



Shoalhaven Starches Expansion Project Modification 27

Modification to RWW Buffer Tank
State Significant Development Modification Assessment
(MP06_0228-Mod-27)

September 2022



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Glossary

Abbreviation	Definition
Council	Shoalhaven City Council
Department	Department of Planning and Environment (DPE)
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPL	Environment Protection Licence
FRNSW	Fire and Rescue NSW
LEP	Local Environmental Plan
Minister	Minister for Planning
Planning Secretary	Secretary of the Department
SEARs	Planning Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy

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1 Introduction

This report provides the NSW Department of Planning and Environment's (the Department's) assessment of an application to modify the State significant development (SSD) consent for Shoalhaven Starches Expansion Project (06_0228). The modification application seeks to modify the consent to permit a change in the function and dimensions of the approved raw waste water (RWW) buffer tank.

The application was lodged on 23 September 2022 by Shoalhaven Starches (the Applicant) on behalf of Supagas Pty Ltd pursuant to section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.1 Background

The Applicant has operated a factory at Bomaderry in the Shoalhaven local government area (LGA) since 1979 (see **Figure 1**). The factory receives wheat grain from mills in western NSW which is processed to produce flour, gluten, glucose, starch and ethanol for food, beverage, hand sanitiser, paper and fuel products. The factory is a 24/7 operation and has approximately 300 employees.

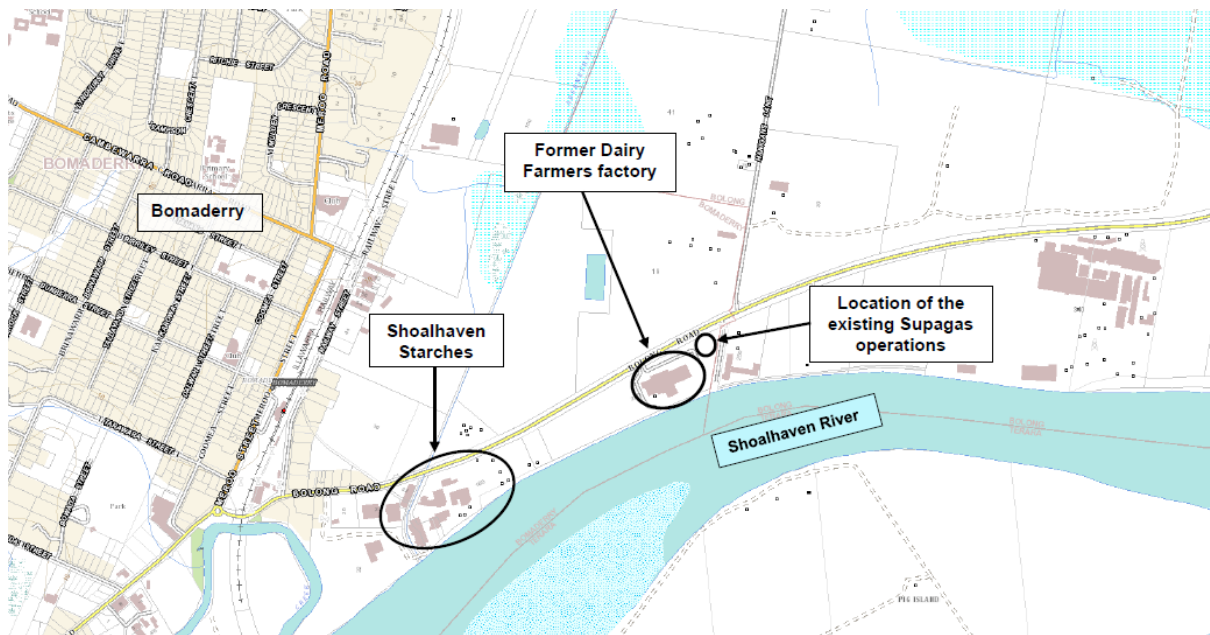


Figure 1 | Local Context Map

The factory is located on the eastern fringe of Bomaderry and 2 kilometres (km) to the north-east of Nowra (see **Figure 2**). The factory is surrounded by other industrial premises, including a metal fabrication factory, meat packaging works and industrial and agricultural suppliers. The nearest residences are in Bomaderry, 300 metres (m) to the west of the approved packing plant and 500 m north-west of the factory.

Shoalhaven City Council's sewage treatment works is located 180 m to the north of the factory and Bomaderry railway station is located 500 m north-west. Shoalhaven Starches has a private rail spur line, which extends from the railway station across Railway Street and Bolong Road into the factory site, extending for approximately 750 m along the northern bank of the Shoalhaven River.

The Shoalhaven Starches factory encompasses the former Dairy Farmers complex and the former Shoalhaven Paper Mill, located east of the main factory on Bolong Road.

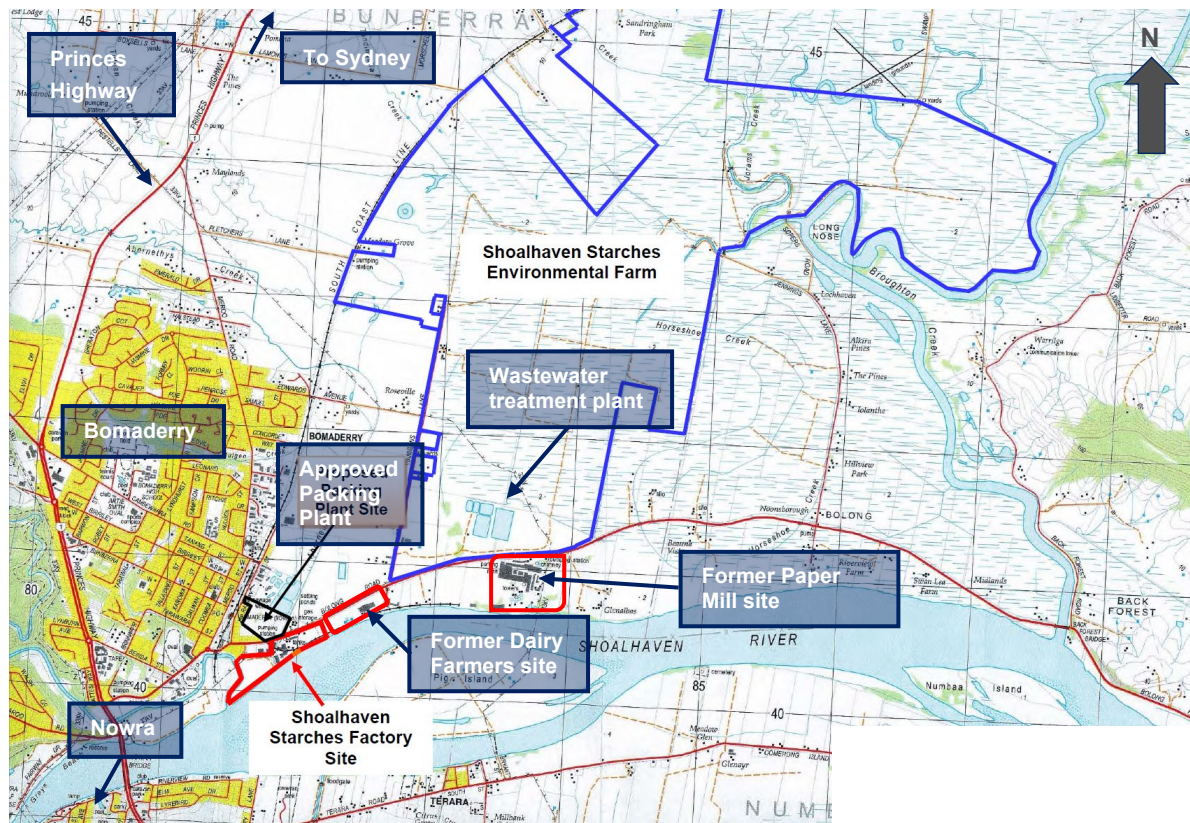


Figure 2 | Regional Context Map



Figure 3 | Site Aerial View

The approved RWW Buffer Tank is located adjacent to the existing RWW Tank in the waste water treatment plant of the Shoalhaven Starches Environmental Farm (see **Figure 3**).

1.2 Approval history

Prior to 2009, the Applicant operated its factory under multiple, separate planning approvals issued by Shoalhaven City Council (Council) and the Minister for Planning.

Shoalhaven Starches Ethanol Expansion Project (06_0228)

In January 2009, the then Minister for Planning approved the Shoalhaven Starches Ethanol Expansion Project (SSEEP) under the now repealed Part 3A of the EP&A Act. The SSEEP approval consolidated all previous planning approvals for the site with the aim of simplifying regulation and compliance.

The SSEEP involved:

- staged increases of ethanol production from 126 megalitres a year (ML/yr) to 200 ML/yr following successful implementation of mandatory odour controls
- implementation of mandatory odour controls including a wastewater treatment plant and biofilter
- installation of additional infrastructure at the dried distillers grain (DDG) plant, ethanol and starch plants, a new packing plant, rail siding and product and wastewater pipelines.

By June 2012, the Applicant had installed the mandatory odour controls and the Department approved the increase in ethanol production (as prescribed in the conditions) to the maximum volume permitted being 300 ML/yr, subject to conditions, including quarterly odour monitoring and annual odour audits. However, demand for ethanol in fuels has not increased as predicted and ethanol production levels at the factory in 2017 were around 237 ML/yr.

Given the reduced market demand for ethanol, the Applicant has progressively installed infrastructure over the last few years, to allow optimisation of flour products and increased production of beverage grade ethanol for alcohol products. This has required several modifications to the SSEEP approval, including a new starch dryer, flour mill and a beverage grade ethanol distillery at the factory.

Modifications to 06_0228

The Minister for Planning has approved 23 modifications to the SSEEP since 2009. All modifications from Modification 1 to 18 were approved by the former Planning Assessment Commission or Independent Planning Commission (the Commission) under the Minister's delegation as the Applicant was previously a political donator. However, the Applicant has since not made any reportable political donations and Modification 19 onwards were approved by the Minister for Planning. Table 1 summarises the modifications.

Table 1 | Summary of Modifications

Mod No.	Summary of Modifications	Approval Authority	Type	Approval Date
MOD 1	<ul style="list-style-type: none">• removed the requirement for dried distillers grain (DDG) pelletising plant from the list of mandatory odour controls• implement alternate odour controls including a new loading chute with dust	PAC	s75W	30 Sept 2011

extractor and extension of the load-out shed to fully enclose truck loading.

MOD 2	<ul style="list-style-type: none"> install additional infrastructure to improve operational and energy efficiency, including two additional fermenter tanks, an evaporator, beer column, heat exchangers, substation and compressors. 	PAC	s75W	14 Sept 2012
MOD 3	<ul style="list-style-type: none"> relocate approved 60 space staff car park to the former Dairy Farmers site and include the site in the project approval, following acquisition by the Applicant. 	PAC	s75W	9 Oct 2012
MOD 4	<ul style="list-style-type: none"> relocate the approved DDG pelletising plant within the factory site, increases its footprint and approved height, from 21 m to 28 m. 	PAC	s75W	24 Mar 2014
MOD 5	<ul style="list-style-type: none"> modify the design, footprint and odour controls on the DDG pelletising plant including a 49 m air discharge stack and eight storage silos. 	PAC	s75W	16 Sept 2015
MOD 6	<ul style="list-style-type: none"> demolish a disused industrial building “Moorehouse” purchased by the Applicant construct a temporary car park on the northern side of Bolong Road. 	PAC	s75W	25 Nov 2015
MOD 7	<ul style="list-style-type: none"> relocate the approved Starch Dryer No. 5 to the former “Moorehouse” site, increase the footprint and construct a substation, pipework and pipe gantry. 	PAC	s75W	18 Jan 2016
MOD 8	<ul style="list-style-type: none"> extend the existing flour mill to increase flour production from 265,000 to 400,000 tonnes per annum (tpa) and offset imports of flour to the factory from mills in western NSW. 	PAC	s75W	1 Mar 2016
MOD 9	<ul style="list-style-type: none"> increase the size of the approved packing plant to increase the type and volume of packaged dried products construct a container storage and truck loading area with noise barriers extend and duplicate the approved rail spur line 	PAC	s75W	8 Mar 2017

	<ul style="list-style-type: none"> install product pipes under Bolong Road, a small bag packer at the DDG pellet plant and a new stormwater detention tank. 			
MOD 10	<ul style="list-style-type: none"> construct a new flour mill B and increase flour production on site from 400,000 tpa to 842,400 tpa. Relocate storage silos and construct a mill feed structure. 	PAC	s75W	18 April 2017
MOD 11	<ul style="list-style-type: none"> reduce the number of approved dryers and relocate approved footprint, relocate cooling towers, construct a forklift maintenance building, install two biofilters, construct hardstand for container storage, store coal and woodchips on the factory site and environmental farm. 	PAC	s75W	1 Sept 2017
MOD 12	<ul style="list-style-type: none"> increase production of beverage grade ethanol and reduce production of fuel grade ethanol install ethanol distillery infrastructure including rectification columns, cooling towers, a substation, storage tanks and pipes extend two rail siding and provide additional car parking. 	PAC	s75W	1 Sept 2017
MOD 13	<ul style="list-style-type: none"> increase steam production from three existing boilers by converting to coal fired boilers and installing baghouses. 	PAC	s75W	18 Jan 2018
MOD 14	<ul style="list-style-type: none"> incorporate the former Shoalhaven Paper mill into the project approval and use the site for buffer storage for products, plant, construction materials and shipping containers. 	PAC	s75W	27 April 2018
MOD 15	<ul style="list-style-type: none"> construct a carbon dioxide plant at the former Dairy Farmers complex to capture and treat waste gas to a food grade standard for sale to food and hospitality markets. 	IPC	s75W	7 Aug 2018
MOD 16	<ul style="list-style-type: none"> construction of new flour mill and gluten dryer, specialty products building, boiler and coal-fired cogeneration plant conversion of two gluten dryers to starch dryers. 	IPC	s4.55(2)	18 June 2019

MOD 17	<ul style="list-style-type: none"> extension of product dryer building and service conduit relocation of Starch Dryer no.5 baghouse and car parking use of alternative woodchip fuel source for boilers. 	IPC	s4.55(1A)	23 2020	October
MOD 18	<ul style="list-style-type: none"> production of hand sanitiser grade ethanol and hand sanitiser including the relocation of gas fired boiler and repurposing of de-fatting plant. 	IPC	s4.55(1A)	4 2020	September
MOD 19	<ul style="list-style-type: none"> production of an additional 100 ML of beverage grade ethanol per annum within existing 300 ML ethanol limit. installation of three new distillery columns in the Ethanol Distillery Plant and associated infrastructure, 12 new cooling tanks. relocation of site infrastructure. 	Department	s4.55(1A)	8 March 2021	
MOD 20	<ul style="list-style-type: none"> Amendment to the Supagas CO2 Plant for the installation of two additional liquid CO2 storage vessels and associated plant and construction works. 	Department	s4.55(1A)	26 2021	October
MOD 21	<ul style="list-style-type: none"> additional 16 product storage silos, eight feed bins and reconfiguration of Packing Plant footprint. additional rail slide, train tunnel and amendment to product gantry. additional raw wastewater tank installation of a Nitrogen Generator and Storage Tanks. additional Indirect Cooking Facility. additional two Fermentation Tanks. 	Department	s4.55(1A)	16 May 2022	
MOD 22	<ul style="list-style-type: none"> beverage grade ethanol plant stage 3 upgrade involving the increase in ethanol production from 300 ML/year to 450 ML/year. 	Department	s4.55(2)	SEARs Issued	
MOD 23	<ul style="list-style-type: none"> gas fired Co-generation Plant consisting of two natural gas turbines with a total power output of 60 Mega Watts. 	Department	s4.55(2)	28 April 2022	
MOD 24	<ul style="list-style-type: none"> amendments to the approved Gluten Dryer 8 (GD8) including increase in building 	Department	s4.55(1A)	15 2022	February

footprint, increase in building height, re-sitting of the GD8 and the relocation of site infrastructure to accommodate changes to the GD8.

MOD 25	<ul style="list-style-type: none"> extension of existing rail line including train reverse loop, rail maintenance spur and addition of a roof baghouse to Product Dryer 3 & 4. 	Department	s4.55(2)	Prepare Application	Mod
MOD 26	<ul style="list-style-type: none"> installation of six wheat silos construction of a truck and train unloading facility container inverter services and grain conveyor gantry container storage area weighbridge maintenance workshop electricity substation 	Department	s4.55(1A)	Prepare Application	Mod

Shoalhaven Starches Gas Pipeline Project (10_0108 & 10_0144)

On 30 October 2021, the then Minister for Planning and Infrastructure approved the Shoalhaven Starches Gas Pipeline Project (10_0108) under the now repealed Section 75J of the EP&A Act and a concept approval (10_0144) under the now repealed Section 75O and 75P of the EP&A Act. The approval involved the construction of a 5.5 km long private gaspipeline to connect the Shoalhaven Starches facility directly to the Eastern Gas Pipeline (EGP).

On 30 April 2021 an order made by the then Minister for Planning and Public Spaces' delegate was published in the Gazetter declaring 10_0108 to be a State significant infrastructure (SSI) approval and 10_0144 to be an approval for a staged infrastructure application (SIA) under clause 5 of Schedule 2 of the EP&A (Savings, Transitional and Other Provisions) Regulation 2017 (EP&A (ST&OP) Regulation).

A request to modify these approvals to relocate the approved location of the associated Gas Pressure Reduction Station (GPRS) and to increase the diameter of the pipeline was approved by the Minister's delegate on 21 January 2022. A second modification application to 10_0108 for the relocation of the low-pressure gas pipeline from the new location of the GPRS to the site was approved by the Minister's delegate on 20 May 2022.

Council Issued Consents

Separate to the SSEEP approval, the Applicant sought and has obtained development consents from Council for works associated with the factory. This has included:

- construction and operation of an interim packing plant at the factory (RA 11/1002)
- demolition of the dimethyl ether plant (DA 13/1713)
- construction of two additional grain silos for buffer storage (DA 14/2161).

Council also granted consent to the Applicant for road and site access upgrades, consistent with the SSEEP approval. These included:

- upgrades to site access points on Bolong Road, including the Dairy Farmers site access (DA 10/1843)
- widening the access point to the interim packing plant (DA 11/1855).

Two other Council-issued consents apply to land adjacent to the factory and owned by the Applicant. These include the Algae Demonstration Facility and the Meat Processing Plant, both located at the former Dairy Farmers site.

3.4 ML OPERATING CAPACITY
3.7 ML TOTAL CAPACITY

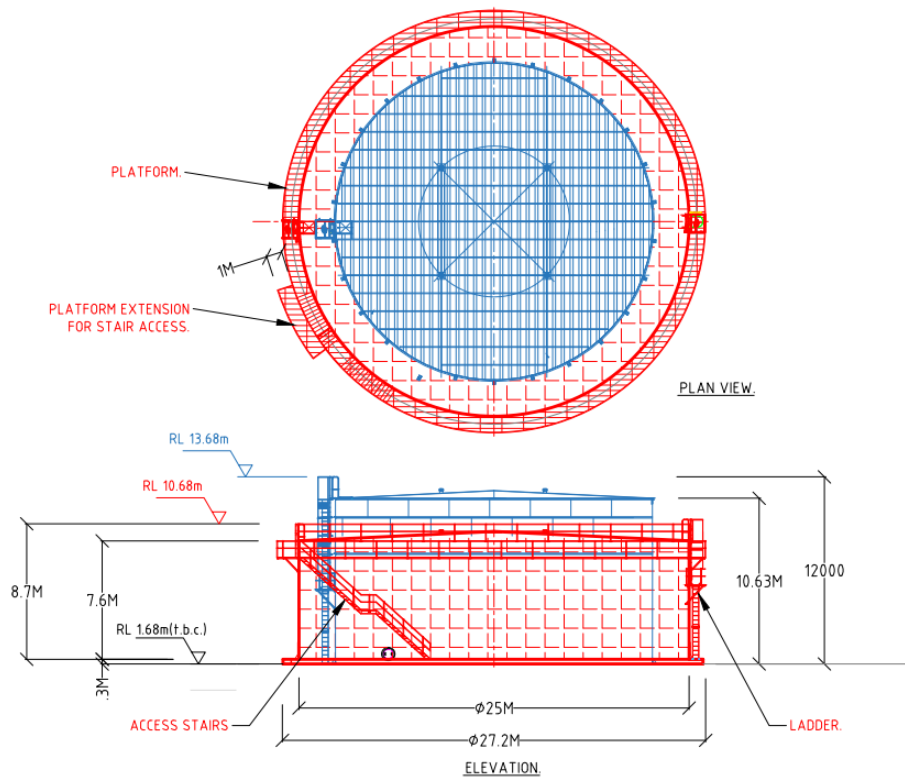


Figure 5 | Proposed modifications to Buffer Tank

2.2 Applicant's Justification for the Proposed Modification

The RWW Buffer Tank was approved under MOD 21 to allow the existing RWW Tank to be taken offline for repairs or any future upgrade works. Following the undertaking of repairs and upgrade works, the Applicant now proposes to use the RWW Buffer Tank as an Equalisation Tank to receive treated water from the Anaerobic Bulk Volume Fermenter (BVF) as part of the WWTP process.

The Equalisation Tank will allow biomass suspended solids that overflow from the BVF process to the Sulfur Oxidisation (SO) Basin to be captured and returned to the BVF. The modification to the tank will result in improved anaerobic effluent quality and provides the BVF with more robustness and stability.

In addition, the diameter and depth of the RWW Buffer Tank is required to be increased to accommodate the settler media equipment inside the tank and to allow for the settling of the solids.

3 Statutory context

3.1 Scope of modifications

The Department has reviewed the scope of the modification application and considers the application can be characterised as a modification involving minimal environmental impacts as the proposal:

- would not significantly increase the environmental impacts of the development as approved
- the modification would not involve any works outside already approved development areas
- is substantially the same development as last modified under the former section 75W of the EP&A Act, and
- would not involve any further disturbance outside the already approved disturbance areas for the development.

Therefore, the Department is satisfied the proposed modification is within the scope of section 4.55(1A) of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(1A) of the EP&A Act rather than requiring a new development application to be lodged.

3.2 Consent authority

The Minister for Planning (Minister) is the consent authority for the application under section 4.5(a) of the EP&A Act. Under the Minister's delegation of 9 March 2022, the Team Leader, Industry Assessments, may determine the application under delegation as:

- the application has not been made by a person who has disclosed a reportable political donation under section 10.4 of the EP&A Act
- there are no public submissions (other than a council) in the nature of objections, and
- Council has not made a submission by way of objection under the mandatory requirements for community participation listed under Schedule 1 of the EP&A Act.

3.3 Part 3A transition to State significant development

The SSEEP was originally approved under the now repealed Part 3A of the EP&A Act. The project was a transitional Part 3A project under Schedule 2 to the EP&A (Savings, Transitional and Other Provisions) Regulation 2017. On 7 September 2018 an order made by the Minister's delegate was published in the Gazette declaring the development that was a Part 3A project to be State significant development under clause 6 to Schedule 2 of the EP&A (Savings, Transitional and Other Provisions) Regulation 2017. As a result, the project approval is taken to be a State significant development consent under Part 4 of the EP&A Act and may be modified under section 4.55 of the EP&A Act.

3.4 Biodiversity Conservation Act 2016

The SSD application was lodged prior to the introduction of the BC Act (introduced 25 August 2017). Clause 30A(2)(c) of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 specifies

that if the determining authority is satisfied a modification will not increase the impact on biodiversity values, a biodiversity development assessment report (BDAR) is not required. The Department notes the proposed amendments are of a minor nature and do not impact areas previously not assessed. For this reason, the Department's assessment concludes a BDAR is not necessary for the proposed modification.

4 Engagement

4.1 Department's Engagement

Section 105(4) of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) specifies that the notification requirements of the EP&A Regulation do not apply to SSD modifications with minimal environmental impact. Accordingly, the application was not notified or advertised. However, it was made publicly available on the Department's website on 23 September 2022.

5 Assessment

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

- SEE (see **Appendix A**)
- application, supporting documents and assessment report for the original project and subsequent modifications
- relevant environmental planning instruments, policies and guidelines
- requirements of the EP&A Act, including the objects of the EP&A Act.

The Department's assessment of key issues is provided in **Table 2**.

Table 2 | Assessment of issues

Findings	Recommendations
Wastewater Management	
<ul style="list-style-type: none"> • The Applicant proposes to operate the RWW Buffer Tank as an Equalisation Tank which will equalise the existing ADI-BVF in-ground anaerobic digester's effluent. The proposed use as an Equalisation Tank will require the increase in diameter of the approved RWW Buffer Tank. • The SEE stipulated the use of the RWW Buffer Tank as an Equalisation Tank will allow for biomass suspended solids overflows produced in the WWTP system from the BVF process to the SO basin to be captured and returned to the BVF. • The SEE notes the RWW Buffer Tank will ultimately improve the efficiency of the WWTP system. Additionally, the SEE notes the proposed modification will not result in an increase in any production throughput associated with the site's operations. • The Department has reviewed the SEE and notes the modification application would not increase operational throughput production of the development. • The Department considers the proposed use of the RWW Buffer Tank as an Equalisation Tank would improve the operational efficiency of the WWTP system and allow flexibility in the use of the RWW Buffer Tank. • The Department notes existing conditions of consent require the Applicant to update the Wastewater Management Plan (WWMP) within 12 months of modifying the consent. The Department considers the Equalisation 	<ul style="list-style-type: none"> • N/A

Tank can be appropriately managed through an updated WWMP.

- Therefore, the Department considers the existing conditions of consent to adequately address the proposed modification and no further conditions are recommended.

Odour Impacts

- The SEE notes the MOD 21 approval was supported by a Air Quality Impact Assessment (AQIA) prepared by GHD.
 - The AQIA noted the RWW Buffer Tank would be equipped with a floating roof to prevent odour emissions and therefore no odour emissions were anticipated.
 - The SEE confirms the modified RWW Buffer Tank will still be equipped with a floating roof to prevent odour emissions and therefore no odour emissions are considered to be generated as result of the modification application.
 - The Department reviewed the SEE and considers the modifications to the RWW Buffer Tank will not present any additional odour emissions to what has been previously assessed in MOD 21 and the development as a whole.
 - Therefore, the Department's assessment concludes the modified development would not present any additional odour impacts and no additional conditions of consent are required.
- N/A

Visual Impacts

- The modification includes the change in dimensions of an approved RWW Buffer Tank to a reduced height from 10.63 m to 7.6 m and an increased width from 20.3 m to 25 m which could impact on the visual amenity of the location.
 - The SEE provided an assessment of visual impacts of the modification, considering the visibility of the modified structure from seven identified key vantage points. The assessment noted the amended dimensions of the RWW Buffer Tank are consistent with the scale and height of the facility's existing structures.
 - The assessment noted the RWW Buffer Tank would be visible to passing motorists on Bolong Road and would be partially visible from the urban area of Bomaderry but is viewed as part of the prevailing scale of the environmental farm.
 - Views from other vantage points including North Nowra and Terara are distant or obscured by existing vegetation or the existing facility.
- N/A

- The assessment concluded the modification would not have significant adverse visual impacts compared to previously assessed given the scale and character is consistent with existing structures.
 - The Department concludes the proposed modifications would have a minimal impact on the existing character of the locality considering the scope of the proposed works compared to the existing scale of the facility.
-

6 Evaluation

The Department has reviewed the SEE and all agency advice, taking into consideration the relevant matters under section 4.15 of the EP&A Act and the objects of the EP&A Act.

The Applicant is proposing to modify the approved raw waste water (RWW) buffer tank to change the dimensions of the tank and its use.

The Department did not exhibit the modification but made the modification application publicly available on the Department's website.

The Department's assessment considered waste management, odour and visual impacts to be the matters for consideration which have been assessed in section 5 of this report. Impacts as a result of the proposed modification were considered negligible and capable of being managed through the existing conditions of consent.

The Department's assessment concludes the modification is appropriate on the basis that it would:

- provide flexibility in the use and operation of the approved RWW Buffer Tank
- improve the operational performance of the WWTP system
- not significantly increase the environmental impacts of the development beyond those assessed under the original application

Consequently, the Department is satisfied that the modification application should be approved, subject to the recommended modifying instrument of consent.

7 Recommendation

It is recommended that the Team Leader, Industry Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report
- **determines** that the application MP06_0228-Mod-27 falls within the scope of section 4.55(1A) of the EP&A Act
- **forms the opinion** under clause 30A(2)(c) of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 that a BDAR is not required to be submitted with this application as the application will not increase the impact on biodiversity values on the site
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to approve the modification
- **modifies** the consent 06_0228
- **signs** the attached approval of the modification (**Appendix B**).

Recommended by:



27/09/2022

Shaun Williams

Senior Environmental Assessment Officer
Industry Assessments

8 Determination

The recommendation is **Adopted** by:



5 October 2022

Joanna Bakopanos

Team Leader

Industry Assessments

as delegate of the Minister for Planning

Appendices

Appendix A – List of Documents

The Department has relied upon the following key documents during its assessment of the proposed development:

Modification Application

- Statement of Environmental Effects prepared by Cowman Stoddart Pty Ltd dated 18 August 2022 - <https://www.planningportal.nsw.gov.au/major-projects/projects/modification-27-modification-approved-rww-buffer-tank>
- WWTP Tank SEPP 33 Analysis prepared by Pinnacle Risk Management Pty Ltd dated 15 August 2022.

Appendix B – Modification Instrument

The recommended modification instrument for MP06_0228-Mod-27 can be found on the Department's website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/modification-27-modification-approved-rww-buffer-tank>