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# Sewage Treatment Plant Buffer Zones **Policy**

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Policy owner:	Water Planning and Delivery, Water and Sewer Directorate
Approved by:	Gary Murphy, Chief Executive Officer
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## Purpose

1. Central Coast Council is a water supply authority under the Water Management Act 2000 (NSW). The operational of Council's Sewage Treatment Plants (**STPs**) are subject to external regulation, including Environmental Protection Licences issued by the NSW Environment Protection Authority (**EPA**). This Policy outlines Council's approach to setting and dealing with applications for development within buffer zones at STPs.

## Scope

2. This Policy covers all elected members of Council, all personnel employed by Council, any person or organisation contracted to or acting on behalf of Council, any person or organisation employed to work on Council premises or facilities, and all activities of the Council.

## Background

3. Council establishes buffer zones area around its STPs to minimise the impacts of odours, noise and other adverse environmental effects on existing and future development. This is required to minimise the risk of impacts to the surrounding community and future regulatory risks to council as the STP operator. There will always be pressure for future development to encroach into a STPs buffer zone and a policy is required to retain suitable buffer zones.
4. Historically STP buffer zones were set on a fixed distance of 400m from the perimeter of the site infrastructure, in line with a former NSW Department of Planning Circular No. E3. In the absence of suitable odour modelling and accompanying risk assessments, a 400m buffer zone width applied.
5. Council owns, operates and manages the following eight STPs, under three Environmental Protection Licences issued by the EPA:
  - a. Bateau Bay
  - b. Charmhaven
  - c. Gwandalan
  - d. Kincumber
  - e. Mannering Park
  - f. Toukley
  - g. Woy Woy
  - h. Wyong South.

## General

### **Basis for determining buffer zones**

7. Council will determine appropriate buffer zones in accordance with the Draft NSW Best Practice Odour Guideline, NSW Department of Planning, 2010 which is intended to replace the former NSW Department of Planning Circular No. E3.
8. The above Draft Guideline sets buffer zones on the basis of predicted odour concentration rather than adopting a fixed distance from an odour source. Please see summary at Appendix 1 for details.

### **Management of Sewage Treatment Plant Buffer Zones**

9. Council will endeavour to control odours, noise or other environmental impacts, in compliance with relevant legislation and regulatory requirements, in order to minimise the impact of the STP on properties outside the buffer zone.
10. Council will not permit development within the buffer zone which is incompatible with the intent of the buffer zone or which may threaten the long-term viability of the treatment plants. There is currently no definitive list of compatible uses within STP buffer zones. However, any compatible uses would be those that do not warrant a high level of protection from any residual air emissions or other adverse impacts from the STP.
11. Uses which may be considered compatible within an STP buffer zone include:
  - a. Grazing and agricultural uses
  - b. Constructed wetlands and drainage basins
  - c. Flora and fauna reserves
  - d. Certain industrial uses such as waste processing, abattoirs etc.
12. Council may seek to rezone and/or acquire selected properties within the buffer zone. This will depend upon Council's ability to fund such acquisitions and the importance of the property to achievement of the policy objective.

## Existing Site Specific Sewage Treatment Plant Buffer Zones Resolved by Council

13. Gwandalan, Kincumber, Woy Woy and Wyong South STPs are subject to existing defined buffer zones which have been subject to previous individual Council approvals.
  - a. Buffer zones for the Kincumber and Woy Woy STPs are defined via the previous Gosford City Council STP Buffer Zone Policy.
  - b. Gwandalan STP had its buffer zone set by Council resolution in August 2013 in response to requests to rezone land, and an odour study completed by Wyong Shire Council staff.
  - c. A formal buffer zone for Wyong South STP was formed as part of the 1991 Wyong Local Environmental Plan, with the buffer area incorporated into the current Special Purpose (Infrastructure) zone which surrounds the STP.
14. Existing formalised buffer zones are shown in Appendix 2. The remaining four STPs are managed in accordance with the above described policy provisions when reviewing rezoning requests and development applications based on the most recent odour studies and risk assessments commissioned by Council Staff.

## Compliance, monitoring and review

15. Council will undertake periodic odour studies at its eight STPs. The timing of assessments will consider upcoming upgrades/processes changes that would result in a material change in odour generation patterns from the site.
16. Suspected breaches or misuse of this policy are to be reported to the Chief Executive Officer. Alleged breaches of this policy shall be dealt with by the processes outlined for breaches of the Code of Conduct, as detailed in the Code of Conduct and in the Procedures for the Administration of the Code of Conduct.
17. Staff must maintain all records relevant to administering this policy in a recognised Council recordkeeping system.
18. This policy will be reviewed at least once per term of Council.

## Definitions

19. In this policy:

- a. **Buffer Zones** are commonly applied to sewage treatment plants to minimise the impacts of odours, noise and other adverse environmental effects on existing and future development, as well as minimising impacts on sensitive receivers. They require a large area with appropriate land use controls to exclude odour sensitive land uses, such as residential and/or commercial activities.
- b. **Council** means Central Coast Council, being the organisation responsible for the administration of Council affairs and operations and the implementation of Council policy and strategies
- c. **Odour** (or smell) means a sensation resulting from the reception of a stimulus by the olfactory sensory system. Human response to an odour depends on the intensity, detectability, character and tone of the odour. The combined effect of these properties is related to the annoyance that may be caused by the odour.
- d. **OU** means odour units; concentration of odorous mixtures in odour units. This threshold of detecting an odour (1 OU) is the numerical value equivalent to when 50% of a testing panel correctly detect an odour. 2 OU is the typical value when an odour is considered to start to cause annoyance.
- e. **Sewage Treatment Plant (STP)** means a facility for the treatment and disposal of sewage, whether or not the facility supplies recycled water for use as an alternative water supply.

## Related resources

20. Legislation:

- a. Protection of the Environment Operations Act 1997
- b. Water Management Act 2000

21. Department of Planning, Industry & Environment (DPIE):

- a. Draft NSW Best Practice Odour Guideline 2010
- b. Technical Framework: Assessment and Management of Odour From Stationary Sources in NSW 2006

22. Associated Council Documents:

- a. [Code of Conduct](#)
- b. Former Wyong Shire Council resolution for Gwandalan Sewage Treatment Plant Buffer Zone, August 2013 (CM: D03727593)

## Appendix 1 – Applying the Draft NSW Best Practice Odour Guideline

1. The Draft NSW Best Practice Odour Guideline, NSW Department of Planning 2010, states that no individual should be exposed to ambient odour levels greater than 7 odour units (**OU**) and the level at which odours begin to cause annoyance is 2 OU. The criteria are shown in Table 1 below, noting the values are 99th percentiles.

Table 1 Department of Environment & Conservation Odour Assessment Criteria

<b>Population of affected community</b>	<b>Odour assessment criteria (odour units)</b>
Rural single residence (<2)	7
10	6
30	5
125	4
500	3
Urban areas (>2000) and/or schools and hospitals)	2

2. The 2 OU contour represents the minimum extent of buffer zone required to minimise the risk of odour exposure and odour complaints within the community. The adoption of the 1 OU contour represents a desirable extent of buffer zone to provide a factor of safety to ensure compliance with the regulated 2 OU criterion in the event of process upsets, odours resulting from emptying of tanks or inaccuracies in the odour modelling.
3. In assessing overall suitability of the 1 or 2 OU level to establish the odour buffer zone, staff will consider various local conditions relevant to each Sewage Treatment Plant (STP). These will include but are not limited to:
  - a. the operational risk profile of the STP
  - b. future upgrades and expansion requirements for the STP
  - c. future development potential/constraints within the surrounding land and provisions within relevant State Government Land Use Planning documents.



## Appendix 2 – Odour Buffer Zone Maps

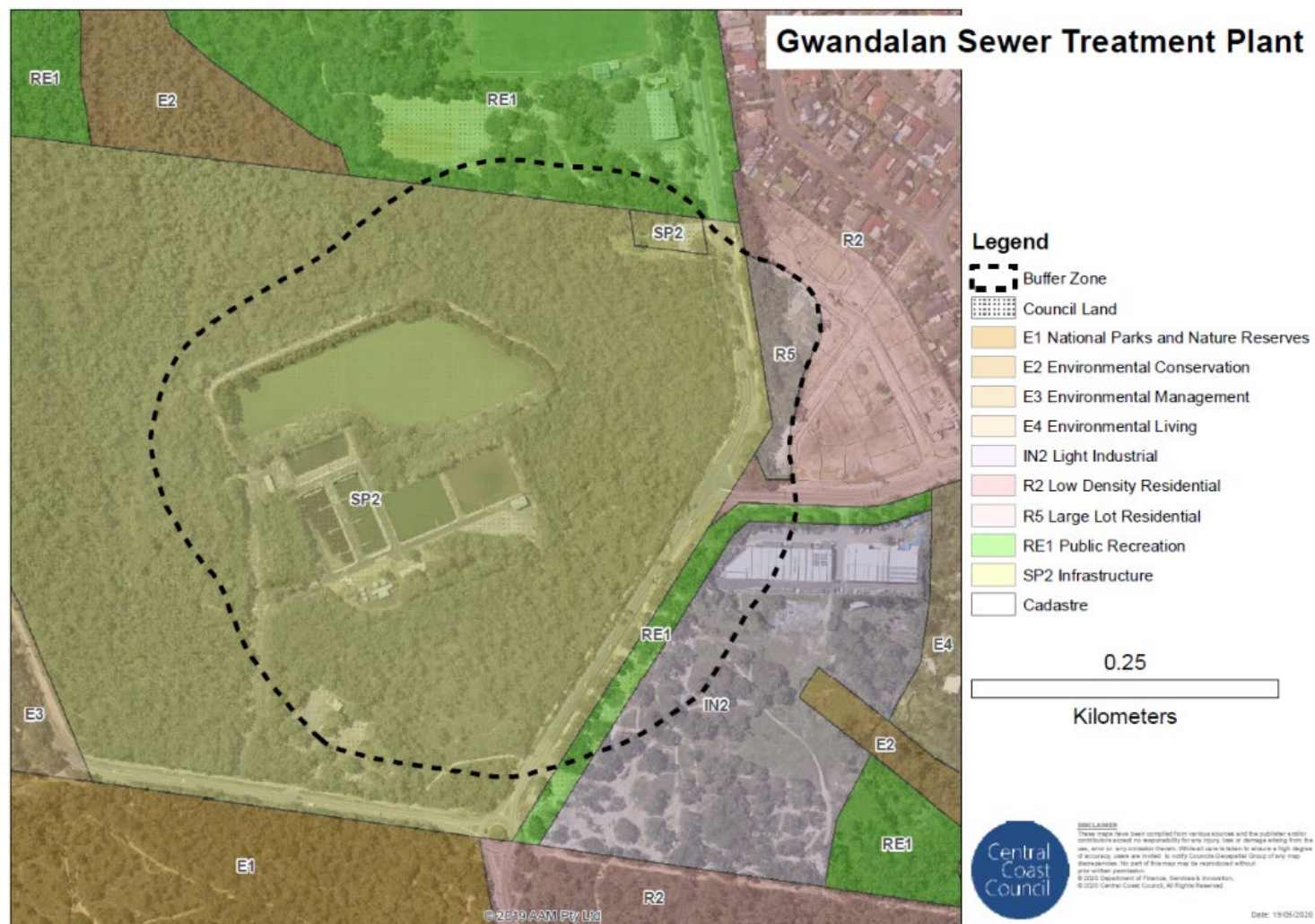


Figure 1 Gwandalan Sewage Treatment Plant Buffer Zone

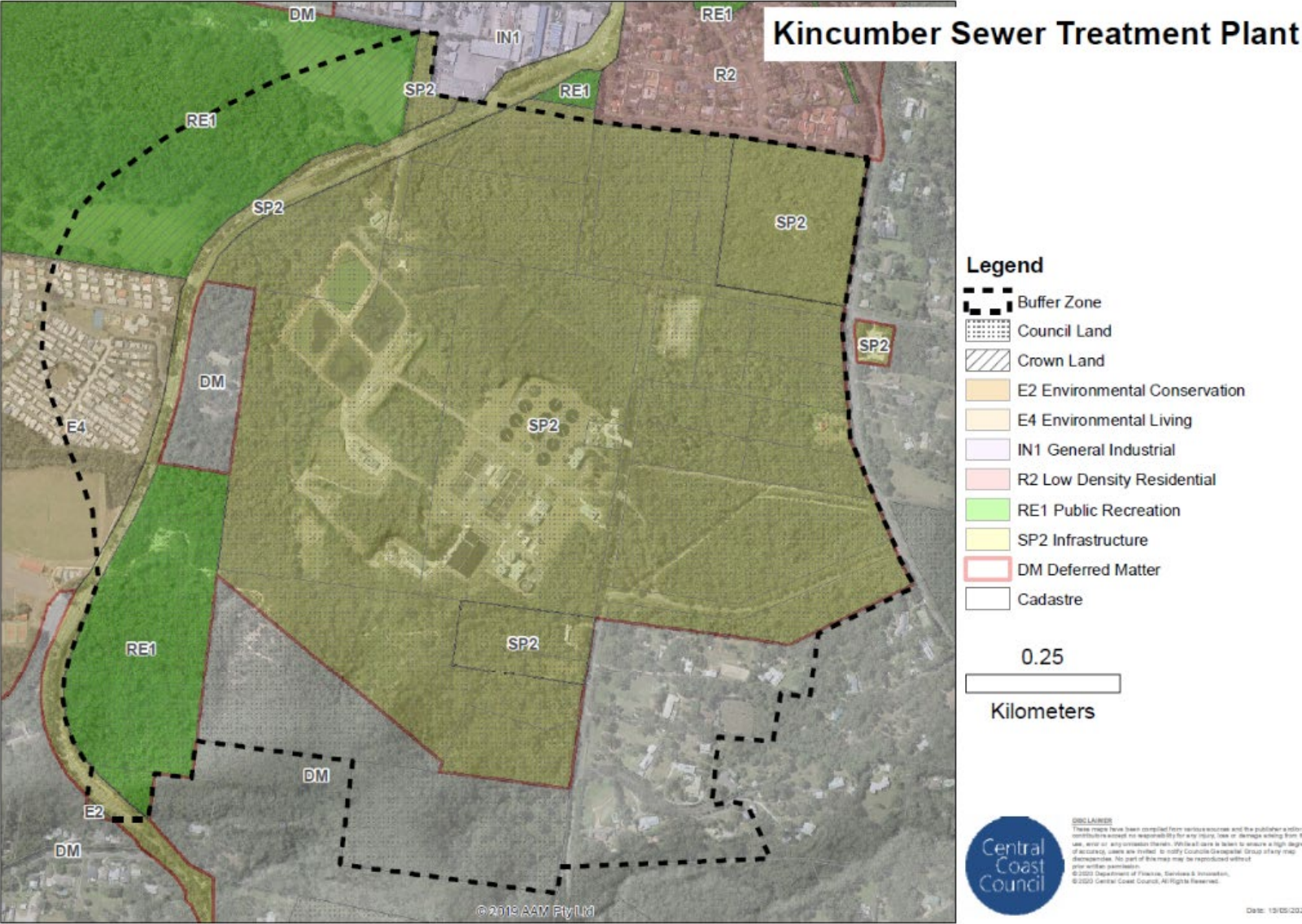


Figure 2 Kincumber Sewage Treatment Plant Buffer Zone



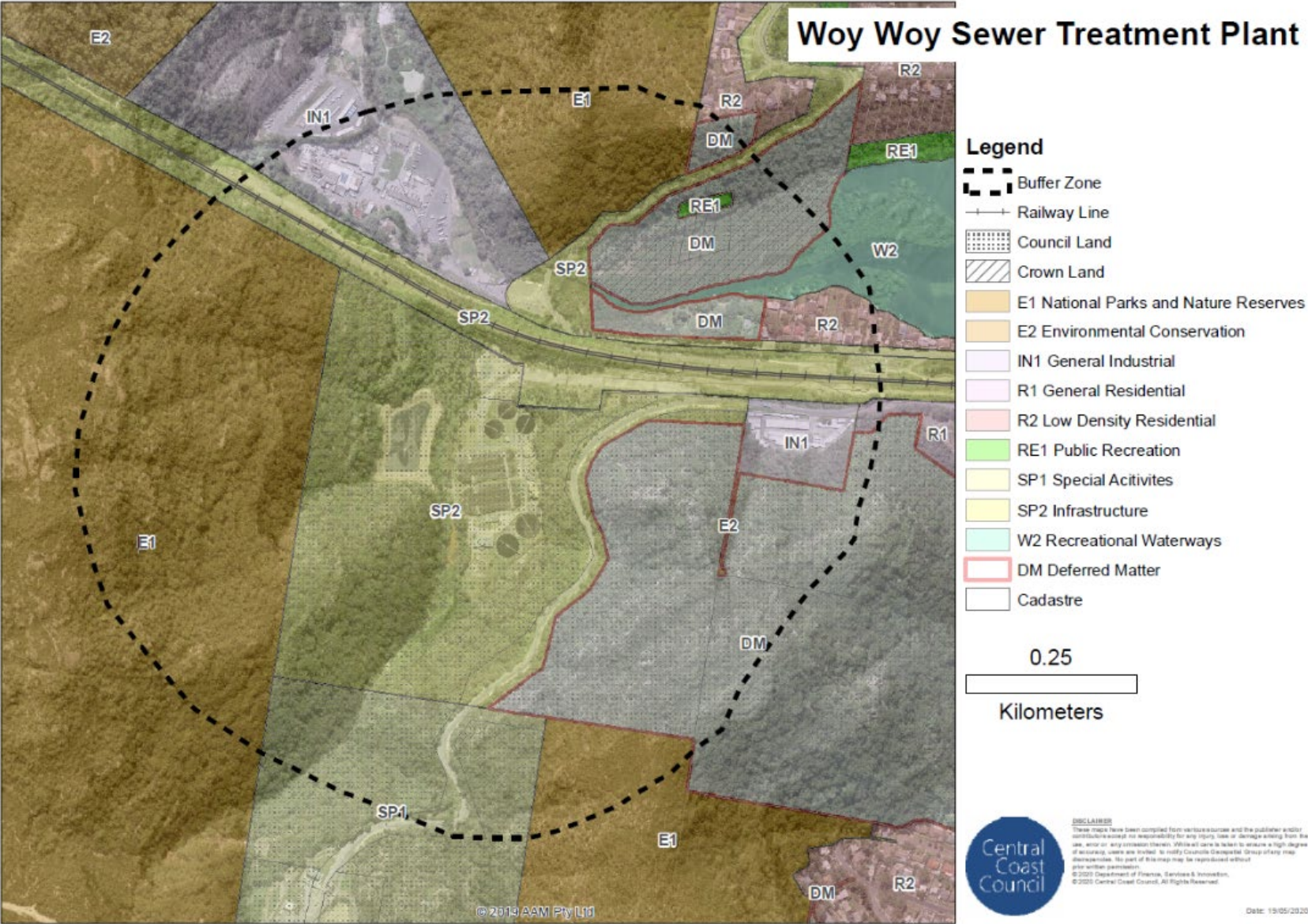


Figure 3 Woy Woy Sewage Treatment Plant Buffer Zone



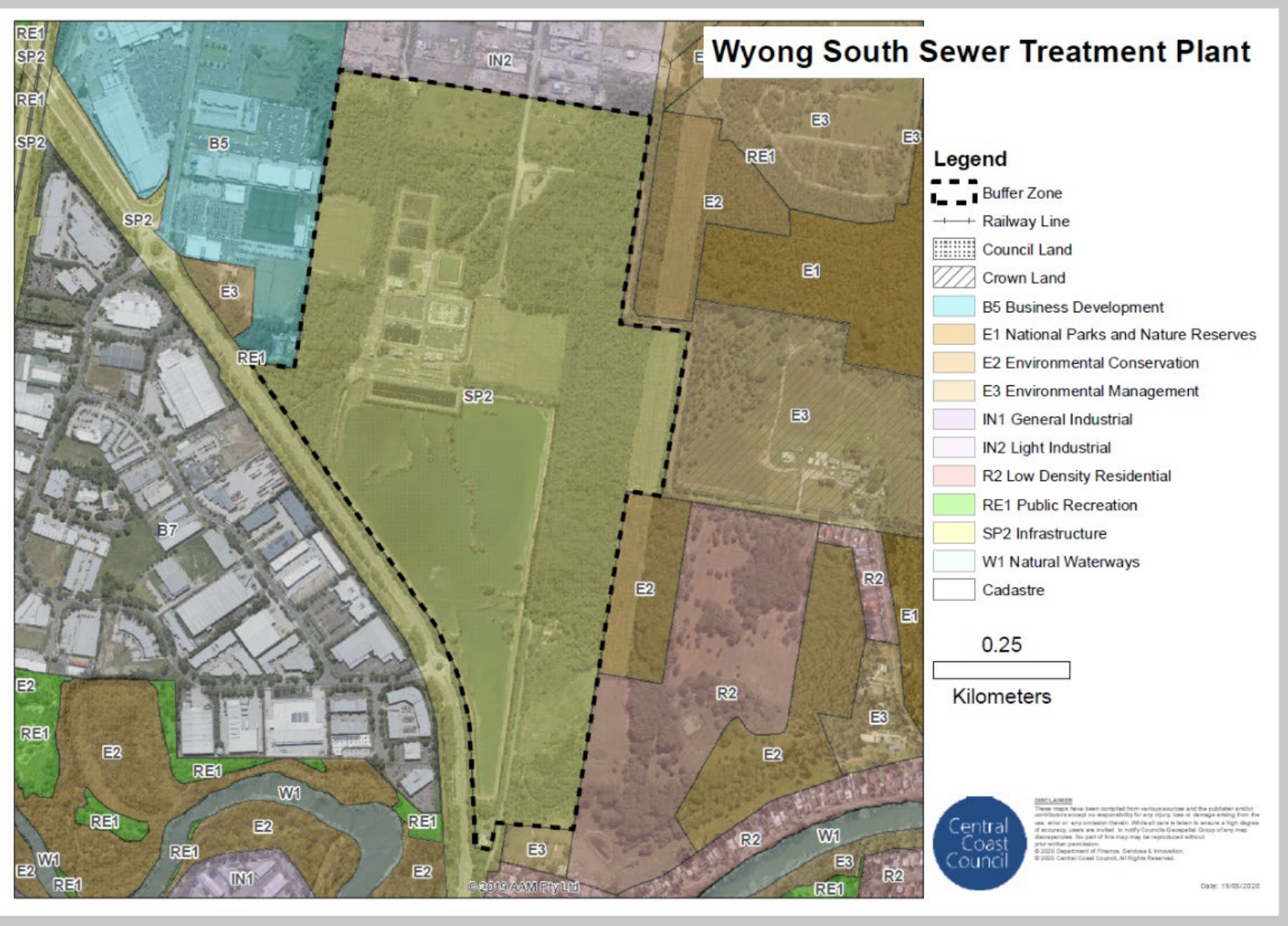



Figure 4 Wyong South Sewage Treatment Plant Buffer Zone

## History of revisions

Amendment history	Details
Original approval authority details	 <hr/> <p>Gary Murphy - Chief Executive Officer</p> <hr/> <p>02/07/2020</p> <hr/> <p>This Policy outlines Central Coast Council's approach to setting buffer zones at Sewage Treatment Plants and dealing with development applications within buffer zones.</p> <p>A policy is required to retain suitable buffer zones to minimise the impacts of odours, noise and other adverse environmental effects on existing/future development and the community.</p> <p>This policy replaces the former Gosford City Council (GCC) <i>Sewage Treatment Works Policy Buffer Zones Policy</i> (1992, last reviewed 2013, GCC Min. No. 2013/388. CM No. D13670137).</p> <hr/>