



Central Coast Council
Northern Region Water Supply and Sewerage Development
Servicing Plan 2024

Version 2.0
Water Assets & Planning
October 2024



Northern Region Water Supply and Sewerage Development Servicing Plan 2024

Author: Luke Drury

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Approved by: Director Water and Sewer

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© Central Coast Council

Wyong Administration Building

2 Hely St / PO Box 20 Wyong NSW 2259

P: 02 4306 7900

E: ask@centralcoast.nsw.gov.au

W: centralcoast.nsw.gov.au

1.0 Introduction

The purpose of this Development Servicing Plan (DSP) is to determine the Developer Charges applicable for water supply and sewerage infrastructure servicing proposed development within the northern region of the Central Coast. Developer Charges and the requirement to carry out works will be implemented as part of relevant development in accordance with the Water Management Act 2000 and the Independent Pricing and Regulatory Tribunal's (IPART) Determination on Maximum prices for connecting, or upgrading a connection, to a water supply, sewerage, or drainage system (October 2018).

Developer Charges relate to the provision of those water and sewerage assets identified in this Plan. Typically, these assets service a number of developments within this Plan which provides the basis for sharing of asset costs. All other water and sewerage infrastructure required to service the local development area shall be provided at full cost to the Developer.

For Water Developer Charges, Council continues to operate two regional based charges (Northern and Southern Regions) with a common Headworks DSP in consideration of shared bulk water assets including dams, weirs and treatment plants.

For the purpose of calculating Sewerage Developer Charges, the Northern Region has been divided into two catchment areas being Norah Head and Wonga Point. This reflects the two ocean outfalls Council is currently operating, within two respective Environmental Protection Licences. This has been undertaken to reflect the differing amounts of existing infrastructure between the two outfalls. This approach also considers differing future predicted development patterns and associated new infrastructure requirements between the two areas.

This Plan has been prepared in accordance with the requirements of the Water Management Act 2000 using the methodology contained within IPART's 2018 Determination. All calculations have been carried out in the template provided by IPART.

The new Developer Charges, as detailed below, will be applicable for the period 1 December 2024 to 30 June 30, 2025, after which they will be adjusted in accordance with the provisions detailed in Section 13.

2.0 Summary of Developer Charges

Following the adoption of this DSP the combined water and sewerage contribution for development within the Northern Region will be \$5,713 for Wonga Point or \$6,766 for Norah Head (subject to catchment location) per Equivalent Tenement (ET). For the purpose of determining Developer Charges payable, all development is assessed on an 'Equivalent Tenement' basis. This is described further in Section 8.

A comparison of the existing and proposed charges for both water supply and sewerage are provided below in Table 1.

Table 1 Developer Charges Summary

Developer Charge	Previous Charge 2014 DSP (\$2024/25)	New Charge (\$2024-25/ET)
Northern Region Water Supply	\$4,012.21	\$2,616
Northern Region Sewerage		
Wonga Point Catchment	\$2,809.63	\$3,097
Norah Head Catchment	\$2,809.63	\$4,151
Combined Water & Sewerage		
Wonga Point Catchment	\$6,821.84	\$5,713
Norah Head Catchment	\$6,821.84	\$6,767

A summary of Water and Sewerage Developer Charges calculation across New South Wales is provided below in Chart 1. Note that the NSW Government is in the process of reversing the 'zero charge' that has previously applied to Sydney Water and Hunter Water's area of operations.

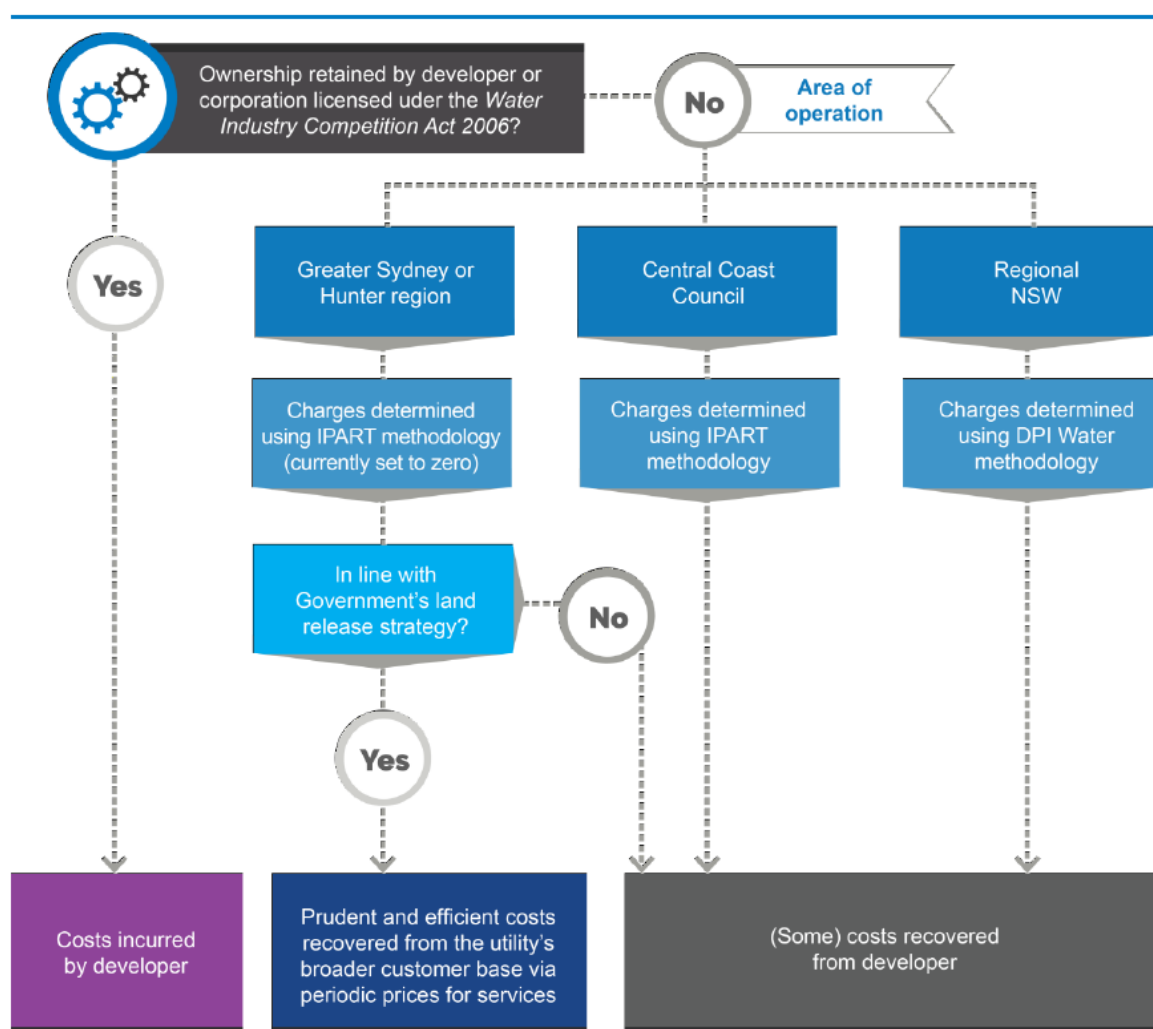


Chart 1 Differing methodologies for funding water and sewerage infrastructure for new development across NSW (supplied by IPART 2018)

3.0 Applicability of the Plan

This DSP describes the requirements applicable to the assessment of Water Supply and Sewerage Developer Charges for any Development assessed under the Water Management Act from 1 December 2024 (subject to registration of the DSP by IPART). Developer Charges payable and any credits for works undertaken in accordance with the plan (in lieu of developer charges), for Development assessed under the Water Management Act within a previous Gosford City Council or Wyong Shire Council Development Servicing Plan will be assessed under the provisions contained within that DSP.

This DSP takes precedence over any of Council's Codes and Policies should there be any inconsistencies in relation to Water Supply and Sewerage Developer Charges.

4.0 Area of the Plan

This DSP covers all lands contained within the former Wyong Shire Council Local Government Area (LGA) as shown in Figure 1.

4.1 Basis of determining service areas

The basis for determining the service areas applicable to this plan is outlined in the following sections.

Water Supply Headworks

Central Coast Council owns and manages a single water supply headworks scheme. These headworks provide bulk treated water to the entire Central Coast Water Supply Network via two separate Water Treatment Plant located at Mardi and Somersby. As a result, a common Headworks Developer Charge is applicable to both Water Supply DSPs and is incorporated into the calculation of the Water Supply Developer Charge for both DSPs. This charge is detailed in Appendix A.

Water Distribution

The water supply distribution system takes treated drinking water supplied from headworks assets and delivers this to customers across the Northern Supply Zone. Any site supplied drinking water within the former Wyong Shire LGA is part of this area.

Sewerage

Sewage collected from connected properties within the Toukley and Bateau Bay Sewerage Schemes is conveyed to one of six existing Sewage Treatment Plants for treatment prior to disposal at one of the respective licenced outfall locations at (Wonga Point or Norah Head).

The two outfalls have different licence conditions, existing infrastructure characteristics, future projected growth patterns and associated future infrastructure requirements.

Connected properties located within the respective outfall catchment boundaries will be levied the relevant outfall-based developer charge.

5.0 Population Predictions and Dwelling Unit Estimates

Council engaged consultants Informed Decisions (.id) to prepare Economic and Demographic profiles for the Central Coast, as well as population forecasts. The information is derived from the Australian Bureau of Statistics Census of Population and Housing and the National Institute of Economic and Industry Research.

In preparing the 2024 Water Supply and Sewerage DSPs, Council has assessed the current number of connected Equivalent Tenements (ETs) in accordance with IPART's 2022 Pricing Determination for the Central Coast, being 150kL annual potable water demand per Equivalent Tenement. This is based on the current system annual demand (corrected for climate factors) apportioned to the Northern and Southern Regions based on demand distribution. The future number of ETs was then projected forwards in accordance with region based population forecasts provided by .id, allowing for forecast differences in dwelling densities across the two regions. This is outlined below in Table 2 and described further in Appendix A.

Table 2 Population and Equivalent Tenement Summary

Year	Residential Population (.id)*	Equivalent Tenements Water Supply**	Equivalent Tenements Sewerage***
2023	168,873	98,417	96,284
2026	178,268	103,892	101,640
2031	195,209	113,764	111,299
2036	211,436	123,222	120,552
2041	226,545	132,027	129,166
2046	242,734	141,461	138,395
2051	260,080	151,570	148,285
2055	274,844	160,175	156,704

* Population forecast by .id consulting limited to 2036. An extrapolation of Equivalent Tenements beyond 2036, for the purposes of assessing water and sewerage developer charges, was required.

** Total water supply Equivalent Tenements includes residential and non-residential loading (commercial, industrial etc.)

*** Total sewerage tenements less than water supply as some properties are un-sewered.

Full details relating to the forecast tools are available via Council's website:

<https://www.centralcoast.nsw.gov.au/business/opportunities-and-investment/profile-central-coast>.

6.0 Reference to Other Development Servicing Plans

The Water Supply Headworks are detailed in Appendix A of this DSP (Central Coast Water Supply Headworks Development Servicing Plan 2024). The cost of these components is included in the calculations for determining water supply developer charges payable under this Plan.

7.0 Future Asset Profile

Greenfield infrastructure is typically designed and constructed by the lead developer under a Works in Kind Agreement (discussed later) with Council.

Council's capital works program is focused on the delivery of brownfield upgrades or major regional infrastructure projects including:

- Treatment plant augmentations
- Upgrades to existing pumping stations and associated pressure pipelines

7.1 Water Supply

Water supply works relevant to this plan are shown in Figure 2 and associated costs and timing are outlined further in Appendix B. Council has reviewed the known and approved Water and Sewer Servicing strategies prepared by developers and assessed the proposed assets which could qualify for credits under the Development Servicing Plan 2024 (see discussion on Works in Kind).

The Central Coast Council Water and Sewer Department reserves the right to alter the scope and timing of the proposed future assets as these are subject to ongoing review. Any changes to growth patterns, development profiles, land use zoning or any other conditions influence the required location, scale and timing of additional infrastructure. All potential land developers are advised to contact Council's Water Assessment Team for further advice.

7.2 Sewerage

Sewerage works relevant to this plan are shown in Figure 3. The associated costs, timing and methodology used in the sizing of proposed sewerage works is described in Appendix C, Appendix D.

Council has reviewed the known and approved Water and Sewer Servicing strategies prepared by developers and assessed the proposed assets which could qualify for credits under the Development Servicing Plan 2024 (see discussion on Works in Kind)..

The Central Coast Council Water and Sewer Department reserves the right to alter the scope and timing of the proposed future assets as these are subject to ongoing review. Any changes to growth patterns, development profiles, land use zoning or any other conditions influence the required location, scale and timing of additional infrastructure. All potential land developers are advised to contact Council's Water Assessment Team for further advice.

8.0 Equivalent Tenement Calculation

8.1 Water Supply

Design parameters relating to water supply headworks are detailed in Appendix A.

For the purposes of assessing additional loads on the water supply system, from a Developer Charges Perspective, 1 Equivalent Tenement (ET) is defined as the following:

- 150 kL/year annual demand (IPART Determination) or
- 0.92 kL/day peak day demand (whichever is greater)

8.2 Sewerage

IPART's 2022 Pricing Determination defines a 'deemed sewage discharge' per single residential properties of 125 kL/annum. This figure is adopted for the purpose of determining sewerage developer charges payable for a new development (1ET = 125kL sewage discharge per annum).

8.3 Calculation of Equivalent Tenements for Specific Development Types

The conversion of a proposed development into Equivalent Tenements (ET) for the purpose of levying water and sewer developer charges is completed as outlined below:

- 1 Reference to Central Coast Council's Equivalent Tenement Calculation Matrix (see Appendix E)
- 2 For wet industry calculate based on annual and daily water and sewage demand/generation rates and compare to the allowances described above.
- 3 For non-standard development, the number and type of fixtures is used with calculation based parameters contained within AS3500.
- 4 Where the above are not relevant then alternate industry specific documents including Public Works, NSW Water Directorate documentation and investigation of similar developments within other NSW Local Government Areas may be used.

Credits for existing development will be provided based on an approved existing/previous use of the site, for which developer charges have been previously paid. ETs which have been calculated and levied on a parcel of land are not transferrable to another parcel of land.

A minimum threshold of 0.25ET is applicable for triggering the payment of developer charges for new development. However, this does not allow the staging of development in increments less than 0.25ET for the purposes of avoiding the payment of developer charges.

All developer charges calculations will be rounded to two decimal places when assessing ET payable and credits applicable.

9.0 Works In Kind and Temporary Works

Developers may apply to provide water and sewer works in kind, in lieu of making monetary contributions (contributed assets) in line with Council's Policy on Works in Kind Agreements.

The above Policy and associated Guideline outline the approach for determining the value assigned to any works in kind. The typical approaches for common asset types is outlined below:

- For linear asset (pipe diameter less than 300mm), the rates paid for works in kind will be the rates used in the calculation of future asset costs for this DSP (summarised in Appendix F). Any additional costs or savings relating to particular site constraints encountered as part of the design and/or construction phases will be borne by the Developer.
- For facility assets (e.g. sewer pumping station or automated network control valves), pressure pipelines, odour dosing unit, water pumping stations and trenchless construction (due to environmental or infrastructure constraints) methods (for pipe diameter greater than or equal to 300mm), developer is eligible for costs to be based on an independent Quantity Surveyor assessment. Any additional costs or savings relating to particular site constraints encountered following determination of the works in kind value will be borne by the Developer.
- Credits will only be payable upon the acceptance of an asset by Council (no staged payment for investigation and design). for more detail, please refer to Council [Works in Kind Policy – Works Under the Water Management Act 2000](#).

Prior to commencing the design of any contributed assets, the Developer shall contact Council and provide a 'Letter of Intent' (template available) which identifies the subject DSP assets that are intended to be constructed and seeks confirmation what credits may be available for the construction of those assets.

It may be feasible to provide temporary measures to service initial stages of a development in lieu of constructing major works up front. Such proposals will need to be assessed at the time of application. In these cases the applicant is responsible to fully fund the design and construction of the assets and donate them to Council with a payment of expected operational costs and a further payment towards the future decommissioning of the temporary works. These costs are additional to any costs identified in this Plan. The merits of any proposals for temporary assets will need to consider alignment with the long term servicing strategy, impacts to operation and maintenance and overall risk exposure to Council.

This DSP does not include the provision of reticulation assets which are required to be donated to council by the developer. For the purpose of this DSP, reticulation assets are defined as water mains with a nominal diameter less than 200mm and gravity sewer mains with a nominal diameter less than 225mm.

10.0 Timing and Method of Payment

Unless other arrangements have been approved by Council, the payments for Development Contributions are as follows:

- Involving subdivision, payment is required prior to the release of the Subdivision Certificate.
- Involving building work, payment is required prior to the release of the first Construction Certificate or Complying Development Certificate.

11.0 Developer Charge Calculation

11.1 Calculation Formula

This Development Servicing Plan contains a net present value (NPV) calculation of the cost of total service capacity in the area less the expected net operating surplus (or losses) from providing services in the area. The resultant net cost is then expressed per Equivalent Tenement (ET). A development is charged a multiple of this per ET charge according to the number of ET applicable to that development calculated in accordance with section 8.0, minus any existing credits applicable to the site.

The developer charge (DC) is calculated in accordance with IPART's 2018 Determination as follows:

$$MP_{Sch1} = \frac{K_1}{L_1} + \frac{K_2}{L_2} - \frac{NPV(R_i - C_i)}{L_3} \text{ for } i = \text{financial years } 1, \dots, n$$

Where:

- MPSch1 means the maximum price per Equivalent Tenement to be serviced by the connection;
- K1 means the Capital Charge for the Pre-1996 Assets that will serve the relevant DSP Area, calculated in accordance with clause 2.3(a) of Schedule 5 and set out in the relevant DSP;
- K2 means the Capital Charge for the Post-1996 Assets that will serve the relevant DSP Area, calculated in accordance with clause 2.3(b) and 2.3(c) of Schedule 5 and set out in the relevant DSP;
- L1 means the Agency's estimate of the number of Equivalent Tenements for Pre- 1996 Assets, calculated in accordance with clause 3.2(a) of Schedule 5 and set out in the relevant DSP;
- L2 means the Agency's estimate of the number of Equivalent Tenements for Post-1996 Assets, calculated in accordance with clause 3.2(b) of Schedule 5 and set out in the relevant DSP;
- L3 means the Agency's estimate of the number of Equivalent Tenements for the Reduction Amount, calculated in accordance with clause 3.2(c) of Schedule 5 and set out in the relevant DSP;

- R_i means the Agency's estimate of the future periodic revenues to be received from new customers in the DSP Area in each financial year i , estimated in accordance with clause 4 of Schedule 5 and set out in the relevant DSP;
- C_i means the Agency's estimate of the future operating, maintenance and administration costs of servicing all new customers in the DSP Area in each financial year i (excluding, for the avoidance of doubt, any Capital Costs), estimated in accordance with clause 5 of Schedule 5 and set out in the relevant DSP; and
- n is the financial year which is 30 years from the financial year in which the relevant DSP was registered with IPART.

11.2 Net Present Value Model Parameters

Council has used the following parameters as required in calculating the developer charge:

- A 0% real discount rate for Pre 1996 assets.
- A real discount rate for post 1996 assets of 2.8% which is equal to Wyong Shire Council's Pre-tax Weighted Average Cost of Capital (WACC)
- A real discount rate of 2.8% for the expected net revenues and costs equal to Wyong Shire Council's Pre-tax WACC.
- Consumption per annum for an average residential customer of 150kL/year;
- A forecast horizon for expected net revenues and costs of 30 years; and
- Any assets constructed prior to 1970 are excluded from the calculation.

12.3 Asset Description

Details relating to the size, length and date of commissioning of existing assets were taken from Council's financial asset register which was used to complete a recent revaluation of Council's Water and Sewerage Assets in 2022.

The value of existing assets was determined using a Modern Engineering Equivalent Replacement Asset (MEERA) approach as required by IPART. This same approach was required for the 2022 Water and Sewerage Asset revaluation which has satisfied Audit Office of NSW requirements.

12.4 Developer Charges

A summary of the developer charges is provided below in Table 3, with the full calculation available in Appendix G.

It is noted that GST is not payable on Water and Sewerage Developer Charges amounts, nor is it payable for credits on works undertaken in lieu of Developer Charges payable.

Table 3 Summary of Developer Charges Calculations

	Headworks Capital Charge (\$/ET)	Distribution Capital Charge (\$/ET)	Operating Surplus (\$/ET)	Total Charge (\$/ET)
Scheme	(a)	(b)	(c)	(d)=(a)+(b) -(c)
Northern Region Water Supply	\$5,975	\$1,970	\$5,330	\$2,616
Northern Region Sewerage Norah Head	N/A	\$7,316	\$3,165	\$4151
Northern Region Sewerage Wonga Point		\$6,026	\$2929	\$3097

13.0 Method of Updating Developer Charges Payable Under This Plan

The Development Servicing Plan will be reviewed:

- Once, and no more than once, in each five-year period, with the first five year period starting on 1 November 2024; and
- When and to the extent required by a determination of the Independent Pricing and Regulatory Tribunal.

13.1 CPI Adjustment

If there is no review of Developer Charges in any given year (Year n), the Developer Charges then prevailing must be multiplied to take effect from 1 July in each such year by the number derived from the application of the following formula:

$$\frac{CPI_{March\ year\ n}}{CPI_{March\ year\ n-1}}$$

Where:

CPI = the consumer price index, All Groups index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then *CPI* will mean an index determined by IPART;

March_{year n} = the March quarter for Year n; and

*March*_{year n-1} = the March quarter for the year before Year n.

13.2 Dispute Resolution

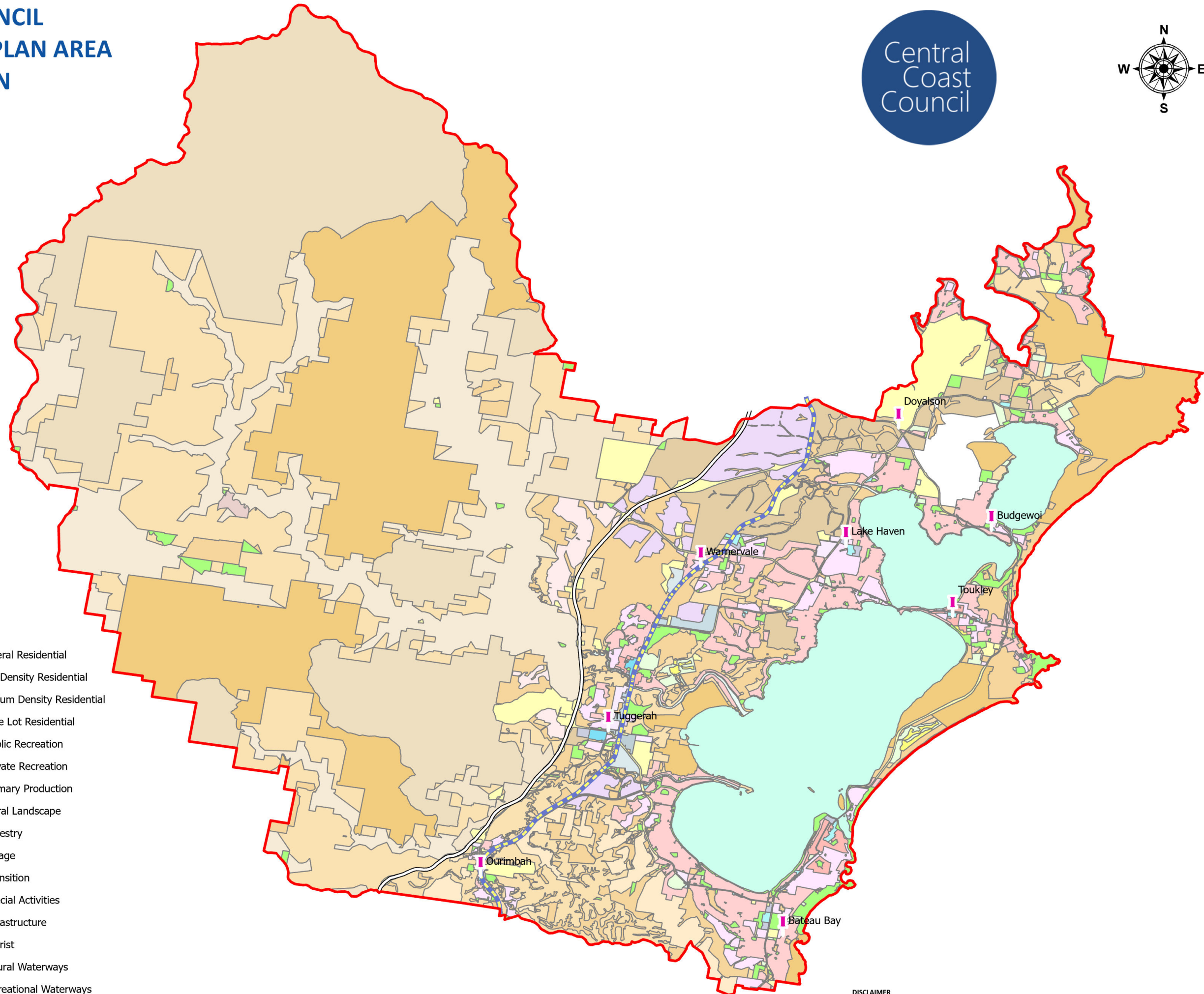
A developer who is dissatisfied with how Council has calculated a developer charge has a right to have the dispute arbitrated under the Independent Pricing & Regulatory Tribunal Act.

The first step of this arbitration process is to contact Central Coast Council.

If the complaint has been reviewed by Council and the customer is still dissatisfied, the customer may request to have the dispute arbitrated under Section 31 of the IPART Act.

Figure 1
Development Servicing Plan Area

**CENTRAL COAST COUNCIL
DEVELOPMENT SERVICING PLAN AREA
NORTHERN REGION**



Legend

Sample_Polygon

 Northern Region DSP Boundary

— M1 Motorway

 Railway

LEP_2022_LandZoningMap

 B1 - Neighbourhood Centre

 B2 - Local Centre

 B3 - Commercial Core

 B4 - Mixed Use

 B5 - Business Development

 B6 - Enterprise Corridor

☐ B7 - Business Park

 C1 - National Parks & Nature Reserves

 C2 - Environmental Conservation

 C3 - Environmental Management

 C4 - Environmental Living

IN1 - General Industrial

IN2 - Light Industrial

 R1 - General Residential

 R2 - Low Density Residential

 R3 - Medium Density Residential

 R5 - Large Lot Residential

 RE1 - Public Recreation


 RE2 - Private Recreation

 RU1 - Primary Production

 RU2 - Rural Landscape

 RU3 - Forestry

 RU5 - Village

 RU6 - Transition

SP1 - Special Activities

SP2 - Infrastructure

SP3 - Tourist

W1 - Natural Waterways

W2 - Recreational Waterways

III - Unzoned Land

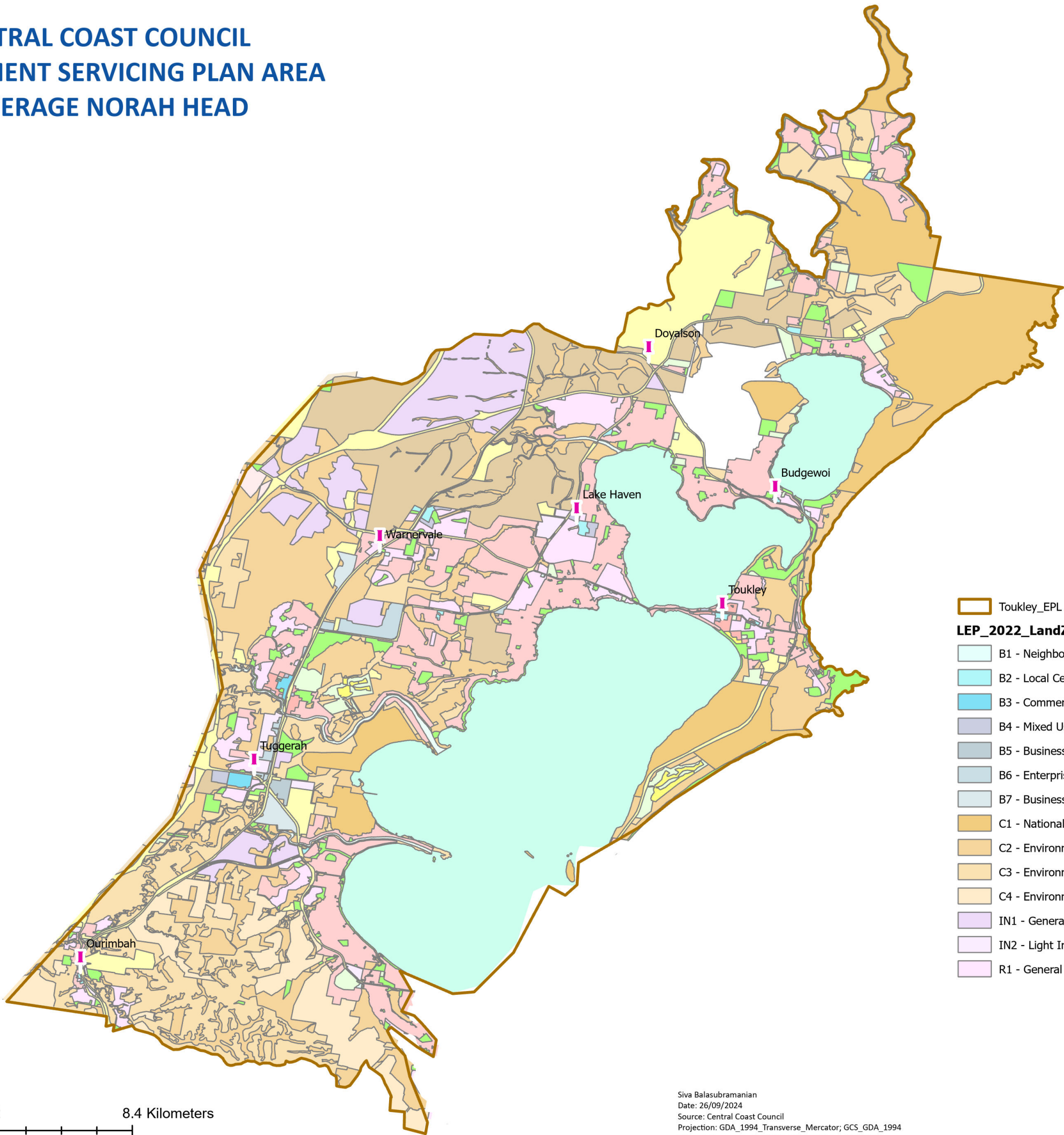
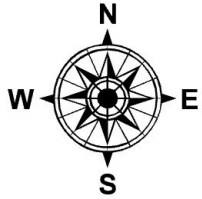
DM - Deferred Matter



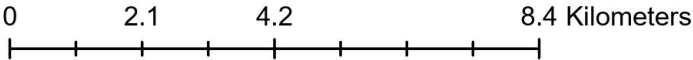
Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994 Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
DEVELOPMENT SERVICING PLAN AREA
SEWERAGE NORAH HEAD

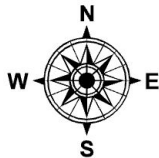


- Legend**
- | | |
|--------------------------------------|---------------------------------|
| Toukley_EPL Boundary | R2 - Low Density Residential |
| LEP_2022_LandZoningMap | R3 - Medium Density Residential |
| B1 - Neighbourhood Centre | R5 - Large Lot Residential |
| B2 - Local Centre | RE1 - Public Recreation |
| B3 - Commercial Core | RE2 - Private Recreation |
| B4 - Mixed Use | RU1 - Primary Production |
| B5 - Business Development | RU2 - Rural Landscape |
| B6 - Enterprise Corridor | RU3 - Forestry |
| B7 - Business Park | RU6 - Transition |
| C1 - National Parks& Nature Reserves | SP1 - Special Activities |
| C2 - Environmental Conservation | SP2 - Infrastructure |
| C3 - Environmental Management | SP3 - Tourist |
| C4 - Environmental Living | W1 - Natural Waterways |
| IN1 - General Industrial | W2 - Recreational Waterways |
| IN2 - Light Industrial | UL - Unzoned Land |
| R1 - General Residential | DM - Deferred Matter |



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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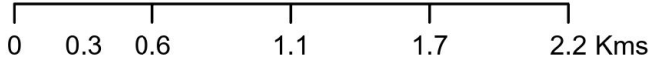
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CENTRAL COAST COUNCIL
DEVELOPMENT SERVICING PLAN AREA
SEWERAGE WONGA POINT

Legend

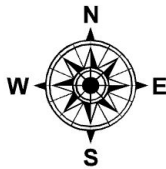
Bateau Bay EPL Boundary	R1 - General Residential
LEP_2022_LandZoningMap	R2 - Low Density Residential
B1 - Neighbourhood Centre	R3 - Medium Density Residential
B2 - Local Centre	RE1 - Public Recreation
B4 - Mixed Use	RE2 - Private Recreation
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Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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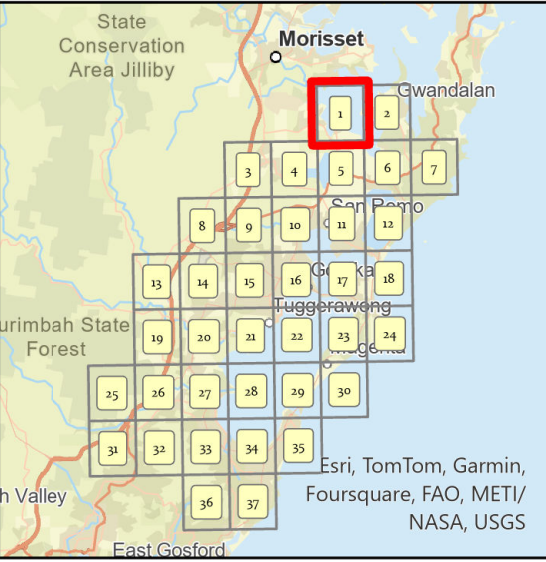
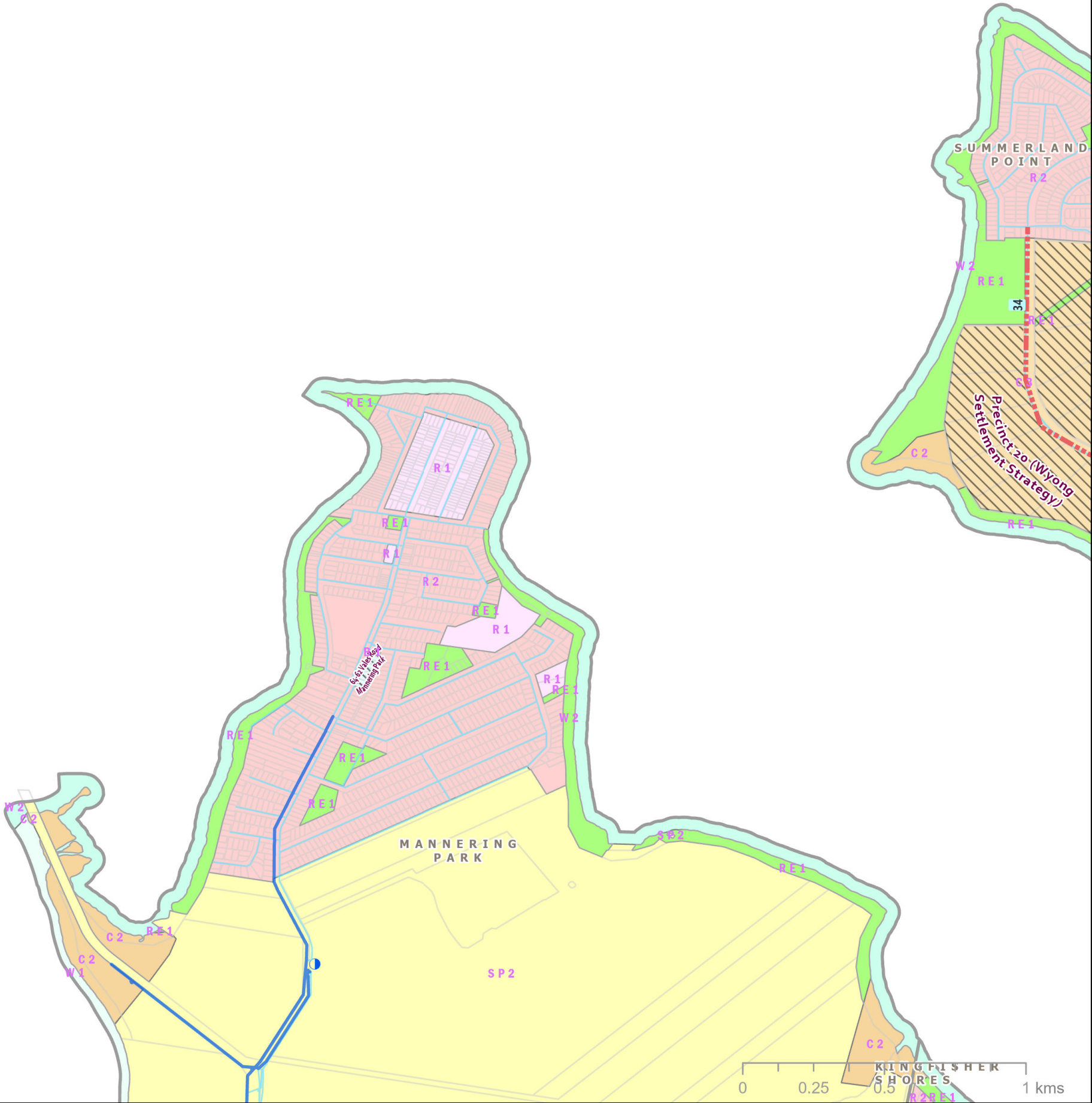
Figure 2
Northern Water Supply Works Plan – 2024



CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

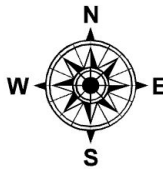
Legend

- Proposed Water Mains**
- Diameter**
- 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**
- Reticulation Main
 - Distribution Main
 - Transfer Main
- Other Features**
- Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
- Suburb**
- Transport - Roads
 - M1 Motorway
 - Railway
- Investigation Areas by Developers**
- Development Sites 2021-2046**
- ForecastID_Centres**
- Cadastre**
- LEP_2022_LandZoningMap**
- B1 - Neighbourhood Centre
 - C2 - Environmental Conservation
 - C3 - Environmental Management
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

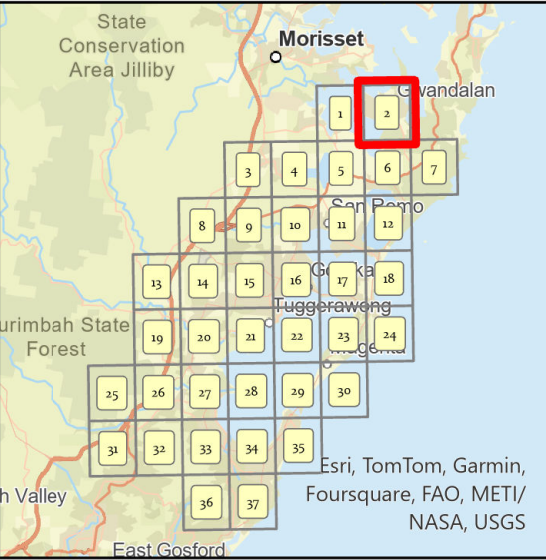
Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
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- Treatment Plant
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- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre

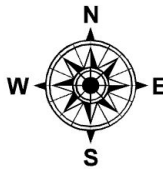
LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B2 - Local Centre
- C1 - National Parks & Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- C4 - Environmental Living
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- R5 - Large Lot Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- SP2 - Infrastructure
- W1 - Natural Waterways
- W2 - Recreational Waterways



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Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
\\nko.gosford.nsw.gov.au\water\AMBP\Siva\DSP-2024\Proposed Water Assets DSP 2024

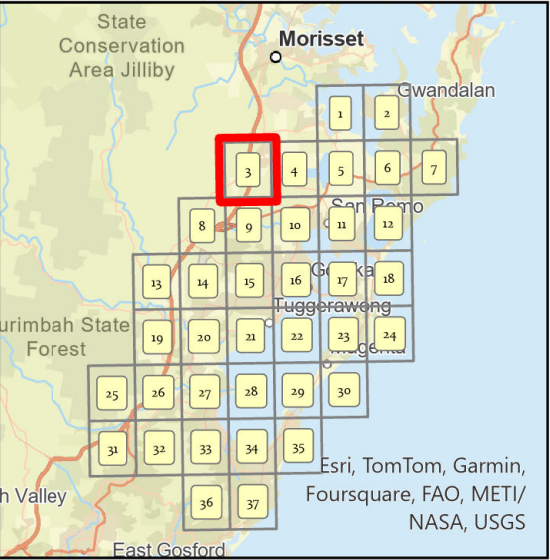
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains	Treatment Plant
Diameter	Geocortex Gosford Wyong Divide Line
100mm	Suburb
150mm	Transport - Roads
200mm	M1 Motorway
250mm	Railway
300mm	Investigation Areas by Developers
375mm	Development Sites 2021-2046
450mm	ForecastID_Centres
600mm	Cadastre
Existing Water Mains	LEP_2022_LandZoningMap
Reticulation Main	C2 - Environmental Conservation
Distribution Main	IN1 - General Industrial
Transfer Main	RU1 - Primary Production
Pump Station	RU6 - Transition
Reservoir	SP2 - Infrastructure



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
\\nlke.gosford.nsw.gov.au\water\AM&P\Siva\DSP-2024\Proposed Water Assets DSP 2024

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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

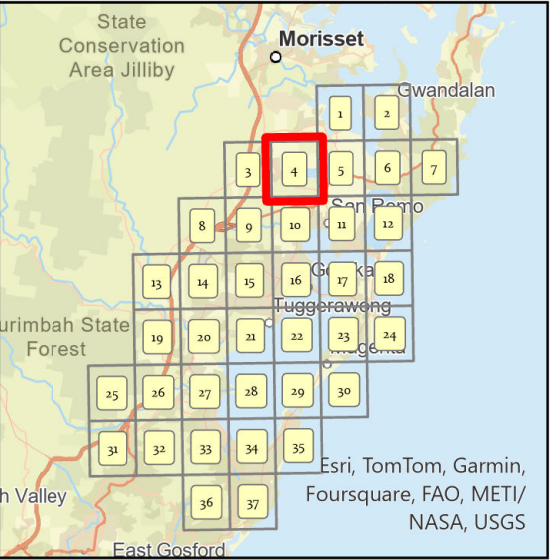
Diameter

 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
- Geocortex Gosford Wyong Divide Line

 - Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
- LEP_2022_LandZoningMap**

 - C2 - Environmental Conservation
 - IN1 - General Industrial
 - R2 - Low Density Residential
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

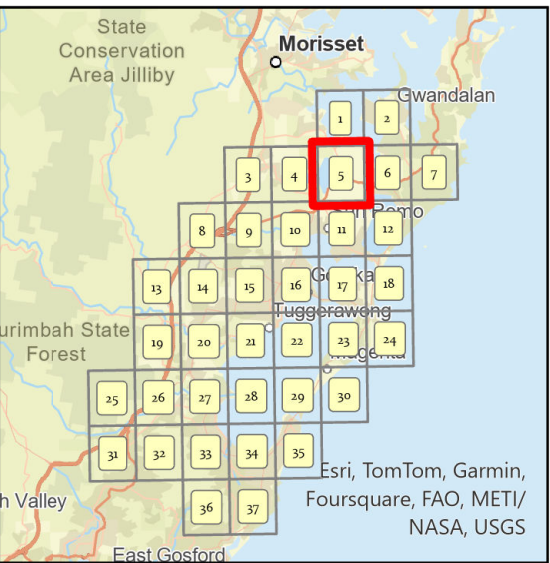
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 - 150mm
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 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

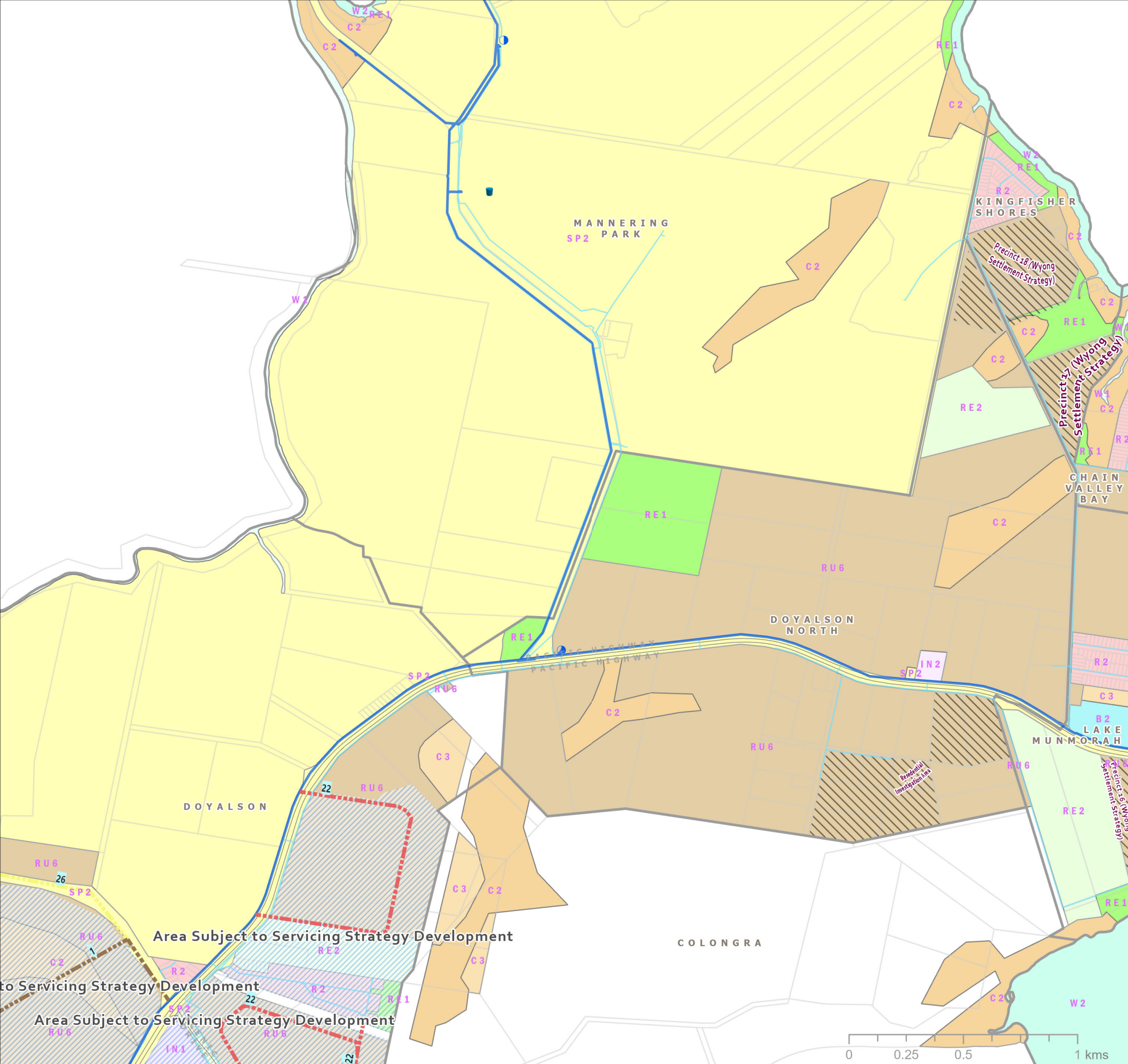
LEP_2022_LandZoningMap

 - B2 - Local Centre
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - IN2 - Light Industrial
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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Date: 26/09/2024
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

Existing Water Mains

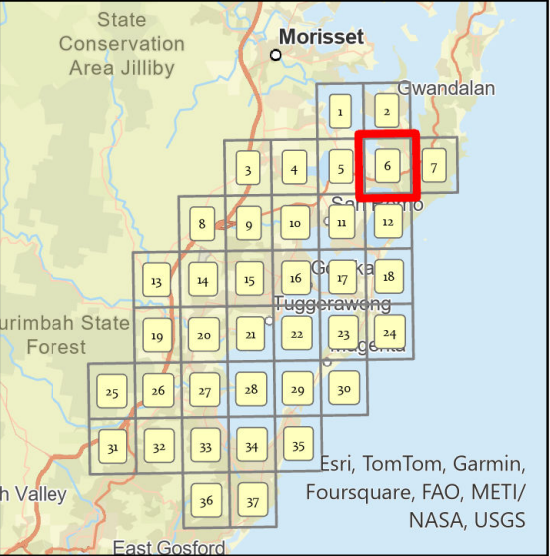
- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway

Railway

- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre

LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B2 - Local Centre
- C1 - National Parks & Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- C4 - Environmental Living
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- RU6 - Transition
- SP2 - Infrastructure
- W1 - Natural Waterways
- W2 - Recreational Waterways



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

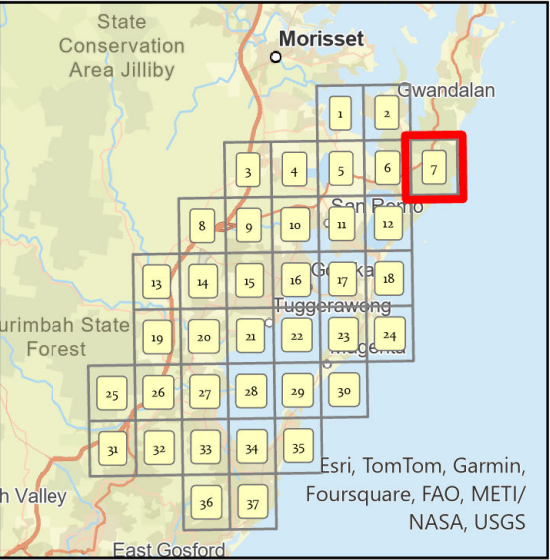
Diameter

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 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
- Geocortex Gosford Wyong Divide Line

 - Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
- LEP_2022_LandZoningMap**

 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - RE1 - Public Recreation
 - SP2 - Infrastructure
 - W2 - Recreational Waterways



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Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

New Reservoirs

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main

Pump Station

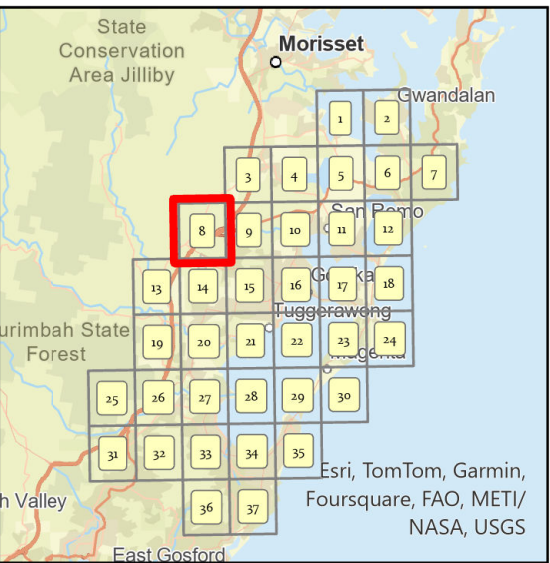
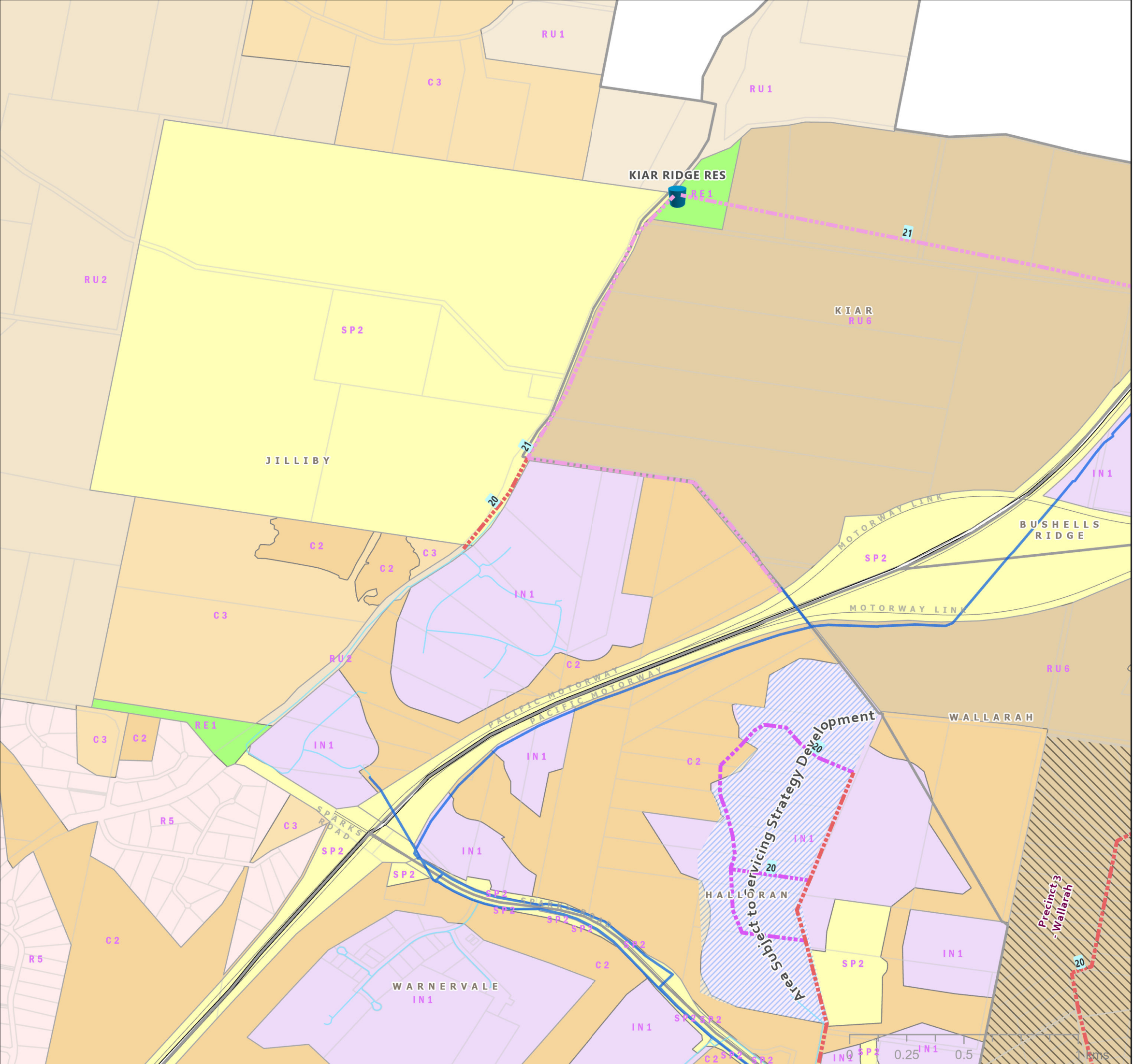
Reservoir

Treatment Plant

Geocortex Gosford Wyong Divide Line
- Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RU1 - Primary Production
 - RU2 - Rural Landscape
 - RU6 - Transition
 - SP2 - Infrastructure



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

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 - 150mm
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 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

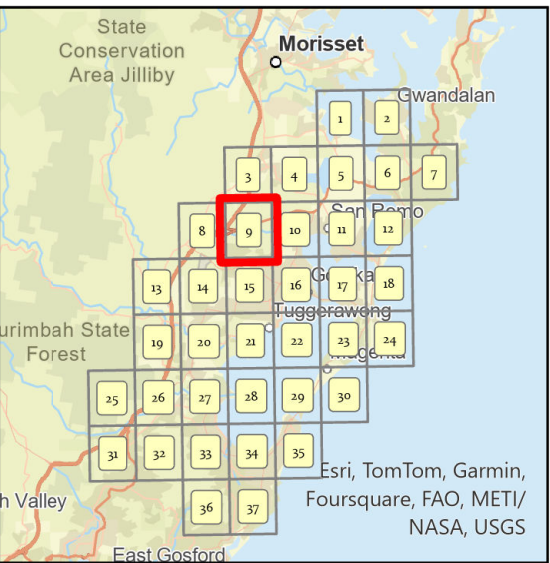
 - Reticulation Main
 - Distribution Main
 - Transfer Main

Infrastructure

 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B2 - Local Centre
 - B4 - Mixed Use
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RU1 - Primary Production
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

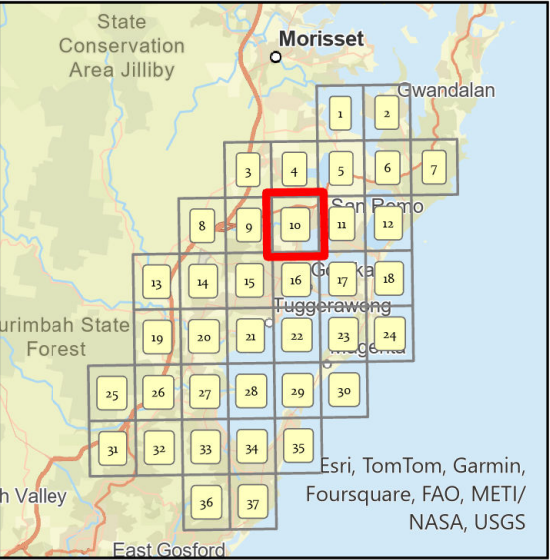
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Existing Water Mains

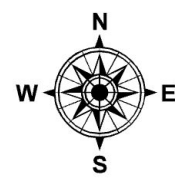
- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway

- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre
- LEP_2022_LandZoningMap
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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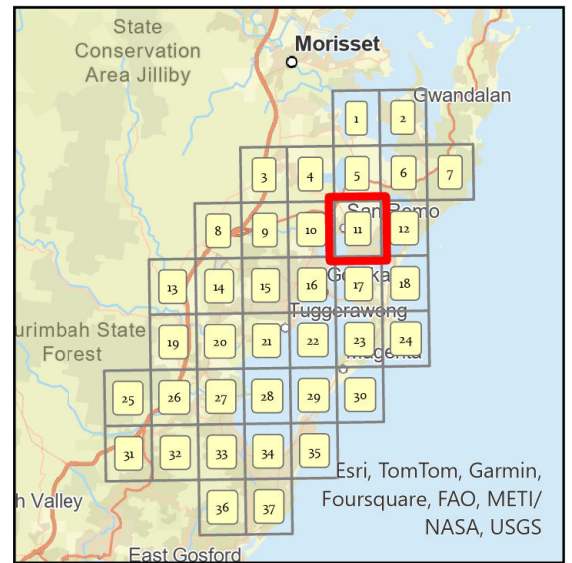
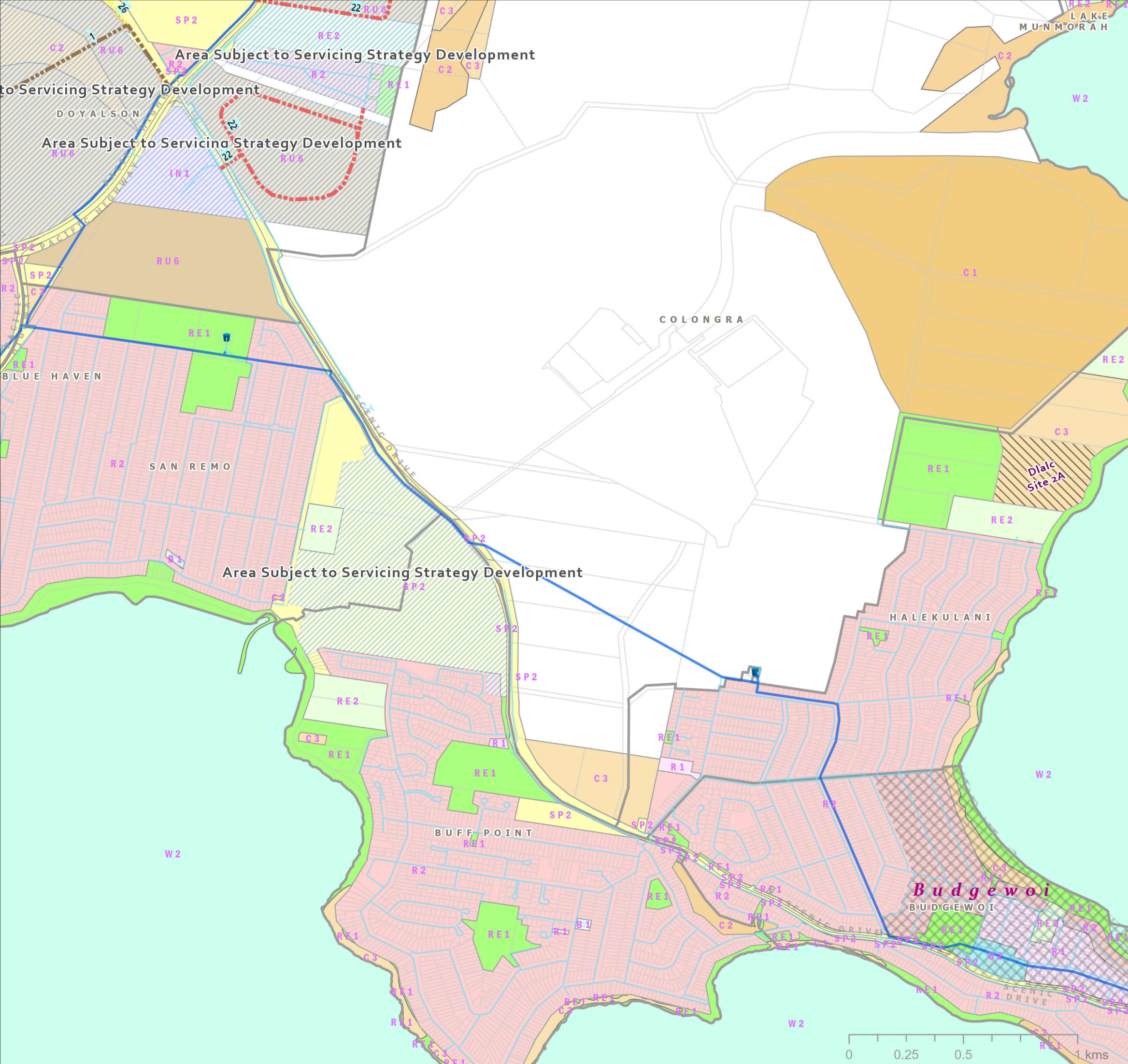
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CENTRAL COAST COUNCIL PROPOSED WATER ASSETS DSP 2024 NORTH

Legend

- Proposed Water Mains**
Diameter
 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**
 - Reticulation Main
 - Distribution Main
 - Transfer Main
- Infrastructure**
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- Other Features**
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W2 - Recreational Waterways



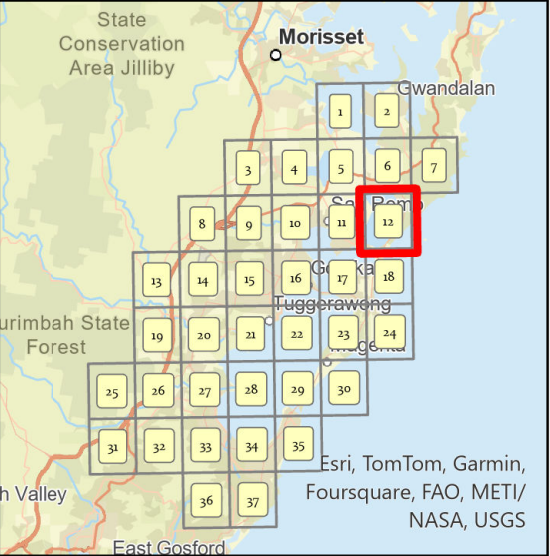
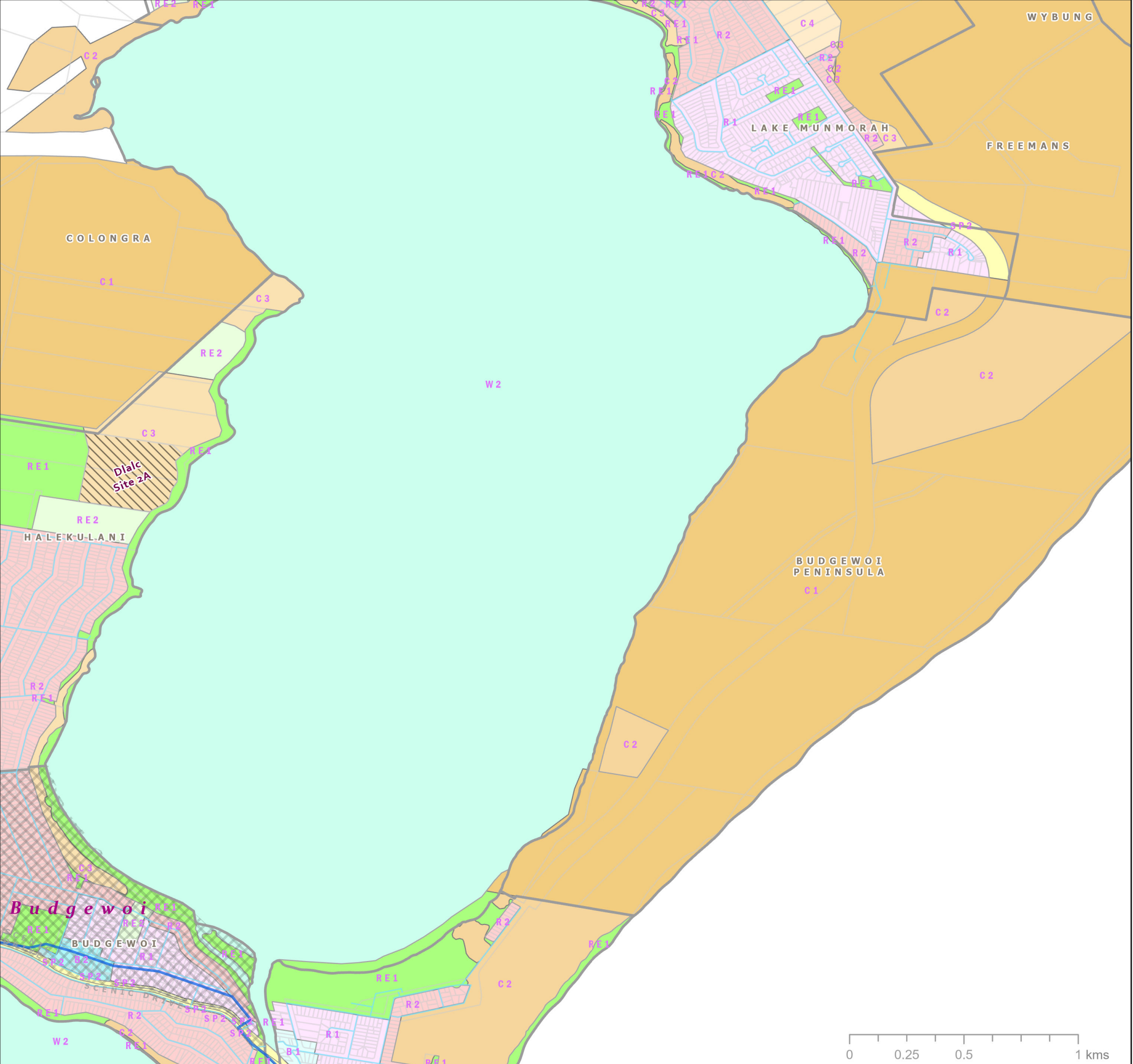
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

- Legend**
- M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
 - LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - W2 - Recreational Waterways

- Proposed Water Mains**
- Diameter**
- 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**
- Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

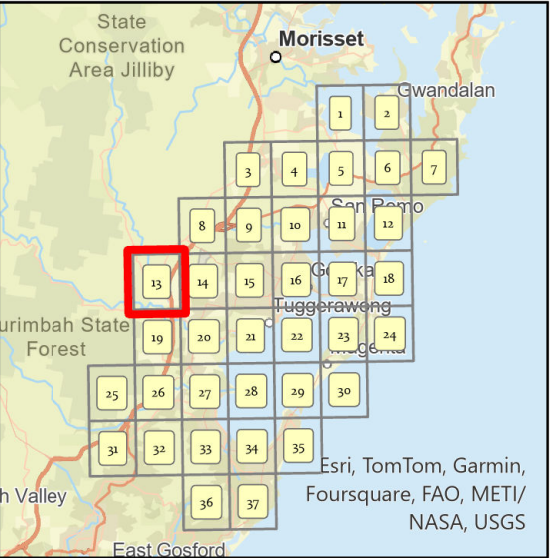
Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant

Geocortex Gosford Wyong Divide Line
- Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - R2 - Low Density Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RU1 - Primary Production
 - RU3 - Forestry
 - SP2 - Infrastructure



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

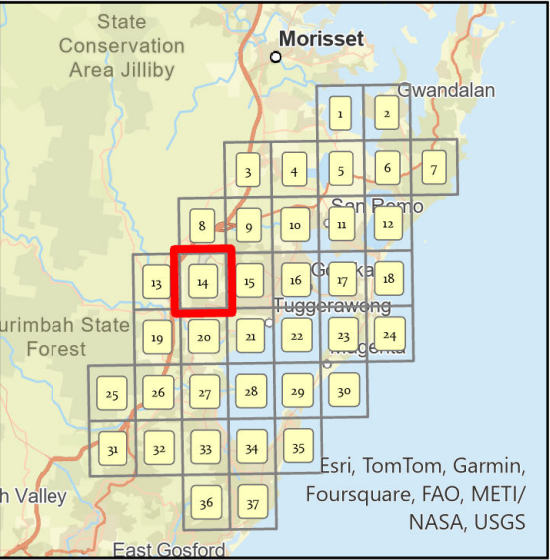
Diameter

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- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

Existing Water Mains

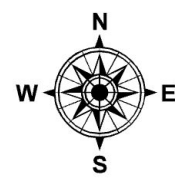
- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads

- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B6 - Enterprise Corridor
 - B7 - Business Park
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure



Siva Balasubramanian
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Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

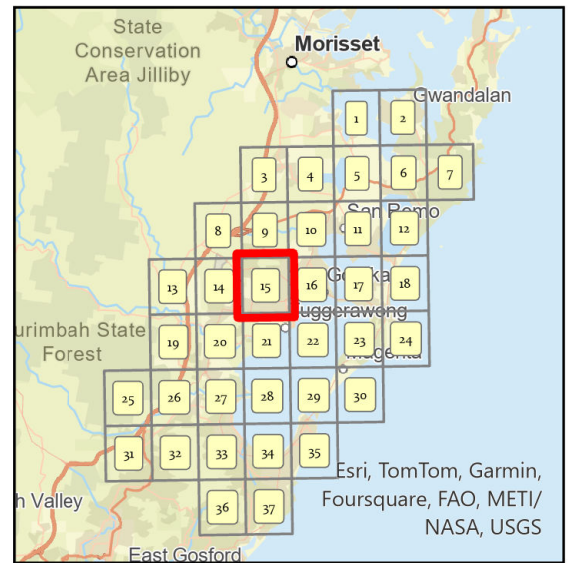
 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
vinke.gosford.nsw.gov.au/water/VAM&P/Siva(DSP-2024)/Proposed Water Assets DSP 2024

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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

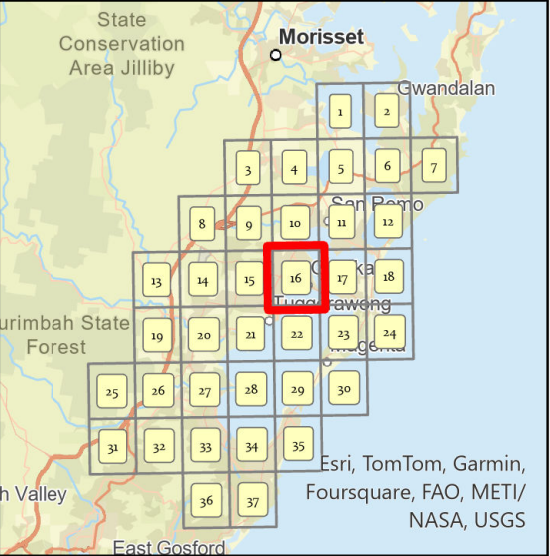
 - 100mm
 - 150mm
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 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
 - M1 Motorway
- Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
Vnlke:gosford.nsw.gov.au/water/VAMB/Siva(DSP-2024)/Proposed Water Assets DSP 2024

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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

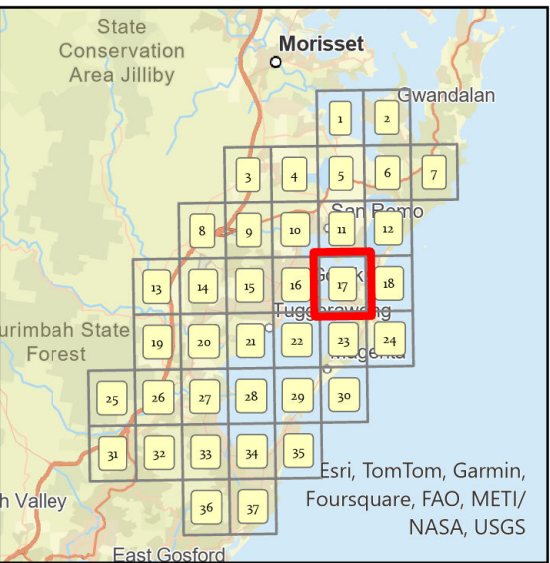
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 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- M1 Motorway
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 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
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 - B4 - Mixed Use
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R1 - General Residential
 - R2 - Low Density Residential
 - R3 - Medium Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - SP3 - Tourist
 - W2 - Recreational Waterways



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
Esri, TomTom, Garmin, Foursquare, FAO, METI/ NASA, USGS

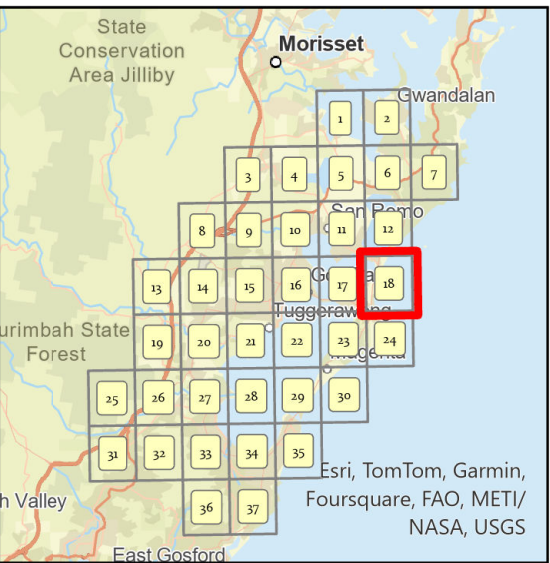
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

- Legend**
- Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastral
 - LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - W2 - Recreational Waterways

- Proposed Water Mains**
- Diameter**
- 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**
- Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

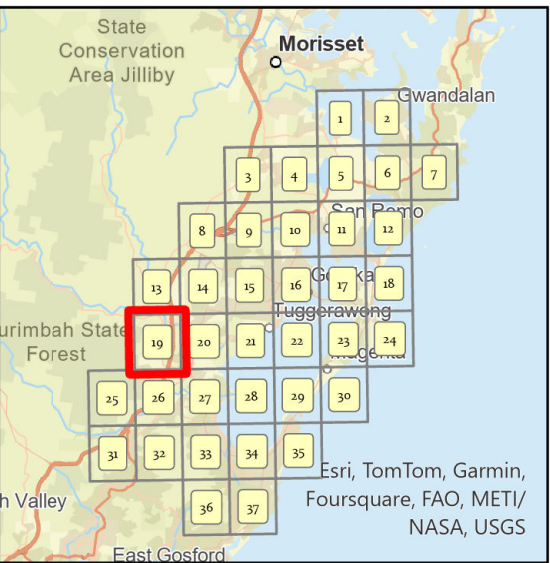
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Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
- Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

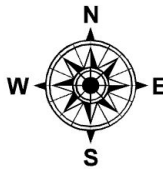
LEP_2022_LandZoningMap

 - B3 - Commercial Core
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - R3 - Medium Density Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU1 - Primary Production
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways



Siva Balasubramanian
Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

Existing Water Mains

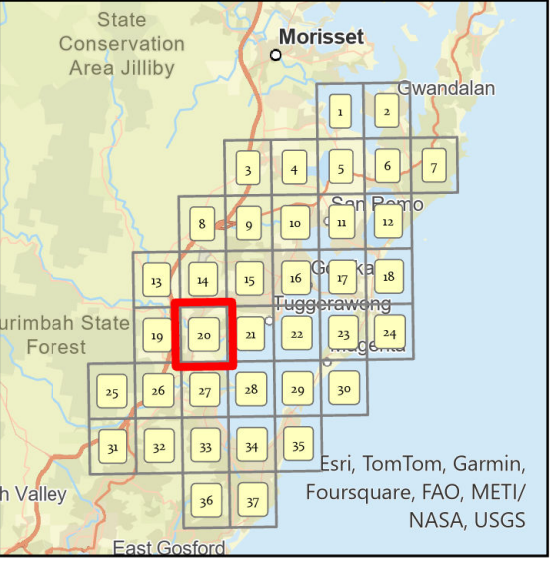
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- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046

ForecastID_Centres

Cadastre

LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B3 - Commercial Core
- B4 - Mixed Use
- B5 - Business Development
- B6 - Enterprise Corridor
- C1 - National Parks & Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- IN1 - General Industrial
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- R3 - Medium Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- RU6 - Transition
- SP2 - Infrastructure
- SP3 - Tourist
- W1 - Natural Waterways
- W2 - Recreational Waterways



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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

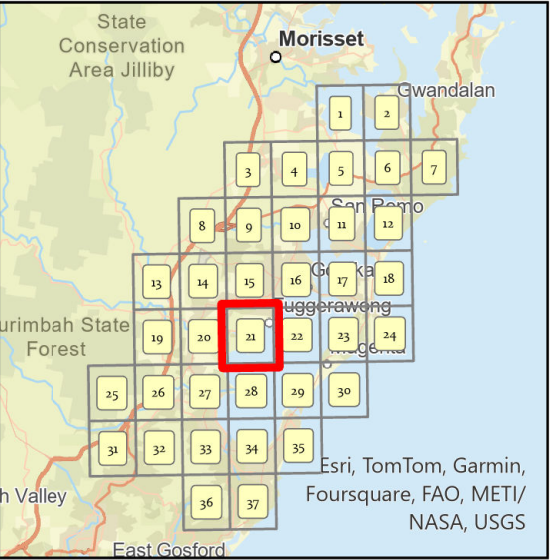
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 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
 - M1 Motorway
- Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
 - B6 - Enterprise Corridor
 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - SP3 - Tourist
 - W1 - Natural Waterways
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Date: 26/09/2024
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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
[link:gosford.nsw.gov.au/water/AM&P/Siva/DSP-2024/Proposed Water Assets DSP 2024]
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

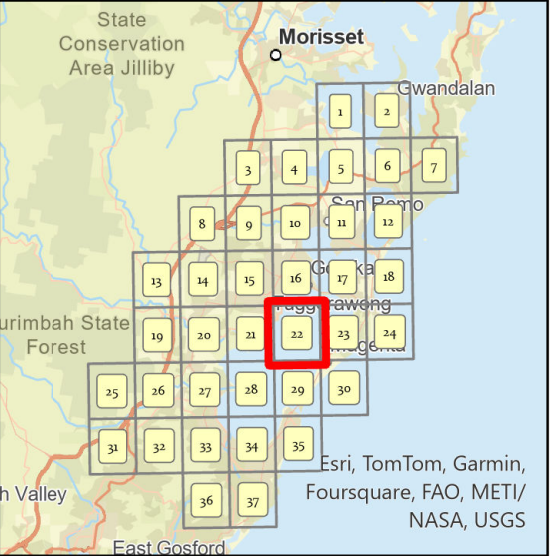
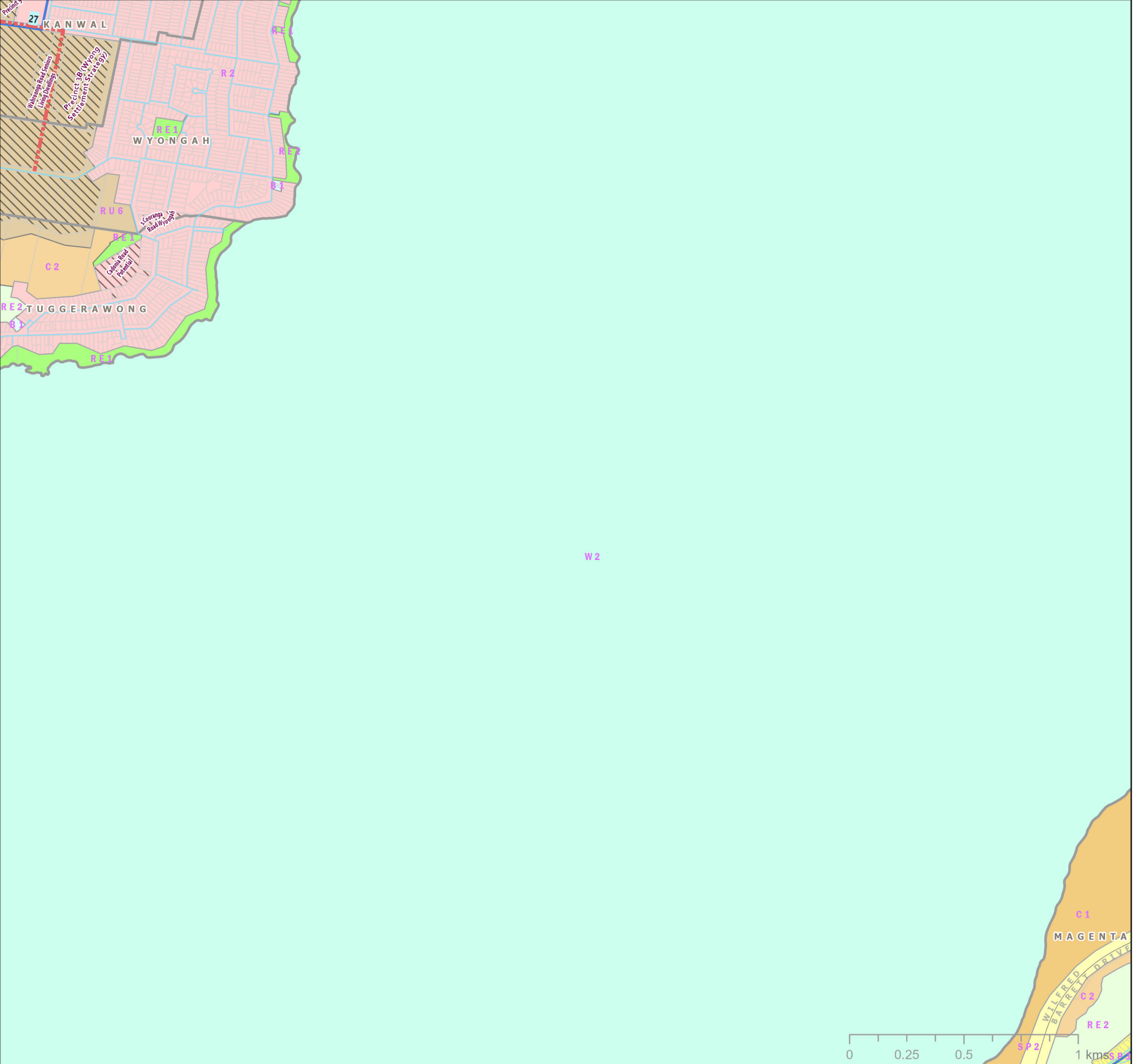
- Legend**
- Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
 - LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - SP3 - Tourist
 - W2 - Recreational Waterways

Proposed Water Mains

- Diameter**
- 100mm
 - 150mm
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 - 375mm
 - 450mm
 - 600mm

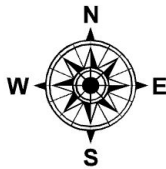
Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb



Siva Balasubramanian
Date: 26/09/2024
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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

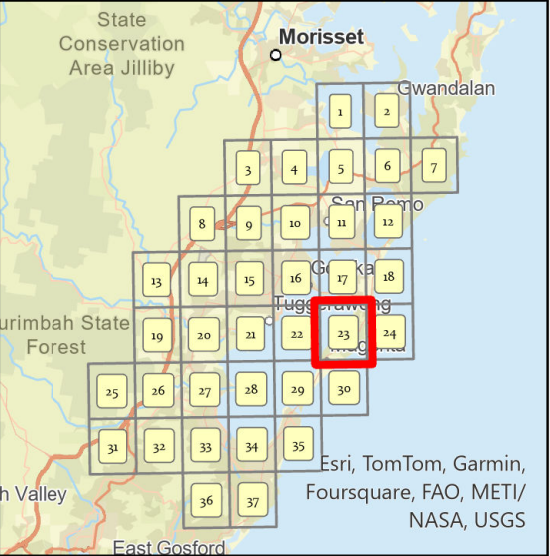
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 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
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 - Investigation Areas by Developers
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LEP_2022_LandZoningMap

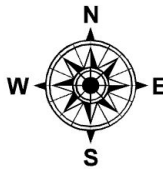
 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R1 - General Residential
 - R2 - Low Density Residential
 - R3 - Medium Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - SP3 - Tourist
 - W2 - Recreational Waterways



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CENTRAL COAST COUNCIL PROPOSED WATER ASSETS DSP 2024 NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

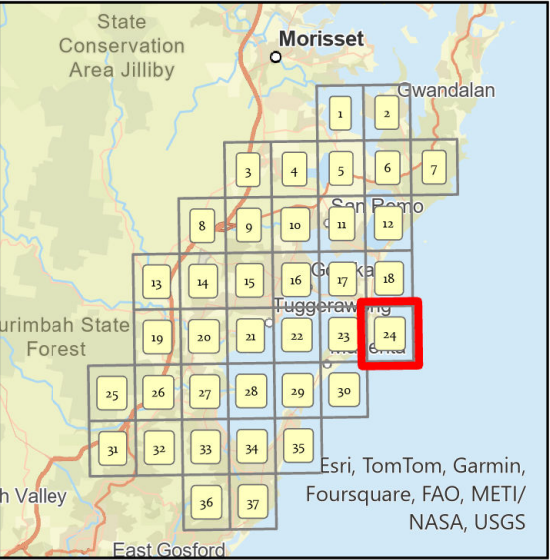
Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb

- Transport - Roads
- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre

LEP_2022_LandZoningMap

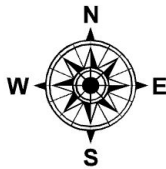
- B1 - Neighbourhood Centre
- B4 - Mixed Use
- C1 - National Parks& Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- R1 - General Residential
- R2 - Low Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- SP2 - Infrastructure



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0 0.25 0.5 1 kms



CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

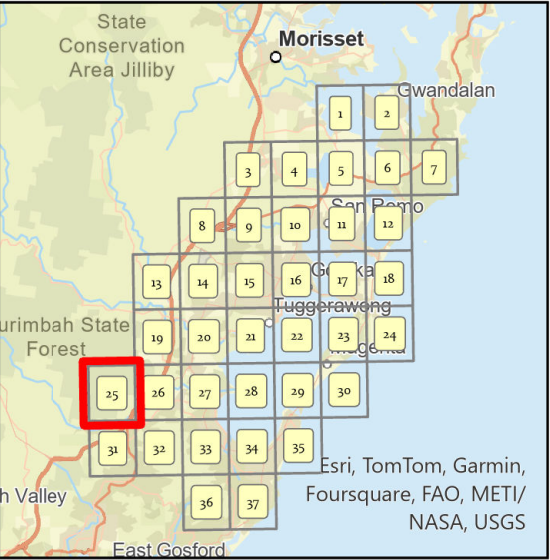
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 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
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 - Transport - Roads
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 - Railway
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 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R1 - General Residential
 - RU1 - Primary Production
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - SP2 - Infrastructure



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

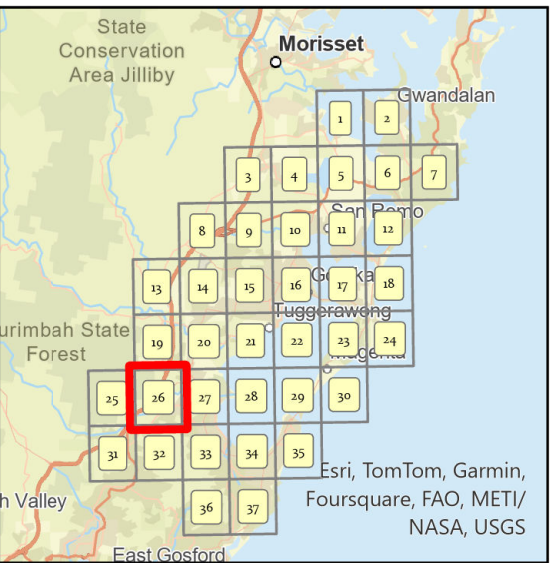
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Existing Water Mains

 - Reticulation Main
 - Distribution Main
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 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
- Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B3 - Commercial Core
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - B7 - Business Park
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN1 - General Industrial
 - IN2 - Light Industrial
 - R1 - General Residential
 - R3 - Medium Density Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways



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[Link to map data source]
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

- Diameter**
- 100mm
 - 150mm
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 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

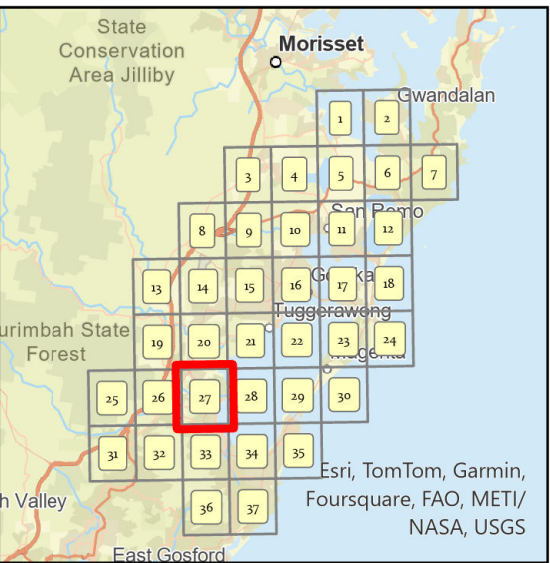
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- Reservoir
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- Transport - Roads
- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046

ForecastID_Centres

Cadastre

LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B2 - Local Centre
- B3 - Commercial Core
- B4 - Mixed Use
- B5 - Business Development
- B6 - Enterprise Corridor
- B7 - Business Park
- C1 - National Parks& Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- C4 - Environmental Living
- IN1 - General Industrial
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- R3 - Medium Density Residential
- RE1 - Public Recreation
- RU6 - Transition
- SP2 - Infrastructure
- W1 - Natural Waterways
- W2 - Recreational Waterways



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

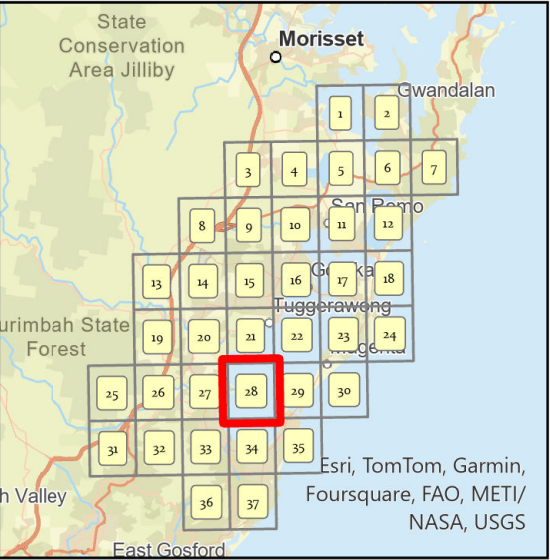
 - 100mm
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 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
- Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

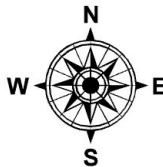
 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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Map 28 of 37



CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway

Railway

Investigation Areas by Developers

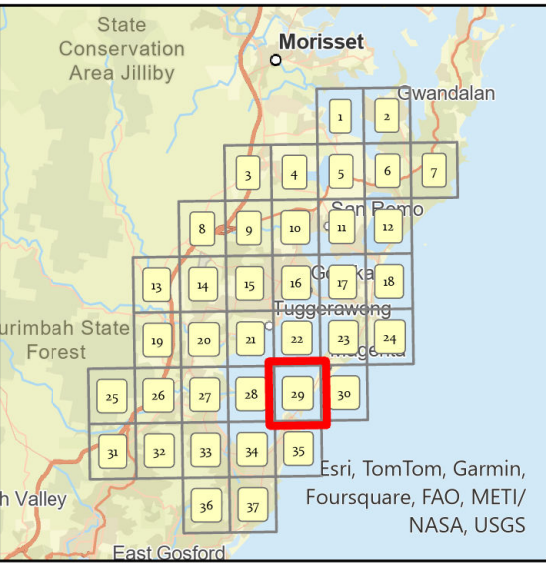
Development Sites 2021-2046

ForecastID_Centres

Cadastre

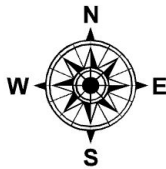
LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B2 - Local Centre
- B4 - Mixed Use
- C1 - National Parks& Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- R1 - General Residential
- R2 - Low Density Residential
- R3 - Medium Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- SP2 - Infrastructure
- SP3 - Tourist
- W2 - Recreational Waterways



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Date: 26/09/2024
Source: Central Coast Council
Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

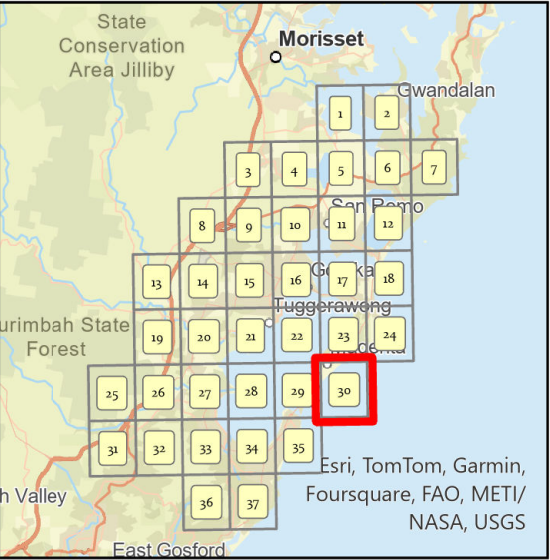
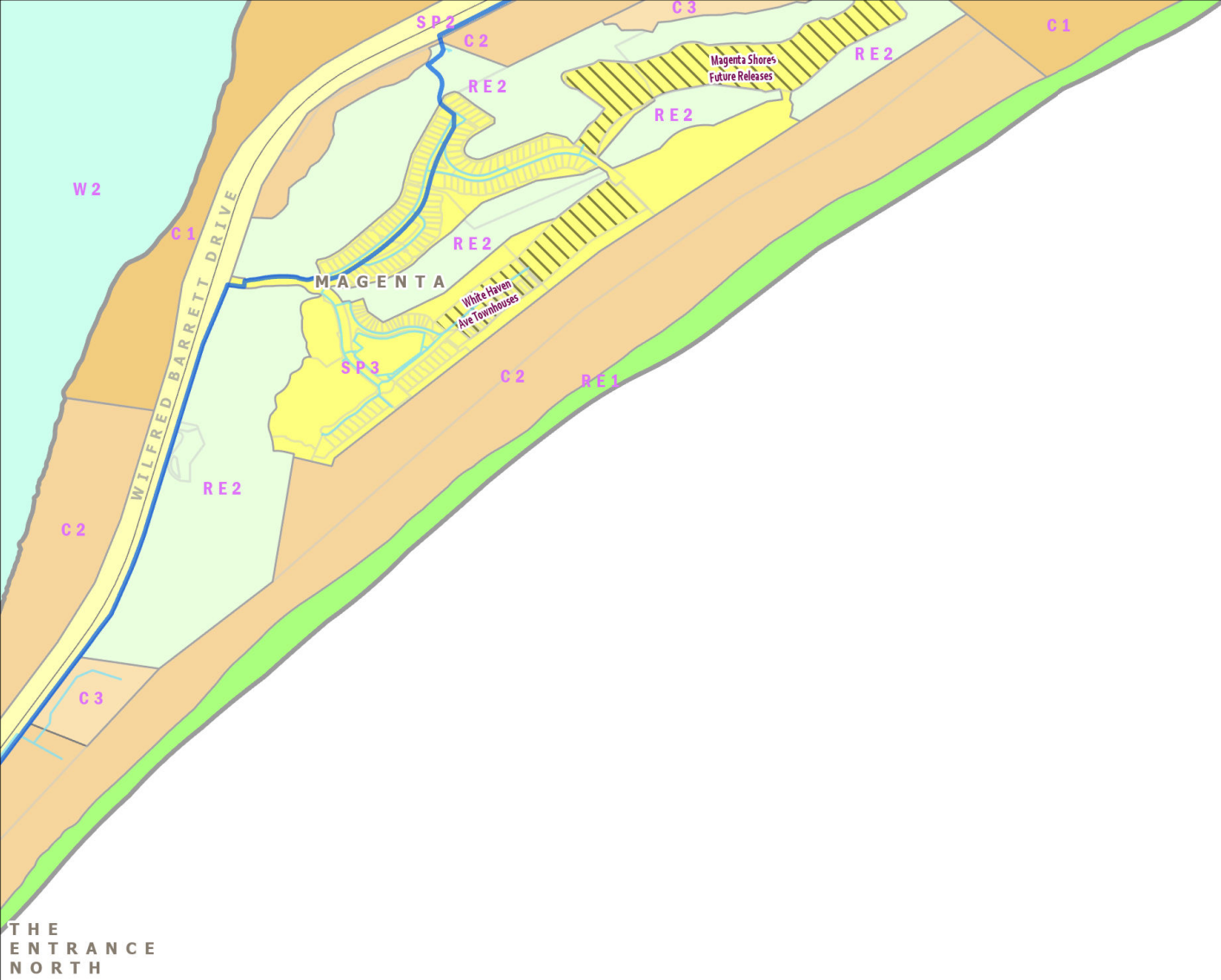
 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
- Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - SP3 - Tourist
 - W2 - Recreational Waterways



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

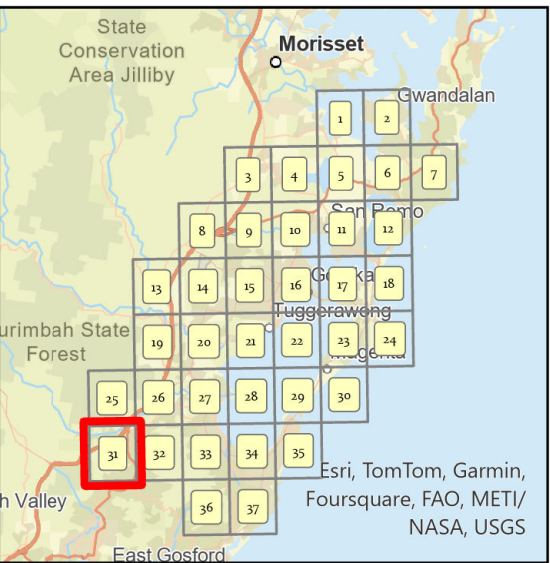
- Legend**
- Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
 - LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN1 - General Industrial
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU1 - Primary Production
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - SP2 - Infrastructure
 - DM - Deferred Matter

Proposed Water Mains

- Diameter**
- 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway
- Railway



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

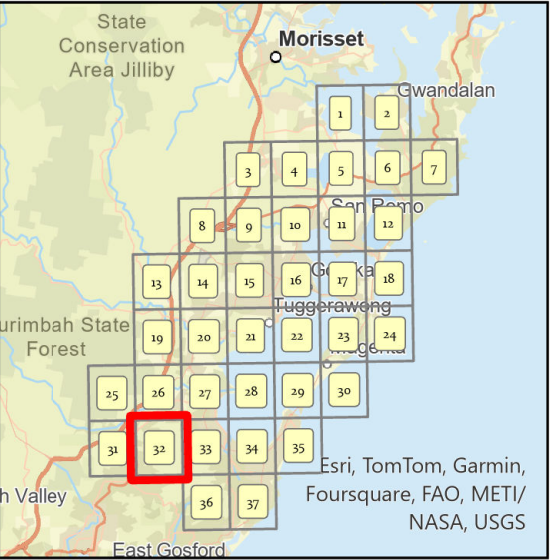
Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads

- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre

LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- C2 - Environmental Conservation
- C3 - Environmental Management
- C4 - Environmental Living
- IN1 - General Industrial
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- RU2 - Rural Landscape
- SP2 - Infrastructure
- DM - Deferred Matter



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

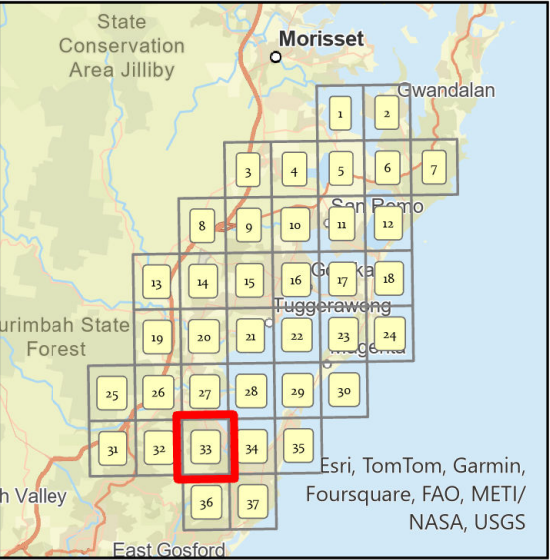
 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
- M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

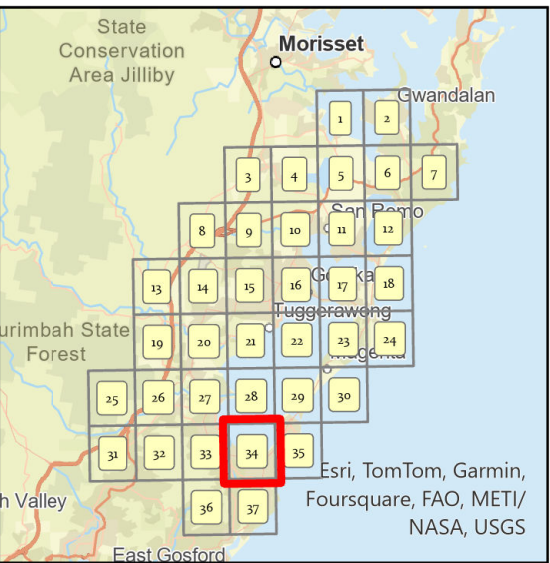
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 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

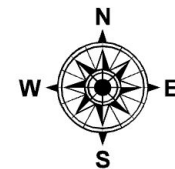
 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
- Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

LEP_2022_LandZoningMap

 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - R3 - Medium Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP1 - Special Activities
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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CENTRAL COAST COUNCIL PROPOSED WATER ASSETS DSP 2024 NORTH

Legend

Proposed Water Mains

Diameter

- 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 375mm
- 450mm
- 600mm

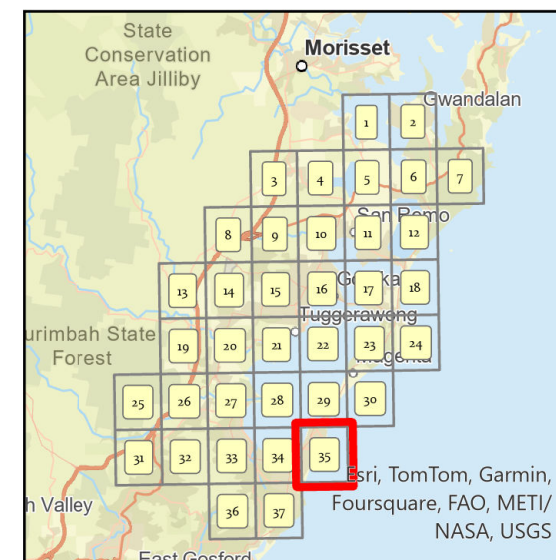
Existing Water Mains

- Reticulation Main
- Distribution Main
- Transfer Main
- Pump Station
- Reservoir
- Treatment Plant
- Geocortex Gosford Wyong Divide Line
- Suburb
- Transport - Roads
- M1 Motorway
- Railway

- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Cadastre

LEP_2022_LandZoningMap

- B1 - Neighbourhood Centre
- B2 - Local Centre
- B4 - Mixed Use
- B6 - Enterprise Corridor
- C1 - National Parks& Nature Reserves
- C2 - Environmental Conservation
- C3 - Environmental Management
- IN2 - Light Industrial
- R1 - General Residential
- R2 - Low Density Residential
- R3 - Medium Density Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- SP1 - Special Activities
- SP2 - Infrastructure
- W2 - Recreational Waterways



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0 0.25 0.5 1 kms



CENTRAL COAST COUNCIL
PROPOSED WATER ASSETS DSP 2024
NORTH

Legend

- Proposed Water Mains**

Diameter

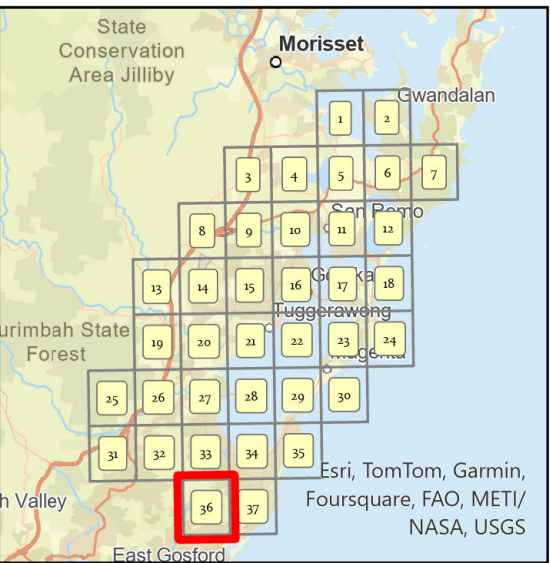
 - 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm

Existing Water Mains

 - Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
- Transport - Roads
 - M1 Motorway
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre

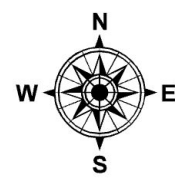
LEP_2022_LandZoningMap

 - C1 - National Parks & Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - SP1 - Special Activities
 - SP2 - Infrastructure
 - DM - Deferred Matter



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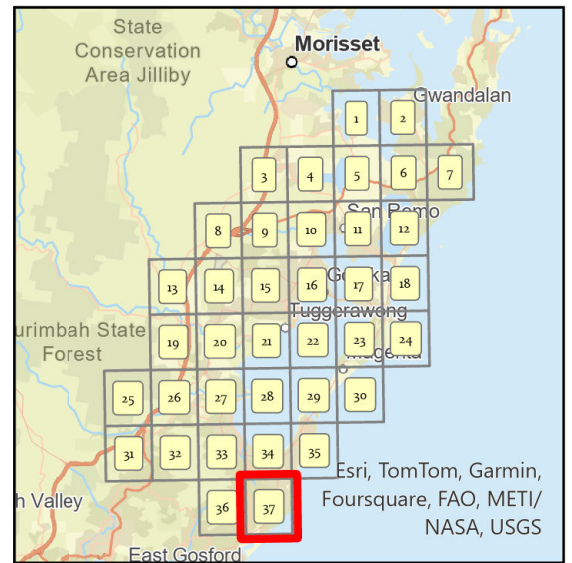
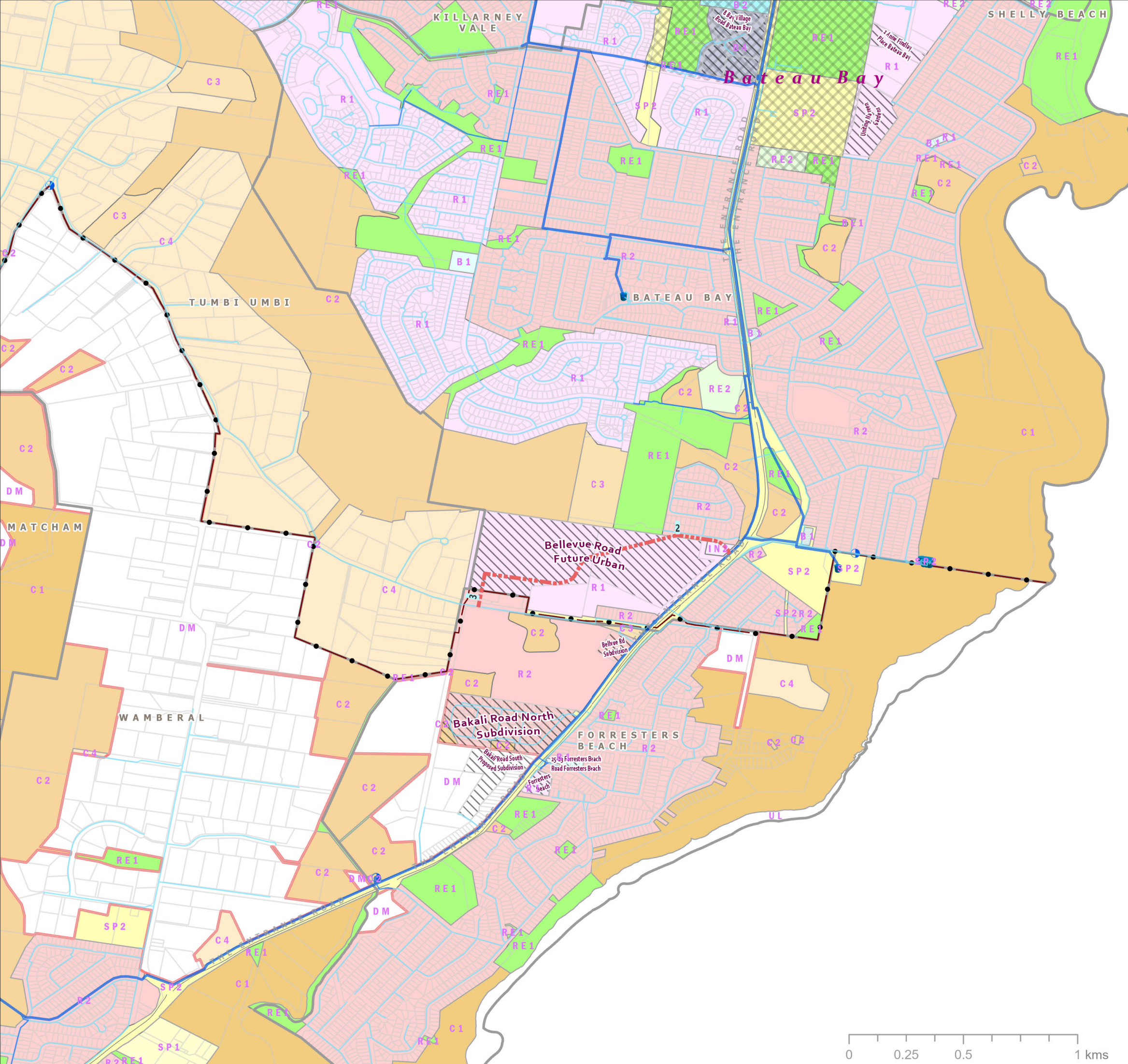
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CENTRAL COAST COUNCIL PROPOSED WATER ASSETS DSP 2024 NORTH

- Legend**
- Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Cadastre
 - LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP1 - Special Activities
 - SP2 - Infrastructure
 - UL - Unzoned Land
 - DM - Deferred Matter

- Proposed Water Mains**
- Diameter**
- 100mm
 - 150mm
 - 200mm
 - 250mm
 - 300mm
 - 375mm
 - 450mm
 - 600mm
- Existing Water Mains**
- Reticulation Main
 - Distribution Main
 - Transfer Main
 - Pump Station
 - Reservoir
 - Treatment Plant
 - Geocortex Gosford Wyong Divide Line
 - Suburb
 - Transport - Roads
 - M1 Motorway
 - Railway

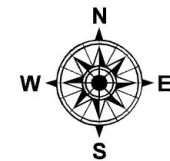


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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
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Figure 3
Northern Sewerage Works Plans - 2024



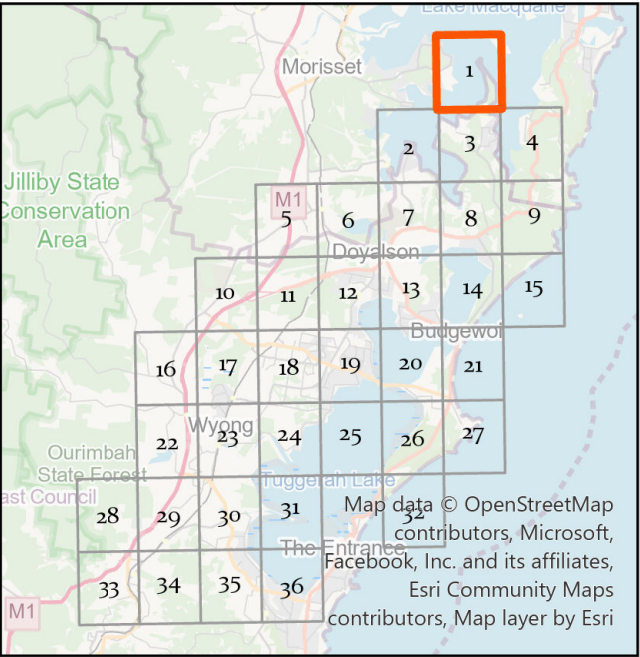
CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains $\geq 300\text{mm}$
- New Sewer_Rising_Mains
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- ForecastID_Centres
- Water Bodies
- Contours 2m

LEP_2022_LandZoningMap

- C1 - National Parks& Nature Reserves
- W2 - Recreational Waterways

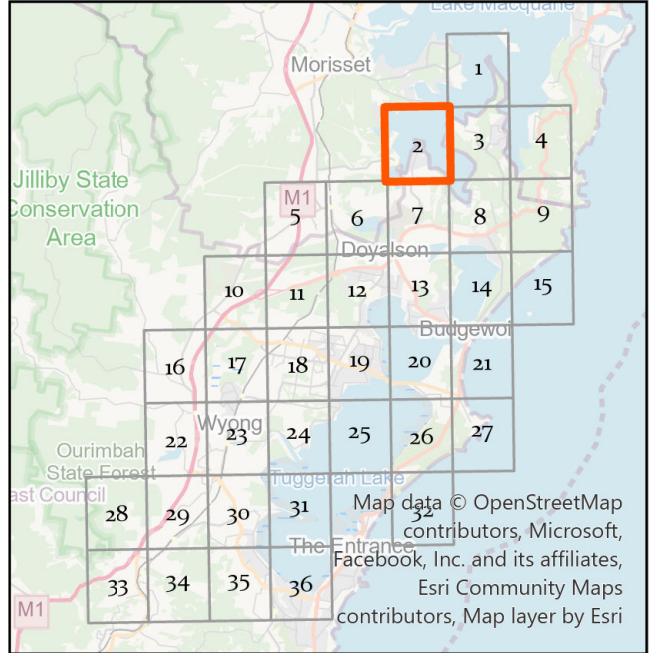
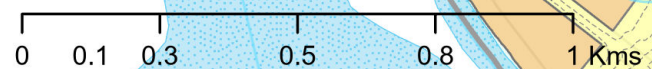
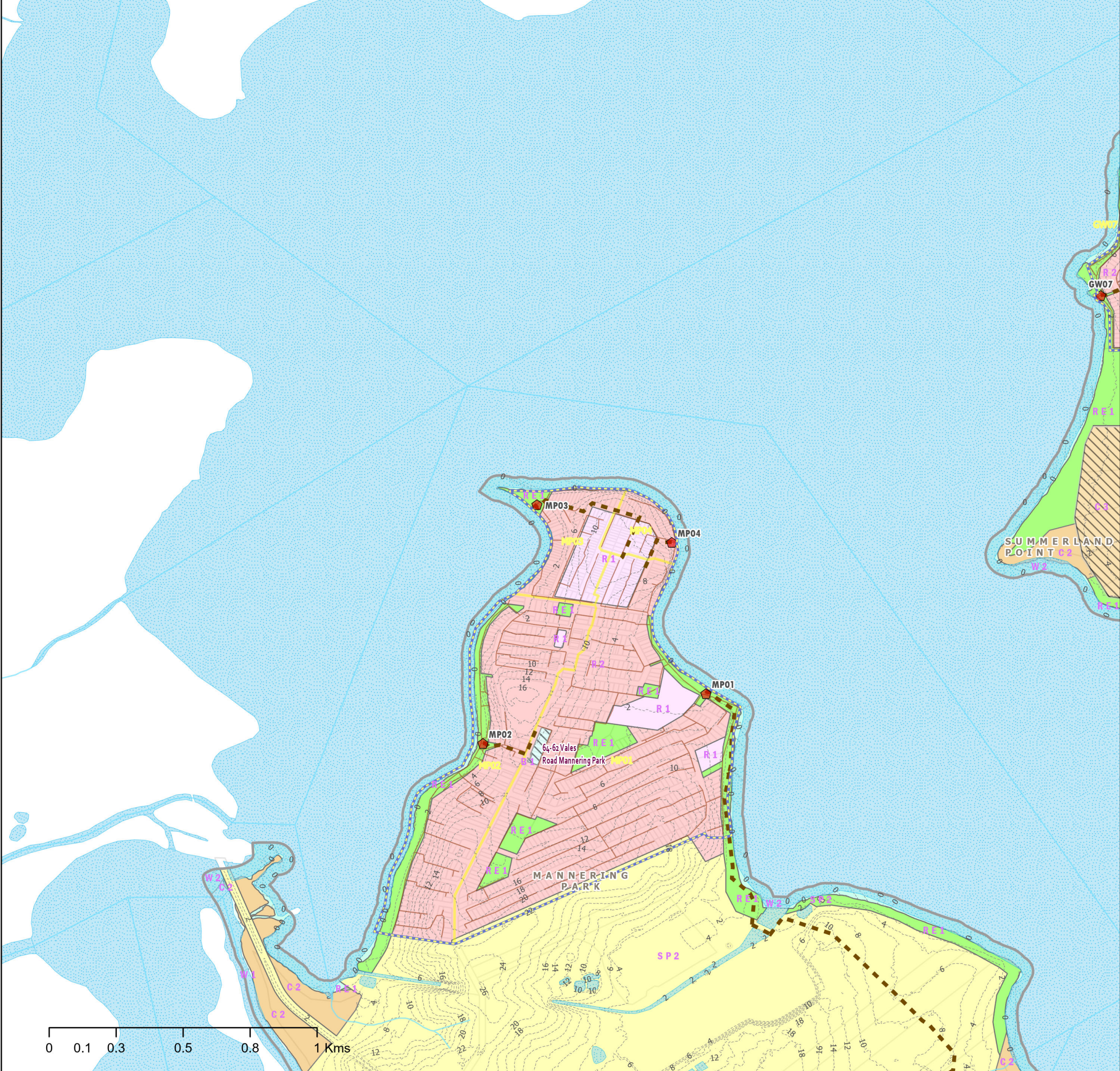




CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|---------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | B1 - Neighbourhood Centre |
| New Sewer_Rising_Mains | C2 - Environmental Conservation |
| SPS | C3 - Environmental Management |
| Sewer Gravity Mains | R1 - General Residential |
| Rising Main | R2 - Low Density Residential |
| Suburb | RE1 - Public Recreation |
| Natural Drainage Layers | SP2 - Infrastructure |
| Investigation Areas by Developers | W1 - Natural Waterways |
| Development Sites 2021-2046 | W2 - Recreational Waterways |
| ForecastID_Centres | |



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\\nlke.gosford.nsw.gov.au\water\AM&P\Siva\GIS\Sewer Catchment TO V1

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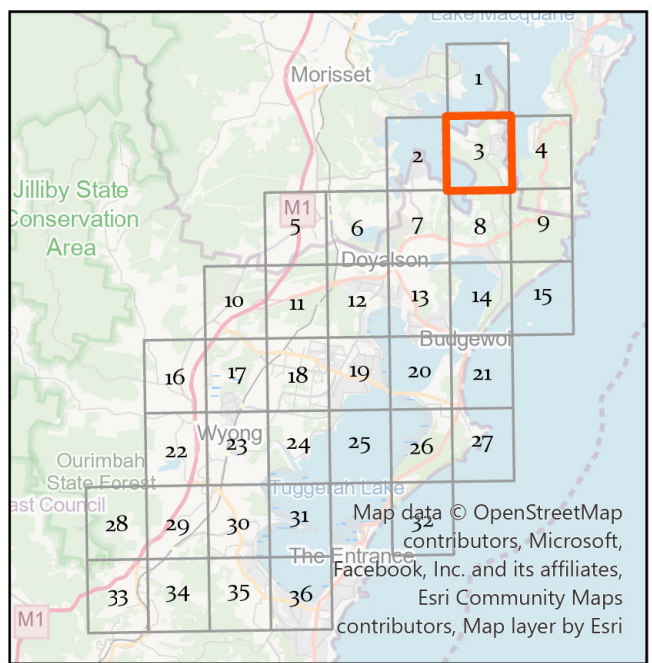
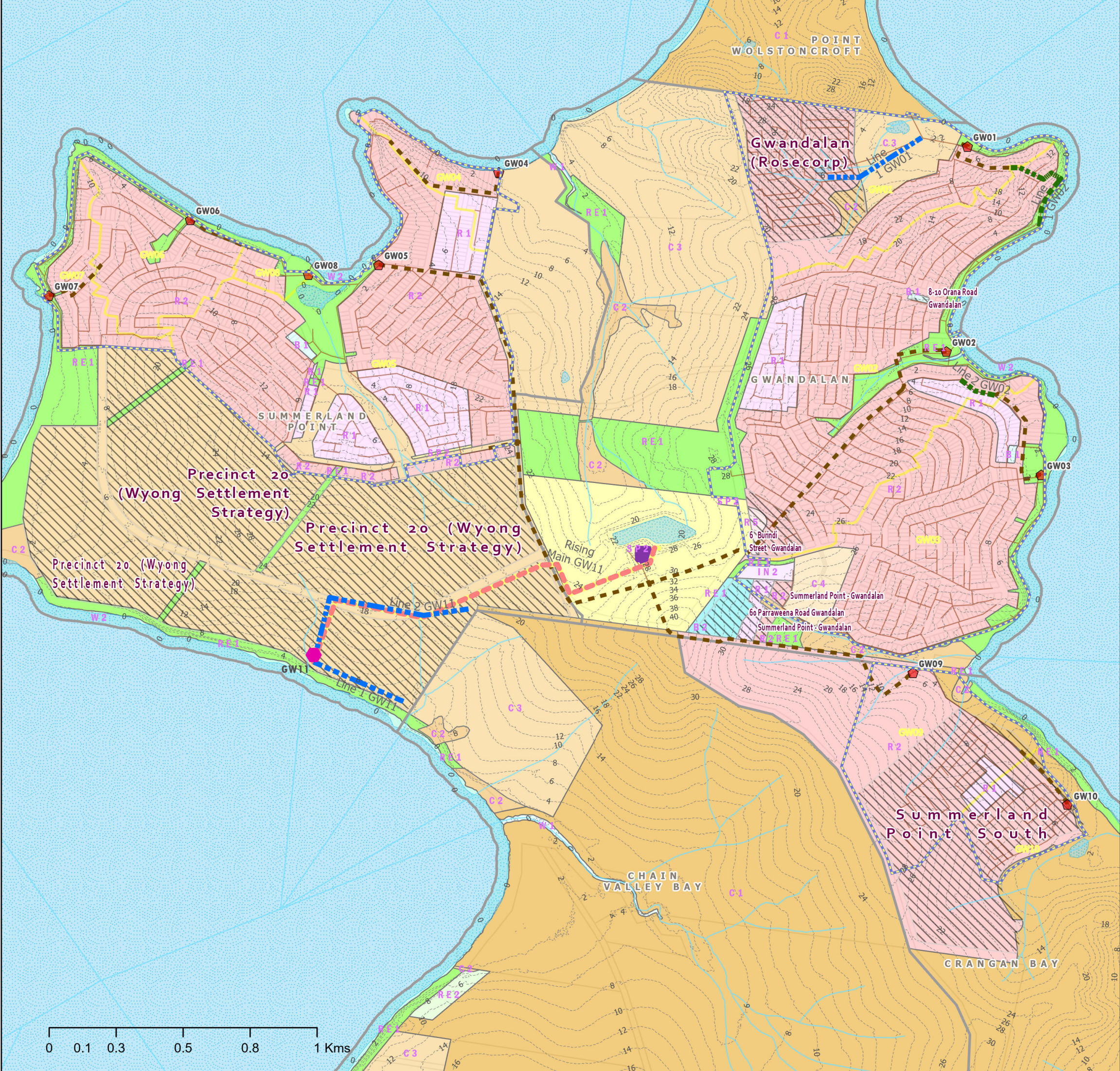
Map 2 of 36



CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- STP
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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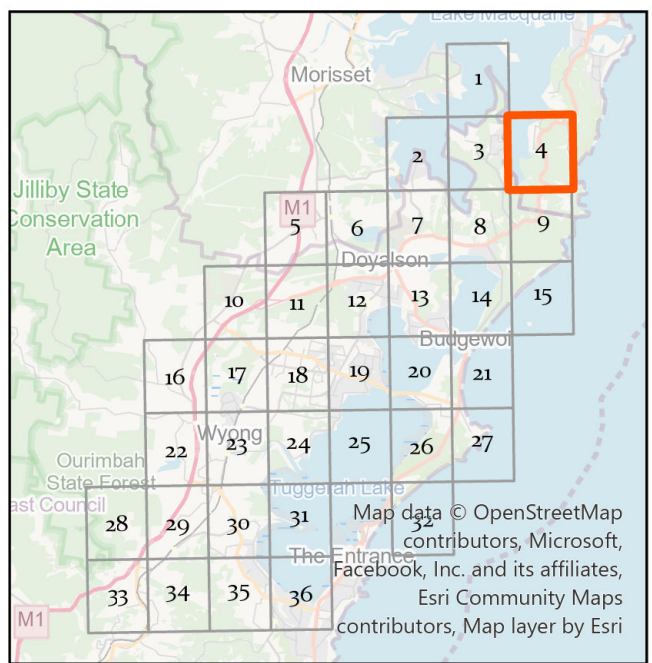
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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|--------------------------------------|
| Toukley EPL Boundary | Development Sites 2021-2046 |
| New SPS | ForecastID_Centres |
| SPS Upgrade | Water Bodies |
| Proposed Sewer Mains 225mm | Contours 2m |
| Proposed Sewer Mains >=300mm | Sewer Catchment Boundaries |
| New Sewer_Rising_Mains | LEP_2022_LandZoningMap |
| SPS | C1 - National Parks& Nature Reserves |
| Sewer Gravity Mains | C2 - Environmental Conservation |
| Rising Main | R2 - Low Density Residential |
| Suburb | RE1 - Public Recreation |
| Natural Drainage Layers | W2 - Recreational Waterways |
| Investigation Areas by Developers | |



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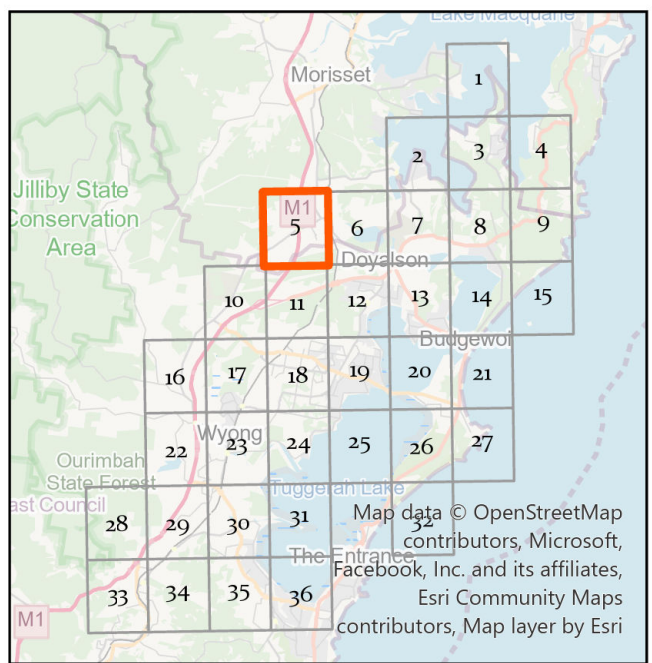
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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

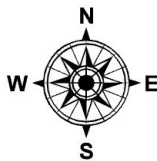
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| Toukley EPL Boundary | Development Sites 2021-2046 |
| New SPS | ForecastID_Centres |
| SPS Upgrade | Water Bodies |
| Proposed Sewer Mains 225mm | Contours 2m |
| Proposed Sewer Mains >=300mm | LEP_2022_LandZoningMap |
| New Sewer_Rising_Mains | C2 - Environmental Conservation |
| Suburb | IN1 - General Industrial |
| Natural Drainage Layers | RU6 - Transition |
| M1 Motorway | SP2 - Infrastructure |
| Investigation Areas by Developers | |



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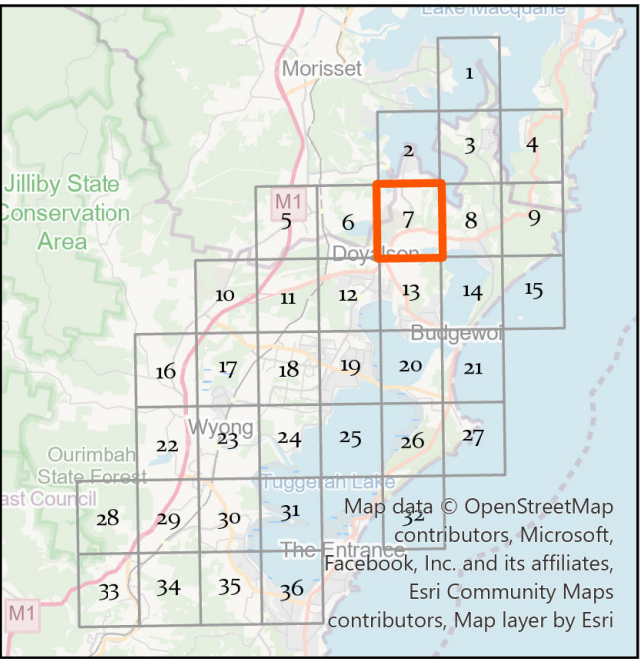




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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

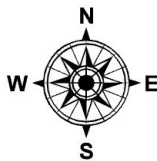
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|-----------------------------------|---------------------------------|
| Toukley EPL Boundary | ForecastID_Centres |
| New SPS | Water Bodies |
| SPS Upgrade | Contours 2m |
| Proposed Sewer Mains 225mm | Sewer Catchment Boundaries |
| Proposed Sewer Mains >=300mm | LEP_2022_LandZoningMap |
| New Sewer_Rising_Mains | C2 - Environmental Conservation |
| SPS | C3 - Environmental Management |
| STP | IN2 - Light Industrial |
| Sewer Gravity Mains | R2 - Low Density Residential |
| Rising Main | RE1 - Public Recreation |
| Suburb | RE2 - Private Recreation |
| Natural Drainage Layers | RU6 - Transition |
| Investigation Areas by Developers | SP2 - Infrastructure |
| Development Sites 2021-2046 | W1 - Natural Waterways |
| | W2 - Recreational Waterways |



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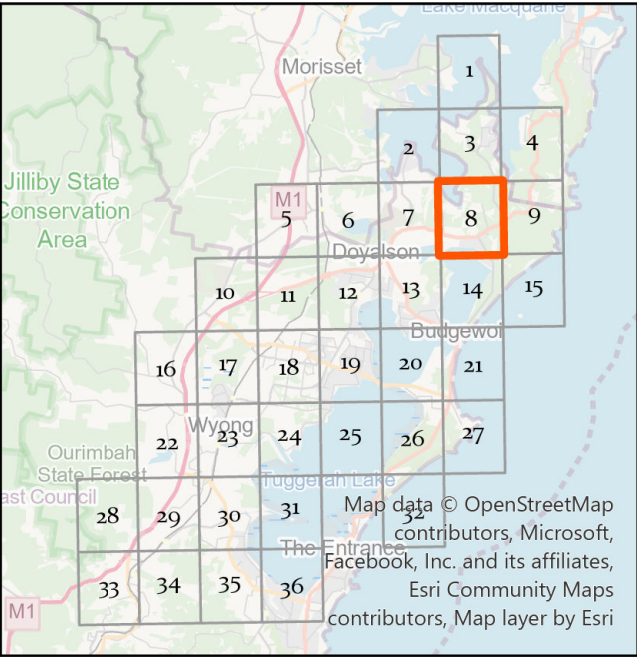
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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- ForecastID_Centres
- Water Bodies
- Contours 2m
- LEP_2022_LandZoningMap**

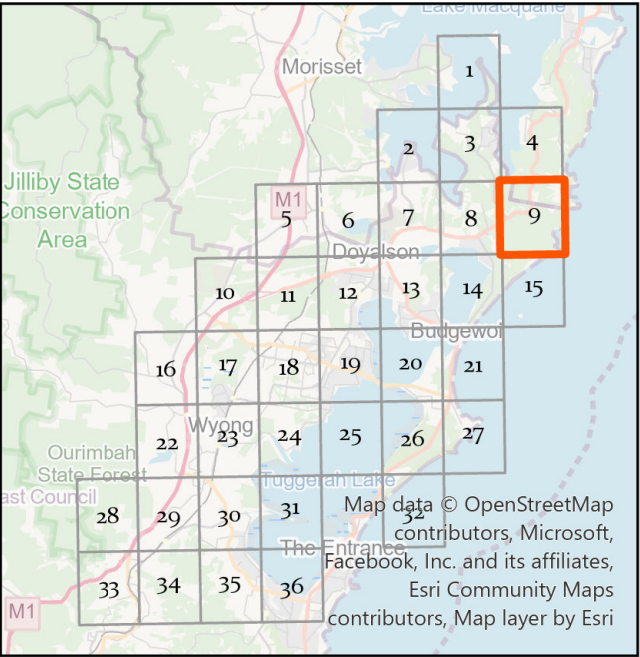
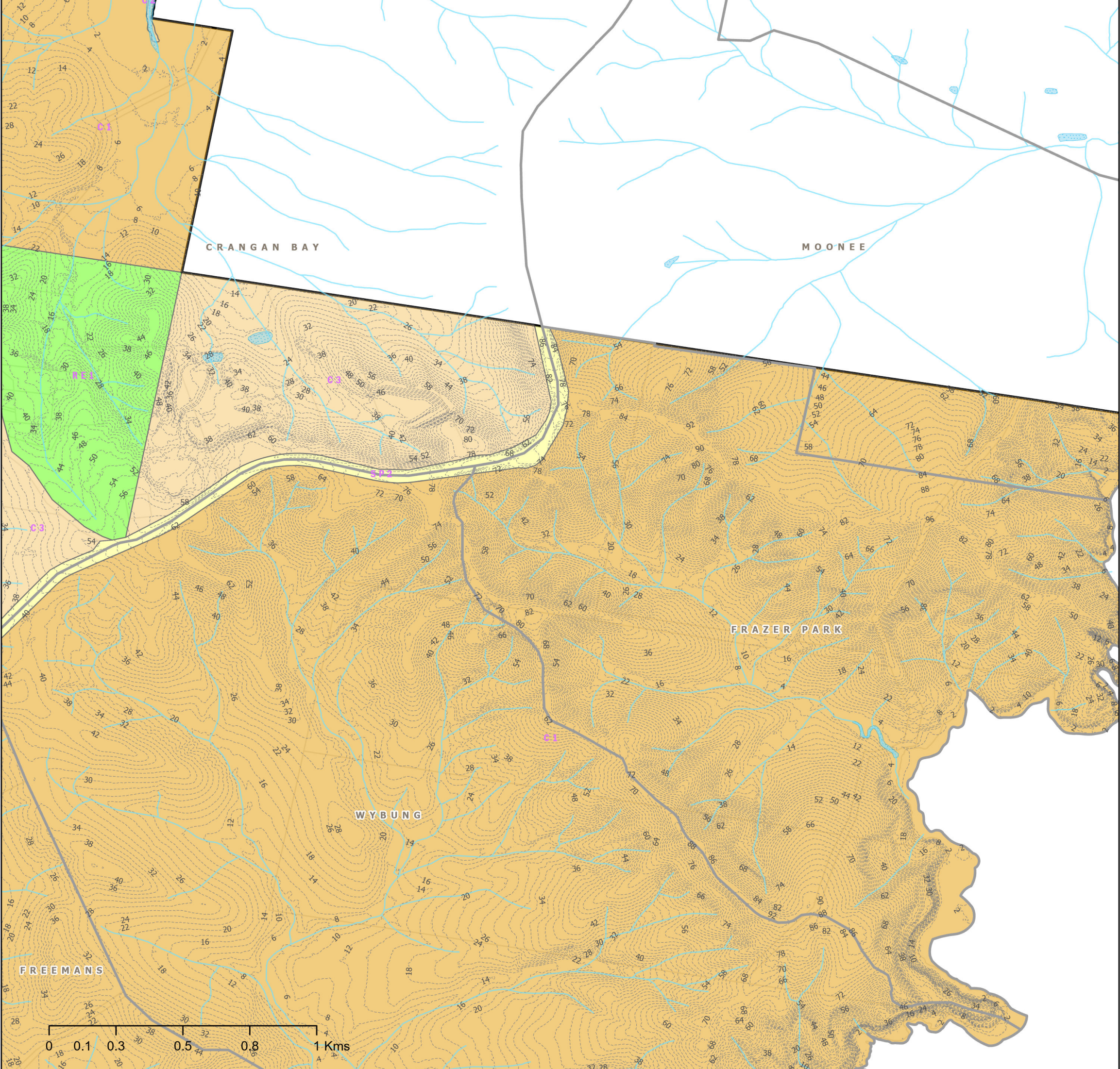
C1 - National Parks& Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

RE1 - Public Recreation

SP2 - Infrastructure



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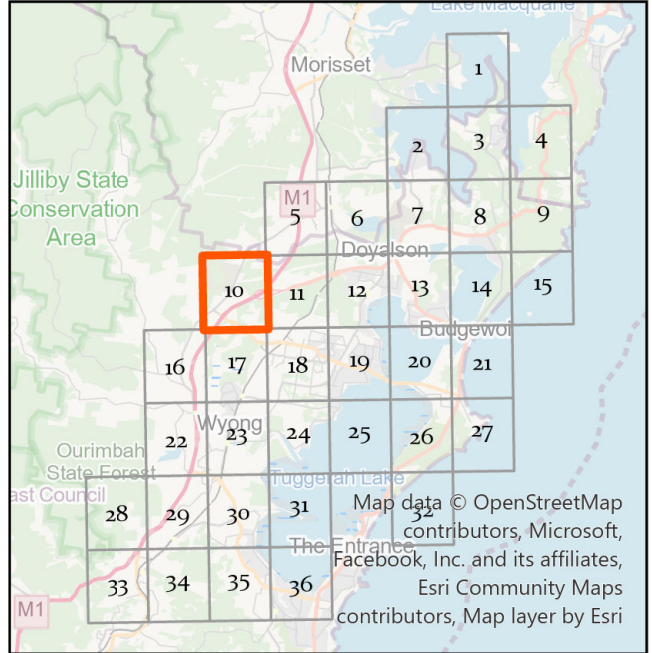
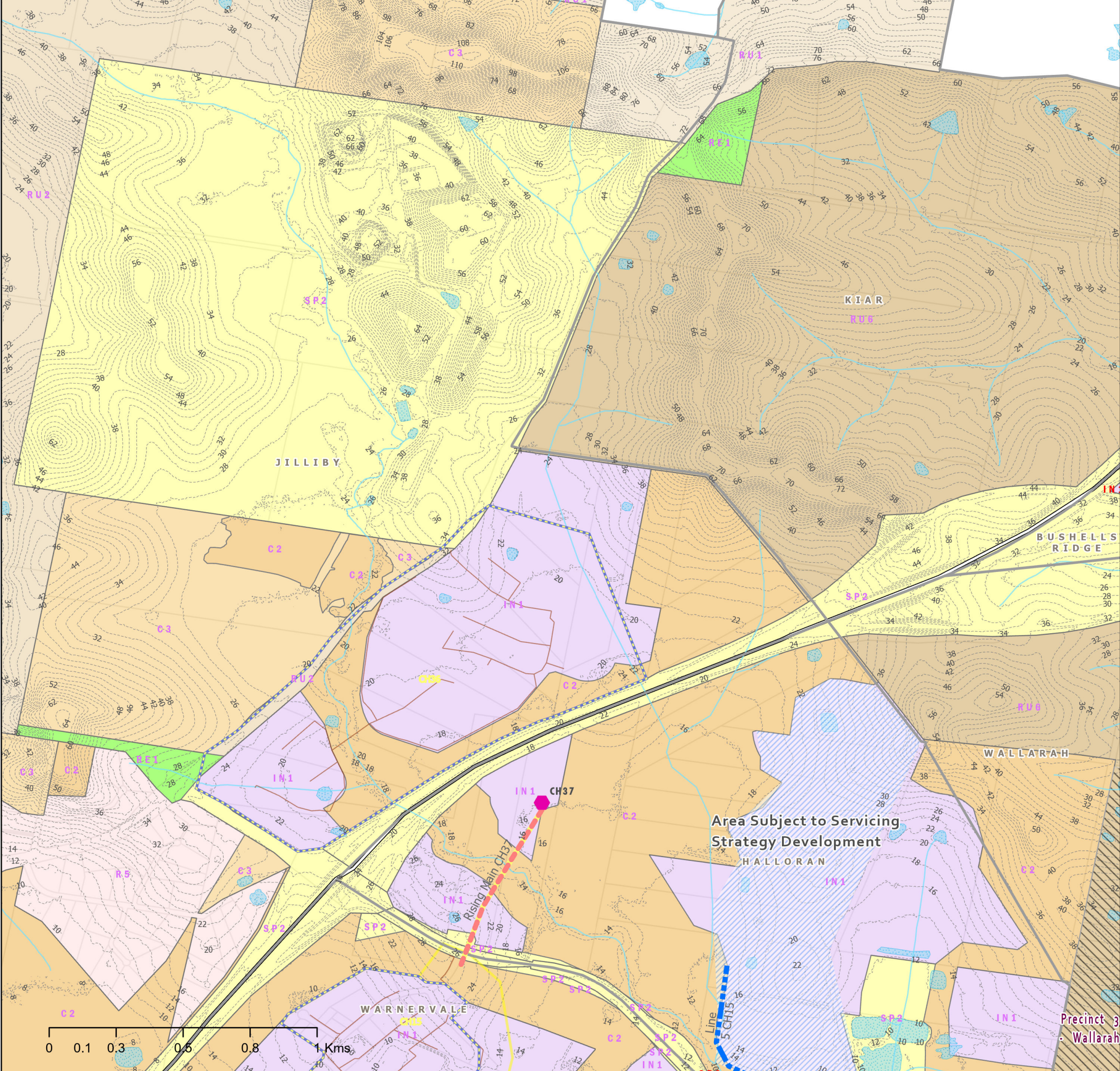
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SEWERAGE NORAH HEAD

Legend

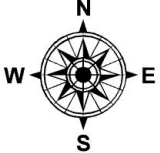
- | | |
|-----------------------------------|---------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | C2 - Environmental Conservation |
| New Sewer_Rising_Mains | C3 - Environmental Management |
| Sewer Gravity Mains | IN1 - General Industrial |
| Suburb | R5 - Large Lot Residential |
| Natural Drainage Layers | RE1 - Public Recreation |
| M1 Motorway | RU1 - Primary Production |
| Investigation Areas by Developers | RU2 - Rural Landscape |
| Development Sites 2021-2046 | RU6 - Transition |
| ForecastID_Centres | SP2 - Infrastructure |



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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

STP

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

M1 Motorway

Railway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies

Contours 2m

LEP_2022_LandZoningMap

B2 - Local Centre

C2 - Environmental Conservation

IN1 - General Industrial

RE1 - Public Recreation

RU6 - Transition

SP2 - Infrastructure

W1 - Natural Waterways
-
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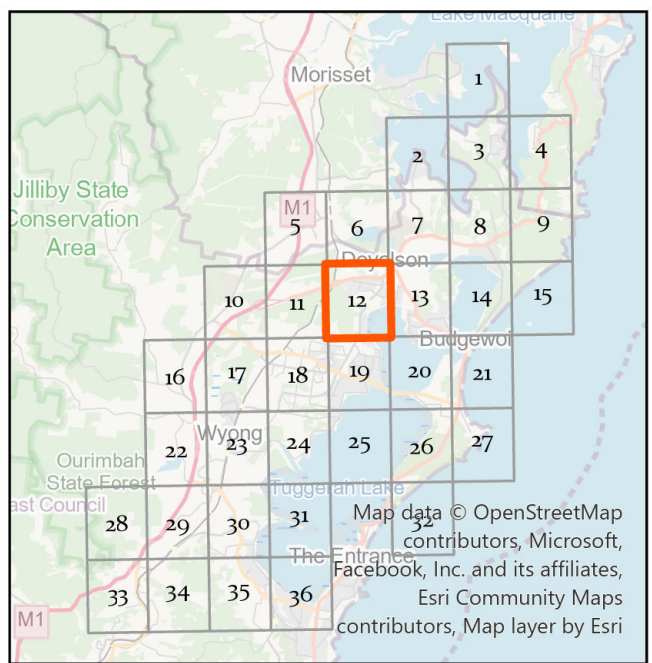
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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

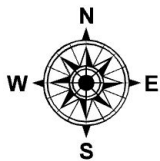
- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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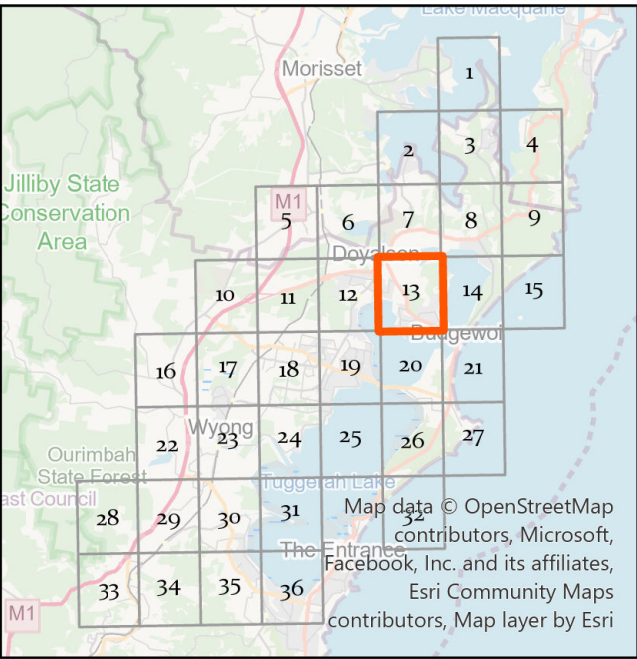
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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure
 - W2 - Recreational Waterways



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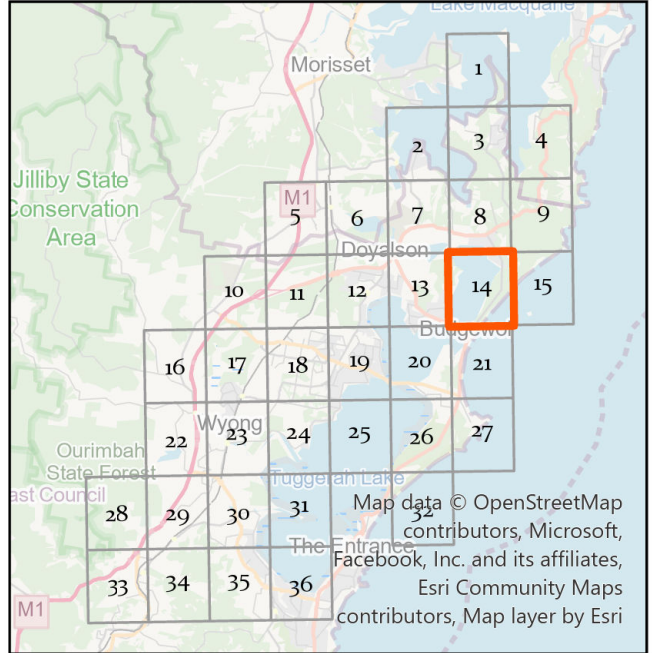
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SEWERAGE NORAH HEAD

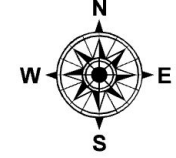
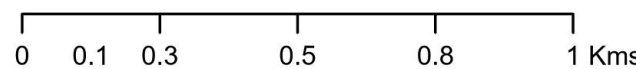
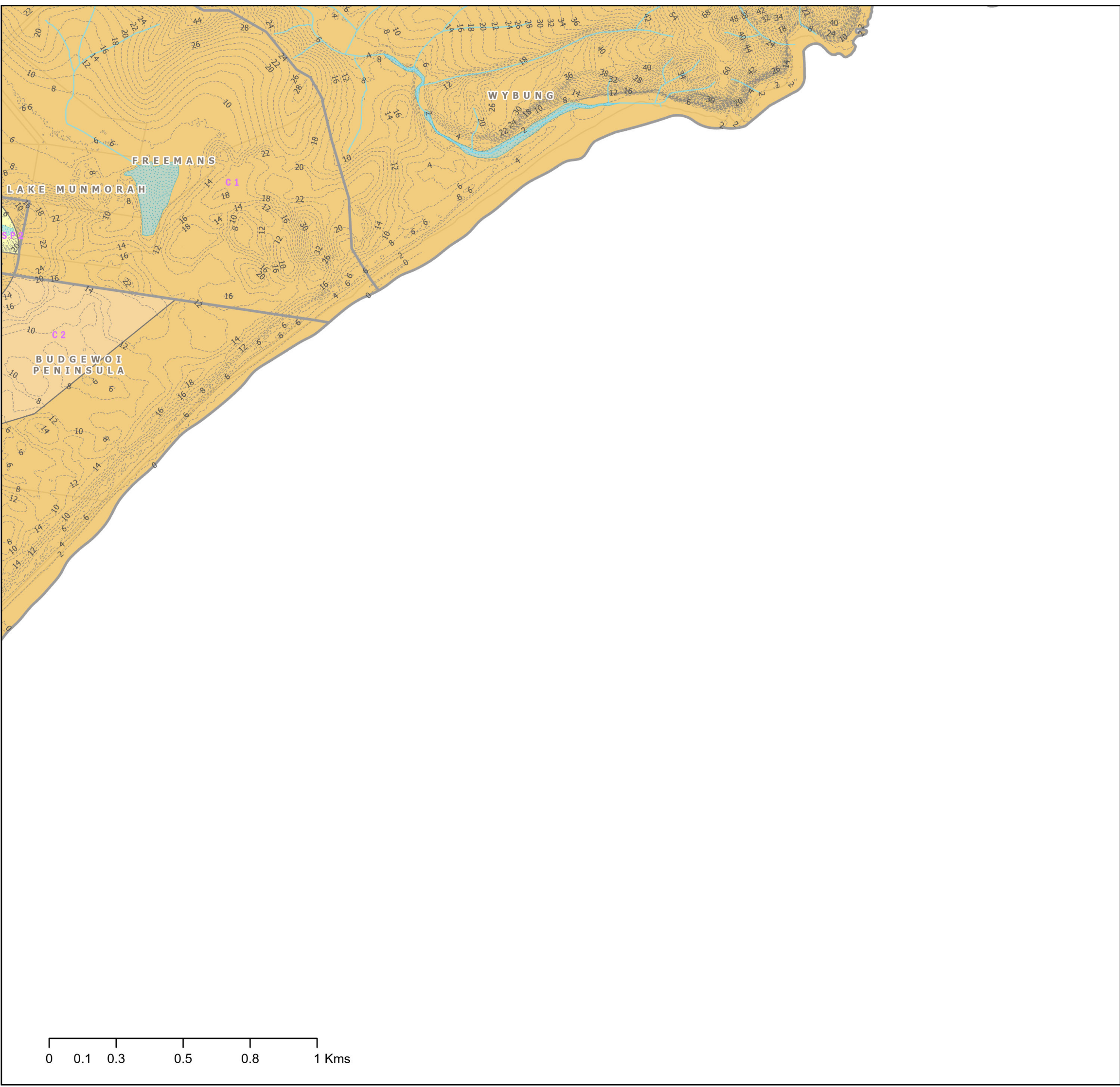
Legend

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|-----------------------------------|--------------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | B2 - Local Centre |
| New Sewer_Rising_Mains | C1 - National Parks& Nature Reserves |
| SPS | C2 - Environmental Conservation |
| Sewer Gravity Mains | C3 - Environmental Management |
| Rising Main | R1 - General Residential |
| Suburb | R2 - Low Density Residential |
| Natural Drainage Layers | RE1 - Public Recreation |
| Investigation Areas by Developers | RE2 - Private Recreation |
| Development Sites 2021-2046 | SP2 - Infrastructure |
| ForecastID_Centres | W2 - Recreational Waterways |



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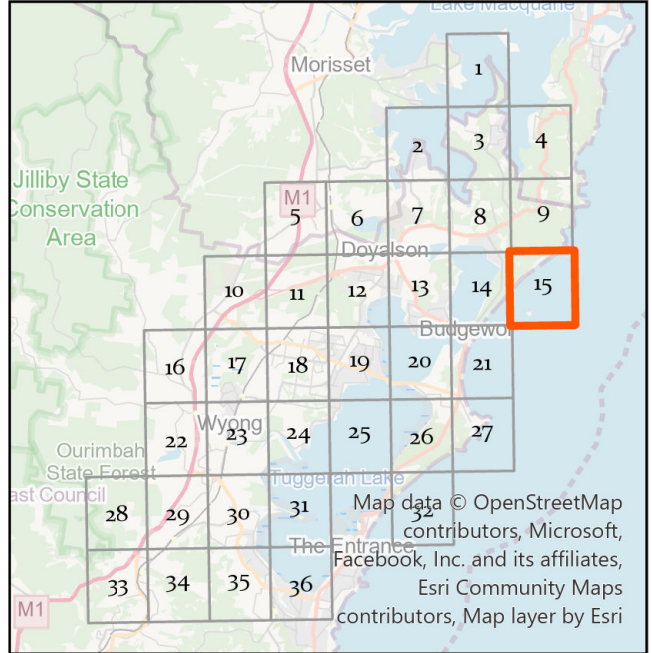
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PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- ForecastID_Centres
- Water Bodies
- Contours 2m

LEP_2022_LandZoningMap

- C1 - National Parks& Nature Reserves
- C2 - Environmental Conservation
- SP2 - Infrastructure



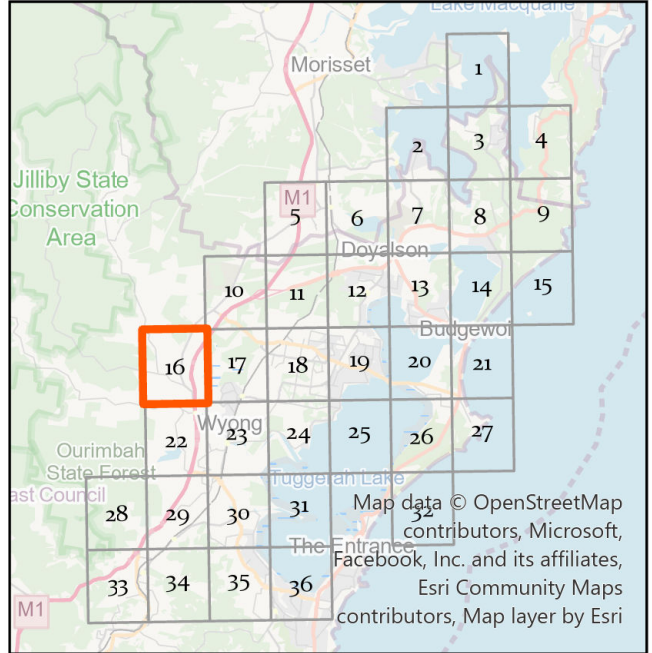
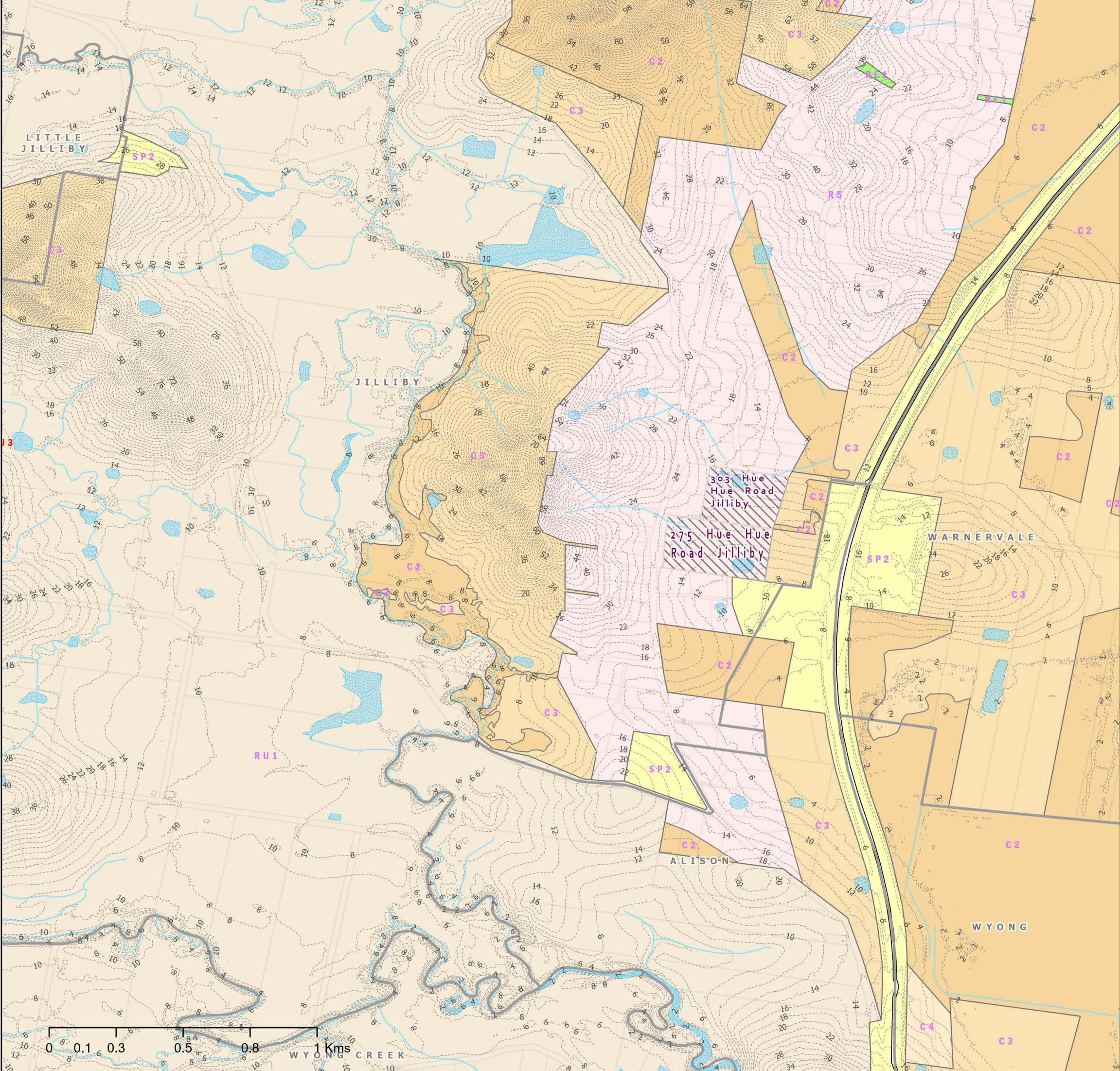
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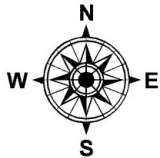


CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|---------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | LEP_2022_LandZoningMap |
| Proposed Sewer Mains 225mm | C2 - Environmental Conservation |
| Proposed Sewer Mains >=300mm | C3 - Environmental Management |
| New Sewer_Rising_Mains | C4 - Environmental Living |
| Suburb | R5 - Large Lot Residential |
| Natural Drainage Layers | RE1 - Public Recreation |
| M1 Motorway | RU1 - Primary Production |
| Investigation Areas by Developers | RU3 - Forestry |
| Development Sites 2021-2046 | SP2 - Infrastructure |
| ForecastID_Centres | |

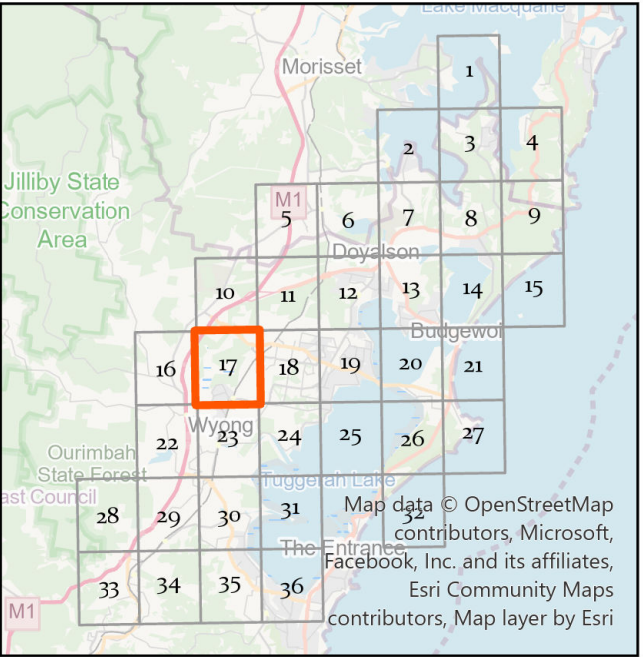




CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B6 - Enterprise Corridor
 - B7 - Business Park
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure



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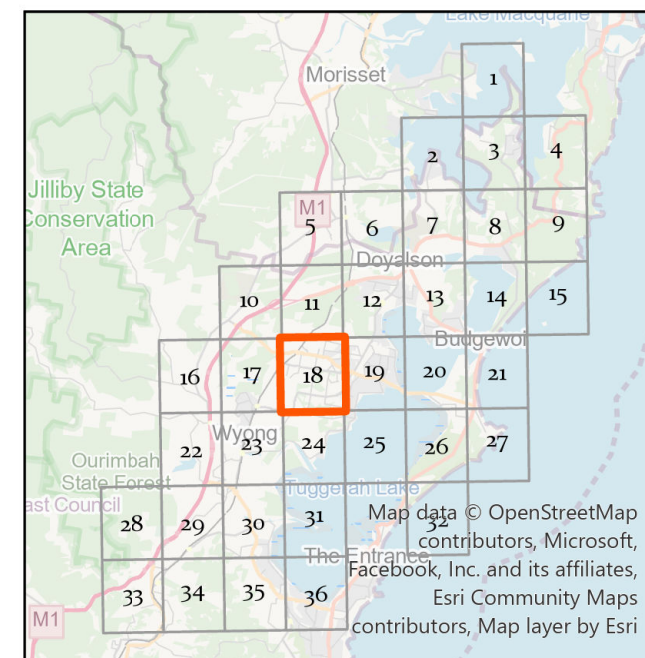
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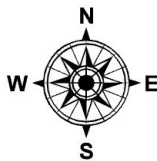
Legend

- Toukley EPL Boundary
 - New SPS
 - SPS Upgrade
 - Proposed Sewer Mains 225mm
 - Proposed Sewer Mains ≥ 300 mm
 - New Sewer_Rising_Mains
 - SPS
 - Sewer Gravity Mains
 - Rising Main
 - Suburb
 - Natural Drainage Layers
 - Railway
 - Investigation Areas by Developers
 - Development Sites 2021-2046
 - ForecastID_Centres
 - Water Bodies
 - Contours 2m
 - Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
- B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - IN1 - General Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU6 - Transition
 - SP2 - Infrastructure



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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies
- Contours 2m

Sewer Catchment Boundaries

LEP_2022_LandZoningMap

B2 - Local Centre

B4 - Mixed Use

C2 - Environmental Conservation

C3 - Environmental Management

R1 - General Residential

R2 - Low Density Residential

R3 - Medium Density Residential

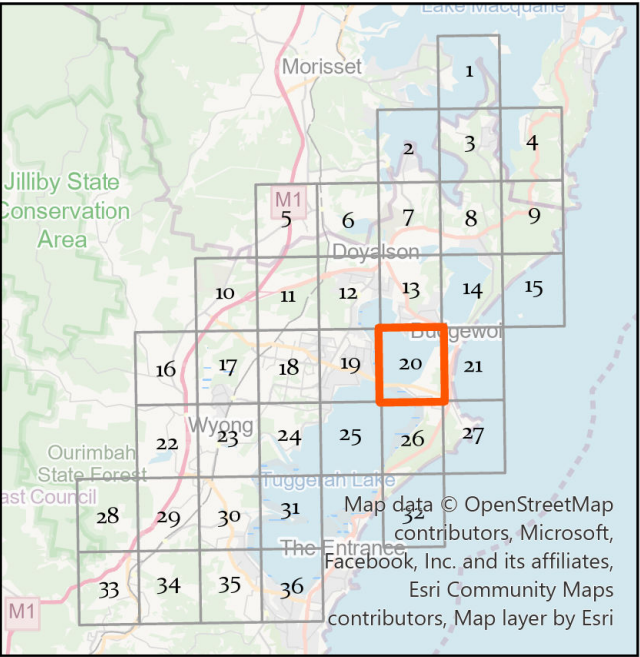
RE1 - Public Recreation

RE2 - Private Recreation

SP2 - Infrastructure

SP3 - Tourist

W2 - Recreational Waterways



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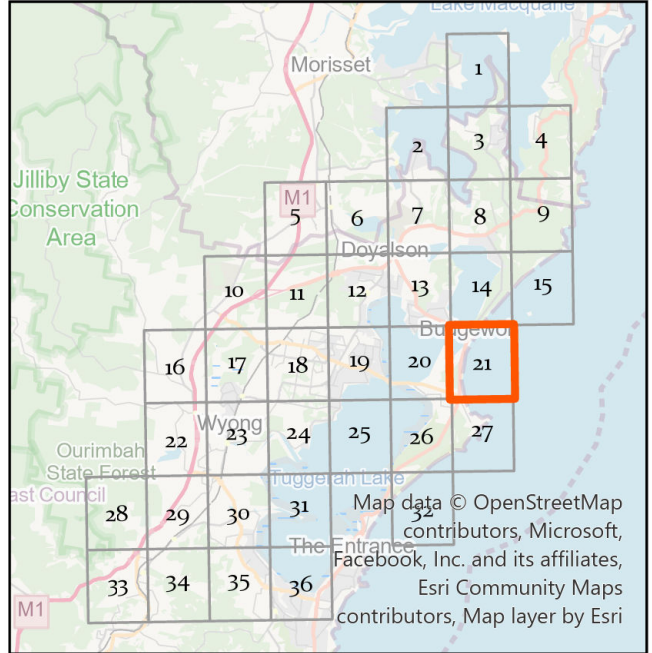
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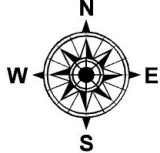
CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|---------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | B1 - Neighbourhood Centre |
| New Sewer_Rising_Mains | B2 - Local Centre |
| SPS | C2 - Environmental Conservation |
| Sewer Gravity Mains | C3 - Environmental Management |
| Rising Main | R1 - General Residential |
| Suburb | R2 - Low Density Residential |
| Natural Drainage Layers | RE1 - Public Recreation |
| Investigation Areas by Developers | SP2 - Infrastructure |
| Development Sites 2021-2046 | W2 - Recreational Waterways |
| ForecastID_Centres | |



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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

Sewer Gravity Mains

Suburb

Natural Drainage Layers

M1 Motorway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies

Contours 2m

Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**

B3 - Commercial Core

B4 - Mixed Use

C2 - Environmental Conservation

C3 - Environmental Management

C4 - Environmental Living

R1 - General Residential

R2 - Low Density Residential

R3 - Medium Density Residential

R5 - Large Lot Residential

RE1 - Public Recreation

RE2 - Private Recreation

RU1 - Primary Production

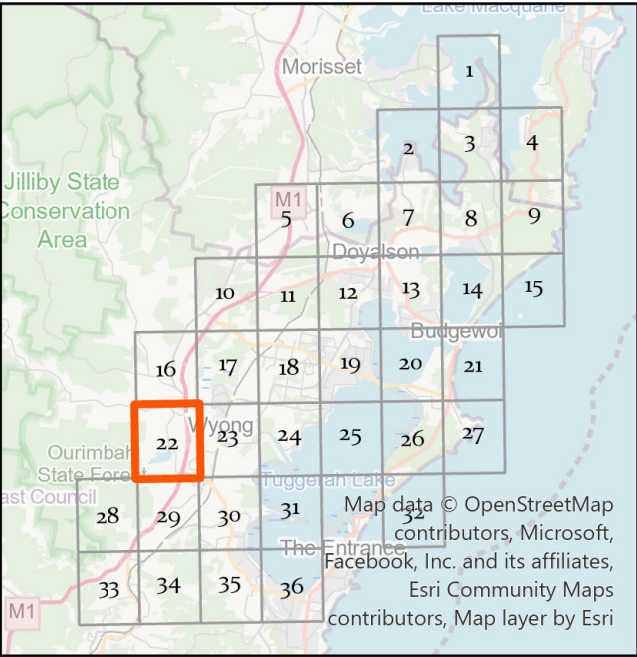
RU2 - Rural Landscape

RU3 - Forestry

RU6 - Transition

SP2 - Infrastructure

W1 - Natural Waterways





CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

Railway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies

Contours 2m

Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**

B1 - Neighbourhood Centre

B3 - Commercial Core

B4 - Mixed Use

B6 - Enterprise Corridor

C1 - National Parks& Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

IN1 - General Industrial

IN2 - Light Industrial

R1 - General Residential

R2 - Low Density Residential

R3 - Medium Density Residential

RE1 - Public Recreation

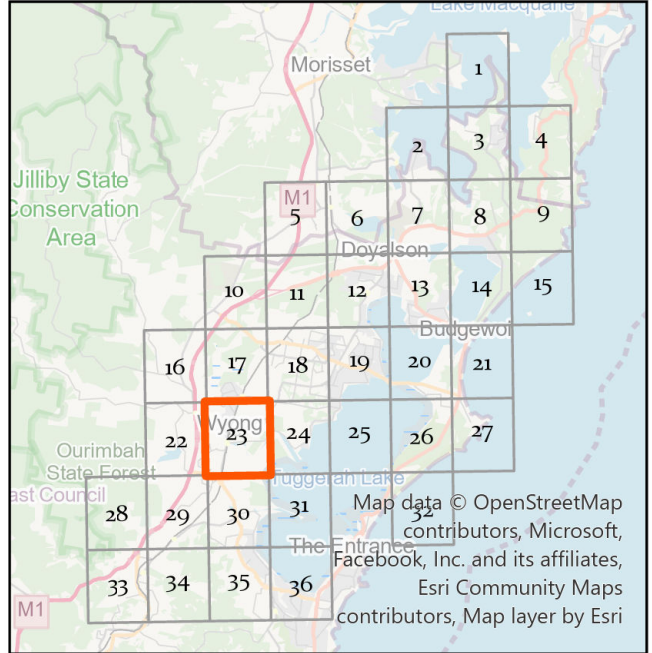
RE2 - Private Recreation

SP2 - Infrastructure

SP3 - Tourist

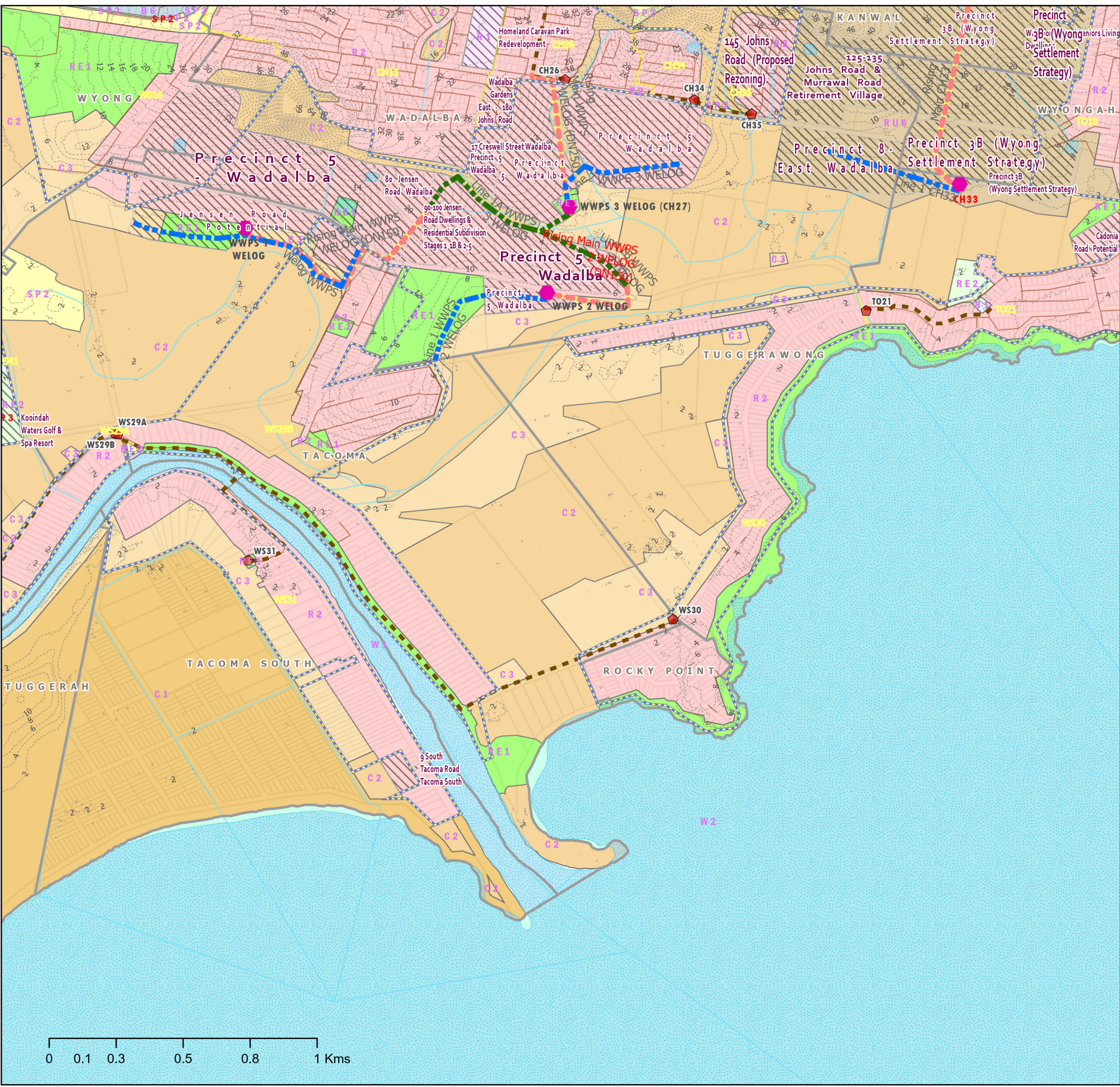
W1 - Natural Waterways

W2 - Recreational Waterways



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Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies

Contours 2m

Sewer Catchment Boundaries

LEP_2022_LandZoningMap

B1 - Neighbourhood Centre

B6 - Enterprise Corridor

C1 - National Parks& Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

R1 - General Residential

R2 - Low Density Residential

RE1 - Public Recreation

RE2 - Private Recreation

RU6 - Transition

SP2 - Infrastructure

SP3 - Tourist

W1 - Natural Waterways

W2 - Recreational Waterways

Siva Balasubramanian

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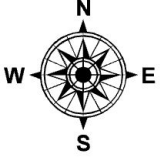
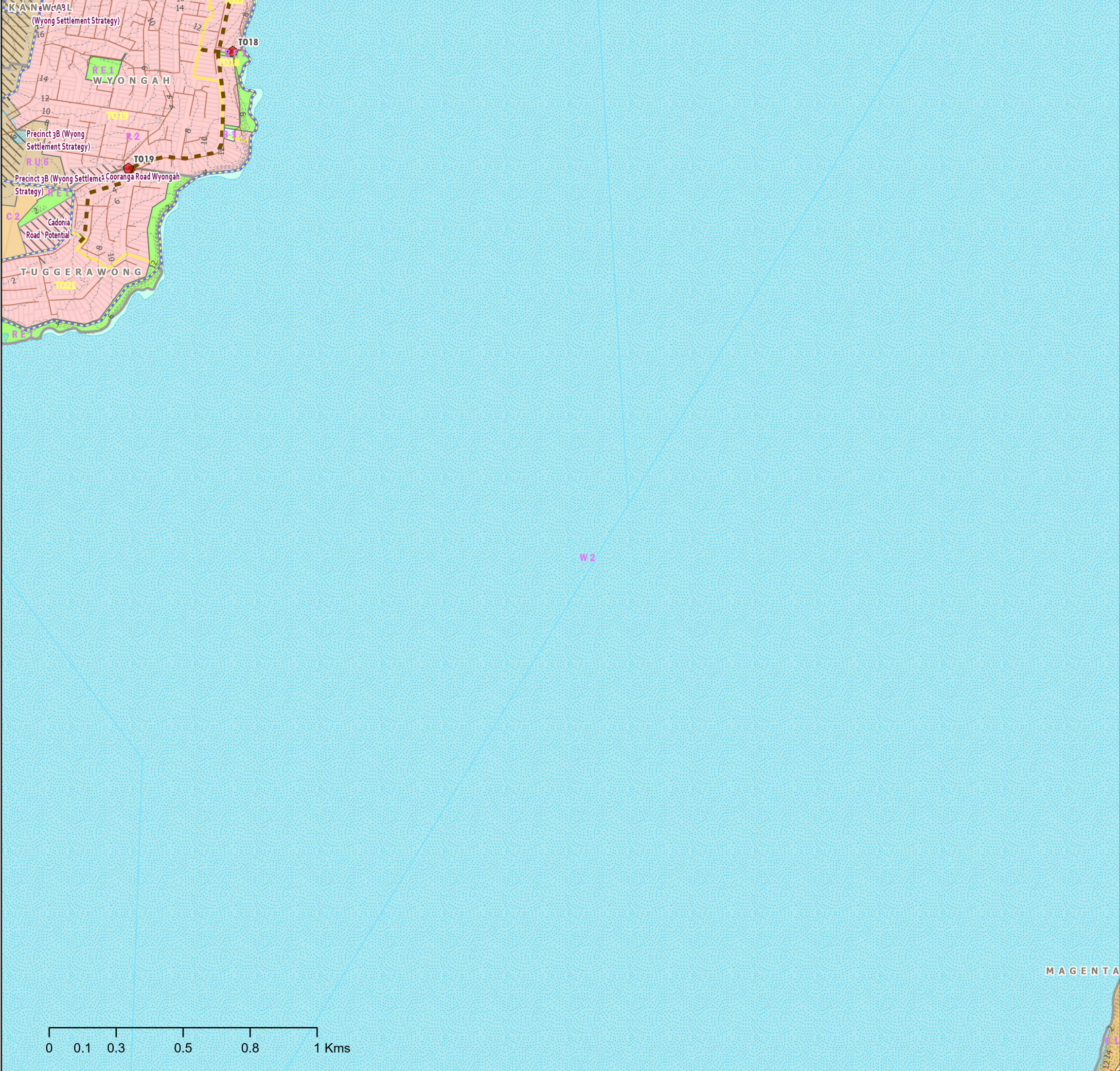
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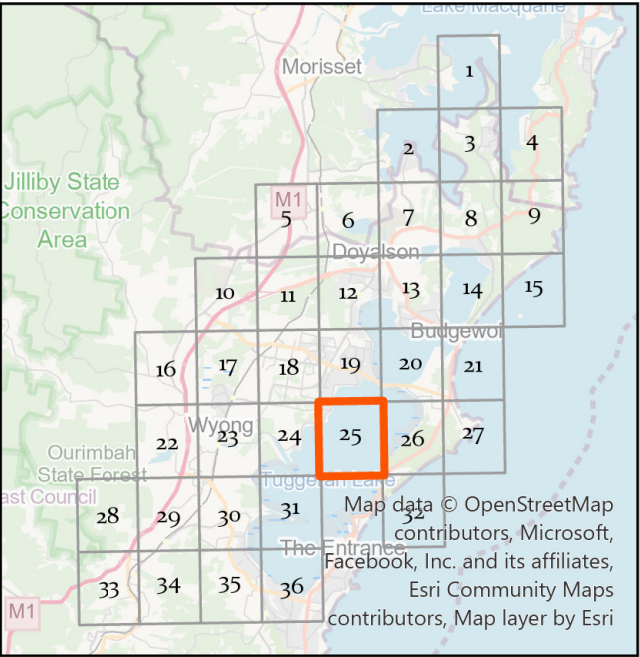
Map 24 of 36



CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

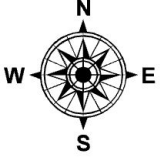
Legend

- | | |
|-----------------------------------|--------------------------------------|
| Toukley EPL Boundary | ForecastID_Centres |
| New SPS | Water Bodies |
| SPS Upgrade | Contours 2m |
| Proposed Sewer Mains 225mm | Sewer Catchment Boundaries |
| Proposed Sewer Mains >=300mm | LEP_2022_LandZoningMap |
| New Sewer_Rising_Mains | B1 - Neighbourhood Centre |
| SPS | C1 - National Parks& Nature Reserves |
| Sewer Gravity Mains | C2 - Environmental Conservation |
| Rising Main | R2 - Low Density Residential |
| Suburb | RE1 - Public Recreation |
| Natural Drainage Layers | RU6 - Transition |
| Investigation Areas by Developers | SP2 - Infrastructure |
| Development Sites 2021-2046 | W2 - Recreational Waterways |



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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD



Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

STP

Sewer Gravity Mains

Rising Main

Suburb

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres
- Water Bodies

Contours 2m

Sewer Catchment Boundaries

LEP_2022_LandZoningMap

C1 - National Parks& Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

R1 - General Residential

R2 - Low Density Residential

R3 - Medium Density Residential

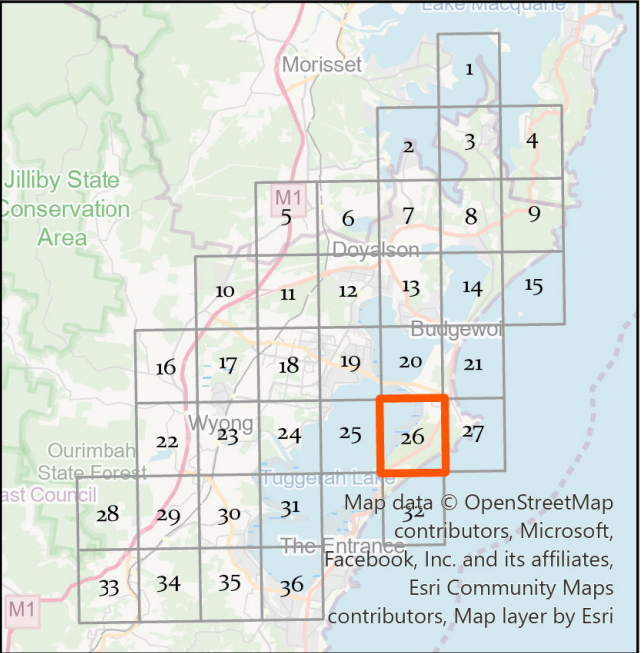
RE1 - Public Recreation

RE2 - Private Recreation

SP2 - Infrastructure

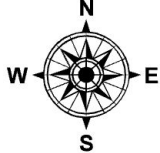
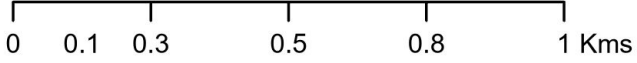
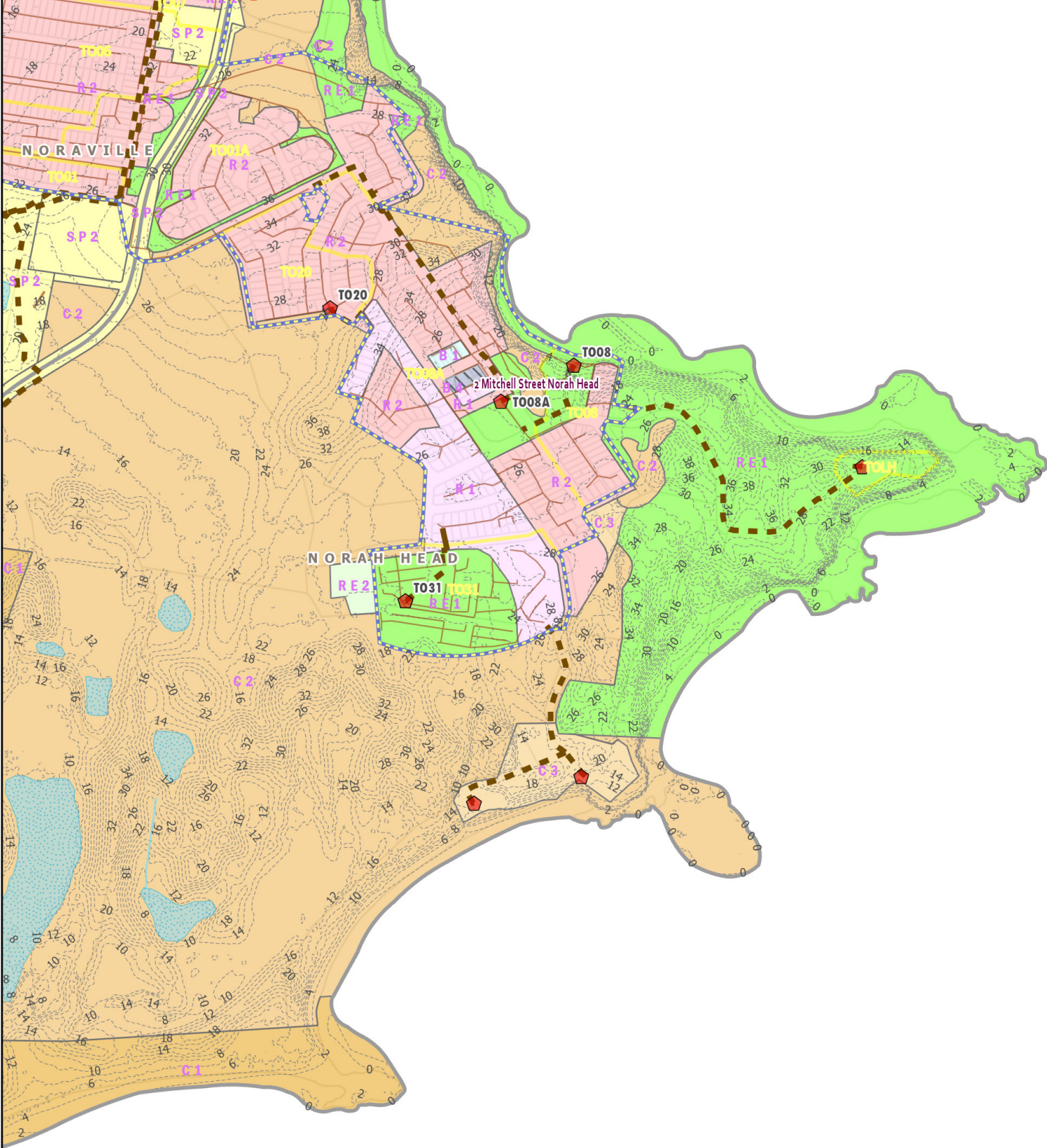
SP3 - Tourist

W2 - Recreational Waterways



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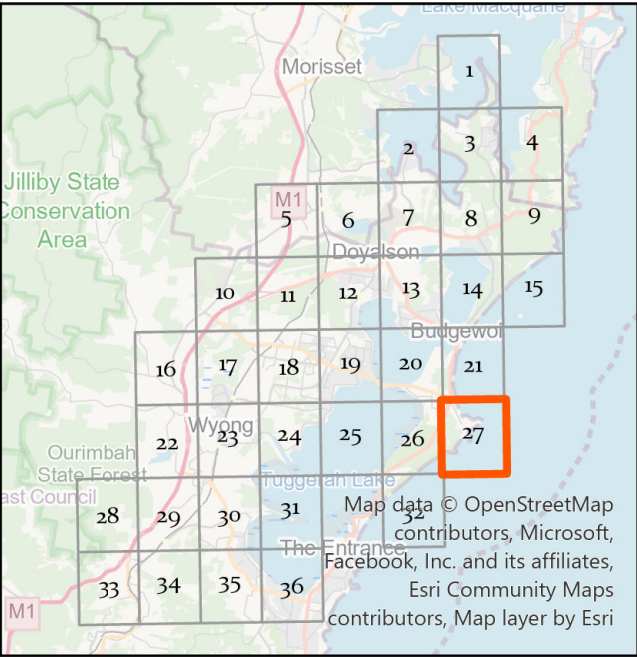
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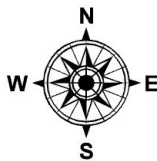
CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|--------------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | B1 - Neighbourhood Centre |
| New Sewer_Rising_Mains | B4 - Mixed Use |
| SPS | C1 - National Parks& Nature Reserves |
| Sewer Gravity Mains | C2 - Environmental Conservation |
| Rising Main | C3 - Environmental Management |
| Suburb | R1 - General Residential |
| Natural Drainage Layers | R2 - Low Density Residential |
| Investigation Areas by Developers | RE1 - Public Recreation |
| Development Sites 2021-2046 | RE2 - Private Recreation |
| ForecastID_Centres | SP2 - Infrastructure |



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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

Suburb

Natural Drainage Layers

M1 Motorway

Investigation Areas by Developers
- ForecastID_Centres

Water Bodies

Contours 2m

LEP_2022_LandZoningMap

C1 - National Parks& Nature Reserves

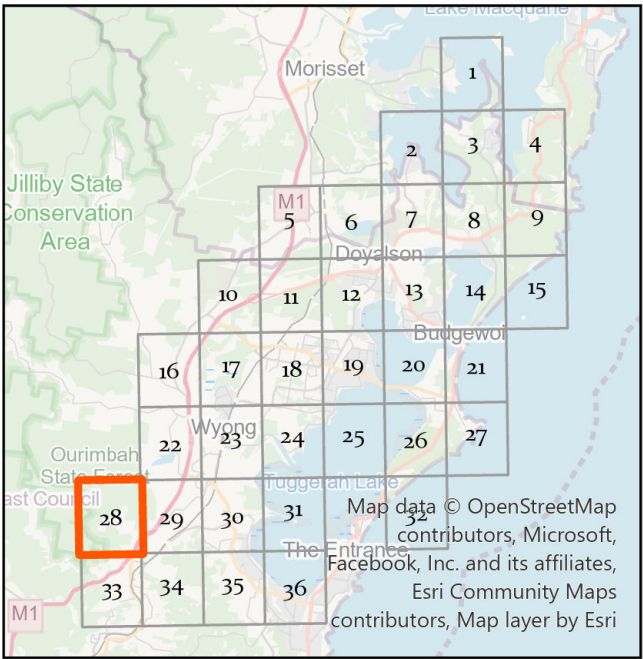
C2 - Environmental Conservation

C3 - Environmental Management

RU2 - Rural Landscape

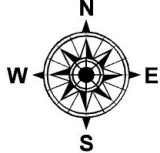
RU3 - Forestry

SP2 - Infrastructure



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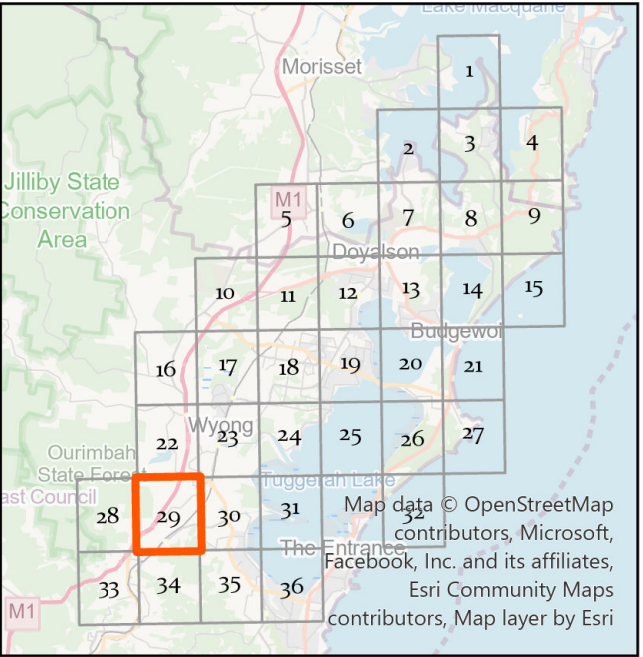
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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- Sewer Gravity Mains
- Rising Main
- Suburb
- Natural Drainage Layers
- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap
 - B3 - Commercial Core
 - B4 - Mixed Use
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN1 - General Industrial
 - R1 - General Residential
 - R5 - Large Lot Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - RU6 - Transition
 - SP2 - Infrastructure





CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

STP

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

Railway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies

Contours 2m

Sewer Catchment Boundaries
- LEP_2022_LandZoningMap

B1 - Neighbourhood Centre

B2 - Local Centre

B3 - Commercial Core

B5 - Business Development

B6 - Enterprise Corridor

B7 - Business Park

C1 - National Parks & Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

C4 - Environmental Living

IN1 - General Industrial

IN2 - Light Industrial

R1 - General Residential

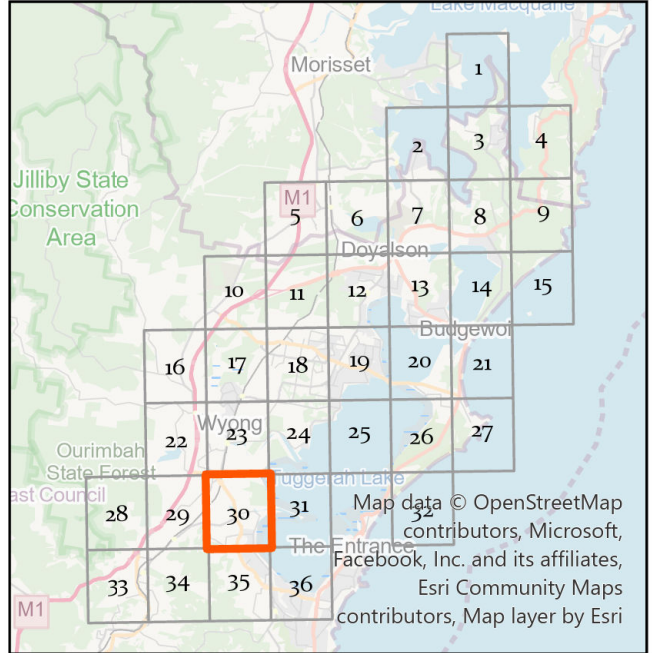
R2 - Low Density Residential

RE1 - Public Recreation

SP2 - Infrastructure

W1 - Natural Waterways

W2 - Recreational Waterways



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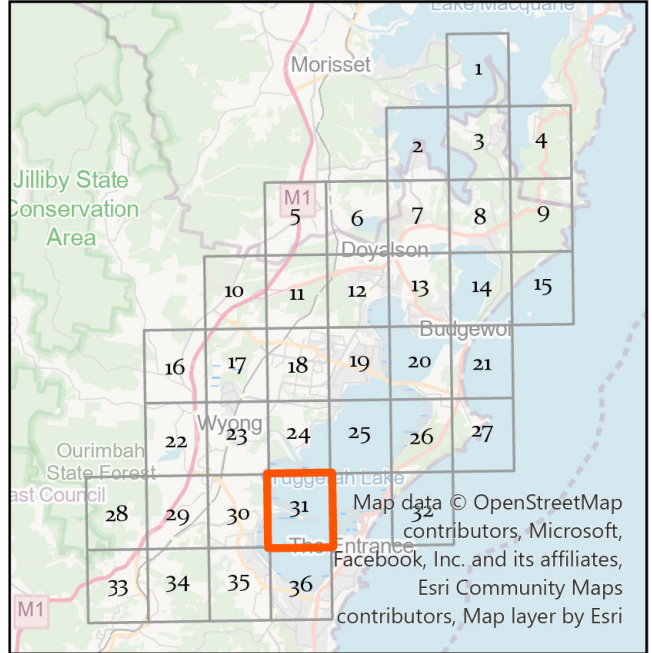
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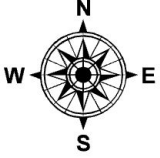
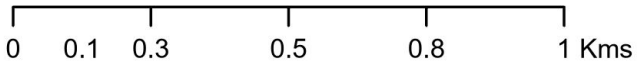
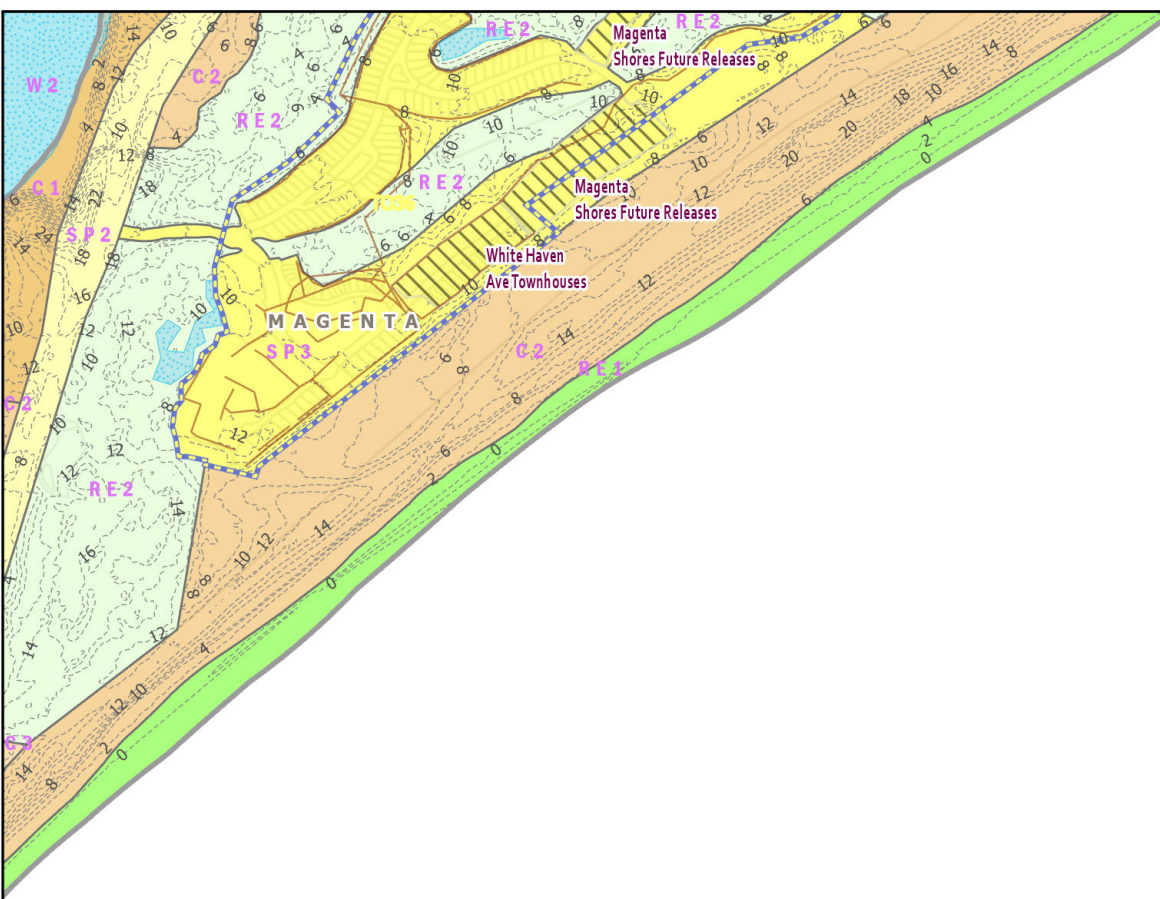


CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- | | |
|-----------------------------------|--------------------------------------|
| Toukley EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | C1 - National Parks& Nature Reserves |
| New Sewer_Rising_Mains | C2 - Environmental Conservation |
| SPS | C3 - Environmental Management |
| Sewer Gravity Mains | R2 - Low Density Residential |
| Rising Main | RE1 - Public Recreation |
| Suburb | RE2 - Private Recreation |
| Natural Drainage Layers | W1 - Natural Waterways |
| Investigation Areas by Developers | W2 - Recreational Waterways |
| ForecastID_Centres | |

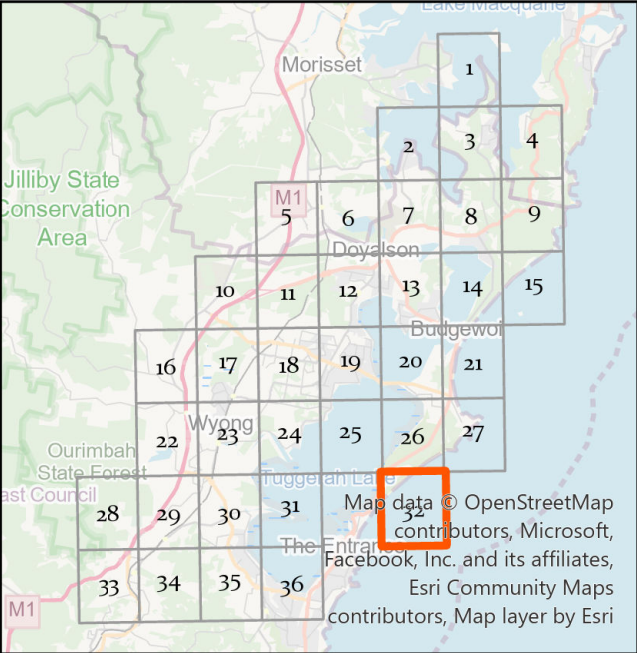




CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

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| Sewer Gravity Mains | RE1 - Public Recreation |
| Suburb | RE2 - Private Recreation |
| Investigation Areas by Developers | SP2 - Infrastructure |
| Development Sites 2021-2046 | SP3 - Tourist |
| ForecastID_Centres | W2 - Recreational Waterways |
| Water Bodies | |



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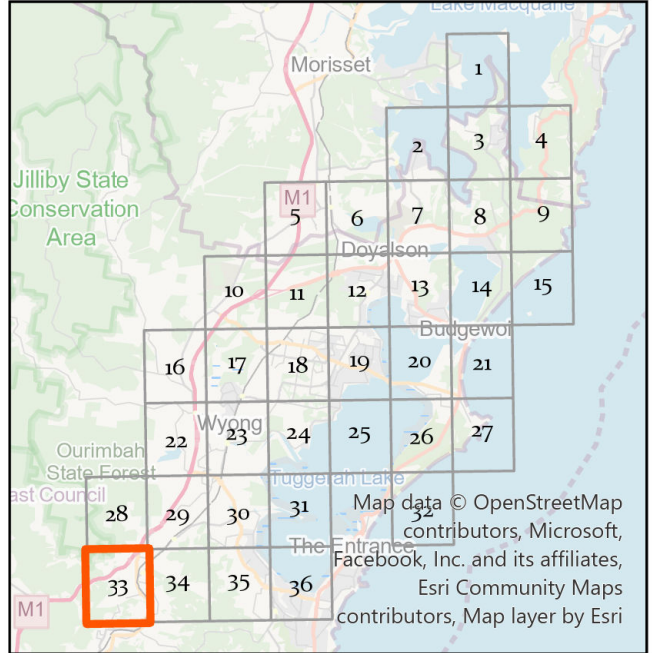
Map 32 of 36



CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
- Proposed Sewer Mains 225mm
- Proposed Sewer Mains >=300mm
- New Sewer_Rising_Mains
- SPS
- Sewer Gravity Mains
- Rising Main
- Suburb
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- M1 Motorway
- Railway
- Investigation Areas by Developers
- Development Sites 2021-20246
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN1 - General Industrial
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - RU1 - Primary Production
 - RU2 - Rural Landscape
 - RU3 - Forestry
 - SP2 - Infrastructure
 - DM - Deferred Matter



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CENTRAL COAST COUNCIL PROPOSED SEWER ASSETS DSP 2024 SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

SPS

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

Railway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres
- Water Bodies

Contours 2m

Sewer Catchment Boundaries

C2 - Environmental Conservation

C3 - Environmental Management

C4 - Environmental Living

IN1 - General Industrial

R1 - General Residential

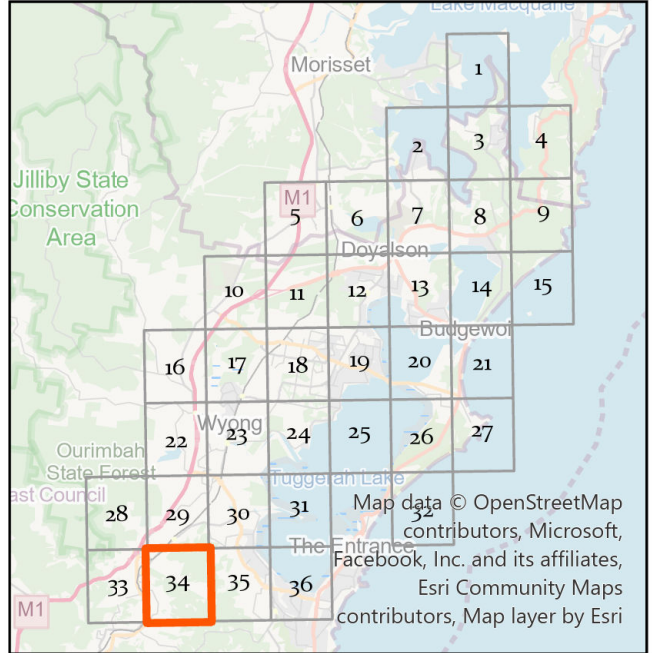
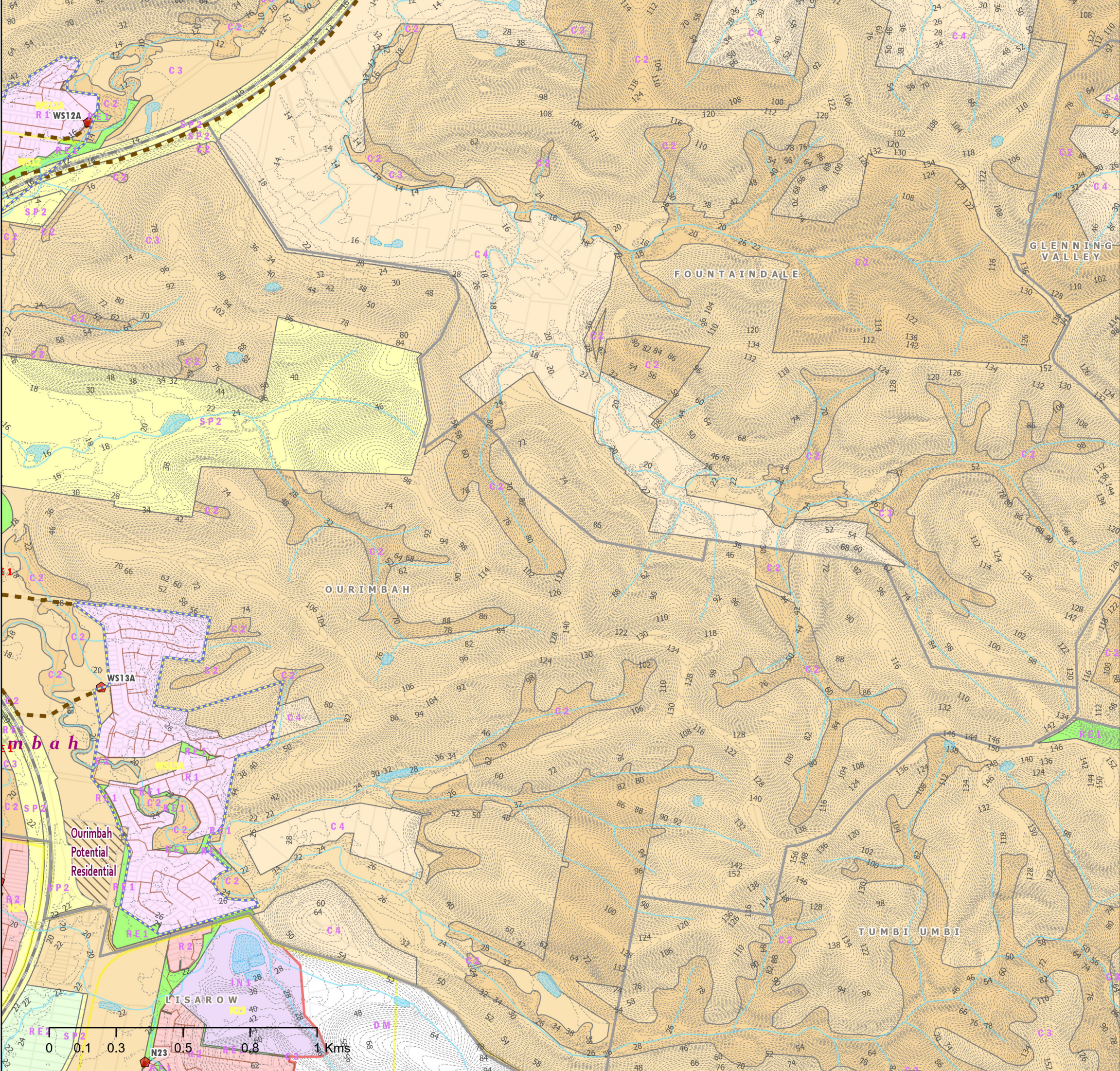
R2 - Low Density Residential

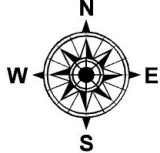
RE1 - Public Recreation

RE2 - Private Recreation

SP2 - Infrastructure

DM - Deferred Matter

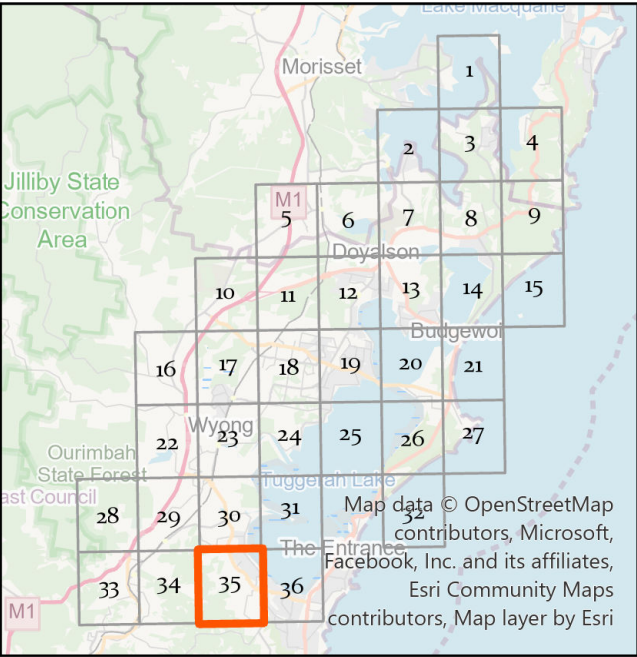




CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
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- SPS
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- Suburb
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- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - IN2 - Light Industrial
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways

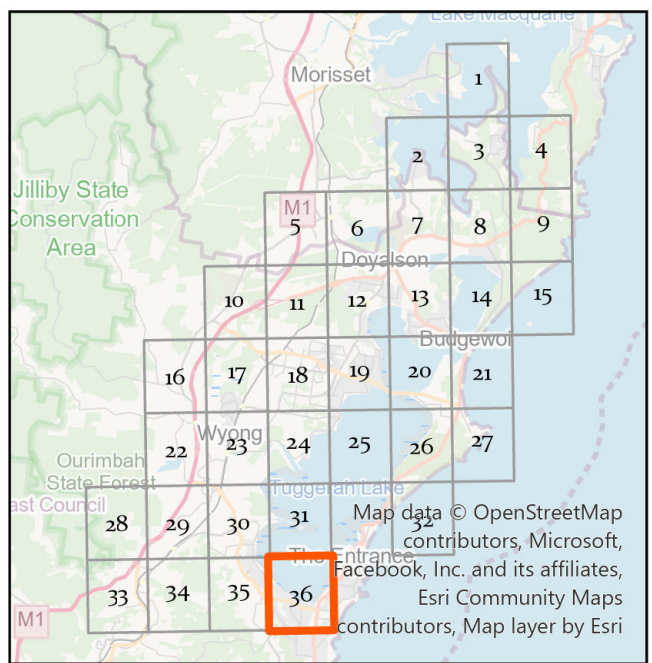




CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE NORAH HEAD

Legend

- Toukley EPL Boundary
- New SPS
- SPS Upgrade
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- SPS
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- Sewer Gravity Mains
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- Suburb
- Natural Drainage Layers
- Investigation Areas by Developers
- Development Sites 2021-2046
- ForecastID_Centres
- Water Bodies
- Contours 2m
- Sewer Catchment Boundaries
- LEP_2022_LandZoningMap**
 - B1 - Neighbourhood Centre
 - B2 - Local Centre
 - B4 - Mixed Use
 - B6 - Enterprise Corridor
 - C1 - National Parks& Nature Reserves
 - C2 - Environmental Conservation
 - C3 - Environmental Management
 - C4 - Environmental Living
 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP1 - Special Activities
 - SP2 - Infrastructure
 - W1 - Natural Waterways
 - W2 - Recreational Waterways



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\\nlke.gosford.nsw.gov.au\water\AM&P\Siva\GIS\Sewer Catchment TO V1

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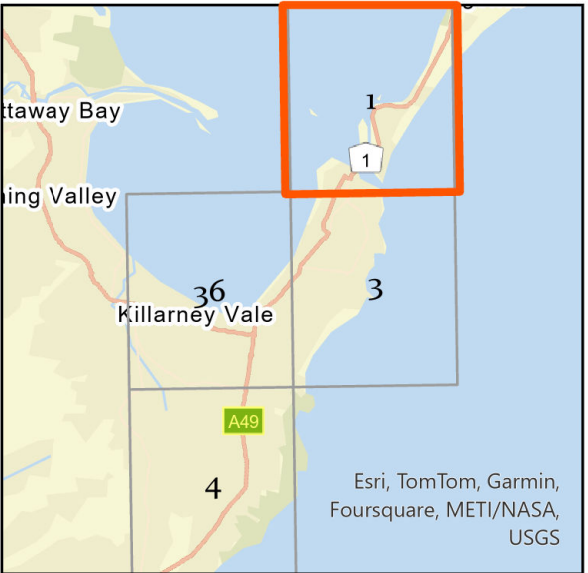
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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE WONGA POINT

Legend

- | | |
|-----------------------------------|--------------------------------------|
| Bateau Bay EPL Boundary | Water Bodies |
| New SPS | Contours 2m |
| SPS Upgrade | Sewer Catchment Boundaries |
| Proposed Sewer Mains 225mm | LEP_2022_LandZoningMap |
| Proposed Sewer Mains >=300mm | B1 - Neighbourhood Centre |
| New Sewer_Rising_Mains | B2 - Local Centre |
| Private SPS | B4 - Mixed Use |
| SPS | C1 - National Parks& Nature Reserves |
| STP | C2 - Environmental Conservation |
| Sewer Gravity Mains | C3 - Environmental Management |
| Rising Main | R1 - General Residential |
| Suburb | R2 - Low Density Residential |
| Natural Drainage Layers | R3 - Medium Density Residential |
| M1 Motorway | RE1 - Public Recreation |
| Railway | RE2 - Private Recreation |
| Investigation Areas by Developers | SP2 - Infrastructure |
| Development Sites 2021-2046 | SP3 - Tourist |
| ForecastID_Centres | W2 - Recreational Waterways |



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Projection: GDA_1994_Transverse_Mercator; GCS_GDA_1994
<https://www.gosford.nsw.gov.au/water/AM&P/Siva%20DSP-2024/Sewer%20Catchment%20BB>

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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE WONGA POINT

Legend

- Bateau Bay EPL Boundary

New SPS

SPS Upgrade

Proposed Sewer Mains 225mm

Proposed Sewer Mains >=300mm

New Sewer_Rising_Mains

Private SPS

SPS

STP

Sewer Gravity Mains

Rising Main

Suburb

Natural Drainage Layers

M1 Motorway

Railway

Investigation Areas by Developers

Development Sites 2021-2046

ForecastID_Centres

Water Bodies
- Contours 2m

Sewer Catchment Boundaries

LEP_2022_LandZoningMap

B1 - Neighbourhood Centre

B2 - Local Centre

B4 - Mixed Use

B6 - Enterprise Corridor

C1 - National Parks& Nature Reserves

C2 - Environmental Conservation

C3 - Environmental Management

C4 - Environmental Living

R1 - General Residential

R2 - Low Density Residential

RE1 - Public Recreation

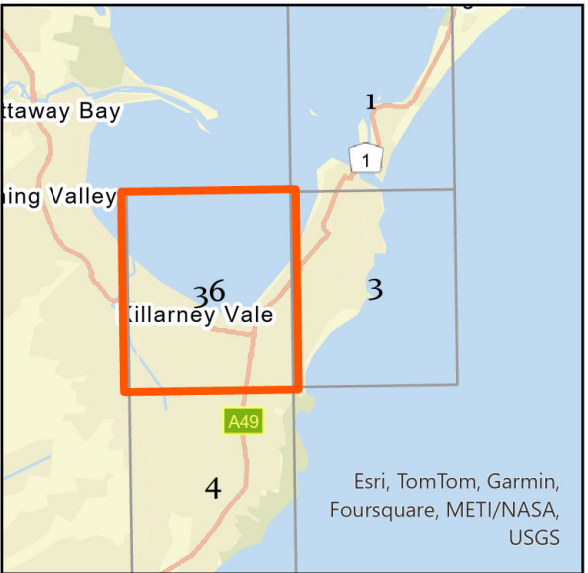
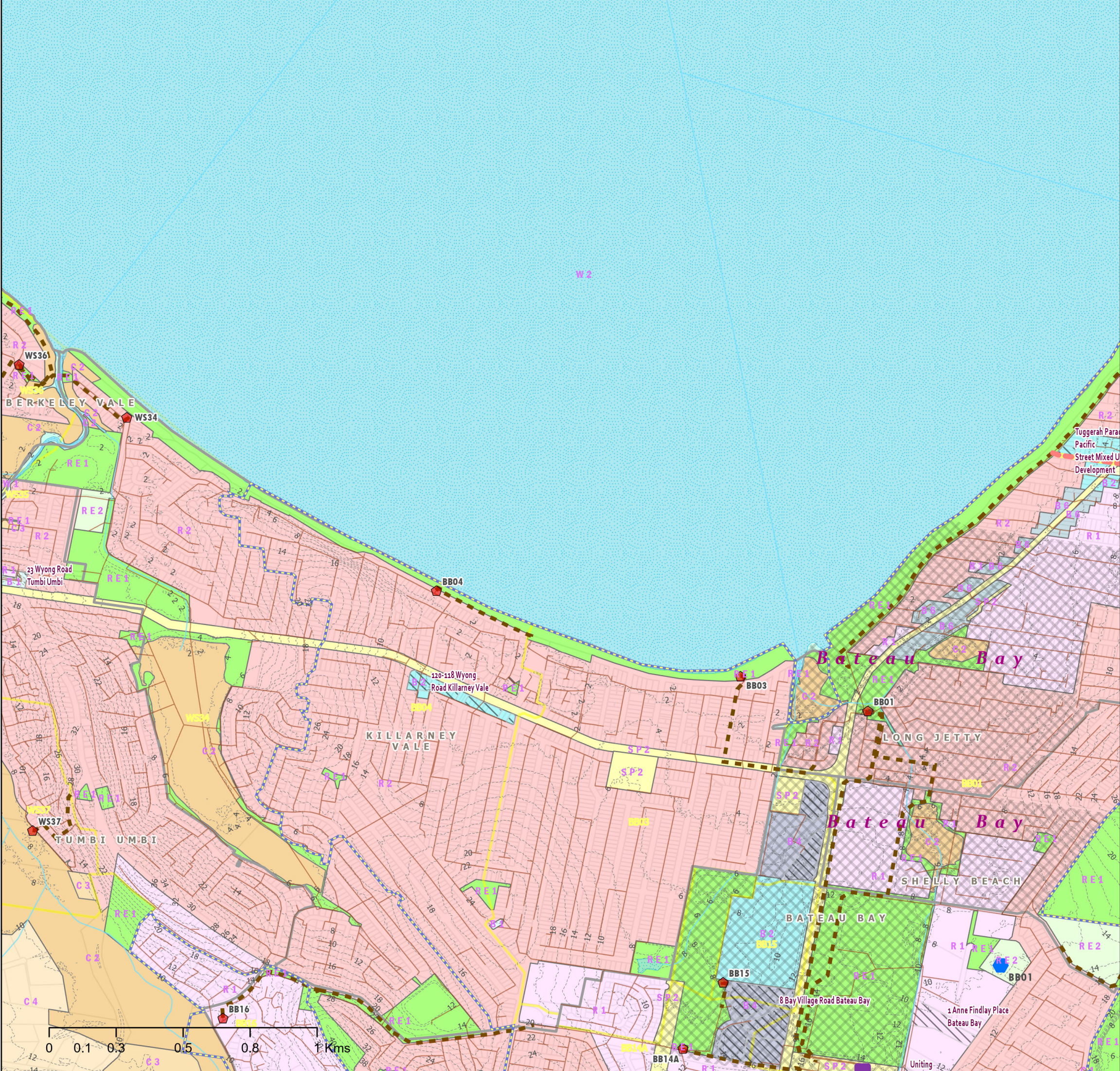
RE2 - Private Recreation

SP1 - Special Activities

SP2 - Infrastructure

W1 - Natural Waterways

W2 - Recreational Waterways



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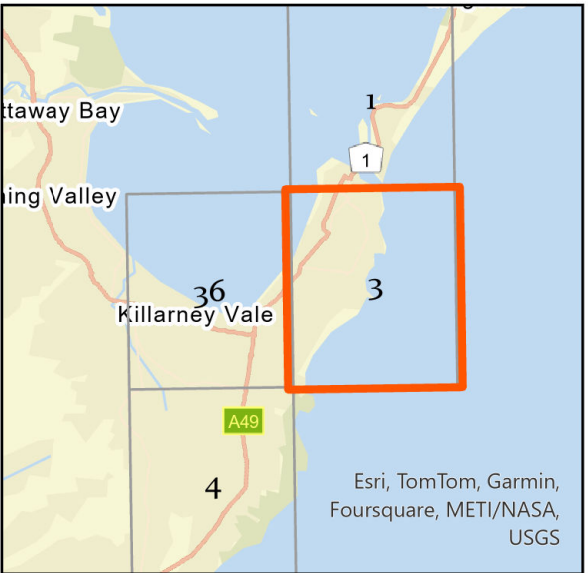
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CENTRAL COAST COUNCIL
PROPOSED SEWER ASSETS DSP 2024
SEWERAGE WONGA POINT

Legend

- | | |
|-----------------------------------|--------------------------------------|
| Bateau Bay EPL Boundary | Contours 2m |
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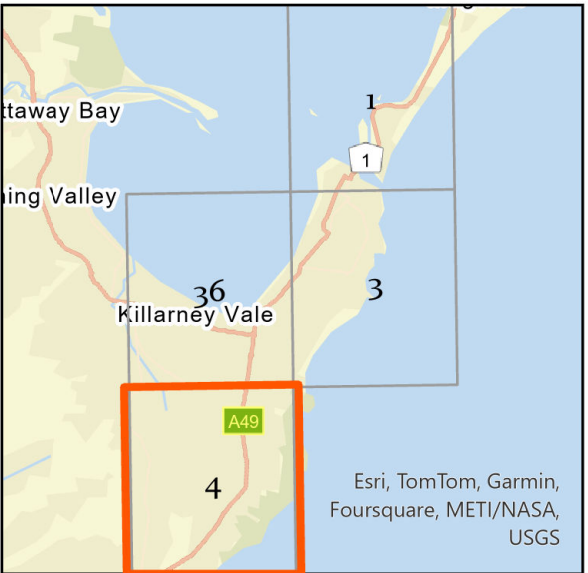
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CENTRAL COAST COUNCIL PROPOSED SEWER ASSETS DSP 2024 SEWERAGE WONGA POINT

Legend

- Bateau Bay EPL Boundary
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 - R1 - General Residential
 - R2 - Low Density Residential
 - RE1 - Public Recreation
 - RE2 - Private Recreation
 - SP2 - Infrastructure
 - UL - Unzoned Land
 - DM - Deferred Matter



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Appendix A
Central Coast Water Supply Headworks Development Servicing Plan
2024



Central Coast Council
Water Supply Headworks Development Servicing Plan 2024

Version 2.
Water Assets & Planning
October 2024

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1. Introduction

The purpose of this Development Servicing Plan (DSP) is to determine the water headworks component of Developer Charges applicable to proposed new developments within the Northern and Southern regions of the Central Coast Council (Council) Local Government Area (LGA).

This plan has been prepared in accordance with the requirements of the Water Management Act 2000, using the methodology and parameters determined by the Independent Pricing and Regulatory Tribunal's (IPART) Determination in October 2018 for Maximum prices for connecting, or upgrading a connection, to a water supply, sewerage, or drainage system (October 2018).

2. Applicability of this Plan

This DSP describes the water headworks component of developer charges applicable to the Northern and Southern Region 2024 Development Servicing Plans.

3. Area of the Plan

All lands contained within the Council LGA, connected (or proposed for connection) to Council's water supply scheme may be subject to this DSP. Local area DSPs where applicable will refer to this DSP for headworks component of developer charges. The map of existing Central Coast Water Systems is shown in Appendix A

4. Population and Equivalent Water Tenement Projection

Council has engaged .id consulting for its demographics analysis based on latest Australian Bureau of Statistics (ABS) Census data. .id consulting provides population forecast figures at the level of various geographic areas. Council's North (former Wyong Shire Council LGA) and South (former Gosford City Council LGA) regions forecast is used for headworks DSP. The latest set of forecast population figures up to 2036, available at the time of development of this DSP are used.

Further population projection from 2036 to 2054 is based on previous studies done for sewerage master plan of both North and South regions. The 2036 population has been linearly extrapolated at 1.39% and 0.4% annual growth rates respectively for the Northern and Southern Regions. The portion of the of population not connected to council's water services was deducted while calculating the serviced population. Table 1 below summarises serviced population projection for the North and South regions.

Tenement projection has been done based on average annual water demand of 150KL/tenement as per directions from IPART. The water demand patterns of both North and South regions are slightly different to each other which may further depart in future 1 because of higher scope of growth of BASIX (more water efficient) housing in the northern region than the south. Therefore, the individually climate corrected demand of both regions, North and South has been used to forecast water demand for both regions which is further used for calculating total equivalent water tenements as shown in Table 1.

Table 1 Population and tenement Projection

Year	North Total Population	North Serviced Population	South Total Population	South Serviced Population	North Tenements	South Tenements	Total Tenements
30/6/2023	173,917	168,873	178,724	176,758	98,417	99,141	197,558
30/6/2026	183,592	178,268	182,272	180,267	103,892	101,109	205,001
30/6/2031	201,039	195,209	186,597	184,544	113,764	103,508	217,272
30/6/2036	217,751	211,436	190,955	188,854	123,222	105,925	229,147
30/6/2041	233,311	226,545	194,805	192,662	132,027	108,061	240,088
30/6/2046	249,984	242,734	198,732	196,546	141,461	110,239	251,700
30/6/2051	267,847	260,080	202,739	200,509	151,570	112,462	264,032
30/6/2055	283,053	274,844	206,002	203,736	160,175	114,272	274,447

5. Reference to Other Development Servicing Plans

The development charge for the headworks component determined by this DSP will be included in all applicable North and South region DSP charges.

6. System Demand

Council has used iSDP (Integrated Supply Demand Model) for demand forecast. The forecast demand is provided in the table below.

Table 2 Projected Water Demand for Central Coast Council

Year	Annual Average Demand ML/year	Average Day Demand ML/day	Peak Day Demand * ML/day
30/6/2021	29,964	82.1	131
30/6/2026	31,028	85.0	136
30/6/2031	32,317	88.5	142
30/6/2036	33,725	92.4	148
30/6/2041	35,299	96.7	155
30/6/2046	37,001	101.4	162
30/6/2051	38,819	106.4	170
30/6/2055	40,400	110.7	177

* Determined using Peak Demand Factor of 1.6

7. System Yield and Water Treatment Capacity

7.1. System Yield

Council has recently developed its long-term water strategy, Central Coast Water Security Plan June 2023 (CCWSP). The plan was developed collaboratively with Hunter Water Corporation and DCCEEW (then DPE). The hydrological model (Rainfall Runoff Model) was also updated on eSource platform which is considered Australia's National Hydrological Modelling Platform. The yield calculation methodology was synchronised with Hunter Water's risk-based method and newly developed joint WATHNET model was used for system analysis. This aligned the two systems in terms of yield determination, which helped consider joint water options on an equitable basis incorporating the synergies of both systems in the

analysis. The 32,500 ML/year was determined as the current yield of the existing system. While the current agreement with Hunter Water for inter-regional water sharing expires in 2026, it is assumed for the purpose of this DSP that the provision for inter-regional water transfers will continue beyond 2026. The system forecast demand exceeds the above-described system yield in 2035.

The CCWSP was developed to plan for future water augmentations when demand will exceed the current system yield. CCWSP is an adaptive plan and is best described as three pillars as below:

- Pillar 1 Conserve and use water efficiently
- Pillar 2 Maximise existing water supplies to delay new water supplies
- Pillar 3 Develop new rainfall independent supplies for an adaptive future

The plan has adopted the portfolio with the following options as shown in the Figure 1.

- Increased groundwater supply in 2035
- Increased recycled water supply in 2037
- New PRW supply 2038
- New Desalination supply 2043

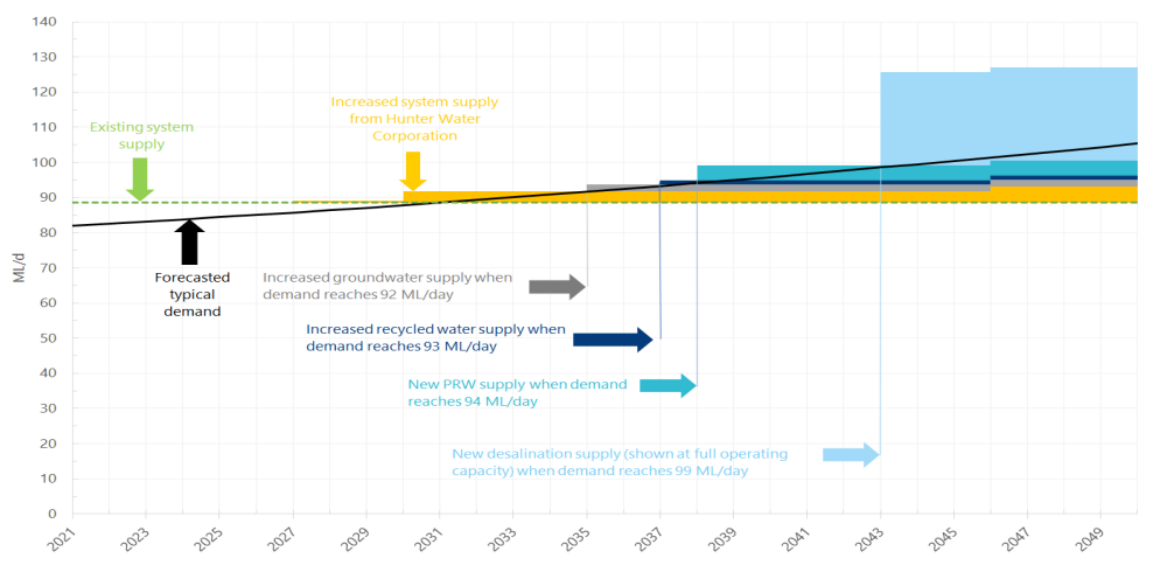


Figure 1 Indicative timings of new supplies after demand exceeds the system yield

7.2. Water Treatment Capacity

Total existing water treatment and distribution capacity provided for in the DSP is 300 ML/day which is sufficient to meet the peak day demand up to 2055. It is noted that Council's existing water treatment plants are subject to de-rating under certain raw water quality conditions and the below production capacity cannot be met under a range of different conditions. Figure 2 shows peak day demand versus theoretical treatment capacity over time.

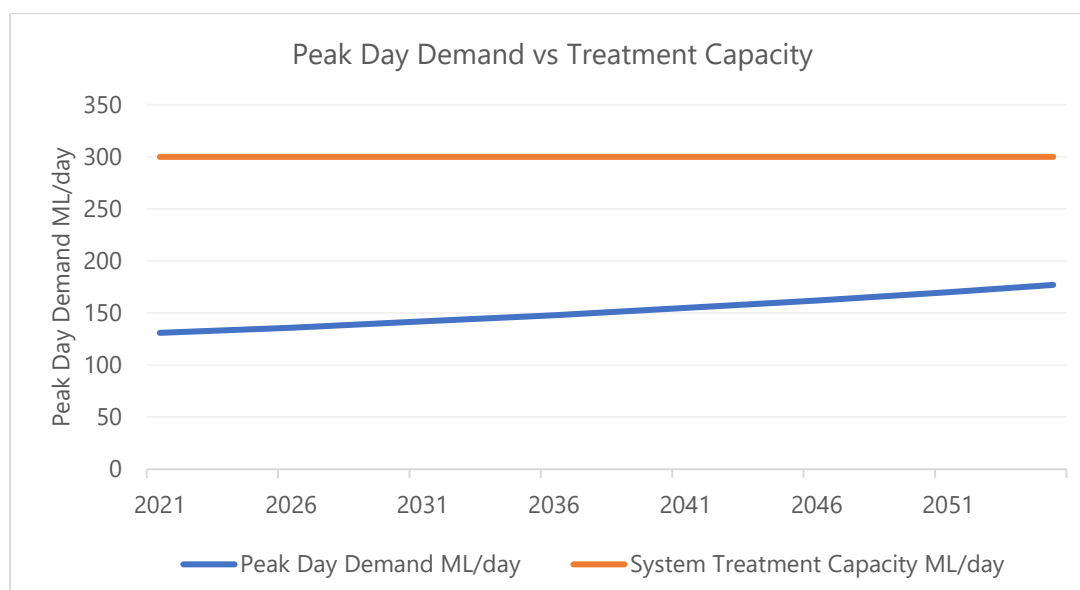


Figure 2 Peak Day Demand vs Water Treatment Capacity

8. Estimates of Asset Values

The asset values are taken as total gross replacement costs from Council's financial asset register which was used to complete a recent revaluation of Council's Water and Sewerage Assets in 2022. The value of existing assets was determined using a Modern Engineering Equivalent Replacement Asset (MEERA) approach as required by IPART. This same approach was required for the 2022 Water and Sewerage Asset revaluation which has satisfied Audit Office of NSW requirements. The values determined are in 2023-24 dollars.

The asset values for un-commissioned future assets are price indexed values as determined during development of CCWSP in 2020-21.

The annual value charges are calculated using 0% discount rate for pre-1996 assets and 2.8% discount rate (real pre-tax WACC as in the prevailing IPART price determination) for post-1996 assets as per IPART's final report on "Maximum prices to connect, extend or upgrade a service for metropolitan water agencies October 2018."

Operating costs are not relevant to this DSP and are detailed in each Local Area DSP.

9. Method of Reviewing/Updating Developer Charges

The Developer Charges determined in this DSP are incorporated into the Northern and Southern Region Water DSPs developed by Central Coast Council. The value of charges payable under the Development Servicing Plan will be held constant in real terms for the life of the Plan by the adjustments specified within Local Area DSPs.

10. Calculation of Development Service Charges

The 2018 Calculation Template provided by IPART has been used to calculate maximum charges that can be levied for the headworks component of developer charges on new developments.

Headworks development service charges assessed per equivalent tenement (ET) are determined as \$5,975 per Equivalent Tenement (ET).

11. References

The following Reports provide the basis upon which the need and capacity of capital works have been assessed:

- i. Central Coast Water Security Plan (CCWSP) June 2023

Appendix A

Our water systems on the Central Coast

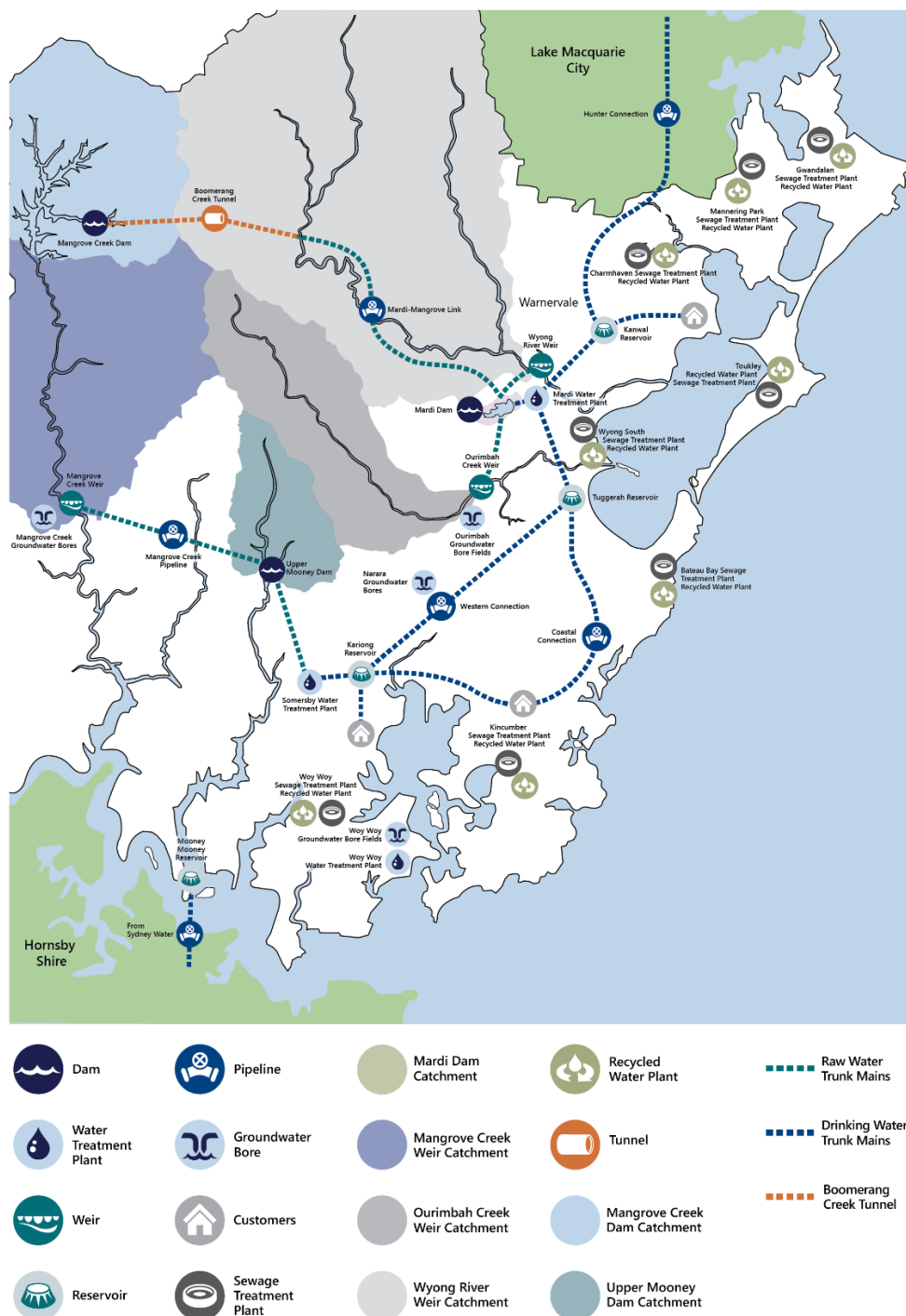


Figure A-1 Existing Central Coast Water Supply System

Preferred Portfolio



Groundwater

2035



Recycled water

2037



Purified
Recycled Water

2038



Desalination

2043

*Timings are indicative of
medium demand forecast



Figure A-2 Un-commissioned Future Assets

Table A-1 Maximum Price Calculations Spreadsheet Snips

Central Coast Council Water Supply Headworks Development Servicing Plan

CALCULATION OF MAXIMUM PRICE

Index

	Row
1 Table 1: Calculation of maximum price (\$, \$2024-25)	16
2 Table 2: Key variables used in maximum price calculation (\$, \$2024-25)	25
3 Table 3: Annual calculation over analysis horizon (\$, \$2024-25)	34

Note: an input is required in \$F\$21 to incorporate the Headwork costs per ET into the maximum price.

Table 1: Calculation of maximum price (\$, \$2024-25)

Maximum price	Costs to be recovered via DSP ETs	Headworks costs per ET	Pre-1996 assets	Post-1996 commissioned assets	Post-1996 uncommissioned assets	Reduction for expected revenue and operation costs
			400,221,174	189,223,233	91,607,464	0
5,975	Value per ET	3,547	112,823	115,692	115,692	115,692
		Percent	59.4%	27.4%	13.3%	0

Sum of new ETs (not discounted)	Sum of PV of new ETs (discounted at pre-1996 asset discount rate)	Sum of PV of new ETs (discounted at post-1996 asset discount rate)	Sum of PV of new ETs (discounted at expected revenue and costs discount rate)	Sum of PV of Pre- 1996 commissioned assets (discounted at pre- 1996 asset discount rate)	Sum of PV of Post- 1996 commissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of Post- 1996 uncommissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of revenue for new customers (discounted at expected future revenue and costs discount rate)	Sum of PV of costs for new ETs (discounted at expected future revenue and costs discount rate)
112,823	112,823	115,692	115,692	400,221,174	189,223,233	91,607,464	0	0

PRE-1996 ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presented on the 'Asset exclusions' worksheet before they are entered into the register.

Hyperlink to the 'Asset exclusions' worksheet:

[Asset exclusions!A1](#)

Date range for assets

Start date

01 Jan 1970

End date

31 Dec 1995

Register of pre-1996 assets**General inputs**

Identifier	Description	Date commissioned	Expected system-wide ETs to be serviced by this asset	Proportion of asset cost to be recovered via this DSP	Number of units or length of asset (A)	Unit of measure in (A)	MEERA value per unit/measure of length (B) (\$ as at 1 July 2024)	Total MEERA value (A x B) (\$, \$2024-25)	MEERA value to be recovered via DSP (\$, \$2024-25)
Raw Water Yield									
	Mangrove Creek Dam	30 Jun 1982	271,796	41.5%	1		256,044,083	256,044,083	106,284,020
	Mangrove Creek Weir	30 Jun 1975	271,796	41.5%	1		8,413,568	8,413,568	3,492,476
	Durimbah Creek Upper Weir	30 June 1979	271,796	41.5%	1		2,268,758	2,268,758	941,763
	Durimbah Creek to Mardi Dam WMR	30 June 1980	271,796	41.5%	1		5,000,579	5,000,579	2,075,743
	Boomerang Creek Tunnel	30 June 1989	271,796	41.5%	1		238,447,805	238,447,805	98,979,797
	Durimbah Ck Tunnel	30 June 1979	271,796	41.5%	1		10,665,035	10,665,035	4,427,061
	Mangrove Creek Weir WPS to Somersby WTP WMR (Surge Tanks Included)	30 June 1974	271,796	41.5%	1		67,946,739	67,946,739	28,204,724
	Balance Tank B2	30 June 1971	271,796	41.5%	1		7,507,222	7,507,222	3,116,251
	Balance tanks to Somersby WMR	30 June 1974	271,796	41.5%	1		19,781,630	19,781,630	8,211,364
	Mangrove Creek Pumping Station	30 June 1975	271,796	41.5%	1		18,430,258	18,430,258	7,650,409
	Durimbah Creek Pumping Station (WPS11)	30 June 1979	271,796	41.5%	1		2,776,459	2,776,459	1,152,510
Treatment and			271,796	41.5%					
	Somersby WTP Stage 1	30 June 1970	271,796	41.5%	1		34,300,808	34,300,808	14,238,282
	Somersby Balance Tank 2	30 June 1971	271,796	41.5%	1		7,085,524	7,085,524	2,941,204
	Kariong Reservoir No 1(K1)	30 June 1973	271,796	41.5%	1		7,333,798	7,333,798	3,044,263
	Coastal Connection	30 June 1985	271,796	41.5%	1		14,441,050	14,441,050	5,994,487
	Western Transfer WMT SWTP to K2 Res (WMT-WSTK2)	30 June 1978	271,796	41.5%	1		16,037,663	16,037,663	6,657,242
	Western Transfer WMT K2 Res to North Gosford (WMT-KTNG)	30 June 1979	271,796	41.5%	1		6,972,822	6,972,822	2,894,422
	Western Transfer WMT Gosford to T2 Res (WMT-GTT2) Stage 1	30 June 1980	271,796	41.5%	1		32,637,123	32,637,123	13,547,685
	Western Transfer WMT Gosford to T2 Res (WMT-GTT2) Stage 2	30 June 1995	271,796	41.5%	1		38,684,949	38,684,949	16,058,141
	Western Transfer WMT M/WTP to T2 Res (WMT-MTT2)	30 June 1980	271,796	41.5%	1		5,048,147	5,048,147	2,095,488
	Mardi WTP Stage I: 80 ML/d	30 June 1982	271,796	41.5%	1		49,731,856	49,731,856	20,643,717
	Somersby WTP Stage 2	30 June 1986	271,796	41.5%	1		50,161,941	50,161,941	20,822,245
	Kariong Reservoir No 2 (K2)	30 June 1986	271,796	41.5%	1		21,942,939	21,942,939	9,108,524
	Tuggerah 2 Reservoir	30 June 1987	271,796	41.5%	1		16,244,709	16,244,709	6,743,186
	Forresters Beach Pumping Station	30 June 1987	271,796	41.5%	1		2,063,275	2,063,275	856,466
	Durimbah Pumping Station (WPS17)	30 June 1987	271,796	41.5%	1		6,402,701	6,402,701	2,657,764
	Mardi WTP Stage II: 80 ML/d	30 June 1994	271,796	41.5%	1		17,783,500	17,783,500	7,381,939

POST-1996 COMMISSIONED ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presented on the 'Asset exclusions' worksheet before they are entered into the register.
Hyperlink to the 'Asset exclusions' worksheet: [Asset exclusions'A1](#)

Date range for assets

Start date

End date

01 Jan 1996

30 Jun 2024

Register of post-1996 commissioned assets

Add new assets Commissioned

General inputs

Service potential inputs

Asset value inputs

Identifier	Description	Date commissioned	Financial year of commissioning		Expected system-wide ETs to be serviced by this asset	Proportion of asset cost to be recovered via this DSP	Number of units or length of asset (A)	Unit of measure in (A)	MEERA value per unit/measure of length (B) (\$ as at 1 July 2024)	Total MEERA value (A x B) (\$, \$2024-25)	MEERA value to be recovered via DSP (\$, \$2024-25)
Raw Water Yield											
	Mardi Dam Upgrades	30 Jun 2010	2009-10		271,796	41.5%	1		22,736,457	22,736,457	9,437,914
	Lower Wyong River Weir -Fishway and other Upgrade	30 Jun 2010	2009-10		271,796	41.5%	1		12,600,215	12,600,215	5,230,355
	Lower Wyong PS to Mardi Dam WMR	30 Jun 2011	2010-11		271,796	41.5%	1		25,571,628	25,571,628	10,614,795
	Mardi Dam to Mangrove Dam WMR	01 Jan 2011	2010-11		271,796	41.5%	1		97,049,989	97,049,989	40,285,496
	Mooney Pumpstation upgrade	30 Jun 2017	2016-17		271,796	41.5%	1		4,679,886	4,679,886	1,942,623
	Wyong River Pump Station (WPS 1A)	30 Jun 2011	2010-11		271,796	41.5%	1		9,926,222	9,926,222	4,120,379
	Mardi Dam to Mardi WTP Pump Station (WPS23)	30 Jun 2011	2010-11		271,796	41.5%	1		3,508,250	3,508,250	1,456,276
	Mardi Dam to Mangrove Creek Dam Pump Station (WPS24)	30 Jun 2012	2011-12		271,796	41.5%	1		7,564,732	7,564,732	3,140,124
	Spur main WMR	30 Jun 2007	2006-07		271,796	41.5%	1		318,109	318,109	132,047
	Groundwater Bores	30 Jun 2007	2006-07		271,796	41.5%	1		28,525,263	28,525,263	11,840,850
	WPS Narara	30 Jun 2007	2006-07		271,796	41.5%	1		1,287,723	1,287,723	534,534
Treatment and Transfer					271,796						
	Western Transfer WMT MWTP to T2 Res (WMT-MTT2) Upgrade	30 Jun 1997	1996-97		271,796	41.5%	1		4,010,352	4,010,352	1,664,699
	Woy Woy WTP for Groundwater Bores	30 Jun 2007	2006-07		271,796	41.5%	1		9,202,024	9,202,024	3,819,764
	Hunter Connection	30 Jun 2007	2006-07		271,796	41.5%	1		43,629,707	43,629,707	18,110,712
	High Lift Pump Station (WPS25)	30 Jun 2011	2010-11		271,796	41.5%	1		11,375,609	11,375,609	4,722,021
	Mardi to Warnervale Pipeline (M2WPL)	01 Dec 2021	2021-22		271,796	41.5%	1		11,469,039	11,469,039	4,760,803
	Ourimbah Pump Station (WPS17)	30 Jun 2013	2012-13		271,796	41.5%	1		6,402,701	6,402,701	2,657,764
	Forresters Beach Pump Station (WPS FORBCH)	30 Jun 2022	2021-22		271,796	41.5%	1		2,063,275	2,063,275	856,466

POST-1996 UNCOMMISSIONED ASSETS WITH A NEXUS TO THE SERVICE FOR WHICH THE MAXIMUM PRICE IS BEING CALCULATED

Consideration must be given to the principles regarding asset exclusions presented on the 'Asset exclusions' worksheet before they are entered into the register.

Hyperlink to the 'Asset exclusions' worksheet: [Asset exclusions'A1](#)

Date range for assets

Start date 01 Jul 2024

Register of uncommissioned assets

General inputs				Service potential inputs			Asset value inputs				
Identifier	Description	Date commissioned	Financial year of commissioning	DSP areas serviced by asset	Expected system-wide ETs to be	Proportion of asset cost to be	Number of units or length of asset (A)	Unit of measure in (A)	MEERA value per unit/measure of	Total MEERA value (A x B)	MEERA value to be recovered via DSP
Future Yield Augmentation			-			-				-	-
	Increased utilisation of GW	30 Jun 2034	2033-34		271,796	41.5%	1		568,575	568,575	236,016
	Expand existing STP based recycling schemes	30 Jun 2037	2036-37		271,796	41.5%	1		7,936,110	7,936,110	3,294,283
	Purified Recycled Water (PRW)	30 Jun 2038	2037-38		271,796	41.5%	1		56,977,200	56,977,200	23,651,263
	Drought Desalination Plant	30 Jun 2043	2042-43		271,796	41.5%	1		287,280,000	287,280,000	119,250,064

Appendix B

Northern Water Supply Works Summary - 2024

Water Mains - Northern DSP	Diameter (mm)	Length (m)	Rate (\$/m)	Cost (\$2024/25)	Forecast Completion Year
Bellevue Rd - The Entrance Rd through proposed subdivision	200	625	\$ 477	\$ 298,020	2030
Bellevue Rd - The Entrance Rd through proposed subdivision	200	712	\$ 477	\$ 339,504	2030
Water Main - Narrawa Ave	200	210	\$ 477	\$ 100,135	2030
Water Main - Fairport Ave to Marine Pde	200	200	\$ 477	\$ 95,366	2026
Water Main - Beenbah Ave	200	120	\$ 477	\$ 57,220	2030
Water Main - Gosford Ave to Anzac Ave/Frazer Rd	200	200	\$ 477	\$ 95,366	2030
Water Main - Archbold Rd	200	120	\$ 477	\$ 57,220	2030
Water Main - Kitchener Rd	200	200	\$ 477	\$ 95,366	2030
Water Main - Stella, Bay Rd & Pacific St	200	740	\$ 477	\$ 352,855	2030
Water Main - Yethonga St	200	120	\$ 477	\$ 57,220	2030
Water Main - Oaks Ave	200	380	\$ 477	\$ 181,196	2030
Water Main - Denning St, Bay Rd & Boondilla	200	770	\$ 477	\$ 367,160	2028
Water Main - The Entrance Bridge - Associated with SRM Upgrade	200			\$ 725,000	2029
Water Mains DN 200mm - Arizona Rd to Charmhaven TM	200	1250	\$ 477	\$ 596,039	2030
Water Mains DN 200mm - Blue Haven to Tooheys Rd Industrial Land	200	2800	\$ 477	\$ 1,335,128	2026
Water Mains DN 200mm - Kiar Ridge zone	200	4845	\$ 477	\$ 2,310,248	2025
Water Mains DN 450mm - Kiar Ridge Reservoir to M2W Pipeline	450	4750	\$ 965	\$ 4,582,918	2029
Water Mains DN 200mm - Wyong Precinct 6	200	3110	\$ 477	\$ 1,482,946	2030
Water Mains DN 250mm - Wyong Precinct 6	250	1080	\$ 571	\$ 616,317	2030
Water Mains DN 375mm - Wyong Precinct 6	375	950	\$ 783	\$ 743,948	2030
Water Mains DN 200mm - Hakone Road Linkage	200	200	\$ 477	\$ 95,366	2028
Water Mains - Murrawal Rd / Wahroonga Rd / Louisiana Rd Rising Main	200	1720	\$ 477	\$ 820,150	2036
Water Mains - Welog - Jensen Rd	200	1850	\$ 477	\$ 882,138	2028
Water Mains - Welog Johns Rd to Jensen Rd	200	950	\$ 477	\$ 452,990	2028
Water Mains - Darkinjung - Chainvalley Bay Rd (West)	200	908	\$ 477	\$ 432,963	2028
Water Mains - Darkinjung - Chainvalley Bay Rd (East)	200	707	\$ 477	\$ 337,120	2028
Water Main - Rising Main Precinct 20	200	1500	\$ 477	\$ 715,247	2030
Total				\$ 18,225,146	

Water Reservoir - Northern DSP	Capacity (ML)	Update Forecast Completion Year	GHD Estimate from Options Report (\$2017)	2017 Rate Indexed to 2019/20	2019/20 Rate Indexed to 2024/25
Kiar Ridge	15	2029	\$10,006,523	\$10,376,764	\$12,535,131
Note: NSW Public Works Department of Commerce estimated the cost of the proposed Kiar Ridge Reservoir as part of their water modelling investigations completed in 2008. The cost estimate was later updated as part of an investigation into initial options for the site by GHD which included geotechnical investigation.					

Appendix C

Northern Sewerage Works Summary - 2024

Northern Sewer Pump Stations												
Pump Station	STP	New or Upgrade SPS	Current Capacity	Required Capacity	M&E	Civil	Estimated Completion Date	M&E Cost	Civil Cost	Odour Dosing Unit	Cost \$2024/25	
BB01	BB	Upgrade	1050	1300	1		2036	\$ 2,634,431	\$ -	\$ -	\$ 2,634,431	
BB07	BB	Upgrade	27	63	1		2036	\$ 466,051	\$ -	\$ -	\$ 466,051	
BB11	BB	Upgrade	18	30	1		2029	\$ 305,247	\$ -	\$ -	\$ 305,247	
BB10	BB	Upgrade	54	75	1		2029	\$ 515,529	\$ -	\$ -	\$ 515,529	
BB19	BB	New SPS	0	30	1	1	2030	\$ 305,247	\$ 566,888	\$ 114,900	\$ 987,036	
CH12	CH	Upgrade	260	400	1		2028	\$ 1,443,240	\$ -	\$ -	\$ 1,443,240	
CH13	CH	Upgrade	400	860	1		2028	\$ 1,774,127	\$ -	\$ -	\$ 1,774,127	
CH21 (SPS 2 Darkinjung Wallarah) Stage 1	CH	New SPS	0	47	1	1	2028	\$ 394,858	\$ 733,307	\$ 114,900	\$ 1,243,064	
CH21 (SPS 2 Darkinjung Wallarah) Stage 2	CH	New SPS	47	87	1	1	2031	\$ 559,234	\$ 1,038,578	\$ 114,900	\$ 1,712,712	
CH27 (WWPS 3 WELOG)	CH	New SPS	0	93	1	1	2028	\$ 579,025	\$ 1,075,333	\$ 114,900	\$ 1,769,258	
CH28	CH	New SPS	0	50	1	1	2036	\$ 409,701	\$ 760,873	\$ 114,900	\$ 1,285,474	
CH30	CH	New SPS	0	250	1	1	2036	\$ 1,030,924	\$ 1,914,573	\$ 114,900	\$ 3,060,397	
CH31	CH	New SPS	0	25	1	1	2036	\$ 275,011	\$ 510,735	\$ 114,900	\$ 900,646	
CH33	CH	New SPS	0	35	1	1	2036	\$ 332,735	\$ 617,937	\$ 114,900	\$ 1,065,572	
CH36	CH	New SPS	0	10	1	1	2030	\$ 189,799	\$ 352,484	\$ 114,900	\$ 657,183	
CH37	CH	New SPS	0	85	1	1	2026	\$ 552,637	\$ 1,026,326	\$ 114,900	\$ 1,693,863	
WWPS 1 WELOG	CH	New SPS	0	30	1	1	2028	\$ 305,247	\$ 566,888	\$ 114,900	\$ 987,036	
WWPS 2 WELOG	CH	New SPS	0	13	1	1	2028	\$ 206,292	\$ 383,113	\$ 114,900	\$ 704,304	
SPS 1 Darkinjung Wallarah	CH	New SPS	0	43	1	1	2028	\$ 375,066	\$ 696,552	\$ 114,900	\$ 1,186,518	
GW11	GW	New SPS	0	110		1	2031	\$ -	\$ 1,176,920	\$ 114,900	\$ 1,291,820	
GW11	GW	New SPS	0	45	1		2031	\$ 384,962	\$ -	\$ -	\$ 384,962	
MP07	MP	Upgrade	25	45	1		2031	\$ 384,962	\$ -	\$ -	\$ 384,962	
MP17	MP	New SPS	0	15	1	1	2036	\$ 217,287	\$ 403,532	\$ 114,900	\$ 735,719	
Munmorah (Option 2D)	MP	New SPS	0	40	1	1	2027	\$ 360,223	\$ 668,986	\$ 114,900	\$ 1,144,108	
WS07	WS	Upgrade	84	110	1	1	2029	\$ 633,726	\$ 1,176,920	\$ -	\$ 1,810,646	
WS09	WS	Upgrade	28	95	1	1	2031	\$ 585,623	\$ 1,087,585	\$ -	\$ 1,673,207	
Total:										\$	31,817,113	

Sewer Rising Mains									
STP	SPS	Diameter (mm)	Length (m)	Flow (L/s)	Velocity (m/s)	Estimated Completion Year		Rate	Cost \$2024/25
BB	BB19	150	1150	31	1.75	2030	\$	511	\$ 587,632
BB	BB05	250	1400	100	2.04	2036	\$	620	\$ 867,586
BB	BB11	200	269	70	2.23	2029	\$	554	\$ 149,153
BB	BB10	260		75	1.41	2029		\$	861,750
CH	CH12	600	4400	140	0.50	2028	\$	1,779	\$ 7,829,290
CH	CH13	600	5700	600	2.12	2028	\$	1,779	\$ 10,142,489
CH	CH15	300	2900	140	1.98	2031	\$	708	\$ 2,052,875
CH	SPS 1 Darkinjung Wallarah	250	1500	43	0.88	2026	\$	620	\$ 929,556
CH	CH21 (SPS 2 Darkinjung Wallarah)	375	2500	87	0.79	2028	\$	863	\$ 2,156,280
CH	CH28	200	1300	50	1.59	2036	\$	554	\$ 720,814
CH	CH30	375	1800	250	2.26	2036	\$	863	\$ 1,552,522
CH	CH31	150	700	23	1.30	2036	\$	511	\$ 357,689
CH	WS16	300	1000	165	2.33	2029	\$	586	\$ 585,964
CH	CH33	150	500	35	1.98	2036	\$	511	\$ 255,492
CH	CH36	100	700	10	1.27	2030	\$	445	\$ 311,181
CH	CH37	250	420	85	1.73	2026	\$	620	\$ 260,276
CH	Welog WWPS1	150	870	30	1.70	2028	\$	511	\$ 444,556
CH	Welog WWPS2	150	390	13	0.74	2028	\$	511	\$ 199,284
CH	Welog WWPS3	250	590	93	1.89	2028	\$	620	\$ 365,625
GW	GW11	300	1200	110	1.56	2031	\$	708	\$ 849,466
MP	MP07	200	410	45	1.43	2031	\$	554	\$ 227,334
MP	MP17	100	900	15	1.91	2036	\$	445	\$ 400,090
MP	SPS Darkinjung Lake	200	3395	40	1.27	2027	\$	554	\$ 1,882,432
WS	WS07	250	200	110	2.24	2027	\$	620	\$ 123,941
Total:								\$	34,113,273

Northern Sewer Gravity Mains																	
STP	SPS	Diameter	Length			Ground Required		Comment	Depth(m)	Depth(m)	Precinct/Suburb	Estimated					
		(mm)	(m)	Top(m)	Bottom(m)	Grade	Grade					Completion Date	Rate (\$/m)	Cost \$2024/25			
CH	Welog WWPS1	225	883	20	9	0.0125	0.0062		1.575	1.5-3	WELOG	2028	\$	617	\$	545,065	
CH	Welog WWPS2	225	437	7	2	0.0114	0.0062		1.575	1.5-3	WELOG	2028	\$	617	\$	269,755	
CH	Welog WWPS3	225	740	8	2	0.0081	0.0062		1.575	1.5-3	WELOG	2028	\$	617	\$	456,793	
CH	Welog WWPS3	300	475	20	4	0.0337	0.0042		1.650	1.5-3	WELOG	2028	\$	779	\$	370,101	
CH	Welog WWPS3	375	170	4	2	0.0118	0.0031		1.725	1.5-3	WELOG	2026	\$	1,012	\$	172,092	
CH	CH21	600	300	2	2	0.0000	0.0017	New SPS	5.000	> 4.5 m	Doyalson	2028	\$	2,039	\$	611,731	
CH	CH21	225	1200	24	16	0.0067	0.0062	New SPS	1.575	1.5-3	Doyalson	2028	\$	617	\$	740,746	
CH	CH21	450	800	4	2	0.0025	0.0025	New SPS	4.000	3-4.5	Doyalson	2028	\$	1,416	\$	1,132,621	
CH	CH21	300	1500	12	2	0.0067	0.0042	New SPS	1.650	1.5-3	Doyalson	2028	\$	779	\$	1,168,740	
CH	CH21	225	1900	10	2	0.0042	0.0062	New SPS	5.355	> 4.5 m	Doyalson	2028	\$	954	\$	1,813,208	
CH	CH21	300	700	10	2	0.0114	0.0042	New SPS	1.650	1.5-3	Doyalson	2028	\$	779	\$	545,412	
CH	CH21	225	850	14	10	0.0047	0.0062	New SPS	2.845	1.5-3	Doyalson	2028	\$	617	\$	524,695	
CH	CH21	225	1100	16	10	0.0055	0.0062	New SPS	2.395	1.5-3	Doyalson	2028	\$	617	\$	679,017	
CH	CH21	375	1300	14	12	0.0015	0.0031	New SPS	3.755	3-4.5	Doyalson	2028	\$	1,181	\$	1,535,851	
CH	CH21	225	400	10	4	0.0150	0.0062	New SPS	1.575	1.5-3	Doyalson	2028	\$	617	\$	246,915	
MP	SPS Darkinjung Lake Munmorah	225	920	20	10	0.0109	0.0062		1.575	1.5-3	WELOG	2028	\$	617	\$	567,905	
MP	SPS Darkinjung Lake Munmorah	225	230	11	10	0.0043	0.0062		2.001	1.5-3	WELOG	2028	\$	617	\$	141,976	
BB	BB19	225	500	22	14	0.0160	0.0062		1.575	1.5-3	Bellevue Road	2030	\$	617	\$	308,644	
CH	CH13	225	150	16	10	0.0400	0.0062		1.575	1.5-3	3A- Gorokan	2030	\$	617	\$	92,593	
CH	CH13	225	150	16	12	0.0267	0.0062		1.575	1.5-3	3A- Gorokan	2030	\$	617	\$	92,593	
CH	CH13	225	150	20	14	0.0400	0.0062		1.575	1.5-3	3A- Gorokan	2030	\$	617	\$	92,593	
CH	CH13	225	200	22	14	0.0400	0.0062		1.575	1.5-3	3A- Gorokan	2030	\$	617	\$	123,458	
CH	CH13	225	100	22	20	0.0200	0.0062		1.575	1.5-3	3A- Gorokan	2030	\$	617	\$	61,729	
CH	CH15	375	550	10	7	0.0055	0.0031		3.500	3-4.5	6	2030	\$	1,181	\$	649,783	
CH	CH15	300	450	10	10	0.0000	0.0042		3.540	3-4.5	6	2030	\$	983	\$	442,490	
CH	CH15	225	700	14	10	0.0057	0.0062		1.915	1.5-3	6	2030	\$	617	\$	432,102	
CH	CH15	300	1000	10	6	0.0040	0.0042		1.850	1.5-3	6	2030	\$	779	\$	779,160	
CH	CH15	225	600	14	10	0.0067	0.0062		1.575	1.5-3	6	2030	\$	617	\$	370,373	
CH	CH15	225	850	15	11	0.0047	0.0062		2.845	1.5-3	6	2030	\$	617	\$	524,695	
CH	CH35	225	350	20	18	0.0057	0.0062	New SPS	1.745	1.5-3	9	2030	\$	617	\$	216,051	
GW	GW01	225	350	4	2	0.0057	0.0062		1.745	1.5-3	Gwandalan Rosecorp	2030	\$	617	\$	216,051	
GW	GW02	300	350	14	4	0.0286	0.0042		1.650	1.5-3	Gwandalan	2030	\$	779	\$	272,706	
GW	GW02	375	130	4	2	0.0154	0.0031		1.725	1.5-3	Gwandalan	2030	\$	1,012	\$	131,600	
TO	TO07	225	500	6	4	0.0040	0.0062	Follow existing	2.675	1.5-3	Noraville	2030	\$	617	\$	308,644	
WS	WS08	300	400	12	8	0.0100	0.0042		1.650	1.5-3	Westfield Gateway	2030	\$	779	\$	311,664	
WS	WS08	225	300	16	12	0.0133	0.0062		1.575	1.5-3	Westfield Gateway	2030	\$	617	\$	185,186	
WS	WS08	225	250	18	8	0.0400	0.0062		1.575	1.5-3	Westfield Gateway	2030	\$	617	\$	154,322	
WS	WS08	300	750	4	4	0.0000	0.0042		4.800	> 4.5 m	Westfield Gateway	2030	\$	1,138	\$	853,452	
CH	WS16	225	600	10	4	0.0100	0.0062		1.575	1.5-3	Wyong	2030	\$	617	\$	370,373	
CH	WS16	225	500	10	6	0.0080	0.0062		1.575	1.5-3	Precinct 2A	2030	\$	617	\$	308,644	
WS	WS20	225	600	8	2	0.0100	0.0062		1.575	1.5-3	R1 General Res	2030	\$	617	\$	370,373	
GW	GW11	225	300	2	2	0.0000	0.0062	New SPS	3.435	3-4.5	21	2031	\$	782	\$	234,473	
GW	GW11	225	700	18	14	0.0057	0.0062		1.915	1.5-3	21	2031	\$	617	\$	432,102	
MP	MP05	450	350	4	2	0.0057	0.0025		1.800	1.5-3	Lake Munmorah	2031	\$	1,230	\$	430,410	
MP	MP11	225	200	0	0	0.0000	0.0062		2.815	1.5-3	18- Lake Munmorah	2031	\$	617	\$	123,458	
MP	MP12	300	950	4	0	0.0042	0.0042		1.650	1.5-3	16 N Lake Munmorah	2031	\$	779	\$	740,202	
MP	MP12	225	1000	16	2	0.0140	0.0062		1.575	1.5-3	16 N Lake Munmorah	2031	\$	617	\$	617,288	
MP	MP12	225	800	12	2	0.0125	0.0062		1.575	1.5-3	16 N Lake Munmorah	2031	\$	617	\$	493,830	
MP	MP12	300	700	12	4	0.0114	0.0042		1.650	1.5-3	16 N Lake Munmorah	2031	\$	779	\$	545,412	
MP	MP13	225	300	12	2	0.0333	0.0062		1.575	1.5-3	19	2031	\$	617	\$	185,186	
MP	MP13	225	500	18	10	0.0160	0.0062		1.575	1.5-3	19	2031	\$	617	\$	308,644	
MP	MP13	225	300	2	0	0.0067	0.0062		1.575	1.5-3	19	2031	\$	617	\$	185,186	
MP	MP13	300	300	2	0	0.0067	0.0042		1.650	1.5-3	19	2031	\$	779	\$	233,748	
MP	MP13	225	250	18	8	0.0400	0.0062		1.575	1.5-3	19	2035	\$	617	\$	154,322	
CH	CH28	300	1100	18	10	0.0073	0.0042		1.650	1.5-3	6	2036	\$	779	\$	857,076	
CH	CH28	225	300	22	14	0.0267	0.0062		1.575	1.5-3	6	2036	\$	617	\$	185,186	
CH	CH28	225	300	24	18	0.0200	0.0062		1.575	1.5-3	6	2036	\$	617	\$	185,186	
CH	CH28	225	800	30	24	0.0075	0.0062		1.575	1.5-3	6	2036	\$	617	\$	493,830	
CH	CH30	600	330	8	2	0.0182	0.0017		1.950	1.5-3	8	2036	\$	1,659	\$	547,333	
CH	CH30	225	800	22	12	0.0125	0.0062		1.575	1.5-3	6, 8	2036	\$	617	\$	493,830	
CH	CH30	225	1000	32	16	0.0160	0.0062		1.575	1.5-3	6, 8	2036	\$	617	\$	617,288	
CH	CH30	225	500	30	24	0.0120	0.0062		1.575	1.5-3	6, 8	2036	\$	617	\$	308,644	
CH	CH30	375	1000	20	6	0.0140	0.0031		1.725	1.5-3	8	2036	\$	1,012	\$	1,012,304	
CH	CH30	300	200	22	20	0.0100	0.0042		1.650	1.5-3	8	2036	\$	779	\$	155,832	
CH	CH30	225	550	30	22	0.0145	0.0062		1.575	1.5-3	8 N, 6 ETC	2036	\$	617	\$	339,508	
CH	CH30	225	350	32	24	0.0229	0.0062		1.575	1.5-3	6	2036	\$	617	\$	216,051	
CH	CH30	375	800	16	6	0.0125	0.0031		1.725	1.5-3	8	2036	\$	1,012	\$	809,843	
CH	CH30	300	800	24	16	0.0100	0.0042		1.650	1.5-3	8	2036	\$	779	\$	623,328	
CH	CH30	225	300	22	16	0.0200	0.0062		1.575	1.5-3	8	2036	\$	617	\$	185,186	
CH	CH30	225	700	14	4	0.0143	0.0062		1.575	1.5-3	8	2036	\$	617	\$	432,102	
CH	CH31	225	600	8	2	0.0100	0.0062		1.575	1.5-3	9	2036	\$	617	\$	370,373	
CH	CH33	225	450	8	2	0.0133	0.0062		1.575	1.5-3	3B	2036	\$	617	\$	277,780	
														Total:	\$	31,986,843.40	

Sewage Treatment Plants

Charmhaven STP

Augmentation of the existing plant (Stage 1) is proposed in two or more future stages. Stage 2 comprises a conversion of the plant into an MLE process to achieve a 75,000 EP capacity. This would include a new inlet works, construction of new reactor and associated clarifier, conversion of a redundant aeration tank to aerobic digester, associated biosolids handling works and effluent pump station upgrades to increase the plants biological and hydraulic capacity. Stage 3 would involve the construction of an additional reactor and clarifier and an additional inlet works to resolve hydraulic capacity and biological capacity issues. Stage 3 is yet to be costed and its timing will be informed by the W&S Masterplan which is due to commence in mid 2024.

Stage	Commissioning Date	Cost	Comments
2	2027	\$ 60,748,412	Portion of upgrade cost estimate attributable to capacity upgrade based on concept design estimate (P50)

Details are available within the AECOM options and concept design reports

Bateau Bay STP

Capital upgrades are currently underway to allow the plant to remain operational up to a design horizon of 2036 to 2041. A capacity review undertaken by GHD has indicated that future loading on the plant will likely trigger a major augmentation of the plant. As the scope and scale of the future upgrade is not currently known, an allowance for the upgrade is based on the NSW Reference Rates Manual (Department of Industry), using the forecast load on the plant at that time.

Also noting that certain process units may or may not be able to be retained (subject to refurbishment) as part of the future upgrade, this DSP will only recover 50% of the estimated cost of the upgrade. The future upgrade pathway for BB STP will be informed by the W&S Masterplan which is due to commence in mid 2024.

Commissioning Date	Total Estimated Cost	Comments
2041	\$ 20,034,047	50% of cost estimate for 50,000EP plant.

Reference Rate	Index 2014 values to			
Element	2024/25	1.311		
	Preliminary	Sludge Lagoon		Contingency
Site Works	Treatment	(dewatering)*	IDEA Tanks	(30%)
\$ 1,910,000	\$ 3,700,000	\$ -	\$17,900,000	\$ 7,053,000

*No lagoons required and new dewatering plant already operating

Details are available within the BECA H2O Capacity Assessment document

Gwandalan STP

Augmentation of the existing plant (Stage 1) is proposed in two additional stages. Stage 2 comprises a conversion of the plant into an MLE process including a new inlet works, conversion of an existing reactor and construction of a new clarifier, conversion of a redundant aeration tank to aerobic digester, associated biosolids handling works and effluent pump station upgrades to increase the plants biological and hydraulic capacity. Stage 3 would involve the construction of an additional reactor and clarifier and an additional inlet works to resolve hydraulic capacity and biological capacity issues. Stage 3 is yet to be costed and its timing will be informed by the W&S Masterplan which is due to commence in mid 2024.

Stage	Commissioning Date	Cost	Comments
2	2026	\$ 37,976,911	Portion of upgrade cost estimate attributable to capacity upgrade based on

Details are available within the AECOM options and concept design reports

Appendix D

Developer Strategies Included in 2024 Northern Region DSP

MEMO - Summary of developer servicing strategy documents for water and sewer in Northern Region Development Servicing Plan Area

Background

To support the development of the 2024 Development Servicing Plans (DSP, this summary document is provided to give an overview of proposed major development activities as described in recent developer initiated water and wastewater servicing strategies and associated DSP funded capital works required to service these developments.

Development Summary

1. Wadalba East Land Owners Group (WELOG) Development

Proposed WELOG development south of Johns Rd, Wadalba consists of 67ha of developable land with multiple owner interest. A developer servicing strategy (ADW Johnson, June 2017) proposed the following lot yield and staging plan as shown in Table 1 and Figure 1, respectively. Proposal was to progress with a development front moving east to west to work within the constraints of existing water and sewer services. Proposed water and sewer assets to service the development are shown in Figures 2 and 3, respectively. This consists of approximately 2km each of water and sewer main and three additional sewer pumping stations.

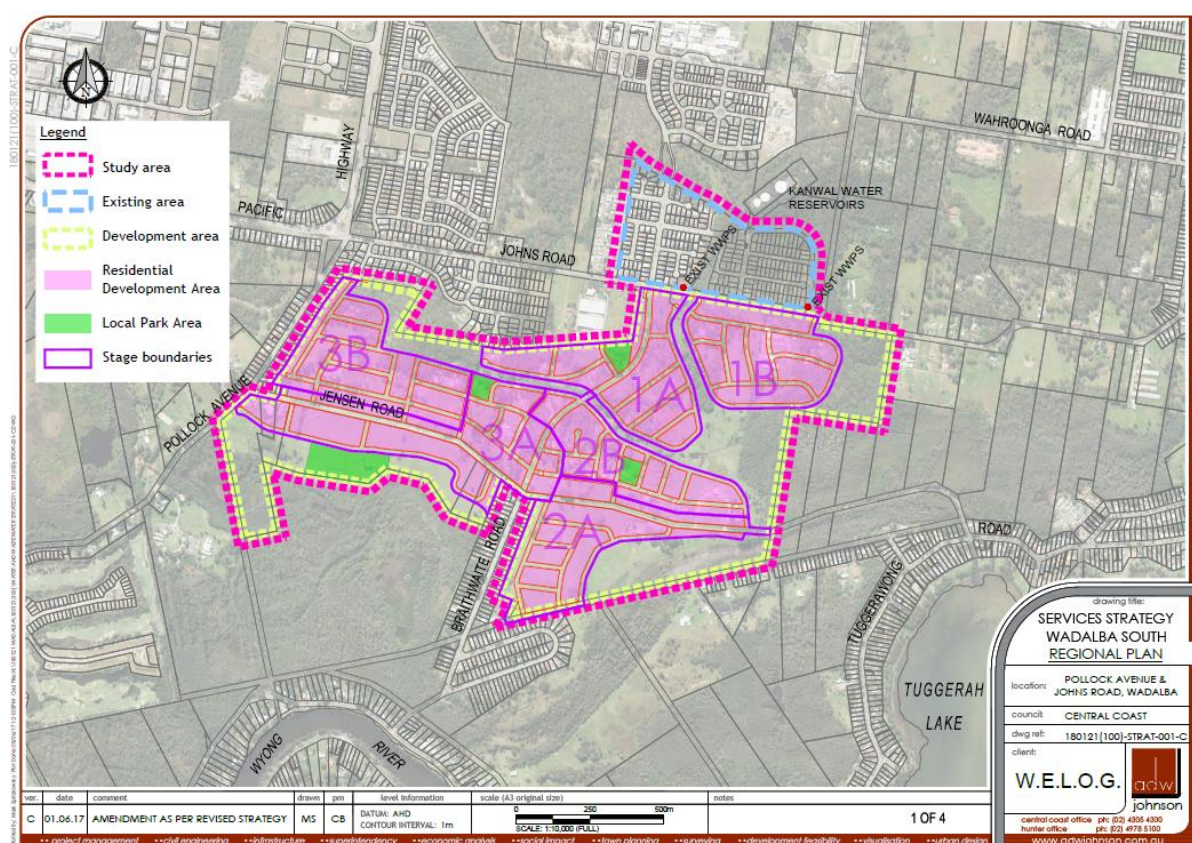


Figure 1 – WELOG Development Staging Plan

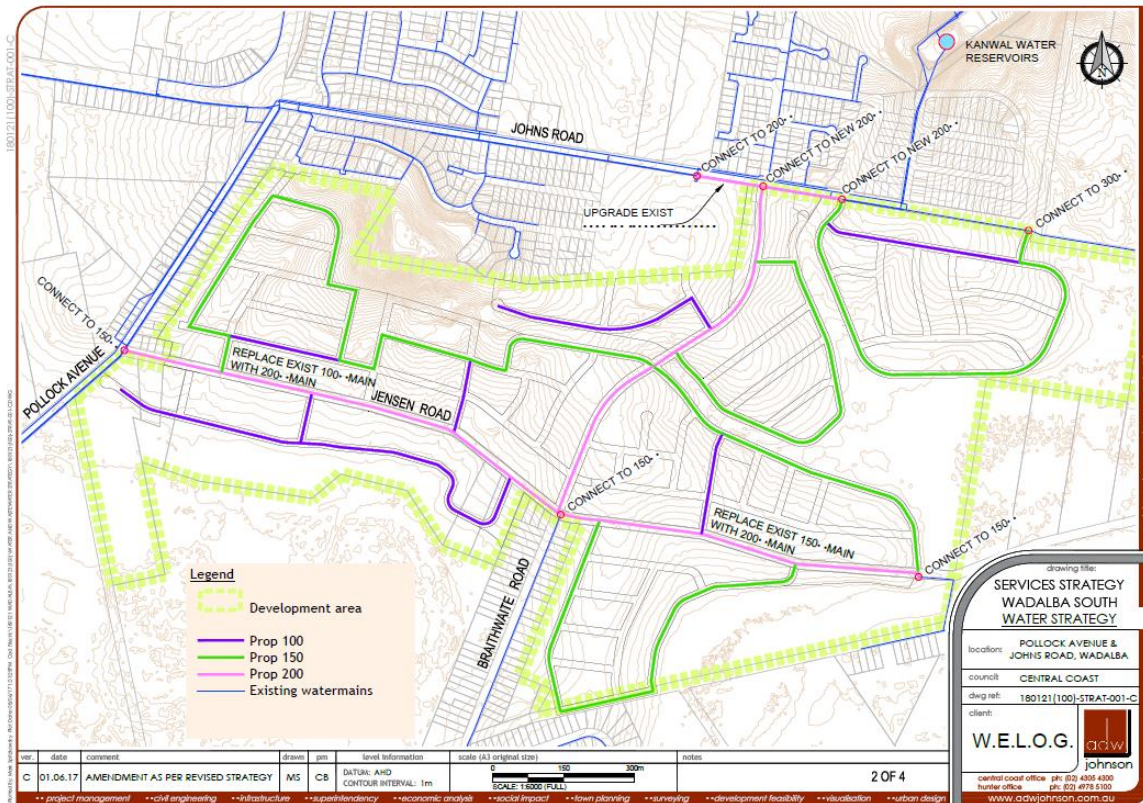


Figure 2 –

WELOG Development New Water Assets

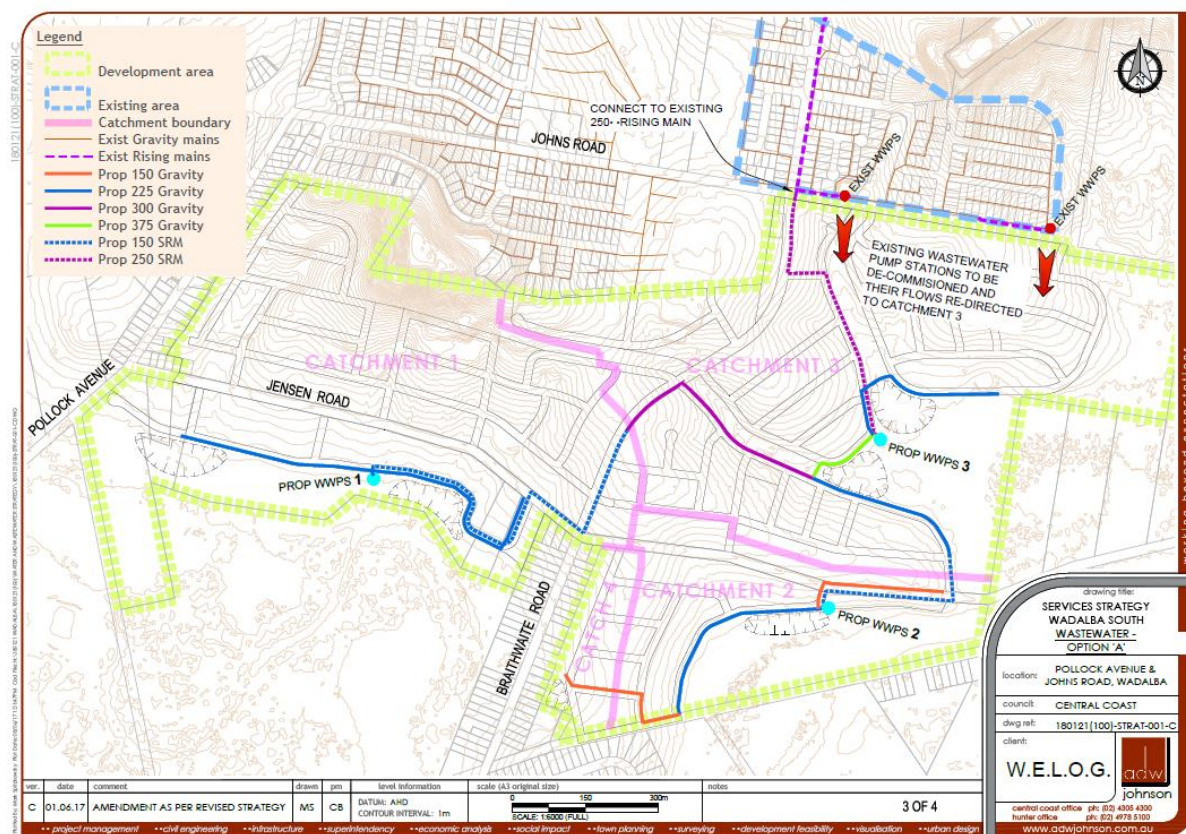


Figure 3

– WELOG Development New Sewer Assets (Preferred Option A)

Proposed DALC Lake Munmorah development is for a 62Ha development north of the Pacific Highway and intersection of Chain Valley Bay Rd with total lot yield of 544 ET (ADW Johnson, April 2018). While no staging plan has been proposed it was deemed not to be a high priority due to the simplicity of servicing. Detail on preferred water and sewer servicing options is presented in Figures 4 and 5 respectively. Proposal for water is for a secondary spline of the main trunk line to provide some added security of supply. Preferred sewer servicing (Option 2D) is for one regional sewer pumping station discharging directly to Mannering Park STP.



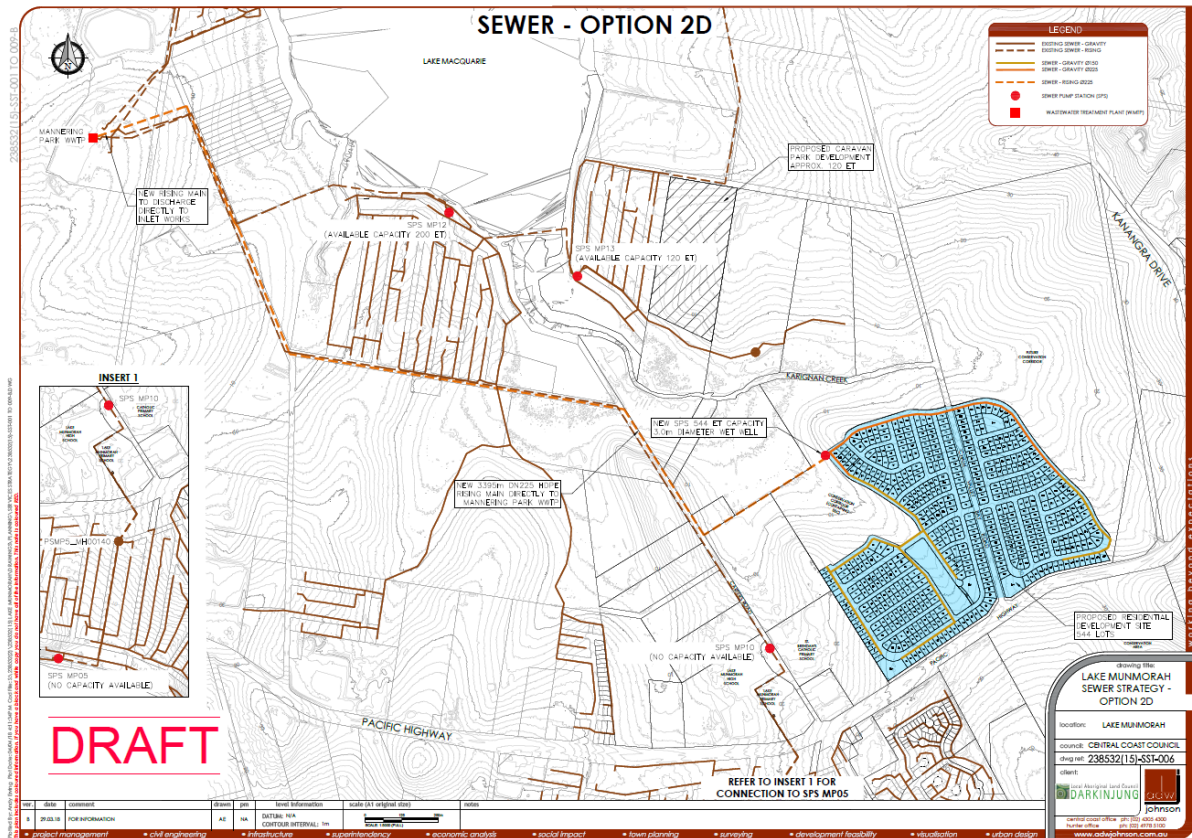


Figure 5

– DALC Lake Munmorah Development New Sewer Assets (Preferred Option 2D)

3. DALC Development Bushells Ridge

Proposed DALC Bushells Ridge development is for a mixed land use development over 3 stages with Stages 1 and 3 comprising industrial and Stage 2 as residential (ADW Johnson, Dec 2017). A summary of lot yield and Staging plan are shown in Table 2 and Figure 6 respectively. Detail on preferred water and sewer servicing options is presented in Figures 7 and 8 respectively. Proposal for water is for a new 3 to 8ML reservoir at Bushells Ridge and ring of trunk water main assets connecting up the three stages including an additional development on Hunter Lands and option to connect four Council owned sites. Preferred sewer servicing (Option 2D) is for two regional pumping stations discharging directly to Charmhaven STP to service Stage 1 and 3. The Stage 2 residential development will be serviced by a gravity network and small pumping station.

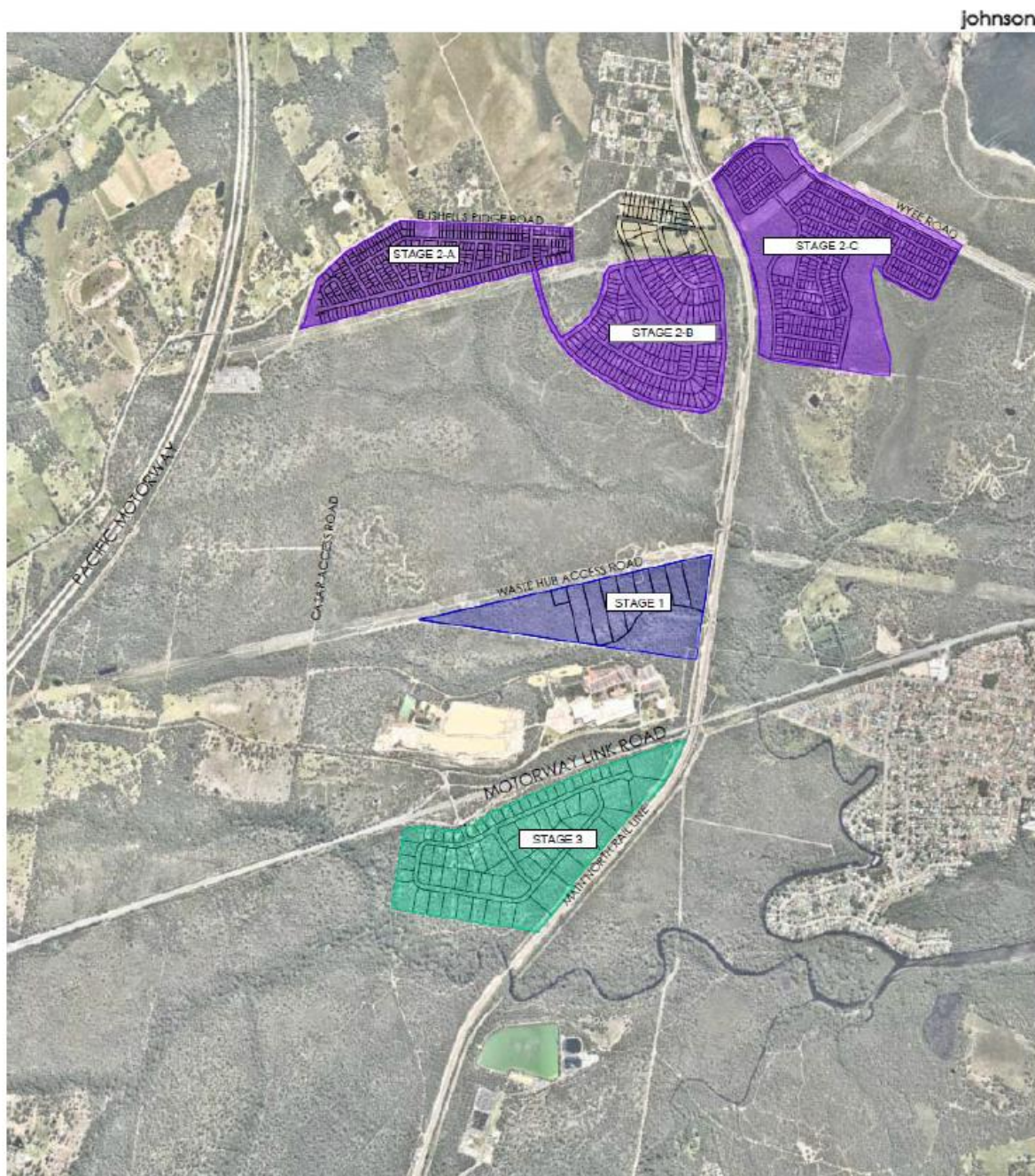


Figure 1.1 – Proposed Development Site

Figure 6

– DALC Bushells Ridge Development Staging Plan

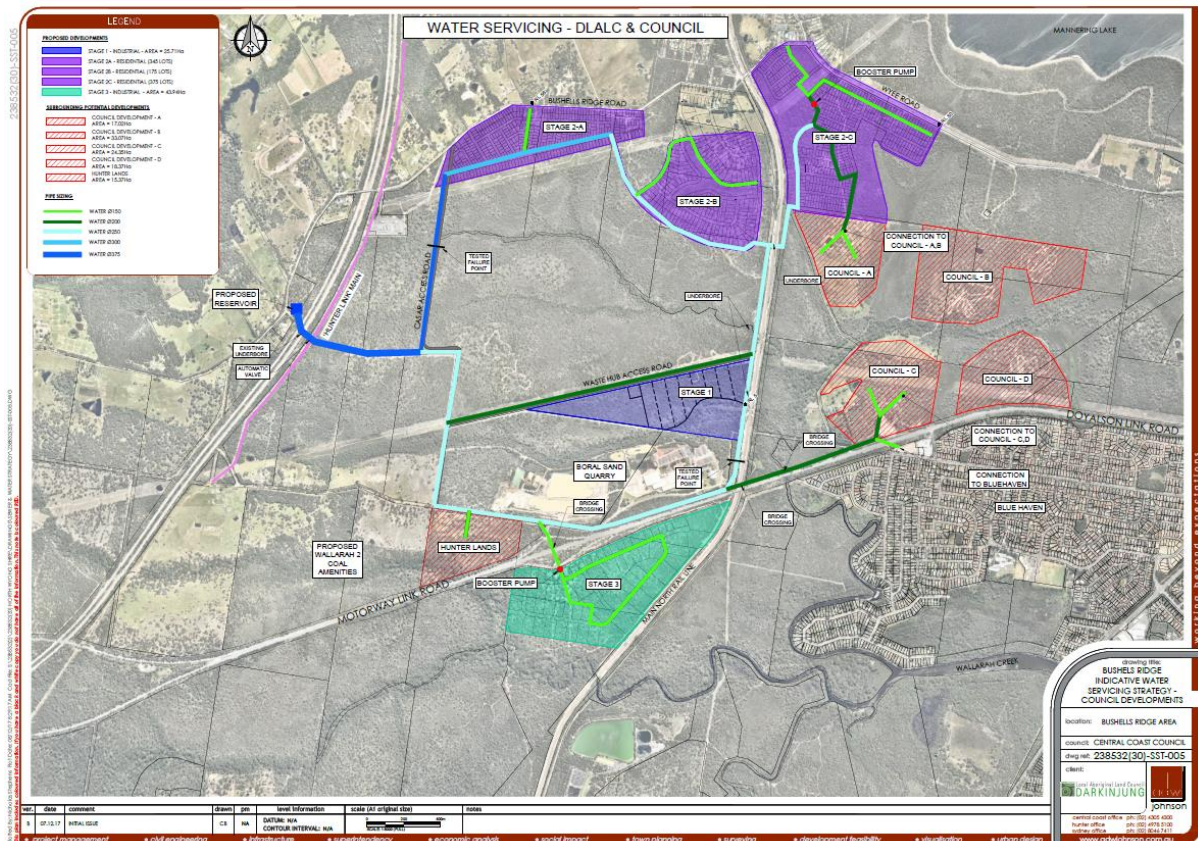
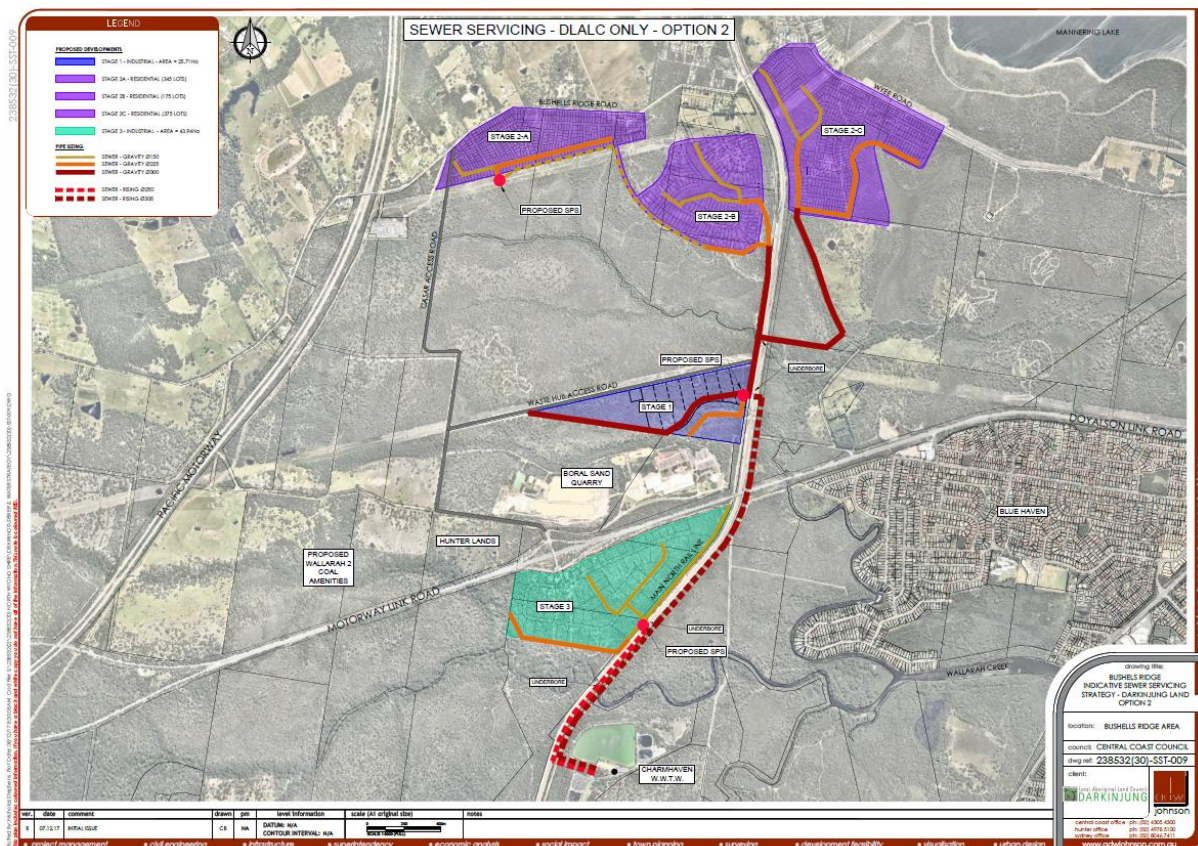


Figure 7 – DALC Bushells Ridge Development New Water Assets

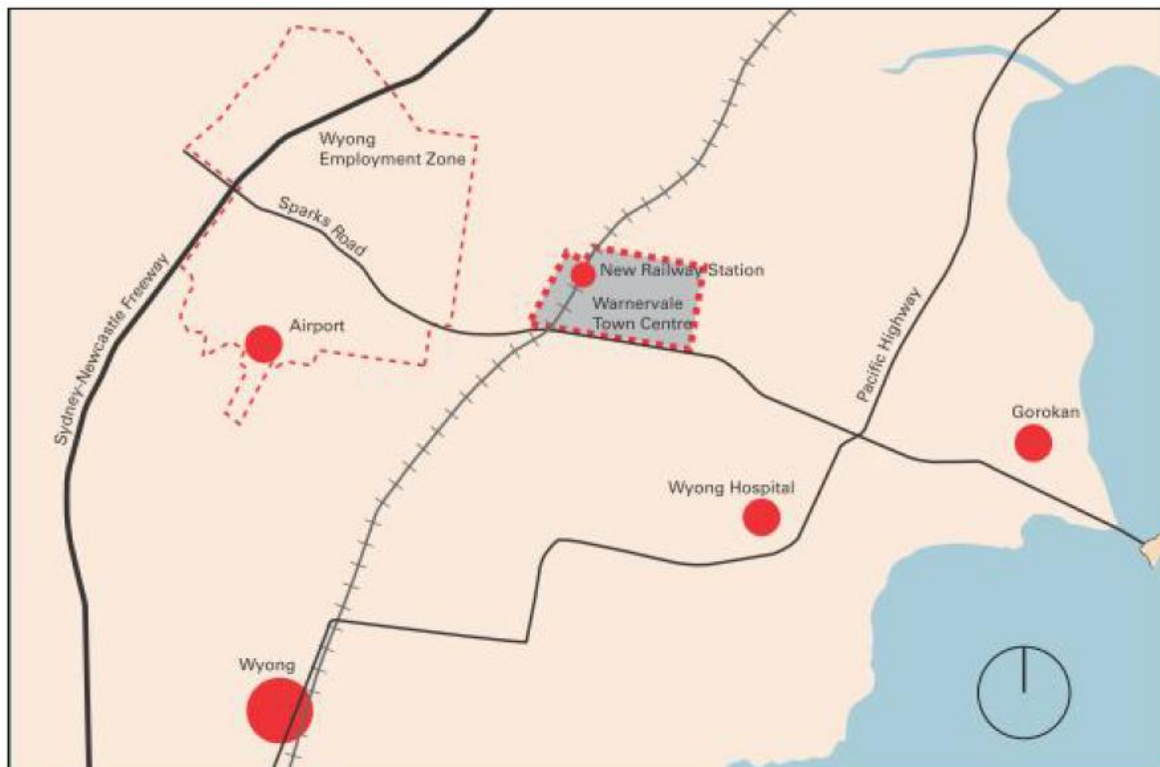


Figure

8 – DALC Bushells Ridge Development New Sewer Assets (Preferred Option 2)

4. Greater Warnervale Structural Plan

The Warnervale Town Centre (WTC) is a 119ha development with estimated yield of 6000 ET as residential. In addition to the residential yield it is estimated that an additional 40,000 residents will be serviced through diverse community facilities, retail, and commercial and a public transport hub and adjacent Wyong Employment Zone (WEZ). A locality plan of the WTC and WEZ is shown in Figure 10. Detail on preferred water and sewer servicing options is presented in Figures 11 and 12 respectively. Proposal for water is for a new 9km long Mardi to Warnervale Pipeline. Preferred sewer servicing is for three pumping stations (SPS CH35, CH36, CH37) and network of trunk and gravity sewer mains.



Source: Warnervale Town Centre Development Control Plan 2012, NSW Department of Infrastructure and Planning

Figure 10 – Warnervale Town Centre (WTC) and Wyong Employment Zone (WEZ) Locality

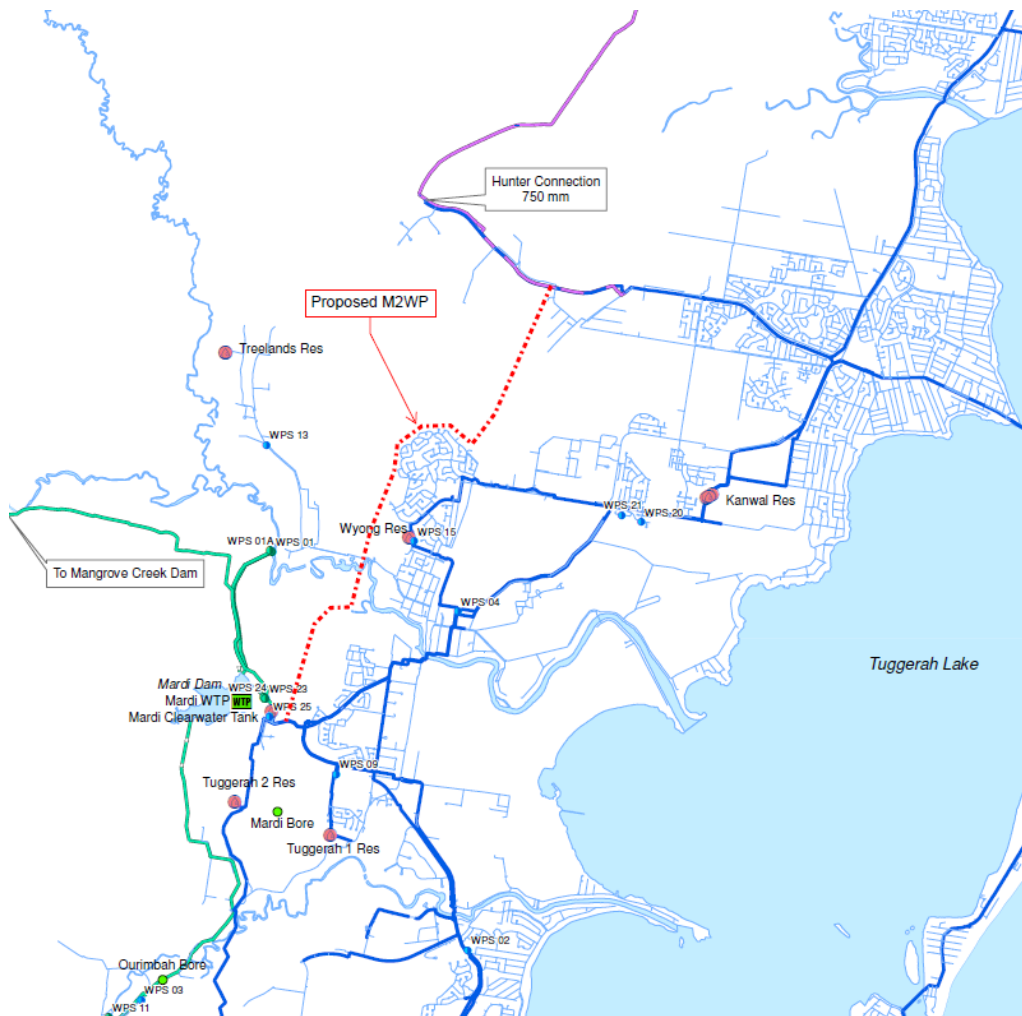


Figure 11 – WTC and WEZ Water Servicing through Mardi to Warnervale Pipeline

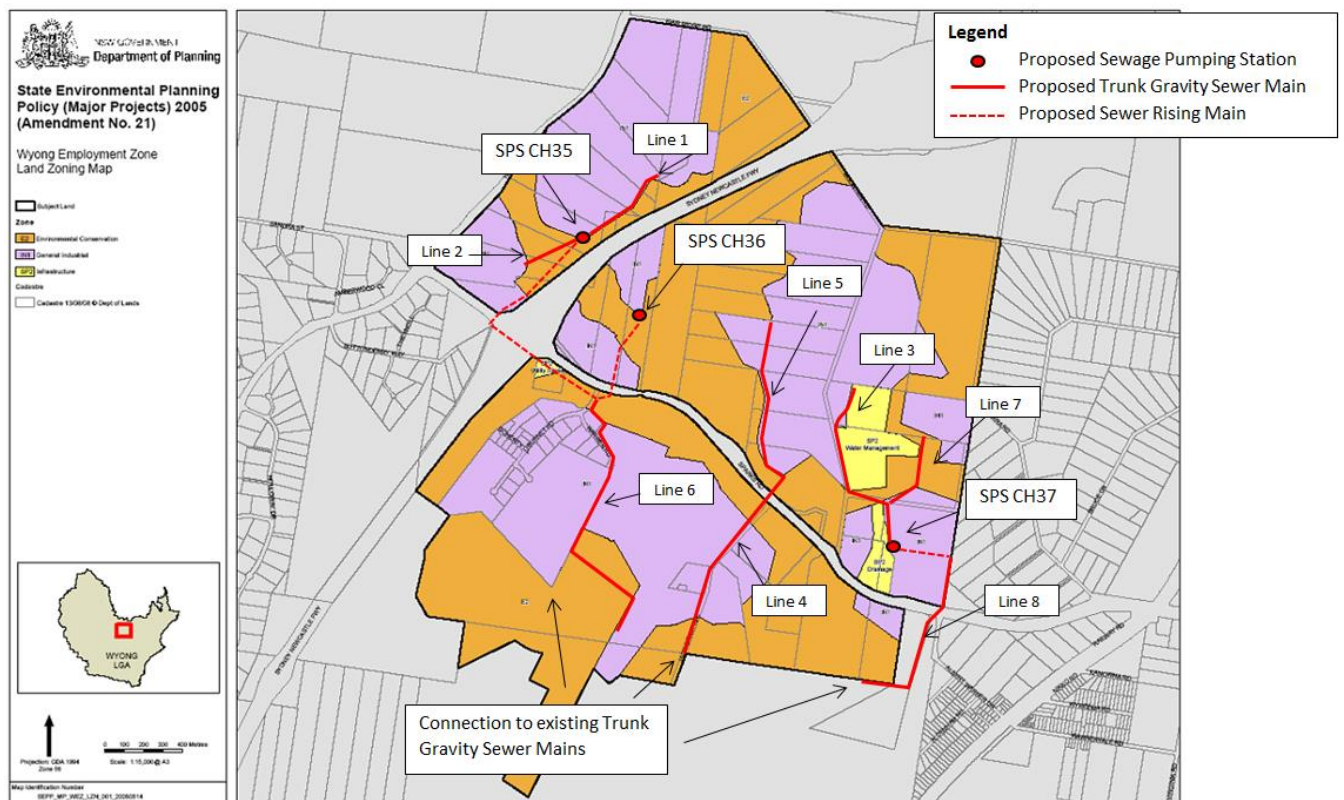


Figure 12 – WTC and WEZ Water Sewer Servicing Strategy

References:

1. Water and Wastewater Servicing Strategy, Wadalba South Development Area, Wadalba East Land Owners Group (WELOG), ADW Johnson, June 2017, Revision C (TRIM: D12836485)
2. Water and Wastewater Servicing Strategy, Pacific Highway Lake Munmorah, Darkinjung Local Aboriginal Land Council, ADW Johnson, April 2018 (TRIM: D13200523)
3. Water and Wastewater Servicing Strategy, Bushells Ridge, Darkinjung Local Aboriginal Land Council, ADW Johnson, December 2017 (TRIM: D13201953)
4. Greater Warnervale Structural Plan, Central Coast Council Internal Memo, November 2018, (TRIM: D13593828)

Appendix E
Central Coast Council Equivalent Tenement Calculation Matrix

Water and Sewer Loading Calculation - ET Assessment for Developer Charges - Central Coast Council - 2024 DSP

Category	ET Per Unit	Description	Examples
Land Subdivision			
Subdivision (all land use excluding large lot residential)	1 per lot	Land serviced with water supply and/or sewerage	Includes residential, commercial, industrial etc.
Large lot Residential Subdivision (where lot size is greater 2,000m2)	1.2 ET/lot for Water 1 ET/lot for Sewerage	Large lot residential subdivision where increased water consumption is common.	Rural residential development
Residential Accommodation			
Residential habitable multi-dwelling properties & tourist development			
1 Bedroom	0.5	Multi dwelling residential development subject to assessment of proposed number of bedrooms.	Secondary dwellings, dual occupancies, unit development etc. Any dwelling meeting definition of a habitable dwelling. Studio in line with Council DCP will not trigger any charge.
2 Bedroom	0.75		
3 or more Bedrooms	1		
Commercial Accommodation			
Caravan Park-Short Term Site	0.5	Caravan/camp site with shared laundry and camp kitchen	
Caravan Park-Long Term Site	0.75	Permanent occupation site with shared laundry and camp kitchen	
Hostel Bed	0.15/bed	Hostel style accommodation with communal bathrooms, kitchens etc.	Backpackers, some boarding houses (dependant on fixtures arrangements), Youth Hostels
Hotel style accommodation	0.3/room	Hotel/Motel/Inn - Short term occupation	Hotels, motels, some boarding houses (dependant on fixtures arrangements)
Hospital Bed	1/bed	Health care facilities where patients are treated on a short-medium term basis with various support services provided.	Public/private hospitals
Nursing Home	0.4/bed	Residential care facilities where occupants receive aged care or disability support but share kitchen/dining facilities	Nursing homes (various levels of care), Aged care facilities, Disability Group Home
Seniors living development	as per residential multi dwelling	Self contained sites in a multi dwelling setting	
Commercial			
Shops/offices	0.005/sq m	General commercial/business development (excludes home offices within existing residential dwellings)	Hairdresser, Beauty Salon, Offices, Retail shops
Shopping Centre Complex	0.001/sq m	Large scale commercial/business development	Westfield, Erina Fair, Woolworths
Bulky Goods	0.001/sq.m	Commercial premises utilised for the storage and sale of bulky goods, typically large floor areas.	Bunnings, Good Guys, Domayne
Café	0.005/sq.m	A premise used for the preparation or service of light food and coffee to the public	Coffee Shops, Cafes
Food Premises	0.01/sq.m	A premise used for the preparation or service of food product to the public.	Take away food, Restaurant
High Volume Food Premises	0.03/sq.m	A high volume premise used for the preparation or service of food products to the public	McDonalds, KFC , Hungry Jacks
Nursery	based on forecast water demand or meter size		Commercial nurseries
Showroom/Car yard	office rate for office area + bulky goods for showroom area		Car Dealership
Car wash	based on water consumption	Car wash sites with varying levels of onsite water recycling	Car Lovers Car Wash
Licensed Club, Tavern	0.04/Per occupant	Licensed premises with number of occupants based on liquor licence. Floor area associated with internal restaurants/cafes to be assessed in line with food premises provisions.	Licensed Club Pub
Medical Centre/Practice/Vet	0.4/practice room	Includes consulting rooms, imaging rooms etc.	
Service Station	0.75/no. of lanes		
Laundromat	0.6/machine		
Stables	140	Per built up hectare when serviced with water and/or sewerage	
Industrial			
Warehousing	0.0005/sq.m	Industrial development utilised for bulk storage and warehousing in which manufacturing is not undertaken. Water shall not be utilised for operational purposes except for provision of staff amenities. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Bulk storage Warehousing
Dry Manufacturing / Medium Industrial	0.001/sq.m	Industrial development in which minimal water consumption may be intermittently utilised within the manufacturing or operational process. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Dry Manufacturing Dry assembly Metal work Mechanical workshops Carpentry and joinery
Heavy Industrial	Water requirements and sewage generation	Industrial development in which water consumption forms an integral function within the manufacturing or operational process. Details on water demand and sewage loads must be provided on application. Office and administration service areas are calculated separately where the office area exceeds 10% of the total building area.	Concrete plants Food processing Breweries Depots for dirty industry, eg Ausgrid depots with bath house
Public Services/ Amenities			
School	0.04/per pupil-staff	Both headworks and distribution components apply	Child Care, Pre School, Day Care Centre
Marina	0.16/berth	per berth	Assumes water supply and sewage pump out facilities are made available.
	0.75/berth	only for permanent residence	
Swimming Pools	20/2,500m3 Olympic pool	Proposed pool scaled against an Olympic pool. Amenities calculated separately.	Swimming Pool
Halls/Auditoriums/Theatres/Recreation	0.5/per w.c, urinal	Public/private recreation and entertainment areas	Bowling alleys, cinemas, gyms, dance halls, squash courts, public halls, places of worship.
Amenities	0.5/per w.c, urinal	Public amenities. Charges will not be levied for amenities provided by not-for-profit community groups (non-government), at public assets.	Sports amenities Public amenities

Appendix F

Valuation of Existing and Proposed Assets

2024 DSP Unit Rates Water Mains	
Diameter (mm)	Unit Rate (\$/m) 2024 Capital Cost Factor
150	\$ 419
200	\$ 477
250	\$ 571
300	\$ 667
375	\$ 783
450	\$ 965
500	\$ 1,097
525	\$ 1,163
600	\$ 1,345
650	\$ 1,424
750	\$ 1,741
825	\$ 1,865
1050	\$ 2,297

2024 DSP Unit Rates	Diameter (mm)	Minimum Depth (\$/m)	Depth 1.5-3m (\$/m)	Depth 3-4.5m (\$/m)	Depth > 4.5m (\$/m)
Trunk Mains	225	\$499	\$617	\$782	\$954
	300	\$676	\$779	\$983	\$1,138
	375	\$865	\$1,012	\$1,181	\$1,349
	450	\$1,093	\$1,230	\$1,416	\$1,570
	525	\$1,318	\$1,318	\$1,647	\$1,819
	600	\$1,526	\$1,659	\$1,878	\$2,039
	750	\$1,335	\$2,191	\$2,341	\$2,502

2024 DSP Unit Rates	Diameter (mm)	Rate per \$/m
Rising Mains	100	\$445
	150	\$511
	200	\$554
	225	\$579
	250	\$620
	300	\$708
	375	\$863
	450	\$1,017
	600	\$1,779

Pumping Station Cost Curve- 2024 DSP (\$24/25)



Appendix G
Northern Region Developer Charges Calculation Sheet

NORTHERN REGION WATER SUPPLY

CALCULATION OF MAXIMUM PRICE

Index	
Table 1: Calculation of maximum price (\$, \$2024-25)	Row 17
Table 2: Key variables used in maximum price calculation (\$, \$2024-25)	26
Table 3: Annual calculation over analysis horizon (\$, \$2024-25)	35

Table 1: Calculation of maximum price (\$, \$2024-25)

Maximum price	Costs to be recovered via DSP	Headworks costs	Scheme cost	Pre-1996 assets	Post-1996 commissioned assets	Post-1996 uncommissioned assets	Reduction for expected revenue and operation costs
		per ET	allocation per ET				
	ETs			319,108,074	85,021,456	91,303,651	110,769,714
	Value per ET	0.00	0.00	4,594	1,313	1,410	3,165

Table 2: Key variables used in maximum price calculation (\$, \$2024-25)

Sum of new ETs (not discounted)	Sum of PV of new ETs (discounted at pre-1996 asset discount rate)	Sum of PV of new ETs (discounted at post-1996 asset discount rate)	Sum of PV of new ETs (discounted at expected revenue and costs discount rate)	Sum of PV of Pre-1996 commissioned assets (discounted at pre-1996 asset discount rate)	Sum of PV of Post-1996 commissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of Post-1996 uncommissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of revenue for new customers (discounted at expected future revenue and costs discount rate)	Sum of PV of costs for new ETs (discounted at expected future revenue and costs discount rate)
69,457,496	69,457	64,777	34,998	319,108,074	85,021,456	91,303,651	240,969,288	130,199,574

NORTHERN REGION SEWERAGE – WONGA POINT CATCHMENT

CALCULATION OF MAXIMUM PRICE

Index

		Row
1	Table 1: Calculation of maximum price (\$, \$2024-25)	17
2	Table 2: Key variables used in maximum price calculation (\$, \$2024-25)	26
3	Table 3: Annual calculation over analysis horizon (\$, \$2024-25)	35

Table 1: Calculation of maximum price (\$, \$2024-25)

Maximum price	Costs to be recovered via DSP	Headworks costs	Scheme cost	Pre-1996 assets	Post-1996 commissioned assets	Post-1996 uncommissioned assets	Reduction for expected revenue and operation costs
		per ET	allocation per ET				
				42,636,741	14,048,129	7,368,199	10,955,715
	ETs			10,321	11,300	11,300	3,740
3,097	Value per ET	0.00	0.00	4,131	1,243	652	2,929

Table 2: Key variables used in maximum price calculation (\$, \$2024-25)

Sum of new ETs (not discounted)				Sum of PV of Pre-1996 commissioned assets (discounted at pre-1996 asset discount rate)	Sum of PV of Post-1996 commissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of Post-1996 uncommissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of revenue for new customers (discounted at expected future revenue and costs discount rate)	Sum of PV of costs for new ETs (discounted at expected future revenue and costs discount rate)
Sum of PV of new ETs (discounted at pre-1996 asset discount rate)	Sum of PV of new ETs (discounted at post-1996 asset discount rate)	Sum of PV of new ETs (discounted at expected revenue and costs discount rate)						
10,320,894	10,321	11,300	3,740	42,636,741	14,048,129	7,368,199	23,998,209	13,042,493

NORTHERN REGION SEWERAGE – NORAH HEAD CATCHMENT

CALCULATION OF MAXIMUM PRICE

Index		Row
1	Table 1: Calculation of maximum price (\$, \$2024-25)	17
2	Table 2: Key variables used in maximum price calculation (\$, \$2024-25)	26
3	Table 3: Annual calculation over analysis horizon (\$, \$2024-25)	35

Table 1: Calculation of maximum price (\$, \$2024-25)

Maximum price	Costs to be recovered via DSP	Headworks costs	Scheme cost	Pre-1996 assets	Post-1996 commissioned assets	Post-1996 uncommissioned assets	Reduction for expected revenue and operation costs
		per ET	allocation per ET				
				319,108,074	85,021,456	91,303,651	110,769,714
	ETs			69,457	64,777	64,777	34,998
4,151	Value per ET	0.00	0.00	4,594	1,313	1,410	3,165

Table 2: Key variables used in maximum price calculation (\$, \$2024-25)

Sum of new ETs (not discounted)	Sum of PV of new ETs (discounted at pre-1996 asset discount rate)	Sum of PV of new ETs (discounted at post-1996 asset discount rate)	Sum of PV of new ETs (discounted at expected revenue and costs discount rate)	Sum of PV of Pre-1996 commissioned assets (discounted at pre-1996 asset discount rate)	Sum of PV of Post-1996 commissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of Post-1996 uncommissioned assets (discounted at post-1996 asset discount rate)	Sum of PV of revenue for new customers (discounted at expected future revenue and costs discount rate)	Sum of PV of costs for new ETs (discounted at expected future revenue and costs discount rate)
69,457,496	69,457	64,777	34,998	319,108,074	85,021,456	91,303,651	240,969,288	130,199,574