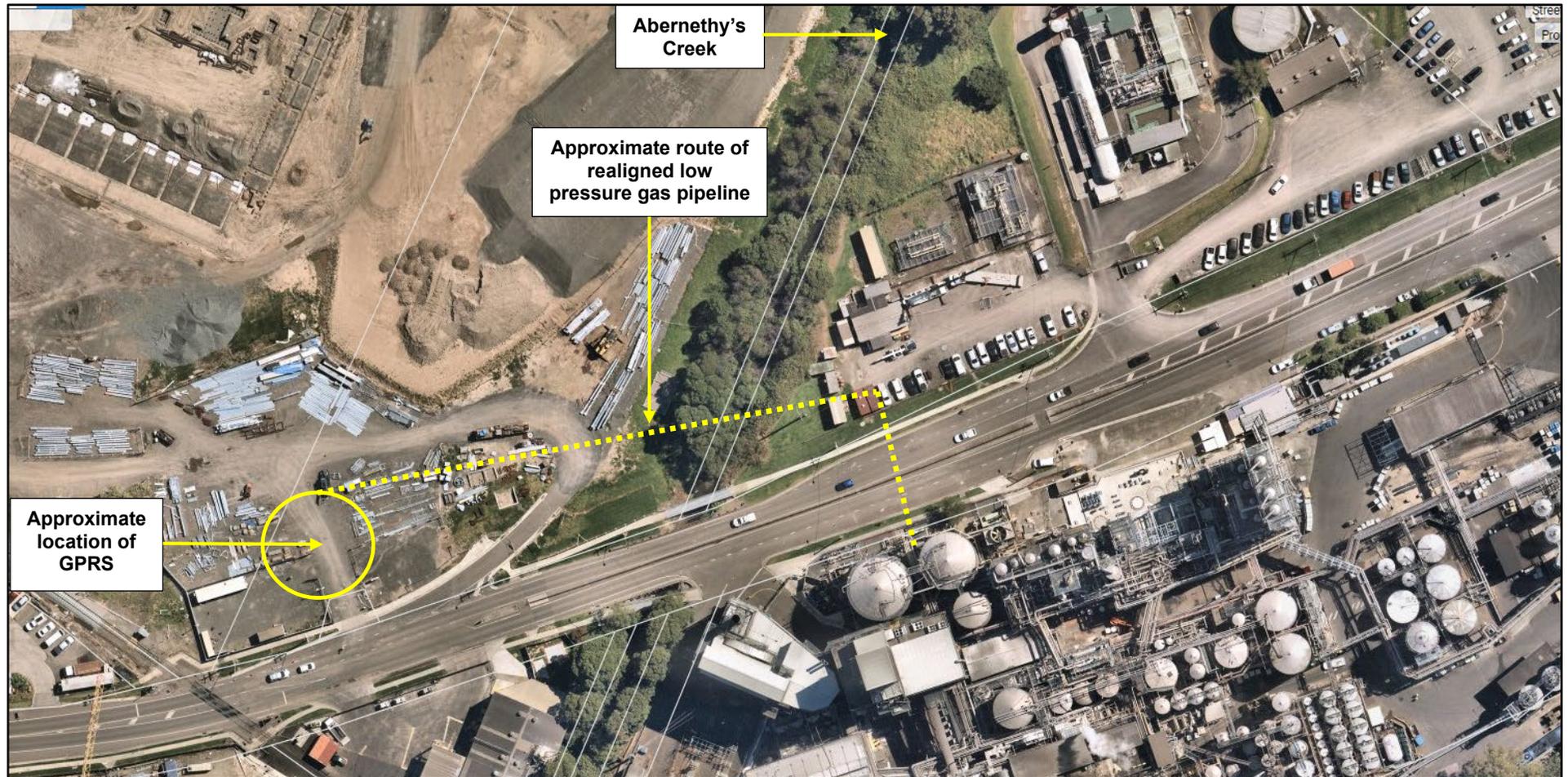


Figure 4: Aerial photograph of location of proposed works.

## **3.0 BACKGROUND**

### **3.1 PRODUCTION PROCESSES**

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

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

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

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

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

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

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

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

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

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

### **3.2 THE SHOALHAVEN STARCHES GAS PIPELINE PROJECT**

On the 30<sup>th</sup> October 2012 the Independent Planning Commission approved Concept Plan (MP10\_0144) and Project Application (MP\_10\_0108) for the Shoalhaven Starches Gas Pipeline Project. This project provided for the installation of a 5.5 km gas pipeline connecting the Shoalhaven Starches factory site located at Bolong Road, Bomaderry directly to the Eastern Gas Pipeline (EGP) at Pestells Lane, Meroo Meadow. The pipeline would tie directly into the EGP and provide gas directly to the Shoalhaven Starches factory.

As part of the project, a metering facility would be installed at the tie-in location at Meroo Meadow. In addition, a Gas Pressure Reduction Station would be installed at the end of the pipeline to ensure a continuous pressure of 4000 kPa was maintained to service both the factory as well as the proposed Gas Co-generation Plant that has been approved for the Shoalhaven Starches factory site as part of the Minister's approval for the Shoalhaven Starches Expansion Project (MP06\_0228).

Following the 2009 approval by the Minister for Planning of the Shoalhaven Starches Expansion Project, production of ethanol at the Shoalhaven Starches factory has increased in a staged manner from the original approved level of 126 ML per year to 300 ML per year. The energy requirements for the Shoalhaven Starches operations increased substantially as a result of this approval.

At present the Shoalhaven Starches site is connected to the EGP by a private lateral gas pipeline owned by EVO Energy.

Shoalhaven Starches have been investigating ways in which they can reduce their energy costs including through improved competition within the gas supply market to accommodate their approved expansion plans.

To address this situation Shoalhaven Starches have obtained Concept and Project Approval to construct their own pipeline to connect the factory site directly to the EGP. This project will enable Shoalhaven Starches to gain direct access to the EGP and the various gas retailers who transport gas along the EGP. Shoalhaven Starches will then be able to take advantage of competition between gas retailers and seek an improved cost of supply of gas for their operations.

Condition No. 6 of the Project Approval for the Shoalhaven Starches Gas Pipeline Project required that the approval would lapse if the works associated with the approval were not physically commenced within 5 years of the date of the approval (ie. 30 October 2017). In November 2012 Allen Price & Scarratts Surveyors carried out various survey activities including fieldwork on the site of the Project and in connection with the Concept and Project Approval. It is Shoalhaven Starches view that the work undertaken by Allen Price & Scarratts was sufficient to meet the requirements of condition 6 of this Project Approval.

Under these circumstances it is Shoalhaven Starches view that physical works have commenced on this project in accordance with condition No. 6 of the Project and Concept Approvals.

It is understood that following the repeal of Part 3A of the Environmental Planning & Assessment Act any modifications to Concept and Project Approvals MP 10\_0144 and MP 10\_0108; these approvals will be required to be transitioned to State Significant Infrastructure (SSI) under Part 5 of the Environmental Planning & Assessment Act 1979 (EPA&A Act).

This is the first Modification Application with respect to this Concept and Project Approval for this transitioned State Significant Infrastructure.

## **4.0 CONSULTATION**

Prior to the preparation of this Modification Report consultation has been undertaken with:

- Department of Planning, Industry and Environment (DPIE).
- EPA;
- Natural Resource Access Regulator (NRAR);
- NSW Fire & Rescue.
- Shoalhaven City Council (SCC).

An initial scoping meeting request was submitted to the Department on the 1<sup>st</sup> November 2021. DPIE outlined in an email dated 26<sup>th</sup> November 2021 (**Annexure 1**) that the approach outlined in the scoping meeting request did not raise any major concerns with the issues listed. DPIE however, indicated that biodiversity impacts associated with the crossing of Abernethy's Creek and its associated riparian vegetation corridor. DPIE advise that they will have to be satisfied that there are no further biodiversity impacts over the original assessment in order to not require a BDAR. Due to this, the modification report should include discussion on the impacts on vegetation and the construction method crossing the riparian area. This issue is further addressed in Section 7.2.7 of this report.

Written consultation was undertaken separately with the EPA, NRAR, NSW Fire & Rescue, and SCC. At the time of preparing this Modification Report responses have only been received from the EPA and SCC and are also included in **Annexure 1** to this report. The following is a summary of the responses made by government agencies to this proposal at the time of preparing this report.

### **EPA**

*Thank you for your email on 15 November 2021 seeking comments from the NSW Environment Protection Authority (EPA) to assist in the preparation of the Modification Application (the application) for Shoalhaven Starches Gas Pipeline Project (Mod 2) to modify existing approvals MP10\_0144 and MP10\_0108.*

*The EPA has reviewed the Scoping Meeting Request submission for the proposed modification and recommends the application consider any potential impacts on waters during construction and proposes management and mitigation measures to ensure compliance with s120 of the Protection of the Environment Operations Act 1997 (POEO Act) which prohibits the pollution of waters.*

*Additionally, the EPA advises that all construction activities should be carried out with due diligence and duty of care and in accordance with best management practices.*

*The EPA notes that formal comment will be provided if approached by the Department of Planning, Industry and Environment (DPIE). If you have any*

*questions or wish to discuss the matter further, please contact Lisa Fane on (02) 6229 7002 or at [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)*

### Comment

- Condition 18 (Schedule 3) of the original Project Approval requires the preparation and implementation of a Soil and Water Management Plan (S&WMP) for the project. The S&WMP is required to be prepared in consultation with both Council and the NSW Office of Water. Furthermore, the S&WMP is required to be documented in the projects Construction Environmental Management Plan (condition 1 (Schedule 4) under the Project Approval. The proposed modified works associated with this Modification Application will need to be addressed as part of S&WMP.

Under these circumstances the Project Approval already makes provision for the implementation of feasible and reasonable sediment and erosion control measures to ensure the proposed approved works (as modified) will not cause pollution of waters in conjunction with this project.

### **SCC**

#### ***Development Engineering Comments/Requirements:***

1. *It is requested that the construction methodology for how the pipeline is to cross Abernethy's Creek be provided with the application. It is also noted that detailed survey of the constructed pipeline will be conditioned to be provided to Council, i.e. Work-as-executed plans.*

#### ***Environmental Health Comments/Requirements:***

2. *As the proposal involves the realignment of the low-pressure pipeline, the findings of the previous hazard analysis must be reviewed. A Preliminary Hazard Analysis will need to accompany the application.*
3. *In relation to riverbank stability, it is considered that an assessment should be undertaken of the potential impacts that the proposed relocated gas pipeline will have on the stability of the banks of Abernethy's Creek and any recommendations to mitigate such impacts. It is requested that the proposed modifications to the development observes the relevant principals of section 5 of the Water Management Act 2000.*
4. *In relation to acid sulphate soils, the location of the relocated pipeline route has not been the subject of previous consideration. It is considered that a preliminary Acid Sulphate Soils assessment should be undertaken for the realigned pipeline route and to accompany the application.*
5. *In relation to site contamination, the location of the relocated pipeline route has not been the subject of previous consideration. It is considered that a site contamination assessment should be undertaken for the realigned pipeline route and to accompany the application.*

Comment

- The geotechnical assessment undertaken by GHD discusses construction recommendations for the crossing of Abernethy's Creek (**Annexure 4**).
- The Modification Application is supported by a Preliminary Hazard Assessment prepared by Pinnacle Risk Management (**Annexure 3**).
- The geotechnical assessment undertaken by GHD includes an assessment of potential impacts of the proposed works on the banks of Abernethy's Creek (**Annexure 4**).
- The assessment carried out by GHD (**Annexure 4**) includes an assessment of Acid Sulphate Soils.
- The assessment carried out by GHD (**Annexure 4**) includes an assessment of site contamination in relation to the location of the proposed works.

## **5.0 PROPOSED MODIFICATION TO CONCEPT APPROVAL MP 10\_0144 AND PROJECT APPROVAL**

### **5.1 THE MODIFICATION PROPOSAL**

Shoalhaven Starches have been reviewing the design requirements for the Shoalhaven Starches Gas Pipeline Project and have submitted a separate Modification Application (Mod 1) to undertake the following modifications to the project / concept approval:

- To relocate the approved location of the Gas Pressure Reduction Facility (GPRF) that is to be located on the approved Packing Plant site to the north of Bolong Road; and
- To alter the internal diameter of the pipeline which will result in an increase in the internal diameter of the pipeline from DN 150 to DN 300.

Shoalhaven Starches will however also need to modify the approved alignment of the low-pressure gas pipeline that will extend from the relocated Gas Pressure Reduction Station (under Mod 1) to supply low pressure gas to the existing factory site. Various plant and equipment within the factory site use gas but require it delivered at a lower pressure than that which will be delivered directly to the Gas Fired Co-generation Plant.

It was envisaged under the original Project Approval that gas from the approved Gas Pressure Reduction Station would directly cross Bolong Road and then be directed through the Shoalhaven Starches factory site. However, following review, potential alignments both through the factory site as well as along the southern side of Bolong Road have been found to be constrained by the existence of underground services and infrastructure.

It is therefore proposed to amend the alignment of the low-pressure gas pipeline so that it will travel from the proposed relocated Gas Pressure Reduction Station east across the southern part of the Shoalhaven Starches Packing Plant site; under Abernethy's Creek, and then continue east to a point adjacent to the existing low pressure gas pipeline crossing point before then crossing Bolong Road to service the factory site.

Plan details of the proposed relocated alignment for the low-pressure gas pipeline are included as **Annexure 2** to this SEE.

### **5.2 CONSTRUCTION METHODOLOGY**

The proposed pipe to be used in the low pressure line will be steel DN450 x 42 PSL1, 6.4 mm wall thickness, with a coating of 1000 microns of HBE95. The exception however will be where the pipeline crosses Bolong Road where the pipe will comprise DN450 x 42 PSL2, 9.5 mm wall thickness with a coating of 1000 microns of HBE95.

With the exception as to where the pipeline crosses Abernethy's Creek and Bolong Road, the pipeline will be laid in an open cut trench with dimensions generally:

- Width – 800 mm;
- Depth – 2 metres.

The exception to the above dimensions will be where pipe is required to be jointed together where the trench dimensions will be:

- Width – 1.9 metres;
- Depth – 2.5 metres.

Within the sections where trenching is proposed, bedding and padding material will be placed above, below and besides the pipe (usually 150 mm all around the pipe).

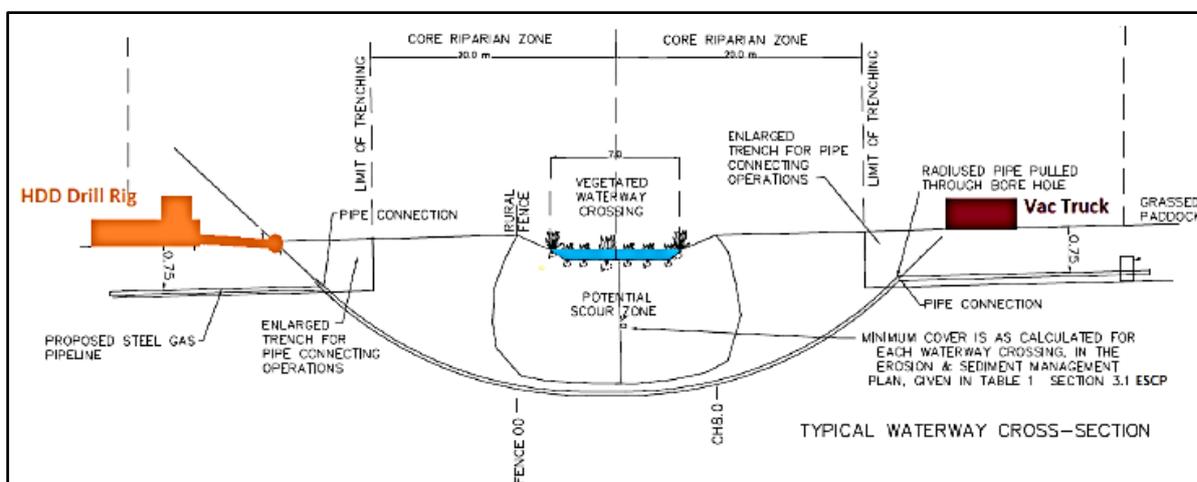
Material that is excavated for the trench will be used for backfilling above the padding layer. 20 mm DGB to RMS specifications will be used for backfilling the trench within the Bolong Road carriageway and footpath.

The majority of the pipeline will be buried. The only areas where the pipe will transition from below to above ground will be at the GPRF and the plant header tie in points.

Installation of the pipeline under Abernethy's Creek will be undertaken by Horizontal Directional Drilling (HDD). The entry and exits points for the HDD will be greater than 35 metres from the banks of Abernethy's Creek. As a result any trenches associated with the pipeline will be set back 35 metres from the banks of the creek.

- The pipe to be used below Abernethy's Creek will be DN450 steel.
- The bore length will be 90 metres.
- The maximum depth to the top of the pipe under the creek bed will be 4 metres.

**Figure 5** below provides a layout of the HDD.



**Figure 5: Layout of HDD.**

## **6.0 SECTION 5.25 OF THE EP&A ACT**

Concept Plan Approval 10\_0144 and Project Approval 10\_0108 were transitioned on the 30<sup>th</sup> April 2021 (Government Gazette 174 – Environment) to the State Significant Infrastructure under clause 5 of Schedule 2 to the *Environmental; Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*.

As State Significant Infrastructure, any modifications are required to obtain approval from the NSW Minister for Planning pursuant to Section 5.25 of the Environmental Planning & Assessment Act.

This application is made pursuant to Section 5.25 of the Environmental Planning & Assessment (EP&A) Act.

Section 5.25 of the EP&A Act reads:

### **5.25 Modification of Minister's approval** *(cf previous s 115ZI)*

(1) *In this section—*

**Minister's approval** means an approval to carry out State significant infrastructure under this Division, and includes an approval granted on the determination of a staged infrastructure application.

**modification** of an approval means changing the terms of the approval, including revoking or varying a condition of the approval or imposing an additional condition on the approval.

(2) *The proponent may request the Minister to modify the Minister's approval for State significant infrastructure. The Minister's approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval under this Division.*

#### **Note—**

*Section 380AA of the Mining Act 1992 provides that a request for the modification of approval for State significant infrastructure for the mining of coal can only be made by or with the consent of the holder of an authority under that Act in respect of coal and the land concerned.*

(3) *The request for the Minister's approval is to be lodged with the Planning Secretary. The Planning Secretary may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*

(4) *The Minister may modify the approval (with or without conditions) or disapprove of the modification.*

This Modification Report has been prepared in accordance with the provisions of Section 5.25 of the EP&A Act.

The Modification Report provides an assessment of the relevant environmental and social impacts associated with the proposed modification to assist the community and government agencies and the approval authority make informed submissions and decision on the merits of this modification.

## 7.0 STRATEGIC AND STATUTORY CONTEXT

This section of the Modification Report will deal with those strategic and statutory planning provisions that relate to the land associated with this Modification Proposal.

### 7.1 ENVIRONMENTAL PLANNING INSTRUMENTS

#### 7.1.1 State Environmental Planning Policies

**Table 1** details State Environmental Planning Policies (SEPP) that apply to the land and whether they are applicable to the proposal.

**Table 1**  
**State Environmental Planning Policies that Apply to the Subject Site**

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

**Table 1 (continued)**

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

**SEPP – Infrastructure**

This SEPP aims to facilitate the effective delivery of infrastructure across the state and those appropriate agencies are made aware of and are given an opportunity to make representations in respect of certain development,

Division 12A of the SEPP relates to Pipelines. Clause 66A of the SEPP states:

**66A Development permitted without consent**

- (1) *Development for the purpose of a pipeline may be carried out by any person without consent on any land if the pipeline is subject to a licence under the Pipelines Act 1967 or a licence or authorisation under the Gas Supply Act 1996.*

Whilst the proposed pipeline will require a licence under either the *Pipelines Act 1967* or the *Gas Supply Act 1996*, such an approval has not yet been issued. Under these circumstances the proposed pipeline is required to obtain consent under Part 5 of the EP&A Act.

Division 17 of the SEPP relates to Road and Traffic infrastructure while Schedule 3 of the SEPP outlines traffic generating development which requires referral to Roads and Maritime Services (RMS). The proposal does not trigger the criteria in this Schedule that would warrant the development application being referred to the RMS, and therefore the provisions of this SEPP would not apply to this proposal.

**SEPP No. 33 – Hazardous and Offensive Development**

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

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

The Modification Proposal is supported by a Preliminary Hazard Analysis prepared by Pinnacle Risk Management Pty Ltd (“Pinnacle Risk:”) in accordance with the provisions of this SEPP (**Annexure 3**). Pinnacle Risk have undertaken a review of the works associated with this current Modification Proposal and assessed and compared the proposed works against relevant risk criteria.

### ***SEPP (Coastal Management) 2018***

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

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

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

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

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

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

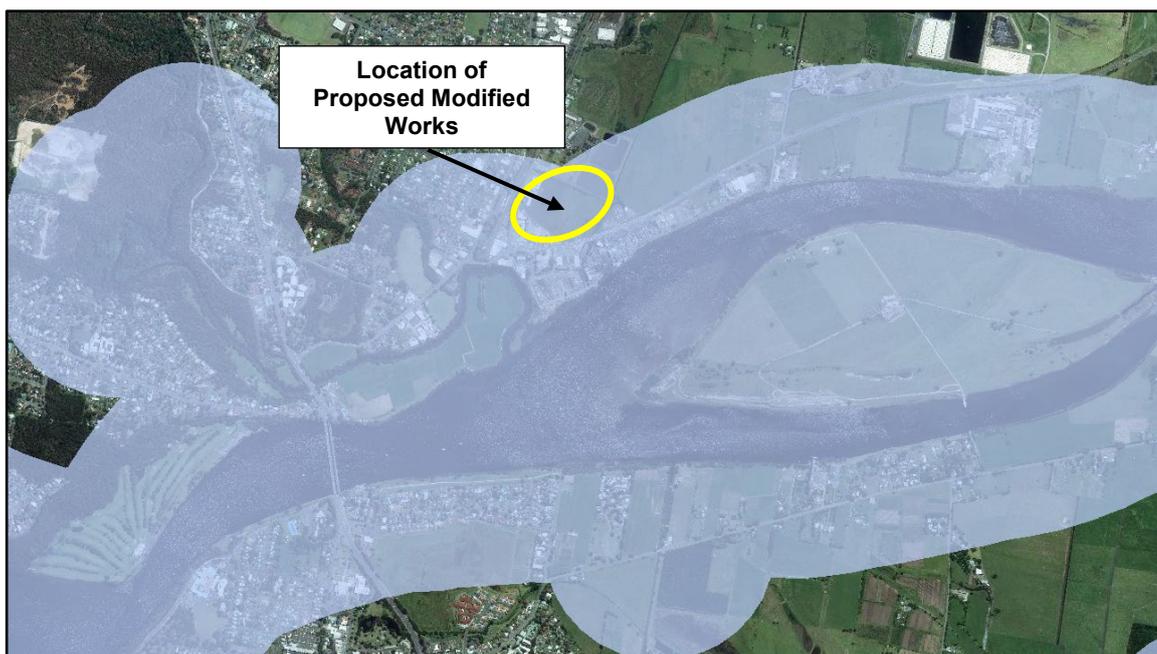
***Coastal Wetlands and Littoral Rainforests Area.***

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

***Coastal Environment Area***

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

The subject land is mapped under the NSW Coastal Management SEPP Mapping as being located within the Coastal Environment Area as seen below in **Figure 6**.



**Figure 6: NSW Coastal Management SEPP: Coastal Environment Area Map.**

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

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

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

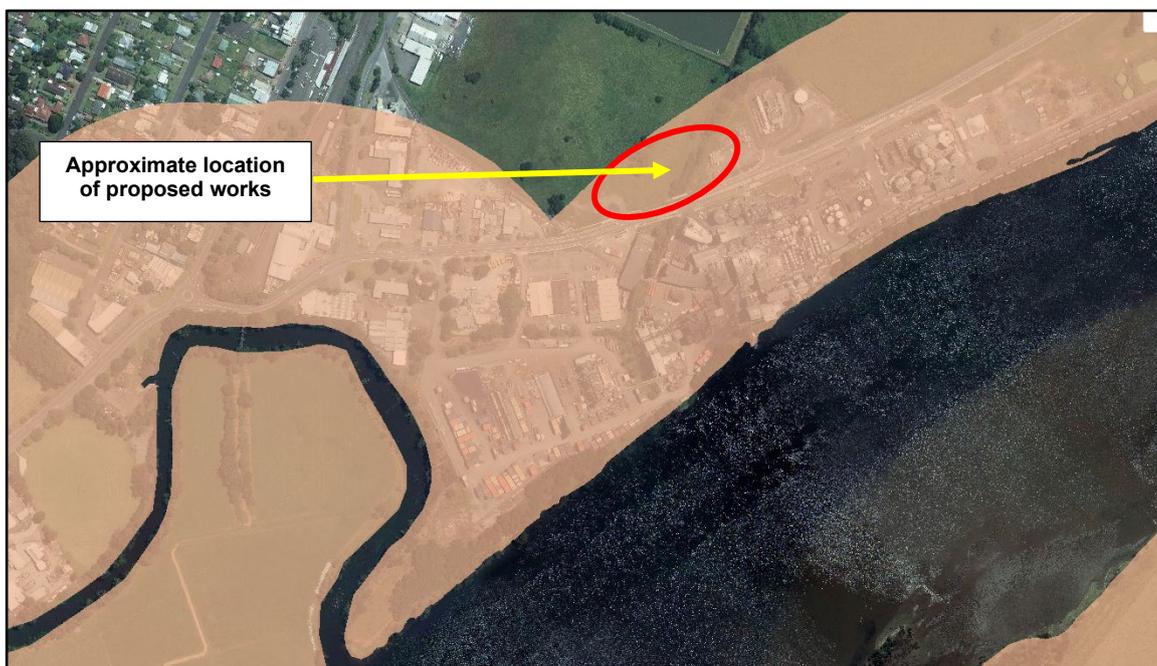
Comment:

- The proposal is not near a headland or rock platform and as such does not impact on public access to these areas.
- The proposal will not adversely impact on the visual amenity and scenic qualities of the coast.
- The proposal involves works confined within the existing disturbed areas including the approved Packing Plant site and BOC CO2 plant sites. It is unlikely to impact on items of Aboriginal cultural heritage.
- The proposal involves works within the existing approved Packing Plant site that is presently under construction and will not impact upon the integrity or resilience of the biophysical or ecological environment. The works will involve underboring of Abernethy's Creek. No vegetation disturbance is proposed. This report is supported by a geotechnical assessment associated with these works and the stability of the creek (**Annexure 4**).

- The proposal will incorporate erosion and sediment control measures to minimise impact on the water quality of the adjoining watercourses (refer condition 18 (Schedule 3) of the Project Approval).
- 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 partly within the Coastal Use zone as seen below in **Figure 7**. As such the provisions which apply to this mapping are relevant to the proposed development.



**Figure 7: NSW Coastal Management SEPP: Coastal Use Area Map.**

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

- (1) *Development consent must not be granted to development on land that is within the coastal use area unless the consent authority:*
  - (a) *has considered whether the proposed development is likely to cause an adverse impact on the following:*
    - (i) *existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*

- (ii) overshadowing, wind funneling and the loss of views from public places to foreshores,*
- (iii) the visual amenity and scenic qualities of the coast, including coastal headlands,*
- (iv) Aboriginal cultural heritage, practices and places,*
- (v) cultural and built environment heritage, and*
- (b) is satisfied that:*
  - (i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or*
  - (ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*
  - (iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and*
- (c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.*

Comment:

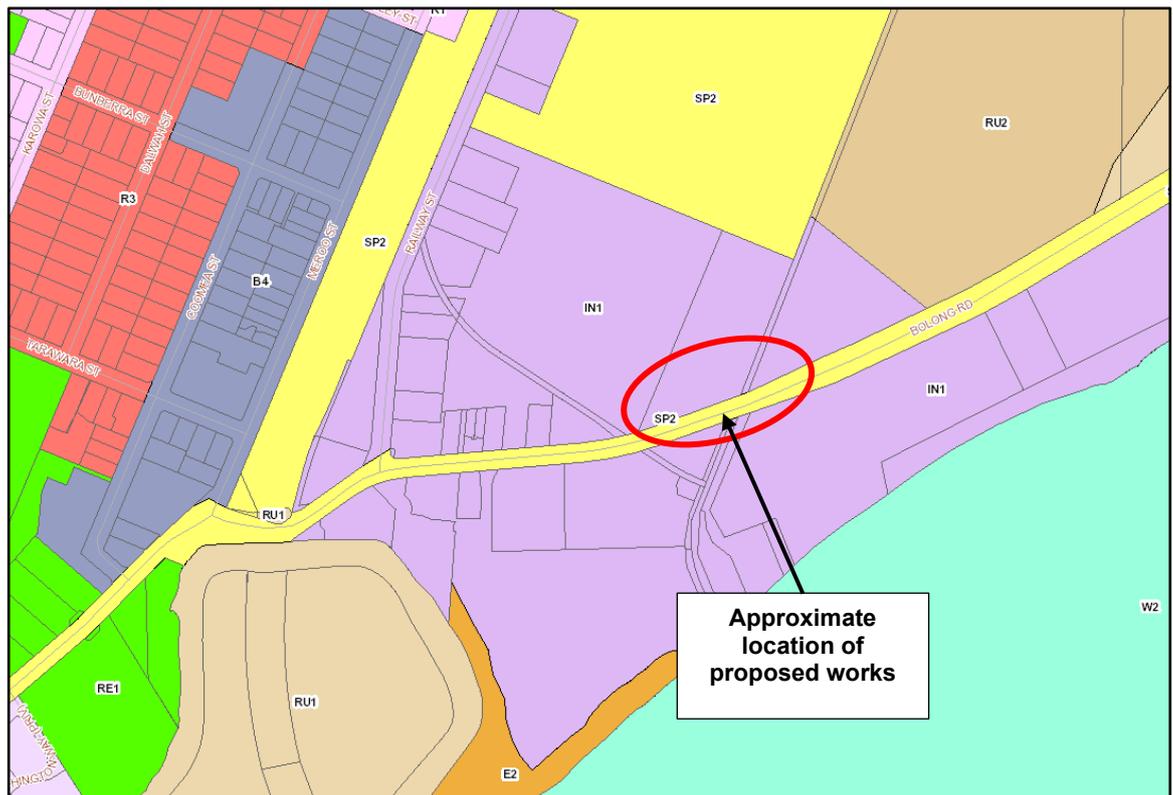
- The proposal will not impact on access to the foreshore. The area of the site associated with this Modification Application is not near a beach, headland or rock platform and as such does not impact on public access to these areas.
- The works associated with this Modification Proposal will not cause overshadowing of the foreshore area or wind funnelling; nor will they 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 within the existing industrial site and that which has already been approved on the subject 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

### **7.1.2 Local Environmental Plan**

#### ***Shoalhaven Local Environmental Plan 2014***

The parcels of land associated with this Modification Application are zoned IN1 General Industrial under the provisions of the Shoalhaven LEP 2014 (refer **Figure 8**).



**Figure 8: Extract of zoning map under the SLEP 2014.**

The objectives of the IN1 zone are:

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*
- *To allow a diversity of activities that do not significantly conflict with the operation of existing or proposed development.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*

It is our view that the proposal is consistent with these objectives as the proposal involves modifications to approved infrastructure associated with an existing industrial facility.

“General industries” are permissible within the IN1 zone subject to consent (**Table 2**). The proposal involves works ancillary to an existing industrial development and are therefore permissible with consent.

**Table 2**  
**Land Use Permissibility – IN1 Zone (Shoalhaven LEP 2014)**

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

The SLEP 2014 also has a number of specific provisions that apply to the land. The implications that these provisions have in relation to this proposal are discussed in **Table 3** below:

**Table 3**  
**Shoalhaven Local Environment Plan Provisions**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
<p><i>Clause 4.3</i>  <i>Height of Buildings</i></p>	<p>(1) <i>The objectives of this clause are as follows:</i></p> <ul style="list-style-type: none"> <li>(a) <i>to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of a locality,</i></li> <li>(b) <i>to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,</i></li> <li>(c) <i>to ensure that the height of buildings on or in the vicinity of a heritage item or within a heritage conservation area respect heritage significance.</i></li> </ul> <p>(2) <i>The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.</i></p> <p>(2A) <i>If the Height of Buildings Map does not show a maximum height for any land, the height of a building on the land is not to exceed 11 metres.</i></p>	<p>Although there is no maximum height specified for the subject land, Clause 4.3(2A) imposes a maximum building height of 11 m where no specific height limit is designated.</p> <p>The works associated with this Modification Application do not involve any strictures above ground level. The provisions of this clause therefore are not relevant to this Modification Proposal.</p>
<p><i>Clause 5.10</i>  <i>Heritage Conservation</i></p>	<p>(1) <i>The objectives of this clause are:</i></p> <ul style="list-style-type: none"> <li>(a) <i>to conserve the environmental heritage of Shoalhaven; and</i></li> <li>(b) <i>to conserve the heritage significance of heritage items and heritage conservation areas including associated fabric, settings and views; and</i></li> <li>(c) <i>to conserve archaeological sites; and</i></li> <li>(d) <i>to conserve Aboriginal objects and Aboriginal places of heritage significance.</i></li> </ul> <p>(2) <i>Development consent is required for any of the following:</i></p> <ul style="list-style-type: none"> <li>(a) <i>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> <ul style="list-style-type: none"> <li>(i) <i>a heritage item,</i></li> <li>(ii) <i>an Aboriginal object</i></li> <li>(iii) <i>a building, work, relic or tree within a heritage conservation area,</i></li> </ul> </li> </ul>	<p>There are no heritage items within the subject land, and the subject site is not located within a heritage conservation area.</p>

**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
5.10 continued	<ul style="list-style-type: none"> <li>(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,</li> <li>(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,</li> <li>(d) disturbing or excavating an Aboriginal place of heritage significance,</li> <li>(e) erecting a building on land:                             <ul style="list-style-type: none"> <li>(i) on which a heritage item is located or that is within a heritage conservation area;</li> <li>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,</li> </ul> </li> <li>(f) subdividing land:                             <ul style="list-style-type: none"> <li>(i) on which a heritage item is located or that is within a heritage conservation area, or</li> <li>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.</li> </ul> </li> </ul>	
Clause 5.21 Flood planning	<ul style="list-style-type: none"> <li>(1) The objectives of this clause are as follows—                             <ul style="list-style-type: none"> <li>(a) to minimise the flood risk to life and property associated with the use of land,</li> <li>(b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,</li> <li>(c) to avoid adverse or cumulative impacts on flood behaviour and the environment,</li> <li>(d) to enable the safe occupation and efficient evacuation of people in the event of a flood.</li> </ul> </li> <li>(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—</li> </ul>	<p>The subject site is inundated during the 1% Annual Exceedance Probability (AEP) flood event by floodwaters from the Shoalhaven River. The relocation of the low-pressure gas pipeline however will have no impact on flooding as the pipe is underground and it is only during the construction phase that consideration is required for the potential impacts on the environment and during flood events.</p>

**Table 3 (continued)**

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

**Table 3 (continued)**

SLEP 2014 Clause	Provisions	Comments												
5.21 continued	<p>(5) <i>In this clause—</i></p> <p><b>Considering Flooding in Land Use Planning Guideline</b> means the <i>Considering Flooding in Land Use Planning Guideline</i> published on the Department’s website on 14 July 2021.</p> <p><b>Flood planning area</b> has the same meaning as it has in the <i>Floodplain Development Manual</i>.</p> <p><b>Floodplain Development Manual</b> means the <i>Floodplain Development Manual</i>(ISBN 0 7347 5476 0) published by the NSW Government in April 2005.</p>													
Clause 7.1 Acid sulphate soils	<p>(1) <i>The objective of this clause is to ensure that development does not disturb, expose or drain acid sulphate soils and cause environmental damage.</i></p> <p>(2) <i>Development consent is required for the carrying out of works described in the Table to this subclause on land shown on the Acid Sulphate Soils Map as being of the class specified for those works, except as provided by this clause.</i></p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: center;">Class of Land</th> <th style="text-align: center;">Works</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Any works.</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Works below the natural ground surface. Works by which the watertable is likely to be lowered.</td> </tr> <tr> <td style="text-align: center;">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 style="text-align: center;">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 style="text-align: center;">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> </tbody> </table>	Class of Land	Works	1	Any works.	2	Works below the natural ground surface. Works by which the watertable is likely to be lowered.	3	Works more than 1 metre below the natural ground surface. Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.	4	Works more than 2 metres below the natural ground surface. Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.	5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.	<p>Condition 19 (Schedule 3) of the Project Approval required an Acid Sulphate Soils Management Plan be formulated for the project.</p> <p>An ASS assessment has been undertaken in relation to the relocated pipeline alignment associated with this Modification Proposal by GHD (<b>Annexure 4</b>). This issue is further addressed in Section 7.2.4 of this Modification Report.</p>
Class of Land	Works													
1	Any works.													
2	Works below the natural ground surface. Works by which the watertable is likely to be lowered.													
3	Works more than 1 metre below the natural ground surface. Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.													
4	Works more than 2 metres below the natural ground surface. Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.													
5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.													

**Table 3 (continued)**

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

**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
<p>Clause 7.4 Coastal risk planning</p>	<p>(1) <i>The objectives of this clause are as follows—</i></p> <ul style="list-style-type: none"> <li>(a) <i>to avoid significant adverse impacts from coastal hazards,</i></li> <li>(b) <i>to ensure uses of land identified as coastal risk are compatible with the risks presented by coastal hazards,</i></li> <li>(c) <i>to enable the evacuation of land identified as coastal risk in an emergency,</i></li> <li>(d) <i>to avoid development that increases the severity of coastal hazards.</i></li> </ul> <p>(2) <i>This clause applies to the land identified as “Coastal Risk Planning Area” on the Coastal Risk Planning Map.</i></p> <p>(3) <i>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development—</i></p> <ul style="list-style-type: none"> <li>(a) <i>will avoid, minimise or mitigate exposure to coastal processes, and</i></li> <li>(b) <i>is not likely to cause detrimental increases in coastal risks to other development or properties, and</i></li> <li>(c) <i>is not likely to alter coastal processes and the impacts of coastal hazards to the detriment of the environment, and</i></li> <li>(d) <i>incorporates appropriate measures to manage risk to life from coastal risks, and</i></li> <li>(e) <i>is likely to avoid or minimise adverse effects from the impact of coastal processes and the exposure to coastal hazards, and</i></li> <li>(f) <i>provides for the relocation, modification or removal of the development to adapt to the impact of coastal processes and coastal hazards, and</i></li> <li>(g) <i>has regard to the impacts of sea level rise.</i></li> </ul> <p>(4) <i>A word or expression used in this clause has the same meaning as it has in the NSW Coastal Planning Guideline: Adapting to Sea Level Rise (ISBN 978-1-74263-035-9) published by the NSW Government in August 2010, unless it is otherwise defined in this clause.</i></p> <p>(5) <i>In this clause—</i>  <b>coastal hazard</b> <i>has the same meaning as in the Coastal Management Act 2016.</i></p>	<p>The <i>Coastal Risk Planning Map</i> that accompanies the SLEP 2014 does <u>not</u> identify the subject land as a “<i>Coastal Risk Planning Area</i>”.</p> <p>The provisions of this clause therefore do not apply to the subject site.</p>

**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
<p><i>Clause 7.5 Terrestrial Biodiversity</i></p>	<p>(1) <i>The objective of this clause is to maintain terrestrial biodiversity, by:</i></p> <ul style="list-style-type: none"> <li>(a) <i>protecting native flora and fauna,</i></li> <li>(b) <i>protecting the ecological processes necessary for their continued existence, and</i></li> <li>(c) <i>encouraging the recovery of native flora and fauna, and their habitats.</i></li> </ul> <p>(2) <i>This clause applies to land:</i></p> <ul style="list-style-type: none"> <li>(a) <i>identified as “Biodiversity—habitat corridor” or “Biodiversity—significant vegetation” on the Terrestrial Biodiversity Map, and</i></li> <li>(b) <i>situated within 40m of the bank (measured horizontally from the top of the bank) of a natural waterbody.</i></li> </ul> <p>(3) <i>Before determining a development application for development on land to which this clause applies, the consent authority must consider:</i></p> <ul style="list-style-type: none"> <li>(a) <i>whether the development is likely to have:</i> <ul style="list-style-type: none"> <li>(i) <i>any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and</i></li> <li>(ii) <i>any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and</i></li> <li>(iii) <i>any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and</i></li> <li>(iv) <i>any adverse impact on the habitat elements providing connectivity on the land, and</i></li> </ul> </li> <li>(b) <i>any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</i></li> </ul> <p>(4) <i>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:</i></p> <ul style="list-style-type: none"> <li>(a) <i>the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</i></li> <li>(b) <i>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</i></li> </ul>	<p>The Terrestrial Biodiversity Map that accompanies the SLEP 2014 does <u>not</u> identify the subject land as including areas of Biodiversity - habitat corridor and/or Biodiversity - significant vegetation.</p> <p>It is intended that the crossing of Abernethy’s Creek will be undertaken by under-boring of the creek. In this way there will be no need to disturb any existing vegetation along the banks of the creek and its riparian areas.</p> <p>Given these circumstances this modified project will not involve any further biodiversity impacts over the original assessment undertaken for this Project.</p>

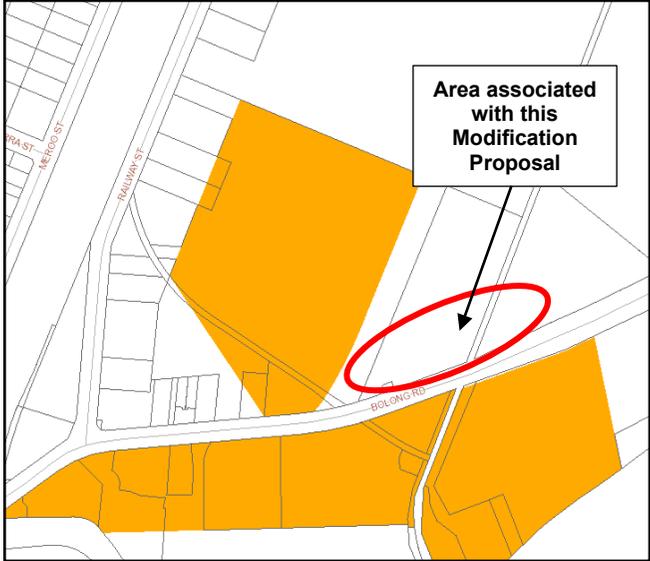
**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
7.5 continued	<p>(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.</p> <p>(5) For the purpose of this clause:  <b>bank</b> means the limit of the bed of a natural waterbody.  <b>bed</b>, of a natural waterbody, means the whole of the soil of the channel in which the waterbody flows, including the portion that is alternatively covered and left bare with an increase or diminution in the supply of water and that is adequate to contain the waterbody at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.</p>	
Clause 7.6 Riparian land and watercourses	<p>(1) The objective of this clause is to protect and maintain the following:</p> <ul style="list-style-type: none"> <li>(a) water quality within watercourses,</li> <li>(b) the stability of the bed and banks of watercourses,</li> <li>(c) aquatic and riparian habitats,</li> <li>(d) ecological processes within watercourses and riparian areas.</li> </ul> <p>(2) This clause applies to all of the following:</p> <ul style="list-style-type: none"> <li>(a) land identified as “Riparian Land” on the Riparian Lands and Watercourses Map,</li> <li>(b) land identified as “Watercourse Category 1”, “Watercourse Category 2” or “Watercourse Category 3” on that map,</li> <li>(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.</li> </ul> <p>(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:</p> <ul style="list-style-type: none"> <li>(a) whether or not the development is likely to have any adverse impact on the following: <ul style="list-style-type: none"> <li>(i) the water quality and flows within the watercourse,</li> </ul> </li> </ul>	<p>The Riparian Lands and Watercourses Map that accompanies the SLEP 2014 identifies a category 2 watercourse Abernethy’s Creek flowing along the eastern boundary of the subject site. The proposed relocated pipeline will cross underneath this watercourse.</p> <p>The proposed crossing of Abernethy’s Creek will be undertaken by underboring the creek. In this way there will be no disturbance to the bank, vegetation or watercourse.</p> <p>Condition 18 (Schedule 3) of the Project Approval already requires the preparation and implementation of a Soil &amp; Water Management Plan for the approved Project. The modified works associated with this Modification Application will be subject to this requirement. This will ensure the modified project will be carried out such that it will not result in adverse impact on local watercourses.</p>

**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
7.6 <i>continued</i>	<p>(ii) <i>aquatic and riparian species, habitats and ecosystems of the watercourse,</i></p> <p>(iii) <i>the stability of the bed and banks of the watercourse,</i></p> <p>(iv) <i>the free passage of fish and other aquatic organisms within or along the watercourse,</i></p> <p>(v) <i>any future rehabilitation of the watercourse and its riparian areas, and</i></p> <p>(b) <i>whether or not the development is likely to increase water extraction from the watercourse, and</i></p> <p>(c) <i>any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.</i></p> <p>(4) <i>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:</i></p> <p>(a) <i>the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</i></p> <p>(b) <i>if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or</i></p> <p>(c) <i>if that impact cannot be minimised—the development will be managed to mitigate that impact</i></p> <p>(5) <i>For the purpose of this clause:</i></p> <p><b>bank</b> <i>means the limit of the bed of a watercourse.</i></p> <p><b>bed</b>, <i>of a watercourse, means the whole of the soil of the channel in which the watercourse flows, including the portion that is alternatively covered and left bare with an increase or diminution in the supply of water and that is adequate to contain the watercourse at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.</i></p>	<p>An assessment has been undertaken by GHD in relation to riverbank stability and Abernethy's Creek (<b>Annexure 4</b>). This issue is further addressed in Section 7.2.3 of this report. In terms of the impacts on the stability of the banks of Abernethy's Creek, based on the current site conditions and GHD's previous stability assessment of the western bank of the creek, according to GHD the proposed development of the pipeline under the creek should not result in an increased risk of slope instability of the creek banks for this section of Abernethy's Creek.</p>

**Table 3 (continued)**

SLEP 2014 Clause	Provisions	Comments
<p><i>Clause 7.7</i>                      Landslide risk and other land degradation</p>	<p>(1) <i>The objective of this clause is to maintain soil resources and the diversity and stability of landscapes, including protecting land:</i></p> <p style="margin-left: 20px;">(a) <i>comprising steep slopes, and</i></p> <p style="margin-left: 20px;">(b) <i>susceptible to other forms of land degradation.</i></p> <p>(2) <i>This clause applies to the following land:</i></p> <p style="margin-left: 20px;">(a) <i>land with a slope in excess of 20% (1:5), as measured from the contours of a 1:25,000 topographical map, and</i></p> <p style="margin-left: 20px;">(b) <i>land identified as “Sensitive Area” on the Natural Resource Sensitivity—Land Map.</i></p> <p>(3) <i>Before determining a development application for development on land to which this clause applies, the consent authority must consider any potential adverse impact, either from, or as a result of, the development in relation to:</i></p> <p style="margin-left: 20px;">(a) <i>the geotechnical stability of the site, and</i></p> <p style="margin-left: 20px;">(b) <i>the probability of increased erosion or other land degradation processes.</i></p> <p>(4) <i>Before granting consent to development on land to which this clause applies, the consent authority must be satisfied that:</i></p> <p style="margin-left: 20px;">(a) <i>the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or</i></p> <p style="margin-left: 20px;">(b) <i>if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or</i></p> <p style="margin-left: 20px;">(c) <i>if that impact cannot be minimised – the development will be managed to mitigate that impact.</i></p> <p>(5) <i>In this clause, topographical map means the most current edition of a topographical map, produced by Land and Property Information division of the Department of Finance and Services, that identifies the Council’s local government area and boundary.</i></p>	<p>The proposed works involve land that is not identified as sensitive land under the SLEP 2014 mapping. This Modification Proposal is therefore not affected by these provisions (<b>Figure 9</b>).</p> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Figure 9: Extract Natural Resource Sensitivity Mapping SLEP 2014</b></p>

**Table 3 (continued)**

<b>SLEP 2014 Clause</b>	<b>Provisions</b>	<b>Comments</b>
<p><i>Clause 7.8 Scenic protection</i></p>	<p>(1) <i>The objective of this clause is to protect the natural environmental and scenic amenity of land that is of high scenic value.</i></p> <p>(2) <i>This clause applies to land identified as “Scenic Protection” on the Scenic Protection Area Map.</i></p> <p>(3) <i>In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must:</i></p> <p style="padding-left: 20px;">(a) <i>consider the visual impact of the development when viewed from a public place and be satisfied that the development will involve the taking of measures that will minimise any detrimental visual impact, and</i></p> <p style="padding-left: 20px;">(b) <i>consider the number, type and location of existing trees and shrubs that are to be retained and the extent of landscaping to be carried out on the site, and</i></p> <p style="padding-left: 20px;">(c) <i>consider the siting of the proposed buildings.</i></p>	<p>The subject land is <u>not</u> identified as being within a “Scenic Protection” area by <i>Scenic Protection Area Mapping</i> that accompanies the SLEP 2014.</p> <p>The provisions of this clause therefore do not apply to the subject site.</p> <p>The visual impact associated with this proposal are discussed in Section 7.2.6 of this Modification Report.</p>

### 7.1.3 Development Control Plans (DCP) and Policies

#### ***Shoalhaven Development Control Plan (DCP) 2014***

Given the nature of the works associated with this modification proposal it is considered the provisions of the Shoalhaven DCP 2014 are not directly relevant to this modification application apart from the provisions of *Chapter G9: Development on Flood Prone Land*. In this regard it should be noted that the works associated with this Modification Application will be underground and therefore not anticipated to have any impacts on flooding.

**Table 4** below however addresses the relevant provisions (Section 5.1) of Chapter G9 of the Shoalhaven DCP 2014.

**Table 4**  
**Performance Criteria – General (Section 5.1 DCP 2014)**  
**Extract from WMAwater Flood Compliance Report**

<i>Performance Criteria</i>	<i>Response</i>
<b>P1 Development or work on flood prone land will meet the following:</b>	
<i>The development will not increase the risk to life or safety of persons during a flood event on the development site and adjoining land.</i>	The proposed works associated with this Modification Application are entirely underground and will not impact on flood flows. No additional workers will be on the site as a result of the proposed works.
<i>The development or work will not unduly restrict the flow behaviour of floodwaters.</i>	The proposed works associated with this Modification Application are entirely underground and will not impact on flood flows
<i>The development or work will not unduly increase the level or flow of floodwaters or stormwater runoff on land in the vicinity.</i> <i>The development or work will not exacerbate the adverse consequences of floodwaters flowing on the land with regard to erosion, siltation and destruction of vegetation.</i>	The proposed works associated with this Modification Application are entirely underground and will not impact on flood flows.
<i>The structural characteristics of any building or work that are the subject of the application are capable of withstanding flooding in accordance with the requirements of the Council.</i>	The proposed works associated with this Modification Application are entirely underground and it is not anticipated that they will therefore be subject to or need to be able to withstand flood forces.
<i>The development will not become unsafe during floods or result in moving debris that potentially threatens the safety of people or the integrity of structures.</i>	The proposed works associated with this Modification Application are entirely underground and it is not anticipated that they will therefore be subject to or need to be able to withstand flood forces.
<i>Potential damage due to inundation of proposed buildings and structures is minimised.</i>	No buildings or structures are proposed as part of Mod 2, therefore potential damage due to inundation does not arise.

**Table 4 (continued)**

<i>Performance Criteria</i>	<i>Response</i>
<i>The development will not obstruct escape routes for both people and stock in the event of a flood.</i>	The proposed works will not occupy escape routes or cause workers to become trapped.
<i>The development will not unduly increase dependency on emergency services.</i>	The works will not increase the number of workers from Shoalhaven Starches who may be subject to flood risk as a result of the proposed works.
<i>Interaction of flooding from all possible sources has been taken into account in assessing the proposed development against risks to life and property resulting from any adverse hydraulic impacts.</i>	The proposed works associated with this Modification Application are entirely underground and will not impact on flood flows.
<i>The development will not adversely affect the integrity of floodplains and floodway's, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.</i>	The works will be constructed on land that is largely designated as high hazard flood storage in the 1% AEP event. Following construction of the pipeline the works will have no impact on water quality.

#### **7.1.4 Protection of the Environment Operations Act and Associated Regulations**

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

- discharges to air, water and land;
- irrigation controls;
- management of irrigation;
- maintenance of irrigation reticulation;
- odour control;
- noise.

Schedule 1 of the POEO legislation does not require pipelines to be licensed.

The EPA have been consulted with respect to the preparation of this Modification Report. The EPA's comments in relation to this Modification Application are addressed in Section 4.0 of this report. The EPA have not raised any specific additional issues in relation to the Shoalhaven Starches EPL in relation to this proposal.

#### **7.1.5 Biodiversity Conservation Act**

This Act establishes a framework and scientific method for measuring the impact of proposed developments on biodiversity values and subsequent tools to avoid, minimise

and offset any identified impacts. This requires certain matters to be assessed with respect of biodiversity values and vegetation clearing to be addressed by proposed developments.

Such an assessment would also need to provide an evaluation of whether the project would trigger entry into the NSW Biodiversity Offsets Scheme (BOS). The BOS provides a set of rules that are used to govern biodiversity offsetting. The *Biodiversity Conservation Regulation 2017* sets out threshold levels for when the BOS will be triggered.

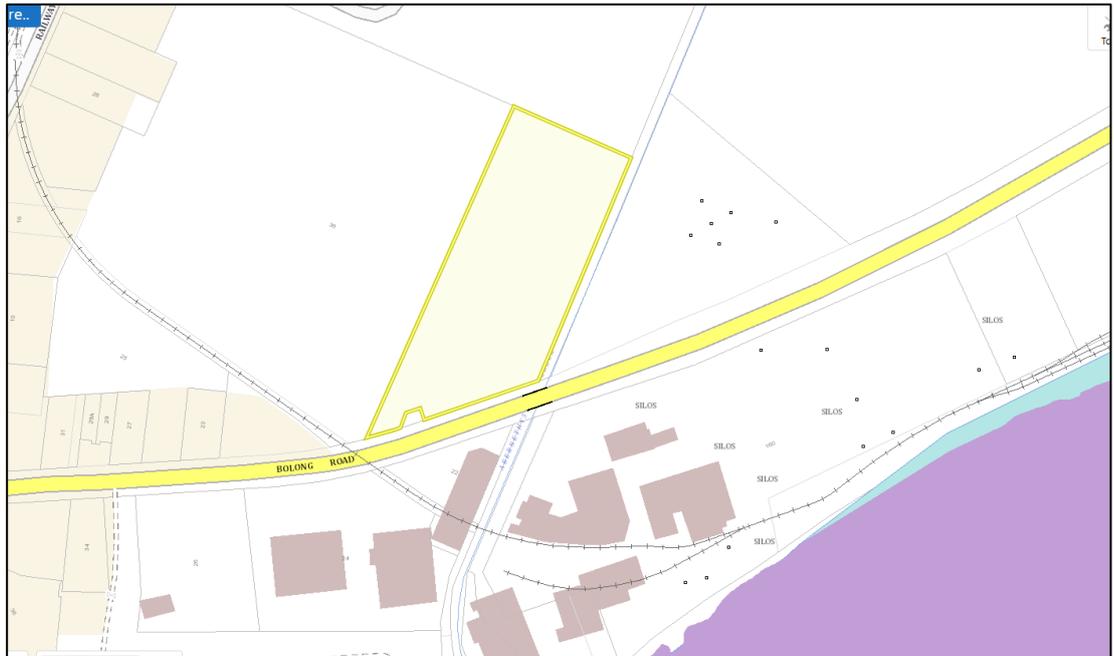
The Biodiversity Assessment Method (BAM) assesses biodiversity values of an area and must be applied to all biodiversity assessments undertaken under the BOS; and must be undertaken by accredited assessors. BAM assessments for development sites are required to be presented in a Biodiversity Development Assessment Report (BDAR) which are used to determine the impacts from the development and the appropriate offset obligations.

In applying the new legislation to the development of the subject land, any application would need to address:

- Where the project involves disturbance to native vegetation such as for the construction of buildings, provision of access or provision of bushfire asset protection zone it is likely to require the provision of a flora and fauna assessment that highlights sensitive ecological features which may be impacted by a future development (eg. threatened ecological communities/species or land which is covered under State Environmental Planning Policies).
- It is important for any application to determine whether any future proposal would trigger the application of the BAM and BOS (with potentially significant associated offset costs). The BAM/BOS process would be required if any of the following occurs:
  - Clearing of native vegetation above the stated area threshold for the study area was to occur (1 hectare or more for a 40-hectare minimum lot size).
  - Tests of significance for threatened species determine that a significant impact on biodiversity is likely.
  - The proposal involves clearing of native vegetation or other impacts on land included on the Biodiversity Values Map (BVM) (**Figure 10** below) published under the *Biodiversity Conservation Regulation 2017*.

There are no areas of land associated with this Modification Application which have been identified as having Biodiversity Values (**Figure 10**).

Furthermore, as will be discussed in Section 7.2.7, the proposal does not involve any disturbance to native vegetation. Whilst there is vegetation growing along the banks of Abernethy's Creek, it is proposed to underbore the creek so that the banks, existing vegetation and the watercourse will not be disturbed by the proposed works. Given these circumstances, it is considered the Modification Proposal will not result in a significant impact on threatened species or their habitats.



**Figure 10: Extract of Biodiversity Values Map and subject land.**

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

### **7.2.1 Risk Assessment of Potential Environmental Impacts**

The purpose of this section of the Modification Report is to provide a risk assessment of the potential environmental impacts associated with the modification proposal. This section (**Table 5**) compares the potential impacts from the proposed modification against the approved project. The comparison uses the key environmental impacts assessed in the original EA that supported the original Concept Approval MP 10\_0144 and Concept Approval MP 10\_0108 and summarises the relative change in environmental impacts associated with the proposed modification.

**Table 5**  
**Risk Assessment**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<b>Air Quality (including Odour) Assessment</b>		
<p>The original EA for the Shoalhaven Starches Gas Pipeline Project was supported by an Air Quality Impact Assessment carried out by Stephenson Environmental Management (SEMA).</p> <p>The pipeline will be mostly buried and would not generate air emissions under normal operating conditions.</p> <p>The air quality assessment carried out by SEMA concluded that there would be negligible air quality impacts associated with the construction and operation of the pipeline.</p> <p>Notwithstanding this, Shoalhaven Starches has committed to implementing best practice dust control measures to mitigate dust impacts on nearby sensitive receptors during construction including limiting soil exposure via staged installation, use of water sprays and restricting vehicle speeds on unsealed roads and revegetation of exposed soils as soon as practicable.</p> <p>The Department formalised these commitments along with some additional provisions to manage air emissions in the as part of the project Approval. Condition 20, 21 and 22 of the Project Approval requires the Proponent to implement all reasonable and feasible measures during the construction and operation of the project to minimise site odour, fume and dust emissions to ensure air emissions are no greater than that predicted in the EA.</p>	<p>No additional management or mitigative measures are required for this Modification Application.</p>	<p>Not a key issue. This issue is not further addressed in this Modification Report.</p>

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<p>Furthermore, such measures were to be documented in Construction Environmental Management Plan for the project under condition 1 of Schedule 4 of the Project Approval.</p> <p>Given the Modification Proposal involves a re-alignment of the low-pressure gas pipeline, and there will be minimal difference in the length of pipeline as a result of the modification, it is considered this aspect of the Modification Proposal will not result in any additional air quality issues that were not considered as part of the original Project Approval. It is therefore considered that this issue does not require further consideration as part of the Modification Application.</p>		
<b>Transport and Traffic</b>		
<p>The EA for the original Project was supported by a Traffic Impact Statement prepared by Stapleton Transportation &amp; Planning (STAP). The Traffic Impact Statement primarily focussed on the traffic impacts associated with the construction process for the project. The Traffic Impact Statement recommended that a Traffic Management Plan be developed for the project and which would formulate mitigation strategies that would maximise the safety and efficiency of the pipeline construction.</p> <p>Conditions 29 and 30 (Schedule 3) of the Project Approval addressed traffic management and included a requirement for the formulation of a Traffic Management Plan for the project.</p> <p>The proposed modifications will not alter the traffic aspects of the original project or Project Approval. It is considered conditions 29 and 30 will be sufficient to address any traffic issues arising from this Modification Proposal. Under these circumstances traffic is not considered to be an issue that requires further consideration as part of the Modification Application.</p>	<p>No additional management or mitigative measures are proposed in terms of traffic or car parking.</p>	<p>Not a key issue. This issue is not further addressed in this Modification Report.</p>

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<b>Site Contamination</b>		
<p>The report is supported by a report prepared by GHD which includes a site contamination assessment (<b>Annexure 4</b>). Based previous and current investigation results, GHD indicate the likelihood for contamination to exist at the site is assessed as low. GHD conclude no further investigation is warranted.</p>	<p>Although the likelihood for contamination was assessed as low, GHD recommend that a Construction Environmental Management Plan (CEMP) be prepared to manage the occurrence of potential contamination, buried waste, demolition waste, ACM, etc. in all parts of the site during construction. The CEMP should also include an Unexpected Finds Protocol (UFP).</p>	<p>This issue is further addressed in Section 7.2.5 of this Modification Report.</p>
<b>Acid Sulphate Soils</b>		
<p>Condition 19 (Schedule 3) of the Project Approval required an Acid Sulphate Soils Management Plan be formulated for the project.</p> <p>GHD have been engaged to undertake a preliminary ASS assessment of the works associated with this Modification Application (<b>Annexure 4</b>).</p> <p>GHD indicate that ASS are likely to be encountered within the lower lying areas, within the north and east, adjacent to Abernethy's Creek. ASS are likely to be sporadic and possibly occur in lenses. Soft to very soft soils were encountered approximately adjacent to Abernethy's Creek, to depths between 4.0 m and 9.8 m bgl. The clays were estuarine and described as dark grey high plasticity with silts, sands and shell fragments. The section of the proposed gas pipeline crossing Abernethy's Creek is likely to pass through these soft soil areas and likely to intercept ASS, and groundwater.</p>	<p>GHD recommend that an ASS management plan (ASSMP) should be prepared to appropriately manage the disturbance of ASS and mitigating potential acid generation and impacts to groundwater and adjacent waterbodies.</p>	<p>This issue is further addressed in Section 7.2.4 of this Modification Report.</p>

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<b>Noise</b>		
<p>The EA for the original Project was supported by a Construction Noise and Vibration Management Plan prepared by Day Design Pty Ltd. The Construction Noise and Vibration Plan prepared by DD concluded:</p> <p><i>“The predicted level of noise emission from the construction activities is likely to be in excess of the noise management levels, at least on some occasions. Provided the recommendations in Section 7 of this report are implemented and adhered to, the level of noise and vibration from the construction works for the Shoalhaven Starches Gas Pipeline Project will be minimised in accordance with the NSW Office of Environment and Heritage’s Interim Construction Noise Guideline and Australian Standard AS2436 – 2010 as detailed in Section 5 of this report.”</i></p> <p>Conditions 8 – 14 of the Project Approval stipulate a range of requirements in terms of the management of noise and vibration associated with the project. Furthermore, such measures will need to be documented in Construction Environmental Management Plan for the project under condition 1 of Schedule 4 of the Project Approval.</p> <p>Given this Modification Application involves a relocation of the low pressure gas pipeline only, it is considered this Modification Proposal will not result in any additional noise issues that were also not already considered as part of the original Project Approval. It is therefore considered that this issue does not require further consideration as part of the Modification Application.</p>	<p>No additional management or mitigative measures are proposed in terms of this issue.</p>	<p>Not a key issue. This issue is not further addressed in this Modification Report.</p>

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<b>Hazards</b>		
The Modification Application is supported by a Preliminary Hazard Analysis (PHA) prepared by Pinnacle Risk Management which assesses the risks associated with the proposed modifications and compares against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable.	The PHA prepared by Pinnacle Risk recommends that:  <i>Include the pipe design controls as detailed in AS2885, in particular, for the section of the low-pressure pipe under Abernethy's Creek given the risk of corrosion and possible scouring and wash-away events.</i>	The Modification Report is supported by a PHA prepared by Pinnacle Risk Management addressing this issue ( <b>Annexure 3</b> ). This issue is further addressing Section 7.2.2 of this Report.
<b>Flooding</b>		
The subject site is inundated during the 1% Annual Exceedance Probability (AEP) flood event by floodwaters from the Shoalhaven River. The relocation of the low-pressure gas pipeline however will have no impact on flooding as the pipe is underground.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this Modification Report.
<b>Waste Management</b>		
The proposed modifications will not alter the way waste is managed on the site. The project is already subject to an existing Waste Management Plan prepared in accordance with the original Project Approval.	No additional management or mitigation measures proposed, although any approval for this Modification Application should require the existing Waste Management Plan to be revised to incorporate the elements that form part of this Modification Application.	Not a key issue. This issue is not further addressed in this Modification Report.
<b>Soil &amp; Water Management</b>		
Condition 18 (Schedule 3) of the original Project Approval requires the preparation and implementation of a Soil and Water Management Plan (SS&WMP) for the project. The S&WMP is required to be prepared in consultation with both Council and the NSW Office of Water. Furthermore, the S&WMP is required to be documented in the projects Construction Environmental Management Plan (condition 1	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this Modification Report.

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<p>(Schedule 4) under the Project Approval. The proposed modified works associated with this Modification Application will need to be addressed as part of S&amp;WMP.</p> <p>Under these circumstances the Project Approval already makes provision for the implementation of feasible and reasonable sediment and erosion control measures to ensure the proposed approved works (as modified) will not cause pollution of waters in conjunction with this project.</p>		
<b>Visual Impact</b>		
<p>The Shoalhaven Starches factory site is situated on Bolong Road, the gateway to Bomaderry, within an area currently containing predominantly industrial land uses, although lands to the north have a rural character. These different land uses contrast with each other and result in a mixed visual character.</p> <p>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.</p> <p>The Shoalhaven Starches factory complex is characterised by typical industrial structures with an overall bulk and scale that dominates the surrounding locality. The factory complex, despite being partially screened by vegetation along Bolong Road, the Shoalhaven River and Abernathy's Creek visually dominates the locality. The overall complex is particularly exposed to view along Bolong Road.</p>	No additional management or mitigation measures proposed.	<p>The visual impacts associated with this modification proposal are addressed in Section 7.2.6 of this Modification Report.</p>

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<p>Given this Modification Application involves the laying of a pipeline below ground level the EA for the original Project did not envisage the visual impact of the Project would raise significant issues. In this regard condition 32 (Schedule 3) of the Project Approval simply required that during the life of the project that the Proponent shall mitigate the visual impacts of the project in such a manner that it does not create nuisance to surrounding properties or the public road network.</p> <p>Section 7.2.6 of this report includes an assessment of the visual impacts of the proposed modification proposal. This assessment concludes the Modification proposal will not result in any significant adverse visual impacts to the broader landscape.</p>		
<b>Flora and Fauna</b>		
<p>Conditions 23 and 24 of the original Project Approval make provision for the minimising of vegetation clearing associated with this Project. Furthermore these conditions also make provision for the rehabilitation of riparian vegetation that may be disturbed by the construction of the project.</p> <p>During consultation DPIE indicated that biodiversity impacts associated with the crossing of Abernethy's Creek and its associated riparian vegetation corridor should be taken into consideration. DPIE advise that they will have to be satisfied that there are no further biodiversity impacts over the original assessment in order to not require a BDAR.</p>	No additional management or mitigation measures proposed.	The biodiversity impacts associated with this modification proposal are addressed in Section 7.2.7 of this Modification Report.

**Table 5 (continued)**

<i>Relative Change in Environmental Impact</i>	<i>Additional Management or Mitigation Measures Required</i>	<i>Significance of Issue with this Modification Proposal</i>
<p>As outlined in Section 7.2.7 above, Abernethy's Creek and its associated riparian areas are not identified as land of biodiversity values by mapping prepared by the NSW Government.</p> <p>It is intended that the crossing of Abernethy's Creek will be undertaken by underboring the creek. In this way there will be no need for disturbance to any existing vegetation along the banks of the creek and its riparian areas. Given these circumstances this modified project will not involve any further biodiversity impacts over the original assessment undertaken for this Project.</p>	No additional management or mitigation measures proposed.	
<b>Heritage and Archaeological</b>		
<p>The original project application was supported by an Aboriginal Cultural Heritage Assessment prepared by Kyandel Archaeological Services. This assessment concluded all sections of the present study area are free from archaeological constraints and do not require further archaeological assessment.</p> <p>Condition 31 of the Project Approval requires that the proponent prepare:</p> <ul style="list-style-type: none"> <li>• Heritage training and induction processes; and</li> <li>• Procedures with dealing with heritage items.</li> </ul> <p>The areas of the site associated with this Modification Proposal have been subject to previous assessments both in terms of this Concept Approval as well as the Concept Approval for the Shoalhaven Starches Expansion Project.</p> <p>It is not envisaged that this Modification Proposal will adversely impact any heritage or Archaeological items.</p>	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this Modification Report.

### **7.2.2 Preliminary Hazard Analysis**

The Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management (PRM) for the Shoalhaven Starches Expansion Project Mod 23 (Co-generation Plant Modification) addressed the pipelines connections from the Gas Pressure Reduction Station to the site, including the low-pressure gas pipeline the subject of this Modification Application. PRM have revised this previous PHA with respect to the relocation of this low-pressure gas pipeline (**Annexure 3**) and provides an assessment of the risks associated with the proposed modification and provides a comparison against relevant risk criteria.

The PHA assesses the credible, potential hazardous events and corresponding risks associated with the Shoalhaven Starches proposed modified gas supply pipeline from Meroo Meadow.

According to PRM there are no Dangerous Goods road or rail transport requirements to or from the site as part of this project. Therefore, transport is not assessed.

The risks associated with the proposed modifications at the Shoalhaven Starches Bomaderry site have been assessed and compared against the DPIE's risk criteria.

The results presented in the PHA prepared by PRM demonstrate compliance with all risk criteria.

The PHA also concludes that societal risk, area cumulative risk and environmental risk are also acceptable.

According to PRM the primary reason for the low risk levels from the modifications is the low likelihood of significant pipe failures leading to off-site impact from jet or flash fires, or explosions.

Based on the analysis in this PHA, the following recommendation is made with respect to this specific Modification Proposal:

- *Include the pipe design controls as detailed in AS2885, in particular, for the section of the low pressure pipe under Abernethy's Creek given the risk of corrosion and possible scouring and wash-away events.*

### **7.2.3 Geotechnical and Riverbank Stability**

GHD were engaged to carry out a geotechnical assessment of the effects of the gas pipeline construction on the stability of the nearest bank of Abernethy's Creek. GHD's assessment in relation to this issue is contained in their report "Geotechnical – Creek Bank Stability, Contamination and Acid Sulfate Soil Assessment" (the "GHD Report") and which is included as **Annexure 4** to this report. The objectives of this assessment as it related to the geotechnical and riverbank stability of Abernethy's Creek were:

- *Provide geotechnical advice on the anticipated ground conditions with respect to the proposed development works.*
- *Provide geotechnical advice in relation to the proximity of the pipeline proposed under Abernethy's Creek and potential effects of the proposed modifications on the stability of the creek banks.*

This section of the Modification Report is based upon the findings of the GHD Report.

Based on the current site conditions and GHD's previous stability assessment of the western bank of the creek, GHD advise that the proposed development of the pipeline under the creek should not result in an increased risk of slope instability of the creek banks for this section of Abernethy's Creek.

According to GHD's recent subsurface investigation has confirmed the presence of soft to very soft and likely ASS at this location. The soft soils were found to overlie stiff alluvial clays. The underside of soft clay soils and/or loose clayey sands occurred at approximately 3.5 m on the western side of the creek to 2.5 m on the eastern side. According to GHD, design and construction methodology of the proposed pipeline will need to take into account these soil conditions and proximity to the creek bed or order to manage the risk of frac-out and collapse of the soft soils during the pipe installation. GHD indicate that an experienced contractor has been engaged by Manildra to undertake the pipeline installation and the contractor will provide a detailed design and a construction methodology prior to commencement.

Based on the additional subsurface information on the western and eastern sides of the creek and the recommended control measures to be implemented by the contractor, GHD conclude the modified pipeline crossing under the creek should not result in an increased risk of slope instability of the creek banks for this section of Abernethy's Creek.

GHD note that the presence and depth of soft or very soft soils can vary significantly within the alluvial plain area within and around the overall Shoalhaven Starches site due to the presence of paleochannels (ancient infill channels).

#### **7.2.4 Acid Sulphate Soils**

The GHD Report, referred to in Section 7.2.4 above, also provides an assessment in relation to Acid Sulphate Soils. In this regard the GHD Report provides a preliminary ASS assessment of the potential for acid sulphate soils to be present in the area of the proposed works within the anticipated depth of disturbance with recommendations on the need for management.

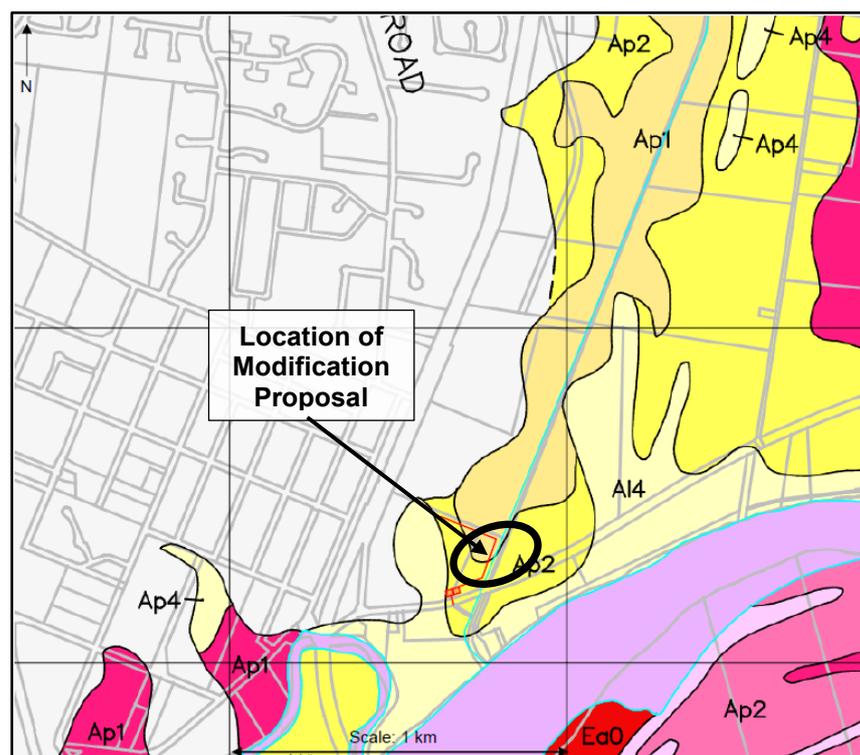
The objective of this assessment as it relates to acid sulphate soils was:

- *Provide a preliminary ASS assessment to assess the potential for acid sulfate soils to be present in the area of the proposed works within the anticipated depth of disturbance with recommendations on the need for management.*

ASS is naturally occurring soil and sediment containing iron sulphides which when exposed to oxygen can generate sulfuric acid.

The Burrier/Berry 1:25,000 Acid Sulphate Soil Risk Map (1997) Edition 2, prepared by the Department of Land and Water Conservation (DLWC) (DLWC, 1997), indicates that the site is mapped within an area having a low probability of ASS occurrence. According to GHD, the majority of site is situated within alluvial plain areas whilst the western edge of the pressure reduction station is situated within a levee landform (**Figure 11**). The depth of ASS occurrence is variable across the site:

- North-eastern portion (Ap1): depths at or near the ground surface;
- North-western and southern (Ap2): depths between 1 and 3 m below the ground surface;
- South-western (Al4): depths greater than 3 m below the ground surface.



**Figure 11: ASS occurrence approximately shown relative to the site (red outline).**  
(DLWC, 1997) (the GHD Report)

According to GHD, based on previous investigation results, ASS are likely to be encountered within the lower lying areas, in the north and east, adjacent to Abernethy's Creek. ASS are likely to be sporadic and possibly occur in lenses. Soft to very soft soils

were encountered approximately adjacent to Abernethy's Creek, to depths between 4.0 m and 9.8 m bgl. The clays were estuarine and described as dark grey high plasticity with silts, sands and shell fragments. The section of the proposed gas pipeline crossing Abernethy's Creek is likely to pass through these soft soil areas and likely to intercept ASS, and groundwater.

GHD therefore recommend that an acid sulfate soil management plan (ASSMP) should be prepared to appropriately manage the disturbance of ASS and mitigating potential acid generation and impacts to groundwater and adjacent waterbodies.

It is noted that GHD has prepared an ASSMP on behalf of the National Australian Pipelines Pty Ltd, contracted by Manildra for the installation of the proposed gas pipeline.

### **7.2.5 Site Contamination**

The GHD Report, referred to in Sections 7.2.3 and 7.2.4 above, also provides an assessment of the likelihood for contamination to exist on the site from past or present activities and provide recommendations for further investigation and/or options for management (if applicable).

The objective of this assessment as it relates to site contamination was to:

- *Assess the likelihood for contamination to exist on the site from past or present activities and provide recommendations for further investigation and/or options management (if applicable) with respect to the proposed development based on the findings of the assessment.*

According to the GHD Report, site history indicates that between 1949 and 1984 the area of the site associated with this modification proposal appeared undeveloped and vegetated with grass. Bolong Road was evident since 1949, initially as an unsealed road but becoming sealed at some stage in the 1960s. The site formed part of a larger parcel of land, which extended north-east and appeared to be used for agricultural purposes. Between 2002 and 2012, the site and surrounding areas were developed. By 2002, the carbon dioxide gas installation and natural gas installation facilities had been installed north-east of the site. By 2010, the gas station had been constructed along with demountable buildings, gravel carpark and turning lane off Bolong Road. Between 2012 and 2021, shipping containers, toilet block and additional demountable structures were progressively added to the site and surrounding area. Imported gravel fill for the carpark and below buildings was classified as VENM. No other fill has been imported to the site.

GHD indicate that previous investigations did not identify soil contamination at the site that exceeded commercial / industrial assessment criteria (NEPC, 2013). For groundwater, lead and zinc concentrations exceeded the adopted assessment criteria

(ANZECC/ARMCANZ, 2000). The source of zinc and lead was not identified but could have been associated with background concentrations. Faecal coliform concentrations were below the reporting limit suggesting leaks from the sewer main were not occurring in the vicinity of the groundwater monitoring well. GHD concluded that the heavy metal impacts were not significant and did not warrant further investigation.

Based on previous and current investigation results, potential for contamination was identified by GHD in three areas of environmental concern (AECs), including:

- AEC 1: Fill of unknown quality and origin.
- AEC 2: Potential leaks from toilet block above ground sewerage tanks.
- AEC 3: Treated effluent releases into Abernethy's Creek and impacted catchment water.

Based upon a review of the potential source-pathway-receptor (SPR) linkages, the proposed development and future site works may provide direct contact / inhalation (ie. vapours, dust) exposure opportunities for human and ecological receptors to contamination, if present within these AECs. Based upon previous and current investigation results, according to GHD, the likelihood for contamination to exist at the site is assessed as low and very low. Therefore, due to the likely absence of contamination at the site, the SPR linkages are considered incomplete. GHD conclude that no further investigation is warranted.

Although the likelihood for contamination was assessed by GHD as low, GHD recommended that a Construction Environmental Management Plan (CEMP) be prepared to manage the occurrence of potential contamination, buried waste, demolition waste, ACM, etc. in all parts of the site during construction. The CEMP should also include an Unexpected Finds Protocol (UFP).

GHD has prepared an CEMP on behalf of the National Australian Pipelines Pty Ltd, contracted by Manildra for the installation of the proposed gas pipeline.

### **7.2.6 Visual Impact**

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

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

forming a background to the rural landscape are the timbered slopes of the Cambewarra escarpment.

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

The works associated with this Modification Proposal will be situated beneath ground level and will not be visually prominent. The only relevant vantage points from where the works associated with this Modification Proposal may be visible (and limited to only during construction works) (see **Figure 12**) would be along the Bolong Road frontage of the subject site. Views of the site of the proposed works would be possible when travelling in either an easterly or westerly direction. The existing building forms and structures are however clearly visible to motorists travelling along this stretch of Bolong Road.

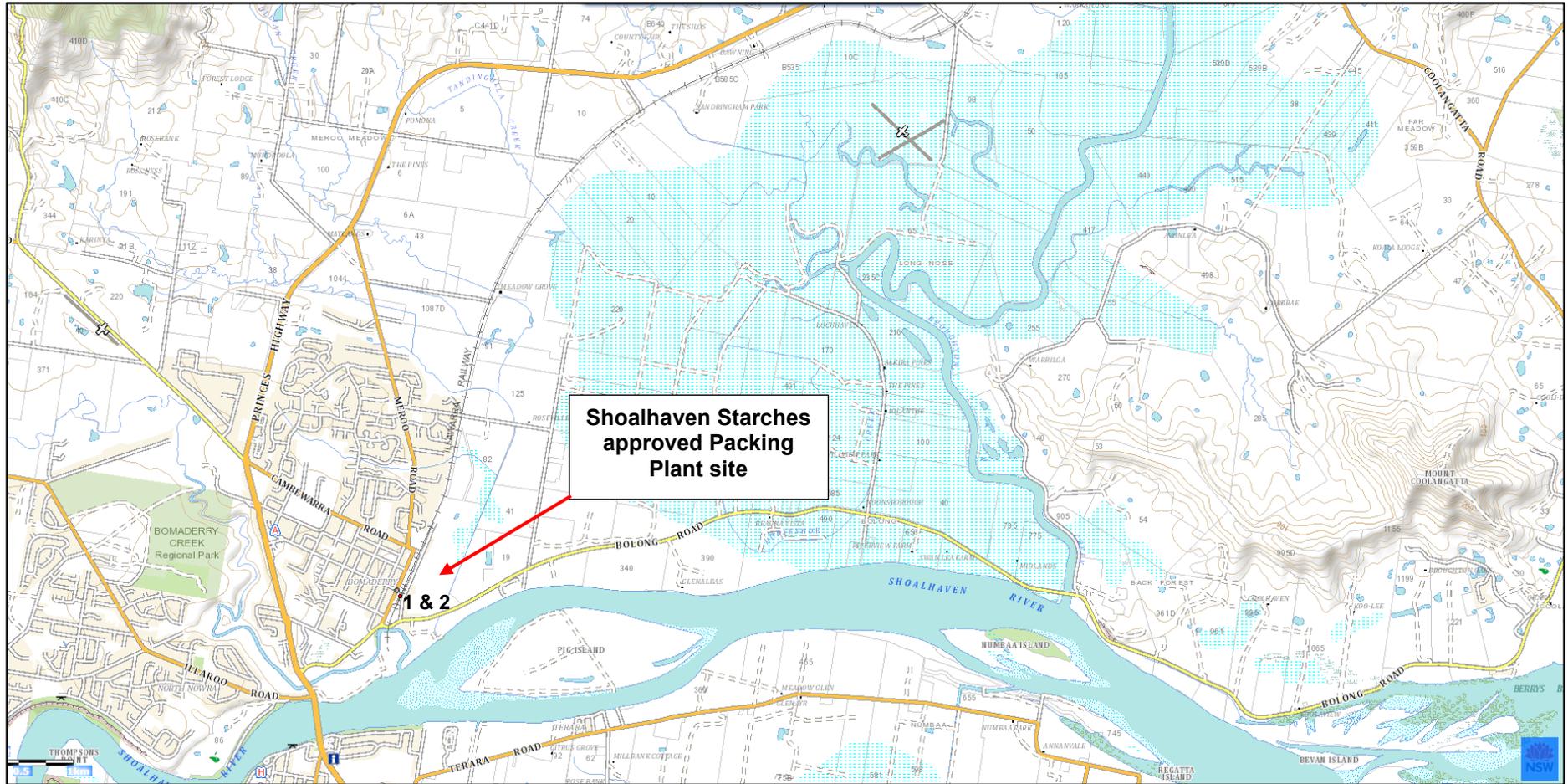


Figure 12: Vantage Points for Plates 1 and 2.

### ***Visual Impact of Proposal***

The realignment of the gas pipeline will have no visual impact as the pipeline is to be laid beneath ground level.

#### **Bolong Road**

The realignment of the gas pipeline will have no visual impact as it will be laid underground.

**Plate 1** below is a view of the location of the works associated with this Modification Proposal from a vantage point along Bolong Road.



**Plate 1:** View of location of proposed works  
from Bolong Road.

The proposed works will be located between the existing rail spur that extends into the Shoalhaven Starches site to the west; as well the Shoalhaven City Council (Shoalhaven Water) sewer pumping station immediately to the east, across Abernethy's Creek to a point adjacent the existing gas pipeline location to the east of Abernethy's Creek.

The approved Packing Plant will be situated to the north.

There are industrial unit developments situated along the northern side of Bolong Road further to the west. A similar Gas Pressure Reduction facility is located further to the east along Bolong Road to the east of Abernethy's Creek station.

Opposite the site of the proposed works, is the Shoalhaven Starches main factory site, and in particular the Starch Dryer No. 5 buildings and the approved Specialty Products and Product Dryer Buildings (currently under construction) (**Plate 2**).



**Plate 2:** View of Packing Plant, Starch Dryer No. 5 building, and Specialty Product Building under construction opposite location of pipeline route.

Clearly the position of the proposed works is undergoing significant change in terms of the level and scale of development; and will be characterised by significant large scale industrial development.

The proposed works will not be a visually significant when viewed in context with other surrounding industrial developments, particularly those that are presently under construction within its vicinity.

Furthermore, the extent to which the facility will be visible within the broader landscape will be limited to only a short section of Bolong Road since the works will be located beneath ground level.

### **7.2.7 Flora and Fauna**

As outlined in Section 7.1.5 of this report there are no areas of land associated with this Modification Application which have been identified as having Biodiversity Values (**Figure 10**).

Furthermore, as outlined in Section 7.1.2 of this report the Terrestrial Biodiversity Map that accompanies the SLEP 2014 does not identify the subject land as including areas of Biodiversity - habitat corridor and/or Biodiversity - significant vegetation.

There is a thin strip of riparian vegetation located along the adjacent banks of Abernethy's Creek. It is intended that the crossing of Abernethy's Creek to construct the pipeline will

be undertaken by underboring the creek. In this way there will be no need for disturbance to any existing vegetation along the banks of the creek and its riparian areas.

Given these circumstances this modified project will not involve any further biodiversity impacts over the original assessment undertaken for this Project.

### **7.3 THE SUITABILITY OF THE SITE FOR DEVELOPMENT**

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

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

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

### **7.4 THE PUBLIC INTEREST**

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

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

## **8.0 CONCLUSION**

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

On the 30<sup>th</sup> October 2012 the Independent Planning Commission approved Concept Plan (MP10\_0144) and Project Application (MP\_10\_0108) for the Shoalhaven Starches Gas Pipeline Project. This project provided for the installation of a 5.5 km gas pipeline connecting the Shoalhaven Starches factory site located at Bolong Road, Bomaderry directly to the Eastern Gas Pipeline (EGP) at Pestells Lane, Meroo Meadow. The pipeline would tie directly into the EGP and provide gas directly to the Shoalhaven Starches factory.

As part of the project, a metering facility would be installed at the tie-in location at Meroo Meadow. In addition, a pressure reduction facility would be installed at the end of the pipeline to ensure a continuous pressure of 4000 kPa was maintained to service both the factory as well as the proposed Gas Co-generation Plant that has been approved for the Shoalhaven Starches factory site as part of the Minister's approval for the Shoalhaven Starches Expansion Project (MP06\_0228).

Shoalhaven Starches have recently submitted a Modification Application (Mod 1) that seeks to undertake the following modifications to the project / concept approval:

- The relocation of the approved location of the Gas Pressure Reduction Station (GPRS) that is to be located on the approved Packing Plant site to the north of Bolong Road; and
- The alteration of the diameter of the pipeline which will result in an increase in the diameter of the pipeline from DN 150 to DN 300.

In addition to the above modifications, Shoalhaven Starches now also seek to modify to amend the approved alignment of the low-pressure gas pipeline that will extend from the relocated Gas Pressure Reduction Station (Mod 1) to supply low pressure gas to the existing factory site. Various plant and equipment within the factory site use gas but require it delivered at a lower pressure than that which will be delivered directly to the Gas Fired Co-generation Plant.

It was envisaged under the original Project Approval that the gas from the approved Gas Pressure Reduction Station would directly cross Bolong Road and then be directed through the Shoalhaven Starches factory site. However, following review potential alignments both through the factory site as well as along the southern side of Bolong Road have been found to be constrained by the existence of underground services and infrastructure.

It is therefore proposed to amend the alignment of the low-pressure gas pipeline so that it will travel from the proposed relocated Gas Pressure Reduction Station east across the Shoalhaven

Starches Packing Plant site, under Abernethy's Creek to a point adjacent to the existing low pressure gas pipeline crossing point to the factory site.

Concept Plan Approval 10\_0144 and Project Approval 10\_0108 were transitioned on the 30<sup>th</sup> April 2021 (Government Gazette 174 – Environment) to the State Significant Infrastructure under clause 5 of Schedule 2 to the *Environmental; Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*.

As State Significant Infrastructure, modifications are required to obtain approval from the NSW Minister for Planning pursuant to Section 5.25 of the Environmental Planning & Assessment Act.

The preparation of this Modification Report has been undertaken following consultation with the DPIE, the EPA, The Natural Resource Access Regulator (NRAR), Fire & Rescue NSW, and Shoalhaven City Council.

The Modification Report is supported by the following expert assessments:

- The Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management (PRM) for the Shoalhaven Starches Expansion Project Mod 23 (Co-generation Plant Modification) addressed the pipelines connections from the Gas Pressure Reduction Station to the site, including the low-pressure gas pipeline the subject of this Modification Application. PRM have revised this previous PHA with respect to the relocation of this low-pressure gas pipeline (**Annexure 3**) that assess the risks associated with the proposed modification and provides a comparison against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable. With specific reference to the low pressure gas pipeline the PHA recommends that:
  - *Include the pipe design controls as detailed in AS2885, in particular, for the section of the low-pressure pipe under Abernethy's Creek given the risk of corrosion and possible scouring and wash-away events.*
- A Geotechnical – Creek Bank Stability, Contamination and Acid Sulphate Soil Assessment prepared by GHD (**Annexure 4**) that addresses, site contamination, acid sulphate soils and riverbank stability issues. This assessment concludes:
  - In terms of the impacts on the stability of the banks of Abernethy's Creek, based on the current site conditions; GHD's previous stability assessment of the western bank of the creek, and recommended control measures to be implemented by the contractor; according to GHD the proposed development of the pipeline under the creek should not result in an increased risk of slope instability of the creek banks for this section of Abernethy's Creek.

Other geotechnical aspects relating to the modified gas pipeline alignment that should be considered in the design, constructability, and ongoing operation of the pipeline and nearby infrastructure, include:

- With respect to site contamination, GHD indicate the likelihood for contamination to exist at the site is low. GHD conclude no further investigation is warranted. Although the likelihood for contamination was assessed as low, GHD recommend that a Construction Environmental Management Plan (CEMP) be prepared to manage the occurrence of potential contamination, buried waste, demolition waste, ACM, etc. in all parts of the site during construction. The CEMP should also include an Unexpected Finds Protocol (UFP). GHD advise that they have prepared a CEMP on behalf of National Pipelines Pty Ltd, contacted by Manildra for the installation of the proposed gas pipeline.
- In relation to the potential presence of Acid Sulphate Soils (ASS), GHD indicate that ASS are likely to be encountered within the lower lying areas, within the north and east, adjacent to Abernethy's Creek. ASS are likely to be sporadic and possibly occur in lenses. Soft to very soft soils were encountered approximately adjacent to Abernethy's Creek, to depths between 4.0 m and 9.8 m bgl. The clays were estuarine and described as dark grey high plasticity with silts, sands and shell fragments. The section of the proposed gas pipeline crossing Abernethy's Creek is likely to pass through these soft soil areas and likely to intercept ASS, and groundwater.

According to GHD an acid sulphate soil management plan (ASSMP) should be prepared to appropriately manage the disturbance of ASS and mitigating potential acid generation and impacts to groundwater and adjacent waterbodies. GHD advise that they have prepared an ASSMP on behalf of the National Australian Pipelines Pty Ltd, contracted by Manildra for the installation of the proposed gas pipeline.

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

The Modification Report concludes that the proposed modifications will not have significant adverse environmental impacts and the development to which Concept Plan (MP 10\_0144) and Project Approval (MP 10\_0108) 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.

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

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

Approval for this Modification Application is sought.



**Stephen Richardson RPIA**  
**COWMAN STODDART PTY LTD**

# **ANNEXURE 1**

## **Responses from Government Agencies**

**Shoalhaven Starches  
Bolong Road, Bomaderry**

# **ANNEXURE 2**

## **Plans of Modification Proposal**

**Shoalhaven Starches  
Bolong Road, Bomaderry**

# **ANNEXURE 3**

## **Preliminary Hazard Analysis**

**prepared by  
Pinnacle Risk Management**

**Shoalhaven Starches  
Bolong Road, Bomaderry**

# **ANNEXURE 4**

## **Geotechnical – Creek Bank Stability, Contamination and Acid Sulphate Soil Assessment**

**prepared by  
GHD**

**Shoalhaven Starches  
Bolong Road, Bomaderry**