

Moreton Bay Regional Council – Caboolture Shire

Planning Scheme Policy

PSP 21D - Trunk Infrastructure Contributions - Sewerage

Moreton Bay Regional Council – Caboolture Shire

PSP21D Trunk Infrastructure Contributions – Sewerage

ADOPTION

Moreton Bay Regional Council adopted this planning scheme policy on 8 September 2009.

COMMENCEMENT

This planning scheme policy took effect from 29 October 2009.

This document contains the corrections identified in the "Planning Scheme Policies List of Corrections" document, and reflects the directive by the CEO to implement those corrections. The adopted version of the PSPs and the "Planning Scheme Policies List of Corrections" document can be accessed at Council's webpage.

I, Daryl Hitzman, A/Chief Executive Officer, of the Moreton Bay Regional Council, hereby certify that this document is a true copy of the original.



Daryl Hitzman
A/Chief Executive Officer

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PSP21D – TRUNK INFRASTRUCTURE CONTRIBUTIONS – SEWERAGE

Head of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

Objective

The objective of this policy is to apportion the cost of Sewerage Trunk Infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of Sewerage Trunk Infrastructure works between Council and developers of land in the former Caboolture Shire.

Definitions / Application

Application

This policy applies to all applications for development which has been made assessable against the *Caboolture ShirePlan* and which will utilise any part of the Sewerage Trunk Infrastructure Network. For the purposes of this policy, the extent of the Sewerage Trunk Infrastructure Network within the former Caboolture Shire is shown in Schedule D.

The policy outlines the basis of Council's Infrastructure Contributions Regime for the Sewerage Trunk Infrastructure Network in the former Caboolture Shire. It is to be read in conjunction with Planning Scheme Policy PSP21G on Trunk Infrastructure Contributions – Administration Policy.

Payment of any monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk works or to connect the development to trunk infrastructure. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

Definitions

The definitions of applicable terms are contained in PSP21G Trunk Infrastructure Contributions – Administration Policy. Where a term used in this policy is not defined in PSP21G, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Caboolture ShirePlan* or in the *Integrated Planning Act 1997*.

Policy Statement

1 Scope

This policy sets out the basis for determining the amount of Development Contributions for Sewerage Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Caboolture Shire which will utilise Sewerage Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP21G Trunk Infrastructure Contributions – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Sewerage Trunk Infrastructure within Council's Designated Infrastructure Service Area (DISA);
- lists the land use, density and demand assumptions made for predicting demand and planning the Sewerage Trunk Infrastructure Network;
- specifies the works, structures or equipment, which the Council determines to be Sewerage Trunk Infrastructure;
- establishes the estimated cost of construction and any required augmentation of the Sewerage Trunk Infrastructure Network in respect of which contributions are to be made; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.

2 Background Information

The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the following reports:

- (1) GHD, "CabWater, Infrastructure Charges Schedule – Background Report – Water Supply and Sewerage", May 2008;
- (2) GHD, "CabWater, Infrastructure Charges Schedule – Sewerage", June 2008;
- (3) GHD, "CabWater, Report for Trunk Infrastructure Planning –Sewerage", June 2008; and
- (4) 15 year capital works program - internal minute to Moreton Bay Regional Council Financial Department, 23 December 2008.

3 Sewerage Methodology

3.1 Methodology

The methodology used for determining the rate of Infrastructure Contributions for Trunk Water Supply under this policy is based upon the approach set out in the Department of Local Government and Planning's IPA Guidelines 1/04 and 2/04 (dated 4th October 2004) and the Standard Infrastructure Charges Schedule Nov 2008.

In summary, Infrastructure Contribution rates for the Sewerage Trunk Infrastructure Network have been derived in the following manner:-

- (a) determine the service catchments for Trunk Infrastructure Delivery;
- (b) estimate the amount of new development and resulting demand on the network within each service catchment;
- (c) determine the Trunk Infrastructure likely to be needed to service the development or planned / ultimate population within the service catchment to deliver the Desired Standard of Service (DSS) outlined in Schedule E of this policy. (Where Sewerage trunk infrastructure is shared between service catchments, the cost of these infrastructure components has been apportioned in proportion to the relative demands.);
- (d) determine the current replacement costs for existing Trunk Infrastructure in base year dollars, and the future establishment costs for future Trunk Infrastructure in net present values in the base year for each service catchment; and
- (e) derive the applicable Infrastructure Contribution Rates by dividing the total network costs in net present values by the total discounted 'ultimate' demand on the network in the service catchment, thereby producing a rate per selected demand unit.

The contribution rate, for each particular service catchment, was determined by applying the formula:-

$$CR_{\text{Catchment}} = (\text{Asset Values})/(\text{Demand})$$

Where:-

$CR_{\text{Catchment}}$	=	Contribution Rate for an individual service catchment (expressed in \$/EPS)
Asset Values	=	Value of Catchment's Assets (\$)
	=	$\Sigma(\text{Current Replacement Cost of Existing assets at 01-01-2009} \times \text{proportion of the asset utilised by the service catchment}) + \Sigma(\text{net present value at 01-01-2009 of future assets} \times \text{proportion of the asset utilised by the service catchment})$
Demand	=	$\Sigma(\text{Existing Demand in the service catchment at 01-01-2009}) + (\text{Net Present Value at 01-01-2009 of the Future Demand to 2023})$ (expressed in EPS)

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community) and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the sewerage trunk infrastructure network planned to be consumed by that entity's development proposal.

3.2 Sewerage Service Catchments

In general, Council provides sewerage services to residential A and B properties and to industrial and commercial land uses within the DISA. It does not generally supply rural residential and rural properties, however some properties adjacent to existing sewer mains have been connected. Rural, rural residential and other areas remote from the treatment plants generally have on-site sewage disposal systems.

Infrastructure contribution rates for the Sewerage Network have been calculated for that part of the former Caboolture Shire planned to be serviced with reticulated Sewerage.

Caboolture Shire has been broken down into four service catchments based on the Sewerage Treatment Plant (STP) catchments listed in table 3.2A:

Table 3.2A – Sewerage Service Catchments

Service Catchments
Bribie Island
Burpengary East
South Caboolture
Woodford

The location and extent of the service catchments are shown on the maps contained in Schedule C.

3.3 Sewerage Demand Assumptions

Residential and non-residential demand on the sewerage network is expressed in "Equivalent Persons, sewerage" (EPS) in order to adopt a uniform measure of sewerage demand. One "Equivalent Person Sewerage" (EPS) is the average quantity of sewage generated by a typical person in a residential setting over the long term by toilet use, cooking, bathing, washing and cleaning, and all other associated activities as well as allowances for infiltration into the reticulation that occurs in transporting the sewage to the treatment plant. The projected serviced Equivalent Population for the former Caboolture Shire is summarised in Table 3.3 B and represents the product of the number of development units at the 2023 planning horizon and the relevant demand generation rate.

The Demand Projections, Capacity Planning and Infrastructure Contribution Rates developed for the Sewerage Network are expressed in the Standard Demand Units of 'Equivalent Person (Sewerage)' (EPS). Tables 3.3B summarise the projections for the Sewerage service area, derived using the demand assumptions shown in Table 3.3A and the development intent expressed in *Caboolture ShirePlan*.

Table 3.3A - Sewerage Demand Assumptions in Residential and Non-Residential Areas

Zone by Catchment	Assumption
Bribie Island - Residential	
Residential A - lot area >1000m ²	2.7 EPS/Lot
Residential A - lot area 501m ² – 1000m ²	2.5 EPS /Lot
Residential A - lot area <501m ²	2.0 EPS /Lot
Residential B	67 EPS /ha
Burpengary East- Residential	
Residential A - lot area >1000m ²	3.3 EPS /Lot
Residential A - lot area 501m ² – 1000m ²	3.0 EPS /Lot
Residential A - lot area <501m ²	2.4 EPS /Lot
Residential B	67 EPS /ha
South Caboolture - Residential	
Residential A - lot area >1000m ²	3.3 EPS /Lot
Residential A - lot area 501m ² – 1000m ²	3.0 EPS /Lot
Residential A - lot area <501m ²	2.4 EPS /Lot
Residential B	67 EPS /ha
Woodford - Residential	
Residential A - lot area >1000m ²	3.1 EPS /Lot

Zone by Catchment	Assumption
Residential A - lot area 501m ² – 1000m ²	2.8 EPS /Lot
Residential A - lot area <501m ²	2.25 EPS /Lot
Residential B	67 EPS /ha
All Catchments- Non-Residential	
Metropolitan Centre	30 EPS /ha
District Centre	30 EPS /ha
Local Centre	10 EPS /ha
Regional Industry	30 EPS /ha
District Industry	60 EPS /ha
Local Industry	15 EPS /ha
Special Use	10 EPS /ha
Open Space	N/A
Management lot	3.4 EPS /Lot

Projected Sewerage Demand

Projected ultimate demand for the sewerage trunk network is shown in Table 3.3B. To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand indexed for anticipated fluctuations in construction costs (generally increases) and discounted for cost of capital, resulting in NPV Demand.

Table 3.3B –Demand in EPSs by Sewerage Service Catchment¹

Service Catchment	2023 EPSs	Total NPV Demand in 2023 EPSs
Bribie Island	28,149	27,706
Burpengary East	59,502	56,712
South Caboolture	84,775	79,786
Woodford	3041	2,801
	175,467	167,005

3.4 Approach to Determination of Infrastructure Requirements

Treatment Plants

Outlined below is a list of the four major treatment plants that Council currently operates in the former Caboolture Shire:

- The South Caboolture STP services the Caboolture and Morayfield areas and has a capacity of about 40,000 EPS. Council has commissioned a planning study to examine increasing its capacity to 60,000 EPS.
- The Burpengary East STP caters for the Burpengary, Narangba and Deception Bay areas and has a capacity of 36,000 EPS. Council plans to increase its capacity to 50,000 EPS.
- The Bribie Island STP services Bribie Island, Sandstone Point and Ningi and has a capacity of 29,000 EPS.
- The Woodford STP services Woodford and D’Aguilar and has a capacity of 2000 EPS. Council plans to increase its capacity to 3000 EPS.

¹ Differences between the total value and the sum of the column can occur due to values being displayed without cents. Background calculations including cents are correct.

The existing sewage treatment plant capacities are summarised in Table 3.4A.

Table 3.4A - Existing Sewerage Treatment Plants (STP)

Name	Treatment Capacity (ML/day)	Treatment Capacity (EPS)
South Caboolture STP	9.0	40,000
Burpengary East STP	10.0	36,000
Bribie Island STP	7.3	29,000
Woodford STP	0.4	2,000

The ability of the existing treatment plants to cater for future load has been assessed based on the projected volumes and the capacities presented above. No consideration has been given to upgrading treatment quality or future licensing requirements.

Trunk Collection System

Maps in Schedule D show the existing sewerage network.

Each treatment plant services its own catchment independent of other STPs, except for the Burpengary East and South Caboolture STPs. Pump Station BG01 in the Burpengary East STP catchment is able to transfer flows to the South Caboolture STP if required. However, this is only ever done in relatively dry periods when low flows are experienced at South Caboolture STP.

SewerCAD models were prepared for each of the four catchments:-

- South Caboolture STP;
- Burpengary East STP;
- Bribie Island STP; and
- Woodford STP.

The proposed augmentation works required to cater for anticipated future demand are shown in Table 4.3A.

Collection Augmentations

Significant growth is projected around Caboolture, Elimbah and Morayfield. This requires extension of the trunk infrastructure and, specifically, upgrading of the collection system.

Additional growth in the southern parts of Narangba will be transferred to the Deception Bay system and it is proposed to pick up some small industrial areas along the way. While several rising mains in Deception Bay have recently been augmented, it is also proposed to upgrade DB01 and DB09. The main rising main system to the Burpengary East STP will also require upgrading in 2016.

Significant works are underway at Beachmere to cater for future growth and scheduled asset replacements.

The Bribie Island service area will continue to grow while new development in the Ningi and Sandstone Point areas will trigger augmentation of the transfer system to Bribie Island.

The Woodford service area is projected to experience growth with the attachment of new developments to the reticulation. Works include a new rising main from WF10, upgrading of WF02 and new works to service development at Windsor Street.

Works are also underway to service Donnybrook by pumping effluent to Bribie Island STP. The new pump station and rising main will cater for a combination of backlog sewerage works and works required to service anticipated new development.

Council's general policy for each pump station is to have 6 hours of "average dry weather flow" (ADWF) storage to cater for station maintenance and break down. Under these design criteria a number of pump stations were identified as requiring construction of emergency storage facilities.

The schedule of proposed augmentation works is shown in Table 4.3A. The costs shown are final costs after deducting for subsidies and are expressed in 1 January 2009 net present value terms.

4 Sewerage - Plan for Trunk Infrastructure

4.1 Sewerage Trunk Infrastructure Network

The extent of trunk sewerage infrastructure used for developing Council's trunk infrastructure contributions regime is shown on the Network Plans in Schedule D – Network Assets. For this policy, trunk sewerage infrastructure has been broken into two categories, Treatment and Collection systems, and includes those infrastructure components shown below.

Sewerage Treatment

- telemetry
- treatment Plants

Collection System

- gravity sewers (225 and above)
- rising mains (100 and above)
- pump stations
- emergency storage for pump stations
- lift stations
- recycled water reuse main

Construction of common pressure (rising) mains of 60mm diameter and over in a Pressure Sewerage System which are provided for the general benefit of the scheme and not for the specific benefit of individual developments and for the purchase cost of the associated prefabricated sump/grinder pumps that are designed to serve individual households.

The various elements of this Trunk Infrastructure are shown on the maps in Schedule D and are individually tabulated in Section 4.3.

4.2 Sewerage Trunk Infrastructure Valuations

The establishment cost for both the existing and future components of the Sewerage network was derived from the background material listed in Section 2 of this policy and is summarised in Table 4.2A. The amounts shown are expressed in January 2009 dollar values and represent total costs prior to deduction of subsidies.

The construction years for each of the listed elements of future infrastructure have been estimated from projected growth levels. The actual year(s) of construction and the sizing of the infrastructure will depend upon how and when the development fronts progress in Caboolture. The schedule of works is outlined in Table 4.3A and the costs are total costs that have no regard to subsidies. The costs are expressed in net present values current at 01 January 2009.

Table 4.2A - Sewerage Infrastructure Establishment Cost by Service Catchments²

NETWORK COMPONENTS	Bribie	Burpengary	South Caboolture	Woodford	TOTALS
Local Service Catchment-Active-Existing(Jan 2009)	\$44,074,927	\$26,086,896	\$24,456,926	\$759,720	\$95,378,469
Local Service Catchment-Passive-Existing(Jan 2009)	\$18,021,811	\$43,728,135	\$33,650,593	\$2,955,219	\$98,355,758
Local Service Catchment-Future	\$26,081,269	\$67,142,710	\$73,893,378	\$24,413,437	\$191,530,793
TOTAL Local Service Catchment	\$88,178,007	\$136,957,741	\$132,000,897	\$28,128,376	\$385,265,020

² Differences between the total value and the sum of the column can occur due to values being displayed without cents. Background calculations including cents are correct.

4.3 Future Sewerage Plan Infrastructure Plan

Table 4.3A – Future Asset Schedule as at 01 January 2009³

Project ID	Project Name	Anticipated Commencement of Construction	Service Catchment	NPV - 01 Jan 2009
WASTEWATER TREATMENT				
CPIPWW0001	SCSTP Stage 2 Augmentation (\$38,600,000 * 60% = \$23,160,000)	2008	South Caboolture	\$22,822,989
CPIPWW0002	SCSTP Stage 2A Augmentation (Outfall Duplication) (\$3,100,000 * 60% = \$1,860,000)	2009	South Caboolture	\$1,831,250
CPIPWW0003	SCSTP Stage 3 Augmentation (\$7,200,000 * 60% = \$4,320,000)	2014	South Caboolture	\$4,142,953
CPIPWW0004	SCSTP Replace Entrance Road (\$450,000 * 60% = \$270,000)	2008	South Caboolture	\$268,586
CPIPWW0005	BESTP Stage 2 Augmentation (\$44,500,000 * 60% = \$26,700,000)	2008	Burpengary East	\$26,408,894
CPIPWW0006	Woodford STP Stage 2 Augmentation (\$33,600,000 * 60% = \$20,160,000)	2008	Woodford	\$19,879,236
CPIPWW0007	Upgrade Chlorine Dosing System (\$28,507 * 60% = \$17,104)	2008	Woodford	\$17,014
PUMPING STATIONS				
CPIPWW0010	NE Business Park SPS 1(60 l/s @ 28 m)	2009	South Caboolture	\$541,666
CPIPWW0011	CT58 Cotterill Rd PS Design	2008	South Caboolture	\$656,545
CPIPWW0013	MF01 New Pump Station (Duty 300 L/s @ 20 m)	2008	South Caboolture	\$5,691,111
CPIPWW0014	Dobson Lane SPS (Duty 15 L/s @ 23 m)	2010	South Caboolture	\$561,690
CPIPWW0015	Pauls Road SPS (Duty 10 L/s @ 18 m)	2010	South Caboolture	\$450,648
CPIPWW0016	Pickering Place SPS (Duty 15 L/s @ 20 m)	2015	South Caboolture	\$438,975
CPIPWW0017	MF09 New Pump Station (Duty 76 L/s @ 29 m)	2008	South Caboolture	\$4,502,743
CPIPWW0018	Smiths Road SPS (Duty 52.5 L/s @ 20 m)	2009	South Caboolture	\$1,902,040
CPIPWW0019	CT 30 SPS upgrade (60 l/s @ 35 m)	2009	South Caboolture	\$544,256
CPIPWW0020	Elof Road SPS 3 (Duty 63 L/s @ 63 m)	2009	South Caboolture	\$2,330,820
CPIPWW0021	Elof Road SPS 4 (Duty 15 L/s @ 15 m)	2014	South Caboolture	\$441,285
CPIPWW0022	Elof Road SPS 5 (Duty 10 L/s @ 15 m)	2014	South Caboolture	\$441,285
CPIPWW0023	CT13 Pump Station Upgrade (Duty 45 L/s @ 20 m)	2016	South Caboolture	\$71,539
CPIPWW0024	MF19 Pump Station Upgrade (Duty 20 L/s @ 48 m)	2011	South Caboolture	\$29,377
CPIPWW0025	Elimbah SPS (6 L/s @ 48 m)	2014	South Caboolture	\$441,285
CPIPWW0027	Beachmere sands SPS 1 (32 l/s @ 15 m)	2014	Burpengary East	\$422,108
CPIPWW0028	NE Business Park SPS 2 (60 l/s @ 55 m)	2014	Burpengary East	\$633,161
CPIPWW0029	DB 11 Pump Station Upgrade	2008	Burpengary East	\$371,474
CPIPWW0030	New Pump Station for BG02	2008	Burpengary East	\$745,292
CPIPWW0031	BM01 pump station upgrade (Duty 35 L/s @ 40 m)	2008	Burpengary East	\$1,690,058
CPIPWW0032	BM02 pump station upgrade (Duty 45 L/s @ 46 m)	2008	Burpengary East	\$815,707
CPIPWW0033	BM03 pump station upgrade (Duty 20 L/s @ 36 m)	2008	Burpengary East	\$616,754
CPIPWW0034	BM04 pump upgrade (Duty 5 L/s @ 32 m)	2009	Burpengary East	\$49,478
CPIPWW0035	BM17 pump upgrade (Duty 12 L/s @ 28 m)	2009	Burpengary East	\$74,217
CPIPWW0036	Old Gympie Rd SPS1 (17 L/s @ 45 m)	2020	Burpengary East	\$791,013
CPIPWW0037	Old Gympie Rd SPS2 (5 L/s @ 25 m)	2020	Burpengary East	\$243,166
CPIPWW0038	Boundary Rd West SPS (20 L/s @ 25 m)	2020	Burpengary East	\$685,736
CPIPWW0039	DB01 new pump station (Duty 90 L/s @ 55 m)	2008	Burpengary East	\$5,404,541
CPIPWW0040	NB01 pump upgrade (Duty 230 L/s @ 55 m)	2008	Burpengary East	\$39,791
CPIPWW0041	DB07 pump upgrade (Duty 20 L/s @ 30 m)	2011	Burpengary East	\$57,542
CPIPWW0042	Mackie Road SPS (Burpengary Rd) (Duty 36L/s @ 36m)	2010	Burpengary East	\$1,736,212
CPIPWW0043	O'Mara Road SPS (5 L/s @ 21 m)	2010	Burpengary East	\$323,298
CPIPWW0045	DB15 Generator	2008	Burpengary East	\$59,686
CPIPWW0050	Ranald Avenue SPS (4 l/s @ 33 m)	2014	Bribie Island	\$422,108
CPIPWW0051	Bribie Woolworths site SPS (Duty 15 L/s @ 10 m)	2010	Bribie Island	\$732,691
CPIPWW0052	White Patch SPS (Duty 5 L/s @ 8 m)	2019	Bribie Island	\$429,854
CPIPWW0053	NS01 pump upgrade (90 L/s @ 65 m)	2015	Bribie Island	\$71,916
CPIPWW0054	Sandstone Lakes SPS1 (7 L/s @ 8 m)	2010	Bribie Island	\$431,064

³ Differences between the total value and the sum of the column can occur due to values being displayed without cents. Background calculations including cents are correct.

Project ID	Project Name	Anticipated Commencement of Construction	Service Catchment	NPV - 01 Jan 2009
CPIPWW0055	Sandstone Lakes SPS2 (7 L/s @ 8 m)	2010	Bribie Island	\$431,064
CPIPWW0056	Seabreeze Avenue SPS (20 L/s @ 10 m)	2010	Bribie Island	\$961,808
CPIPWW0057	BI11 pump upgrade (Duty 150 L/s @ 40 m)	2020	Bribie Island	\$289,552
CPIPWW0059	BI 15 Pump Upgrade	2011	Bribie Island	\$73,442
CPIPWW0060	Donnybrook Sewer Pump Station	2010	Bribie Island	\$989,557
CPIPWW0061	WF02 pump upgrade (Duty 35 L/s @ 29 m)	2008	Woodford	\$348,168
CPIPWW0062	Windsor St SPS1 (8 L/s @ 36 m)	2010	Woodford	\$435,986
CPIPWW0063	Windsor St SPS2 (5 L/s @ 22 m)	2010	Woodford	\$435,986
EMERGENCY STORAGE				
CPIPWW0064	CT05 Holding Tank (400 KL)	2008	South Caboolture	\$35,877
CPIPWW0065	MF10 Holding Tank (400 KL)	2010	South Caboolture	\$901,503
CPIPWW0066	CT27 Holding Tank (10 KL)	2010	South Caboolture	\$25,217
CPIPWW0067	CT07 Holding Tank (15 KL)	2010	South Caboolture	\$37,827
CPIPWW0068	CT21 Holding Tank (10 KL)	2010	South Caboolture	\$19,399
CPIPWW0069	DB06 Holding Tank (95 KL)	2015	Burpengary East	\$443,989
CPIPWW0070	BI11 Holding Tanks (240 KL)	2009	Bribie Island	\$949,089
CPIPWW0071	BI73 Holding Tanks (200 KL)	2009	Bribie Island	\$712,585
CPIPWW0072	BI03 Holding Tank (80 KL)	2009	Bribie Island	\$296,971
CPIPWW0073	BI02 Holding Tank (80 KL)	2009	Bribie Island	\$296,971
CPIPWW0074	NS05 Holding Tank (80 KL)	2010	Bribie Island	\$295,416
CPIPWW0075	BI24 Holding Tank (50KL)	2009	Bribie Island	\$178,224
CPIPWW0076	WF03 Holding Tank (10 KL)	2009	Woodford	\$71,149
GRAVITY SEWERS				
CPIPWW0077	Centenary Lakes GM1 (Smoothy's)	2011	South Caboolture	\$794,448
CPIPWW0078	Centenary Lakes GM2 (Smoothy's)	2010	South Caboolture	\$690,684
CPIPWW0079	Beech Drive GM (225mm x 340m)	2015	South Caboolture	\$258,998
CPIPWW0080	Kensington Court GM (300mm x 280m)	2010	South Caboolture	\$275,755
CPIPWW0081	Dobson Lane GM (225mm x 480m)	2011	South Caboolture	\$253,075
CPIPWW0082	Pauls Road GM (225mm x 790m)	2010	South Caboolture	\$505,516
CPIPWW0083	Smiths Road GM (300mm x 660m)	2009	South Caboolture	\$434,396
CPIPWW0084	Summerfield Estate GM1	2009	South Caboolture	\$260,267
CPIPWW0085	Summerfield Estate GM2	2009	South Caboolture	\$467,023
CPIPWW0086	Elof3 GM1 (300mm x 230m)	2009	South Caboolture	\$151,380
CPIPWW0087	Elof3 GM2 (225mm x 1320m)	2009	South Caboolture	\$699,619
CPIPWW0088	Elof4 GM (225mm x 1100m)	2015	South Caboolture	\$677,928
CPIPWW0089	CT04 Gravity Upgrade GM (450mm x 260m)	2010	South Caboolture	\$402,042
CPIPWW0090	CT04 Gravity Upgrade GM (375 mm x 320m)	2010	South Caboolture	\$373,589
CPIPWW0091	Lagoon Rd GM (300mm x 580m)	2010	South Caboolture	\$569,615
CPIPWW0092	MF05 Discharge GM (225mm x 620m)	2015	South Caboolture	\$271,021
CPIPWW0093	Beachmere Sands GM (225 mm x 500m)	2014	Burpengary East	\$383,753
CPIPWW0094	Beachmere Sands GM (300 mm x 530m)	2014	Burpengary East	\$508,457
CPIPWW0095	Boundary Rd West SPS GM	2010	Burpengary East	\$382,509
CPIPWW0096	Lipscombe Road GM (225mm x 310m)	2010	Burpengary East	\$245,165
CPIPWW0097	O'Mara Rd GM (225mm x 530m)	2010	Burpengary East	\$419,153
CPIPWW0098	Mackie Rd GM (225mm x 1050m)	2010	Burpengary East	\$807,248
CPIPWW0099	Mackie Rd GM (300mm x 1170m)	2010	Burpengary East	\$1,117,021
CPIPWW0100	Bribie Woolworths Site GM (225 mm x 470m)	2010	Bribie Island	\$371,700
CPIPWW0101	Seabreeze1 Avenue GM (150mm x 400m)	2010	Bribie Island	\$275,096
CPIPWW0102	Sandstone Lakes GM (225mm x 1020m)	2010	Bribie Island	\$808,245
CPIPWW0103	Sandstone Lakes GM (300mm x 60m)	2010	Bribie Island	\$68,597
PRESSURE MAINS				
CPIPWW0104	Caboolture Ind Estate Pressure Sewers	2008	South Caboolture	\$696,335
CPIPWW0105	Elimbah Sewerage Scheme	2008	South Caboolture	\$99,476
CPIPWW0106	Centenary Lakes RM1 (Smoothy's)	2011	South Caboolture	\$166,086
CPIPWW0107	Centenary Lakes RM2 (Smoothy's)	2011	South Caboolture	\$149,052
CPIPWW0108	MF10 RM Extension RM	2008	South Caboolture	\$746,073
CPIPWW0109	Dobson Lane RM	2010	South Caboolture	\$307,192
CPIPWW0110	Pauls Road RM (100mm x 400m)	2016	South Caboolture	\$93,745
CPIPWW0111	Pickering Place RM (150mm x 430m)	2016	South Caboolture	\$132,767

Project ID	Project Name	Anticipated Commencement of Construction	Service Catchment	NPV - 01 Jan 2009
CPIPWW0112	MF09 RM DN (250mm x 785m)	2008	South Caboolture	\$825,655
CPIPWW0113	Swann Road RM (200mm x 2000m)	2008	South Caboolture	\$895,288
CPIPWW0114	Smiths Road RM (250 mm x 3000m)	2009	South Caboolture	\$2,298,337
CPIPWW0115	CT 30 RM Upgrade (250mm x 700m).	2009	South Caboolture	\$534,361
CPIPWW0116	CT 58 SRM DN150 x 250	2008	South Caboolture	\$2,121,036
CPIPWW0117	Elof3 RM (250mm + 150mm x 2000m)	2009	South Caboolture	\$1,103,136
CPIPWW0118	Elof4 RM (150mm x 730m)	2009	South Caboolture	\$505,781
CPIPWW0119	Elof5 RM (100mm x 270m)	2016	South Caboolture	\$171,694
CPIPWW0120	McCool St to SCSTP (375mm x 3000m)	2008	South Caboolture	\$2,523,630
CPIPWW0121	New MF17 RM (150mm x 370m)	2011	South Caboolture	\$169,644
CPIPWW0122	Elimbah RM (100mm x 5300m) (Headworks Component)	2015	South Caboolture	\$1,670,002
CPIPWW0123	Elimbah RM (100mm x 5300m) (Loan Component)	2015	South Caboolture	\$1,670,002
CPIPWW0124	North East Business Park RM1(200mm x 1600m)	2009	South Caboolture	\$787,863
CPIPWW0126	North East Business Park RM2 (250mm x 8000m)	2014	Burpengary East	\$4,124,683
CPIPWW0127	BM01 Rising Main diversion	2008	Burpengary East	\$373,037
CPIPWW0128	BM02 Rising Main diversion	2008	Burpengary East	\$1,740,838
CPIPWW0129	Beachmere Sands RM (200mm x 2460m)	2015	Burpengary East	\$1,154,719
CPIPWW0130	Narangba RM through Ind Estate to DB06 (250mm x 2230m)	2009	Burpengary East	\$1,688,533
CPIPWW0131	DB06 and DB15 RM upgrade (300mm x 1050m)	2009	Burpengary East	\$962,237
CPIPWW0132	DB09 RM duplication (300mm x 1900m)	2009	Burpengary East	\$1,761,145
CPIPWW0133	Boundary Rd West SPS RM (150mm x 340m)	2010	Burpengary East	\$155,888
CPIPWW0134	Old Gympie Rd SPS1 RM (100mm x270m)	2020	Burpengary East	\$204,755
CPIPWW0135	Old Gympie Rd SPS2 RM (150mm x 660m)	2020	Burpengary East	\$430,698
CPIPWW0136	Mackie Road (Burpengary Rd) RM (200mm x 2240m)	2009	Burpengary East	\$1,656,125
CPIPWW0137	NB04 Diversion RM	2011	Burpengary East	\$166,088
CPIPWW0138	O'Mara Road RM (100mm x 1320m)	2010	Burpengary East	\$819,715
CPIPWW0139	Duplication of RM Creek Rd to BESTP (525mm x 2880m)	2008	Burpengary East	\$6,271,967
CPIPWW0140	BG02 New RM (200mm x 130m)	2009	Burpengary East	\$107,614
CPIPWW0141	Duplicate Beachmere Common Rising Main	2008	Burpengary East	\$49,246
CPIPWW0144	Bribie Woolworths Site RM (150mm x 360m)	2008	Bribie Island	\$1,341,828
CPIPWW0145	White Patch RM (100mm x 1060m)	2015	Bribie Island	\$682,334
CPIPWW0146	Seabreeze Avenue RM (150mm x 230m)	2010	Bribie Island	\$158,180
CPIPWW0147	NS01 RM (under Pumicestone Passage) (450mm x 1050m)	2009	Bribie Island	\$2,578,656
CPIPWW0148	Duplicate RM BI01 (Cotterill Rd) to BISTP (375mm x 2900m)	2009	Bribie Island	\$3,311,864
CPIPWW0149	Ranald Av RM (100mm x 1650)	2014	Bribie Island	\$1,031,171
CPIPWW0150	Sandstone Lakes RM1 (100mm x 400m)	2010	Bribie Island	\$269,415
CPIPWW0151	Sandstone Lakes RM2 (100mm x 950m)	2010	Bribie Island	\$617,194
CPIPWW0152	NS01 RM (along Charlotte st) (450mm x 860m)	2009	Bribie Island	\$2,270,211
CPIPWW0153	BI15 Diversion RM (870m * 150mm)	2009	Bribie Island	\$908,400
CPIPWW0154	Donnybrook RM (9700m * 150mm)	2008	Bribie Island	\$3,715,004
CPIPWW0155	WF02 Rising Main diversion (200mm x 810m)	2008	Woodford	\$845,550
CPIPWW0156	Windsor St RM (250mm x 920m)	2010	Woodford	\$731,894
CPIPWW0157	Windsor St RM1 (100mm x 690m)	2010	Woodford	\$440,773
CPIPWW0158	Windsor St RM2 (150 mm x 1340m)	2010	Woodford	\$895,885
	SEWERAGE SCOPING STUDIES			
CPIPWW0159	Toorbul Sewerage Scope Study	2008	Bribie Island	\$69,634
	CONTROL SYSTEMS			
CPIPWW0161	Telemetry Hut - Bellara Repeater Site	2008	Bribie Island	\$41,429
CPIPWW0162	Telemetry Hut Mt Mee Repeater Site	2008	Woodford	\$39,791
CPIPWW0163	Telemetry Tower - McCloud Land Reservoir	2008	Woodford	\$272,003
	TOTAL PROGRAMME - WASTEWATER			\$191,530,793⁴

⁴ The figures in this table include subsidies which would have been expected prior to the 2009-10 State Budget. The deletion of some of these subsidies as a result of that Budget has not been factored in, as it was not fully known at the time of adoption of this policy. It is likely the figure is of the order of \$83m over a 15 year period. Factoring in the subsidy loss would increase the base rate of contribution for the affected networks (mainly water and sewerage), before the capping policy is applied.

SCHEDULE A: DEMAND FACTORS

Demand factors are calculated based on defined uses within the jurisdiction of each relevant planning scheme, and are therefore unique to each district within the Moreton Bay Regional Council area.

Table A1 - Demand Factors for Sewerage Infrastructure Contributions

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
Accommodation Building		
Boarding House	per bed	1.1
Hostel	per bed	1.1
Backpacker's Accommodation	per bed	1.1
Motel or Serviced Apartments (Summative Components)		
• studio unit ² (See note 2)	unit	1.1
• 1-bedroom unit	unit	1.5
• 2-bedroom unit	unit	2
• 3 or more bedroom unit	unit	3.3
Any other item identified elsewhere in this table	As per item	
Agricultural (see Note 4)	Individual Basis	Assess Impact on Application
Animal Husbandry (Intensive) (See Note 4)	Individual Basis	Assess Impact on Application
Animal Husbandry (Non-Intensive) (See Note 4)	Individual Basis	Assess Impact on Application
Aquaculture	Individual Basis	Assess Impact on Application
Brothel (Summative components)		
Bedrooms	bedroom	6.5
Bar	As Hotel	
Any other item identified elsewhere in this table	As per item	
Car Wash	100 square metres gross use area	4
Caravan Park (Summative Components)		
Tent site	site	1.4
Caravan site	site	1.8
Relocatable Homes and Tourist Cabins		
studio unit ² (see note 2)	unit	1
1-bedroom unit	unit	1.4
2-bedroom unit	unit	1.8
3 or more bedroom unit	unit	2.9
Office	As Office	
Restaurant	As Restaurant	
Shop	As Shop	

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
Bar	As Hotel	
Any other item identified elsewhere in this table	As per item	
Caretaker's Residence	As per appropriate dwelling house or multiple dwelling	
Cemetery (Summative Components)		
Any item identified elsewhere in this table	As per item	
Child Care Centre		
without laundry	Licensed child & staff member	0.175
with laundry	Licensed child & staff member	0.225
Corrective Institution	inmate	1.2
Dependent Person's Accommodation	No additional charge over main dwelling	0
Display Home	As per the home type on display	
Dual Occupancy	As per 2 dwelling houses each on half the lot	
Dwelling House (by lot size)		
lots sized up but excluding 501 square metres	Refer Table A2	
lots sized 501 to 1000 square metres	Refer Table A2	
lots sized greater than 1000 square metres	Refer Table A2	
Educational Establishment (Summative Components)		
Schools		
Non-boarding schools	Licensed enrolment	0.21
Boarding schools	Licensed enrolment of boarding students Licensed enrolment of others	1.1 0.21
Other Education Establishments	Licensed enrolment	0.26
Entertainment & Recreation (Indoors) (Summative Components)		
Cinema	seat	0.05
Licensed Clubs & Organisations	As Hotel	
Swimming Pools	Pool volume in cubic metres	0.005
Gymnasiums and Fitness Centres (See Note 1)		
• Water Closet	Pedestal	0.7
• Urinal (Stall)	Stall	0.2
• Urinal (Trough)	metre	0.3
• Shower/ Bath	Shower/ bath	0.25
• Wash Basin	basin	0.2
Commercial Clubs & Organisations	As Hotel	
Community Service or not-for-profit Clubs and Organisations with no gaming or liquor licence		
• With facilities for the frequent provision of cooked	100 square metres gross floor area	1

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
food		
<ul style="list-style-type: none"> Without facilities for the frequent provision of cooked food 	100 square metres gross floor area	0.5
Other Types (See note 4)	Individual Basis	Assess Impact on Application
Entertainment and Recreation (Outdoors) (Summative Components)		
Swimming Pools	Pool volume in cubic metres	0.005
Changing Rooms, Showers and Toilets ¹ (see note 1)		
<ul style="list-style-type: none"> Water Closet 	Pedestal	0.7
<ul style="list-style-type: none"> Urinal (Stall) 	Stall	0.2
<ul style="list-style-type: none"> Urinal (Trough) 	metre	0.3
<ul style="list-style-type: none"> Shower Bath 	shower	0.25
<ul style="list-style-type: none"> Wash Basin 	basin	0.2
Any other item identified elsewhere in this table	As per item	
Estate Sales Office (Choose 1 only)		
Where the office will be removed upon completion of sales		0
Where the office is the temporary use of a dwelling house	As per the home type being used	
Where the office will be retained for a use identified elsewhere in this table	As per the scheduled use	
Extractive Industry (Summative Components)		
Changing Rooms, Showers and Toilets ¹ (see note 1)		
<ul style="list-style-type: none"> Water Closet 	Pedestal	0.7
<ul style="list-style-type: none"> Urinal (Stall) 	Stall	0.2
<ul style="list-style-type: none"> Urinal (Trough) 	metre	0.3
<ul style="list-style-type: none"> Shower / Bath 	Shower / bath	0.25
<ul style="list-style-type: none"> Wash Basin 	basin	0.2
<ul style="list-style-type: none"> Load from industrial process (see note 4) 	individual calculation	Assess Impact on Application
Fuel Depot	As Warehouse	
Funeral Parlour (Summative Components)		
Mortuary Area	100 square metres gross use area	5
Other Area	100 square metres gross use area	2
General Industry		
Changing Rooms, Showers and Toilets ¹ (see note 1)		
<ul style="list-style-type: none"> Water Closet 	Pedestal	0.7
<ul style="list-style-type: none"> Urinal (Stall) 	Stall	0.2
<ul style="list-style-type: none"> Urinal (Trough) 	metre	0.3

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
• Shower Bath	shower	0.25
• Wash Basin	basin	0.2
Load from industrial process (See Note 4)	individual calculation	Assess Impact on Application
Home Based Business		Assess Impact on Application
Hospital (Summative Components)		
In-patients	per bed	1.5
Out-patients	100 square metres gross use area	1.5
Restaurant	As Restaurant	
Shop	As Shop	
Mortuary	100 square metres gross use area	5
Office	As Office	
Overnight accommodation for staff or relatives	As per relevant accommodation type	
Any other item identified elsewhere in this table	As per item	
Hotel (Summative Components)		
single room (without kitchen facilities)	room	0.9
double room (without kitchen facilities)	room	1.3
Suites or rooms with kitchen facilities	As Serviced Apartments	
Restaurant	As Restaurant	
Shop	As Shop	
Bar and Gaming Areas	100 square metres gross use area	5
Beer Garden	100 square metres gross use area	3.75
Function Rooms	100 square metres gross use area	2.5
Swimming Pools	Pool volume cubic metres	0.005
Any other item identified elsewhere in this table	As per item	
Landscape Supplies Production	Individual basis	Assess Impact on Application
Landscape Supply Centre (Summative Components)		
Dwelling House	As Dwelling House	
Shop	As Shop	
Any other item identified elsewhere in this table	As per item	
Marina (Summative Components)		
General	berth	0.3
Any other item identified elsewhere in this table	As per item	
Market	Individual Basis	Assess Impact on Application
Medical Centre	100 square metres gross use area	1.5
Motor Vehicle Repair Station	As Service Industry	
Multiple Dwelling (Summative Components)		

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
studio unit ² (see note 2)	unit	1
1-bedroom unit	unit	1.4
2-bedroom unit	unit	1.8
3 or more bedroom unit	Unit. As per Residential A from Table A2	
Office	100 square metres of gross use area	2.5
Park	As Entertainment & Recreation (Outdoors)	
Place of Worship	100 square metres of gross floor area	0.5
Public Utility		
Post Office Retail	As Shop	
Post Office Sorting Facility	As Warehouse	
Fire Station Ambulance Station	100 square metres of gross use area	1
Police Station	As per Office	
Water Treatment Plant Sewage Treatment Plant	Exempt	0
Landfill and Tip	Individual basis	Assess Impact on Application
Relocatable Home Park	As per Caravan Park	
Restaurant		
Café / Coffee shop/ Cafeteria/ Bistro	100 square metres of gross use area	4
Fast Food Restaurant	100 square metres of gross use area	6.25
Other Restaurants	100 square metres of gross use area	5.25
Retail Showroom	100 square metres gross use area	0.9
Retirement Village (Summation of the following Components)		
Accommodation for residents and staff	As Multiple Dwelling	
Office	As Office	
Medical Centres and Clinics	As Medical Centre	
Restaurant	As Restaurant	
Shop	As Shop	
Roadside Stall		
Rural Service Industry	As General Industry	
Rural Worker's Dwelling	As Multiple Dwelling	
Recycling Yard	Individual Basis	Assess Impact on Application
Sales or Hire Yard (Summative Components)		
Office	As Office	
Cleaning or Service Area	As Service Industry	
Service Industry		
Laundries and Laundromats	100 square metres gross use area	6

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
Repair Shops and General	100 square metres gross use area	0.75
Service Station (Summative Components)		
Pump Sets	pump	0.25
Repair / Service Area	As Service Industry	
Shop	As Shop	
Any other item identified elsewhere in this table	As per item	
Shop		
Hairdressers, beauty salons, barbers (Summative Components)		
General Retail Loading	100 square metres gross use area	0.9
Installed Washbasins	basin	0.2
Other Shops	100 square metres gross use area	0.9
Special Care Facility		
As Retirement Village		
Special Industry (Summative Components)		
Changing Rooms, Showers and Toilets ¹ (see note 1)		
Water Closet	Pedestal	0.7
Urinal (Stall)	Stall	0.2
Urinal (Trough)	metre	0.3
Shower Bath	shower	0.25
Wash Basin	basin	0.2
Load from industrial process (see note 4)	Individual Basis	Assess Impact on Application
Storage Facility		
100 square metres of gross use area		
0.1		
Surgery		
Take Away Food Outlet		
100 square metres of gross use area		
4		
Telecommunications Facility		
No charge		
0		
Transport Depot		
100 square metres of gross use area		
0.75		
Vehicle Sales and Service (Summative Components)		
Showroom	As Retail Showroom	
Service Facilities	As Service Industry	
Veterinary Establishment		
100 square metres gross use area		
1.5		
Warehouse		
100 square metres of gross use area		
0.9		
Winery (Summative Components)		
Restaurant	As Restaurant	
Shop	As Shop	
Bar and Gaming Areas	100 square metres of gross use area	5
Beer Garden	100 square metres of gross use area	3.75

Demand Factors For MCUs – by Land Use	Demand Parameter Type	Demand Factor (EPSs)
Function Rooms	100 square metres of gross use area	2.5
Any other item identified elsewhere in this table	As per item	
Load from wine making and bottling process (see note 4)	individual calculation	Assess Impact on Application
NOTES Pertaining to the Use of Table A1		
Note 1: Only charged when the facility is available to customers not resident in the facility.		
Note 2: A studio unit is a unit designed for single occupancy, which has either no separate bedroom or only one separate bedroom of insufficient size to place a double bed.		
Note 3: Where demand for water is partly met by Council's recycled water, a consequential reduction shall be made to the EPSs used to calculate Water Infrastructure contributions.		
Note 4: Load from industrial process: As advised by the applicant and determined by Council as being a reasonable estimate of the demand attributable to the process. Conversion to EPS for sewerage demand shall be on the basis of 1EPS = 300 litres/day.		
Note 5: This Table is applicable to all Sewerage areas.		

Table A2 – Demand Factors for RALs - by Zone

Zone	Assumption
Residential	
Residential A – lot area >1000m ²	3.3EPS/Lot
Residential A – lot area 501m ² – 1000m ²	2.9 EPS /Lot
Residential – lot area A <501m ²	2.4 EPS /Lot
Residential B	67 EPS /ha
Non-Residential	
Metropolitan Centre	30 EPS /ha
District Centre	30 EPS /ha
Local Centre	10 EPS /ha
Regional Industry	60 EPS /ha
District Industry	60 EPS /ha
Local Industry	15 EPS /ha
Special Use	10 EPS /ha
Management lot	3.3 EPS /Lot
Open Space	N/A

Schedule B: Infrastructure Contribution Rates

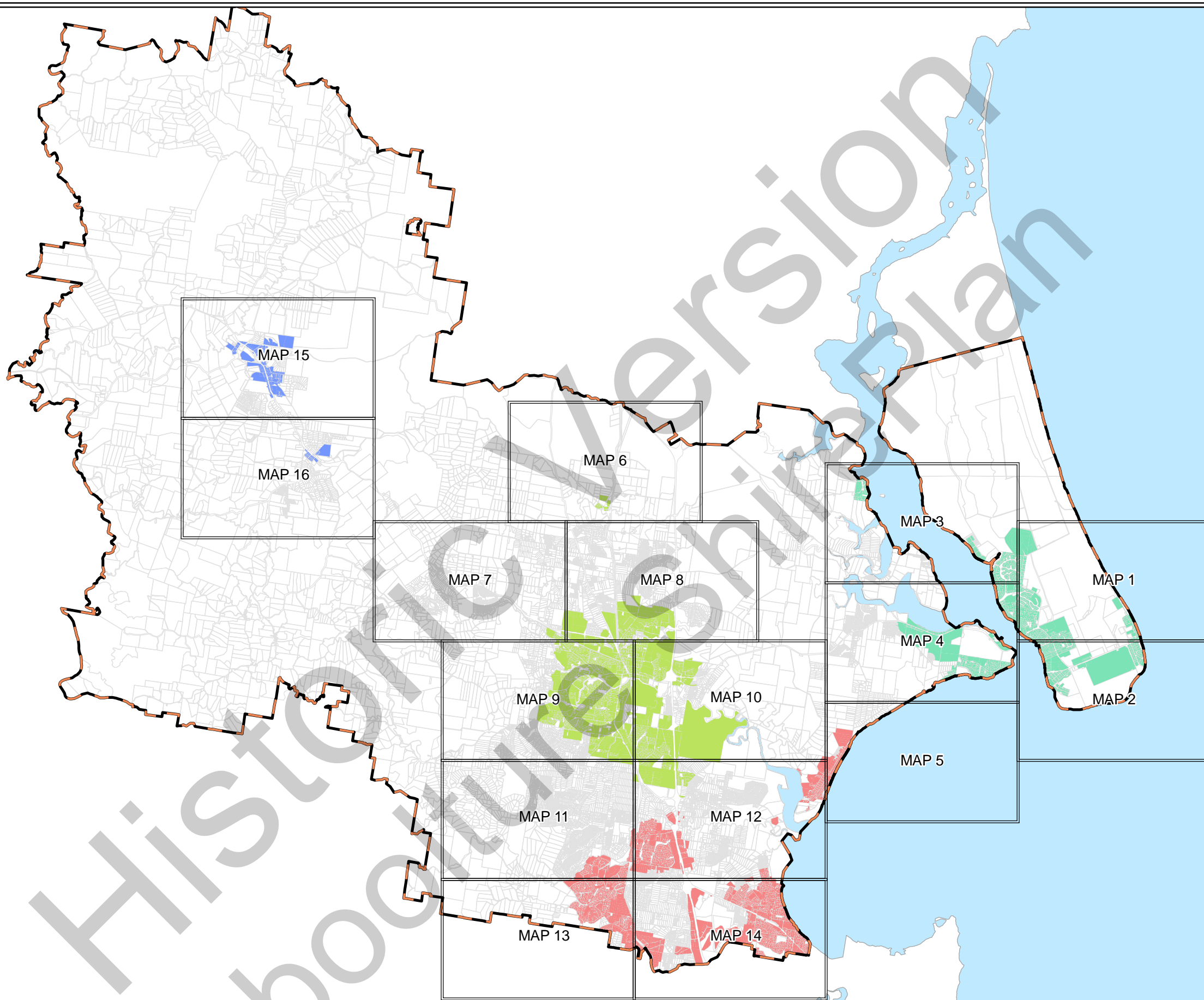
The Sewerage Network infrastructure contribution rate, which applies in each of the service catchments, is shown in Table B Sewerage Network Infrastructure Contribution Rates.

Table B - Sewerage Network Infrastructure Contribution Rates

Service Catchment	ICR \$ per EPS
Bribie Island	\$3,183
Burpengary East	\$2,415
South Caboolture	\$1,654
Woodford	\$10,043

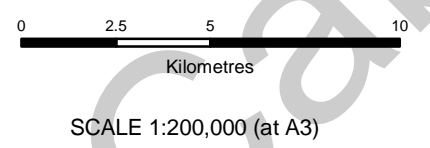
Schedule C: Service Catchments

Historic Version
Caboolture ShirePlan

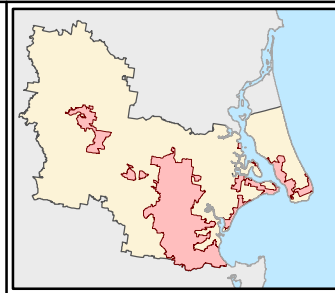


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- Sewer Catchments**
- Bribe Island
 - Caboolture South
 - Burpengary East
 - Woodford

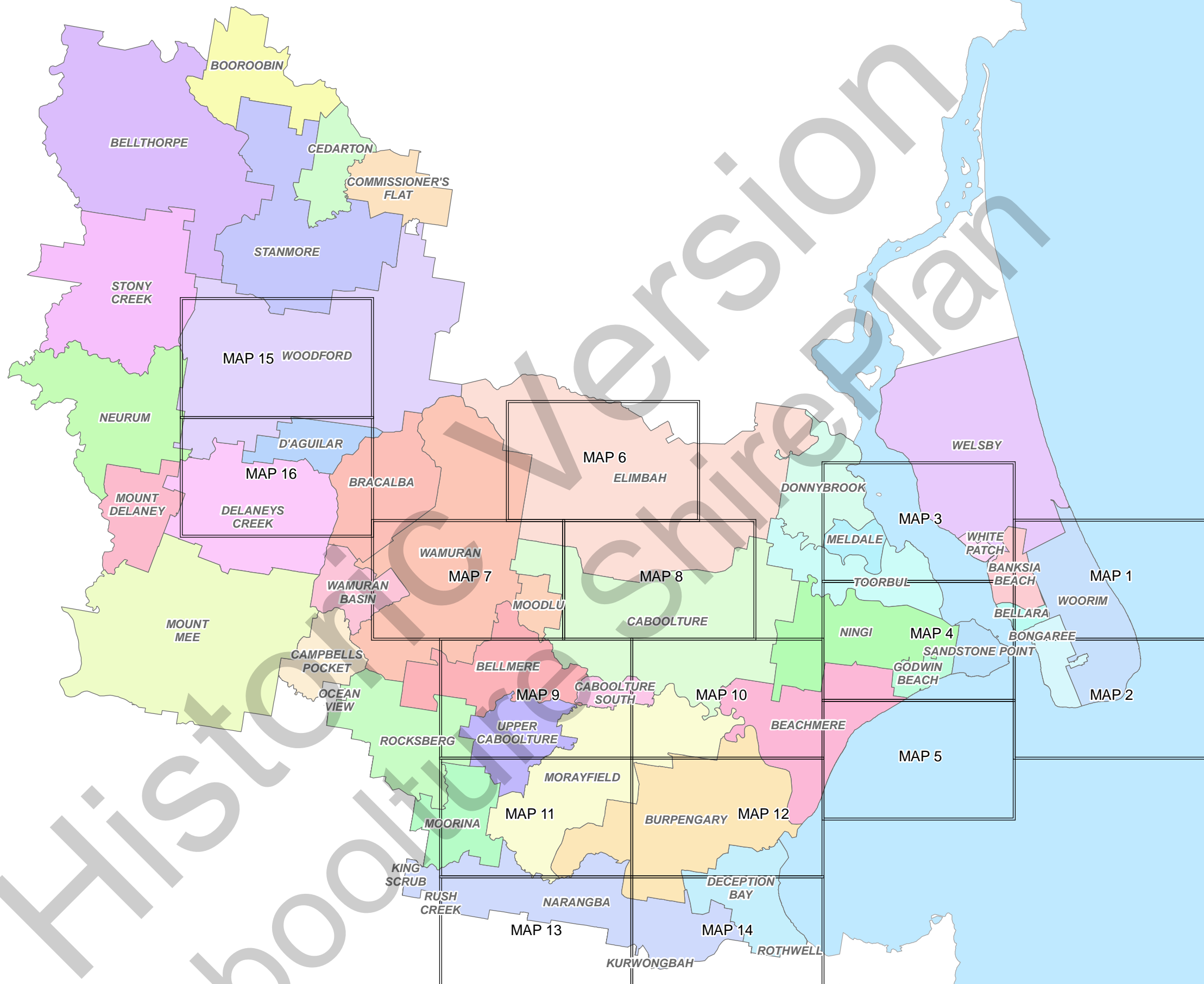


Caboolture Shire
Sewer Service Catchments

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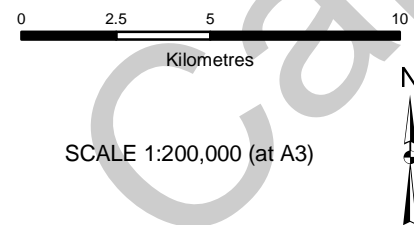
Schedule D: Network assets

Historic Version
Caboolture ShirePlan

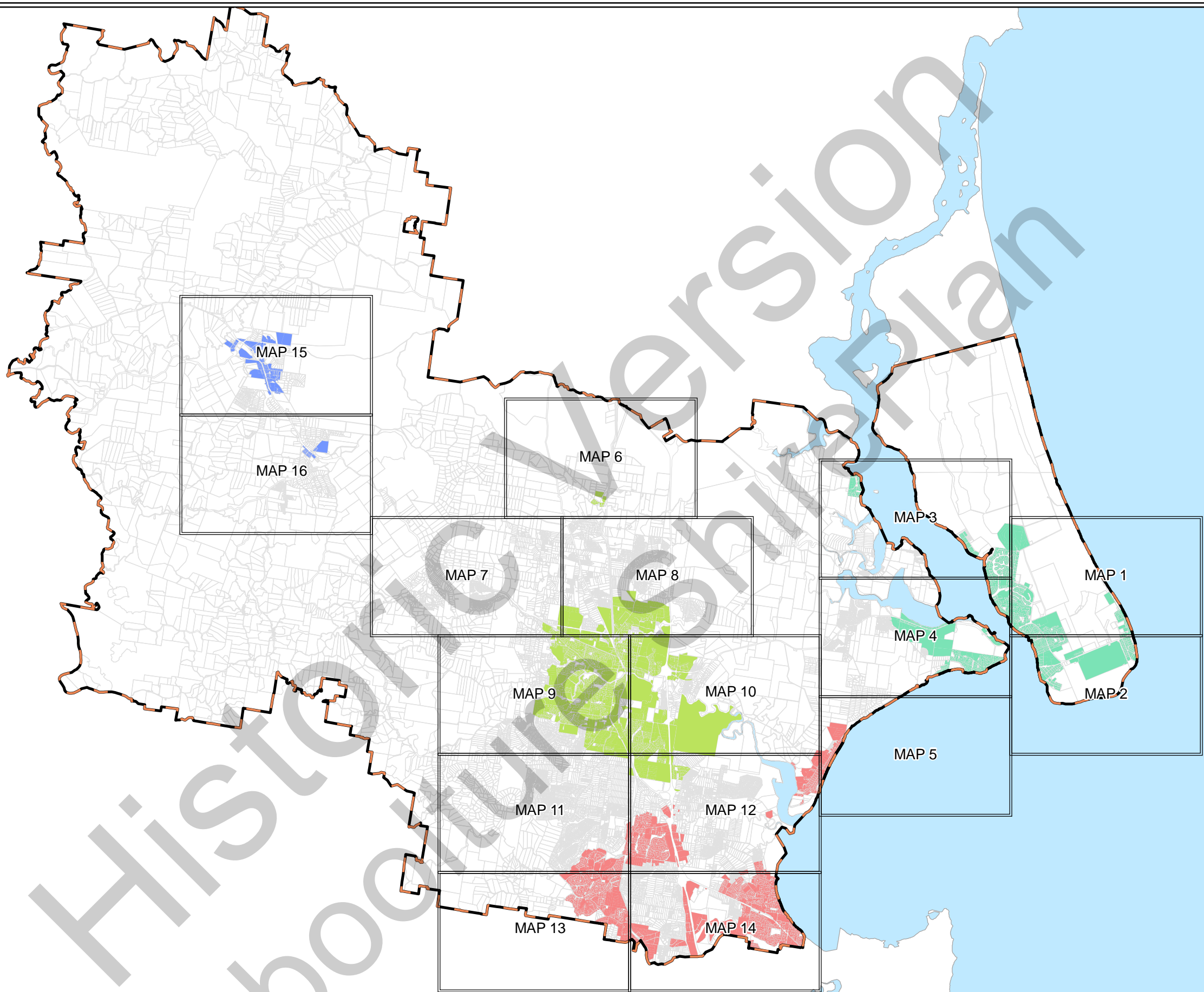


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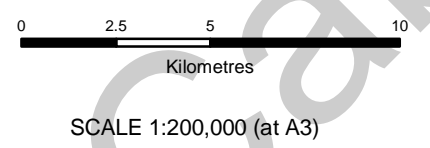


**Caboolture Shire
Index
to
Map Sheets**

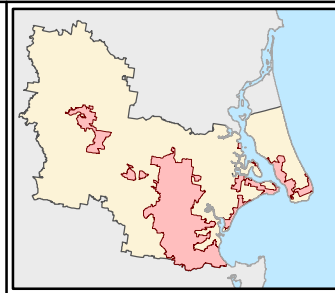


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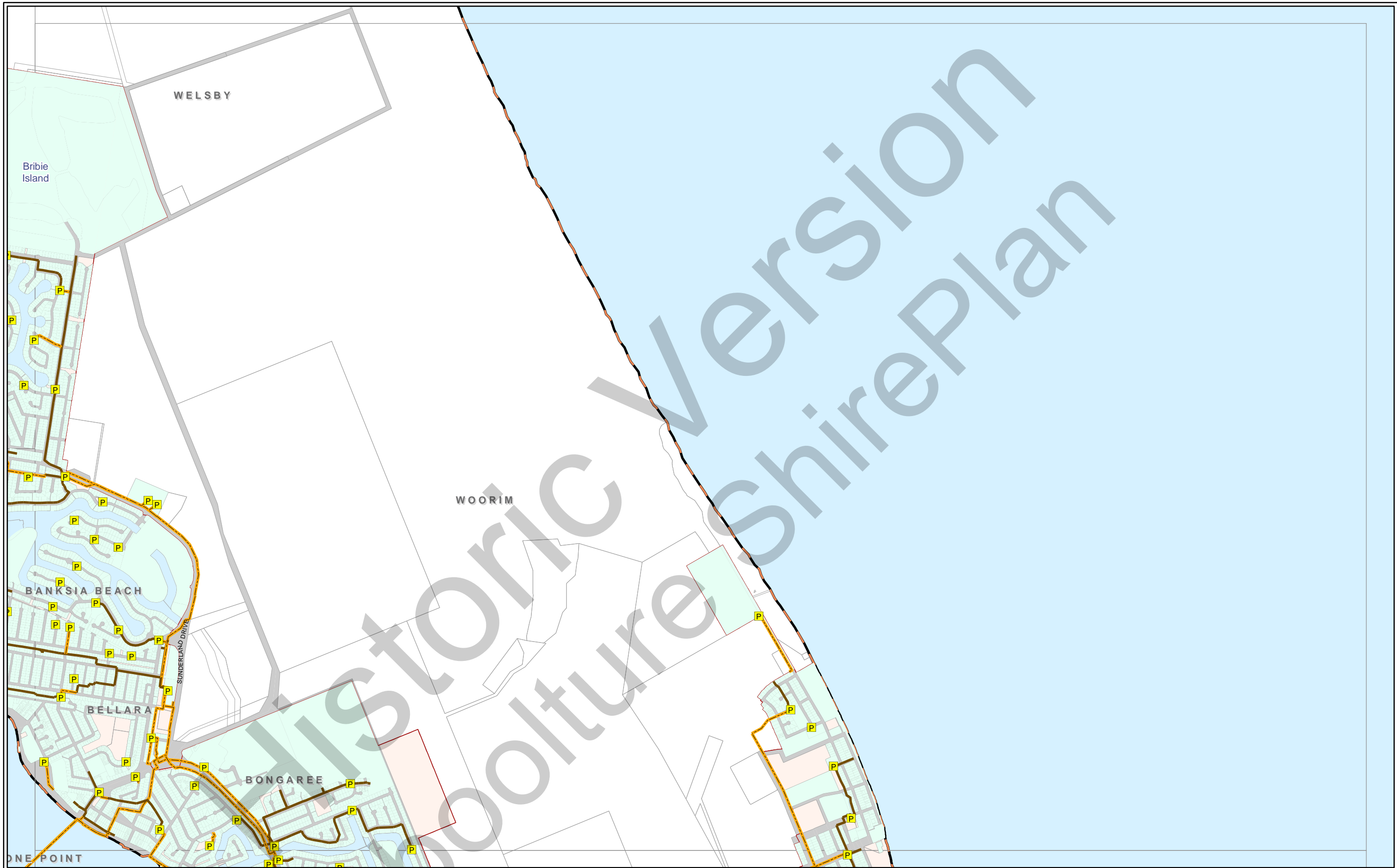
- Sewer Catchments**
- Bribe Island
 - Caboolture South
 - Burpengary East
 - Woodford



Caboolture Shire

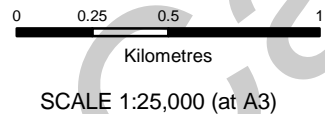
Sewer Service Catchments

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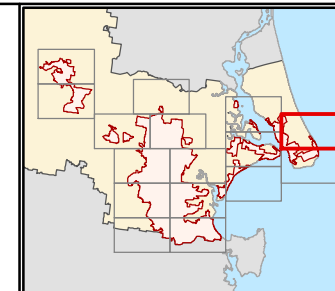
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- Sewer Pump Station
- Sewer Treatment Plant
- Trunk Sewer Mains
- Sewer Gravity Main
- Sewer Rising Main

- Sewer Catchments
- Bribie Island
- Burpengary East
- Caboolture South
- Woodford

- DISA Boundary
- Shire Boundary
- Cadastre



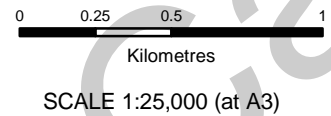
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 1

EFFECTIVE FROM 29 October 2009

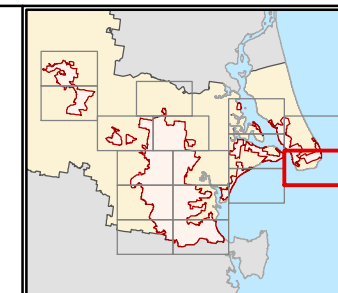


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- | | | |
|-----------------------|------------------|----------------|
| Sewer Pump Station | Bribie Island | DISA Boundary |
| Sewer Treatment Plant | Burpengary East | Shire Boundary |
| Trunk Sewer Mains | Caboolture South | Cadastre |
| Sewer Gravity Main | Woodford | |
| Sewer Rising Main | | |

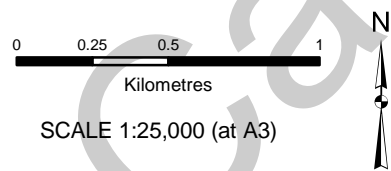


Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 2
 EFFECTIVE FROM 29 October 2009

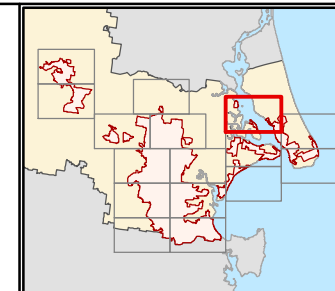


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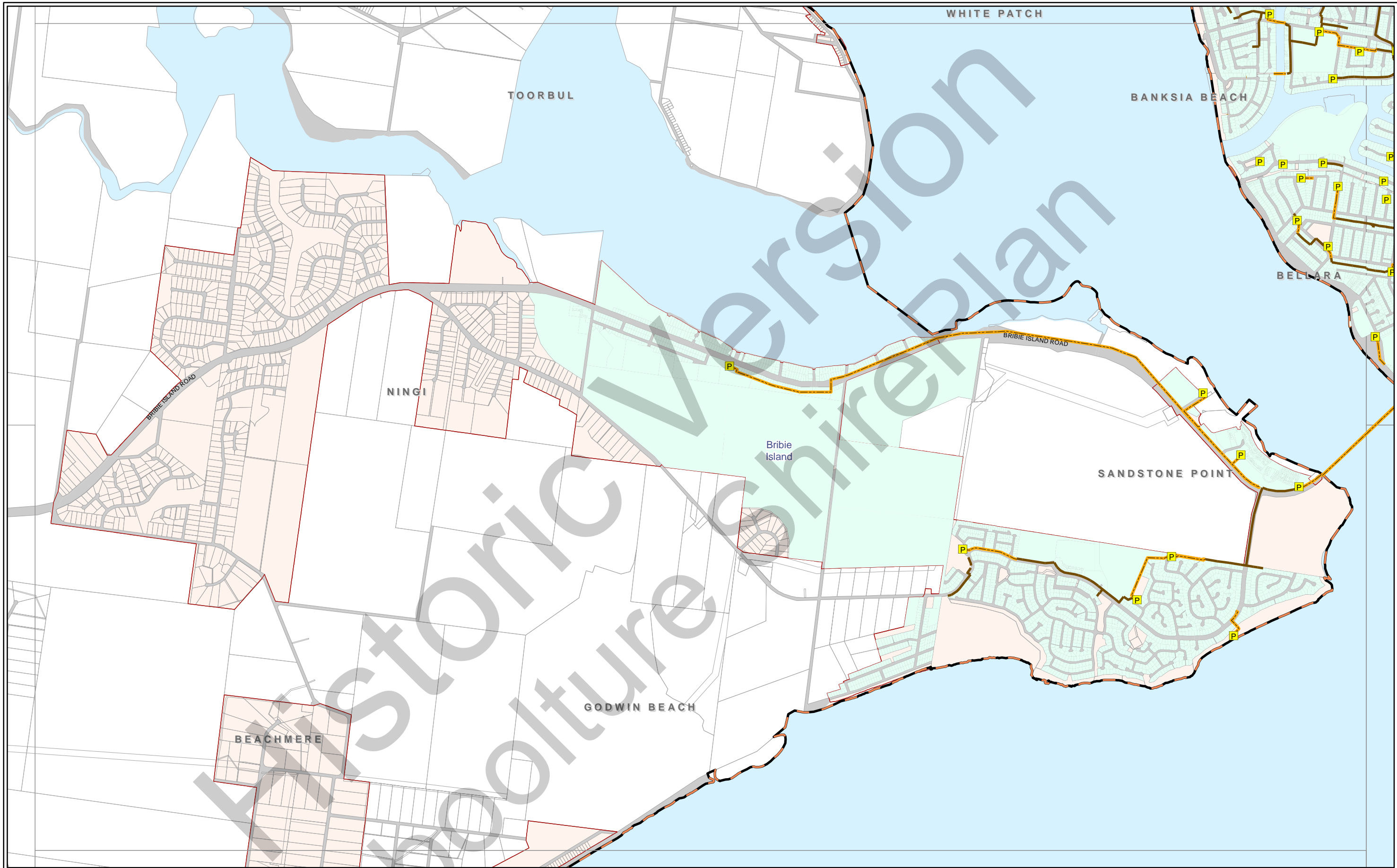


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



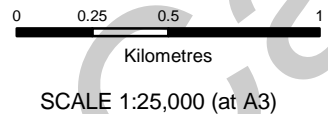
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 3

EFFECTIVE FROM 29 October 2009

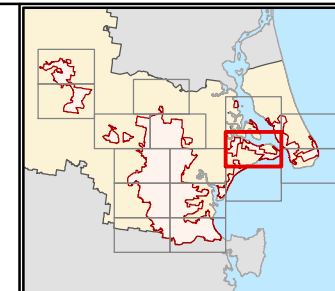


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| Sewer Pump Station | Bribie Island | DISA Boundary |
| Sewer Treatment Plant | Burpengary East | Shire Boundary |
| Trunk Sewer Mains | Caboolture South | Cadastre |
| Sewer Gravity Main | Woodford | |
| Sewer Rising Main | | |

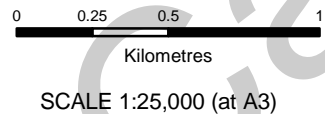


Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 4
 EFFECTIVE FROM 29 October 2009



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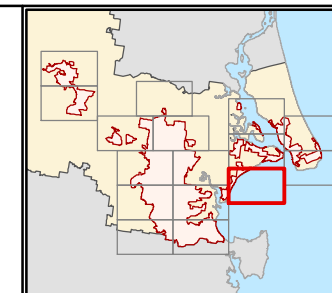
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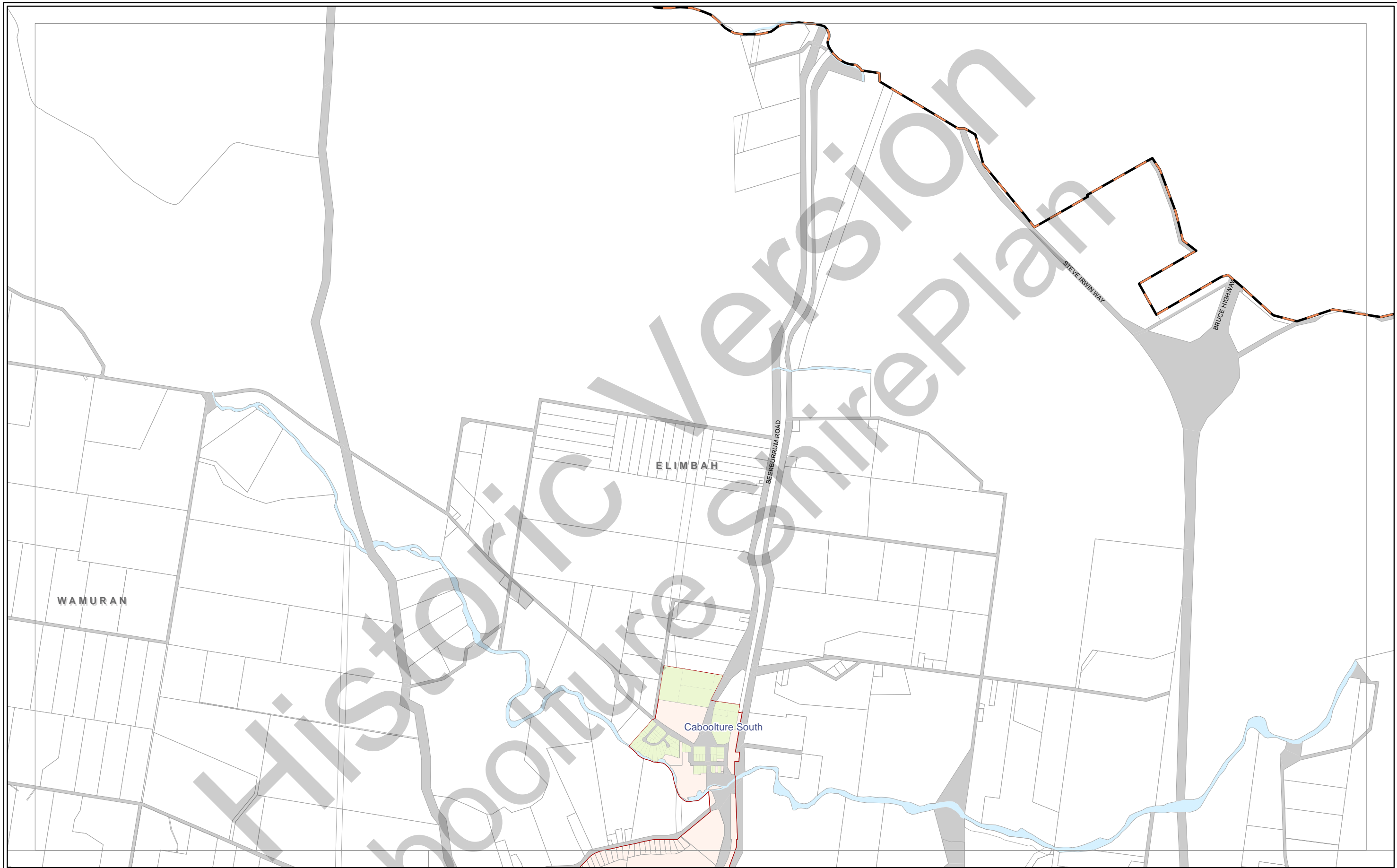
- Sewer Pump Station
- Sewer Treatment Plant
- Trunk Sewer Mains
- Sewer Gravity Main
- Sewer Rising Main

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

- DISA Boundary
- Shire Boundary
- Cadastre

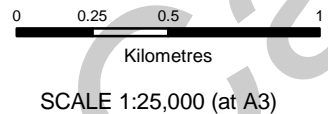


Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 5
 EFFECTIVE FROM 29 October 2009

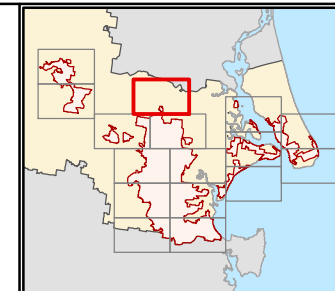


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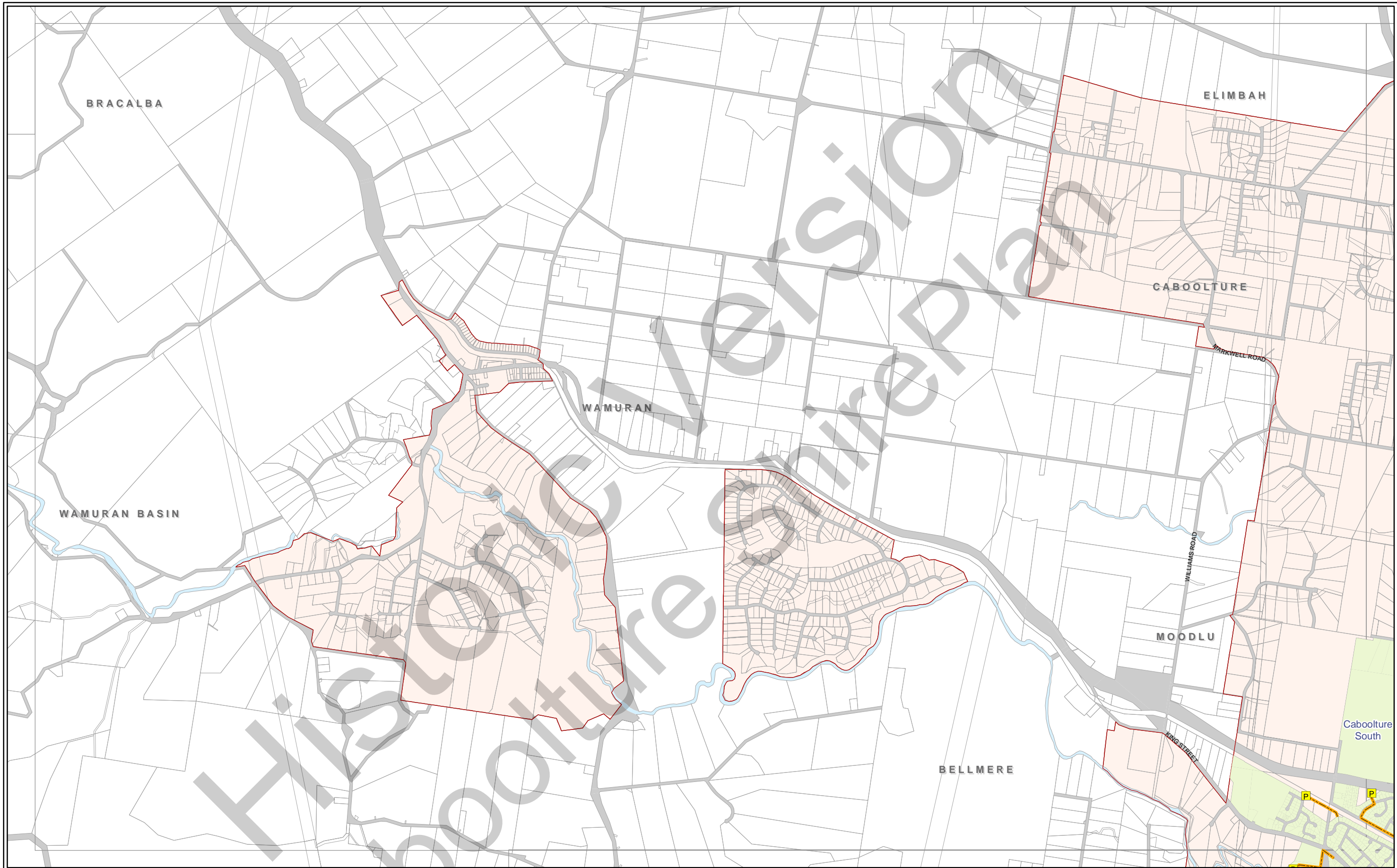


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|-----------------------|-------------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



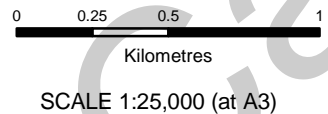
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 6

EFFECTIVE FROM 29 October 2009

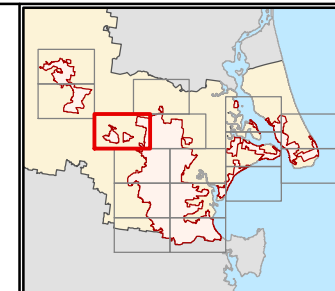


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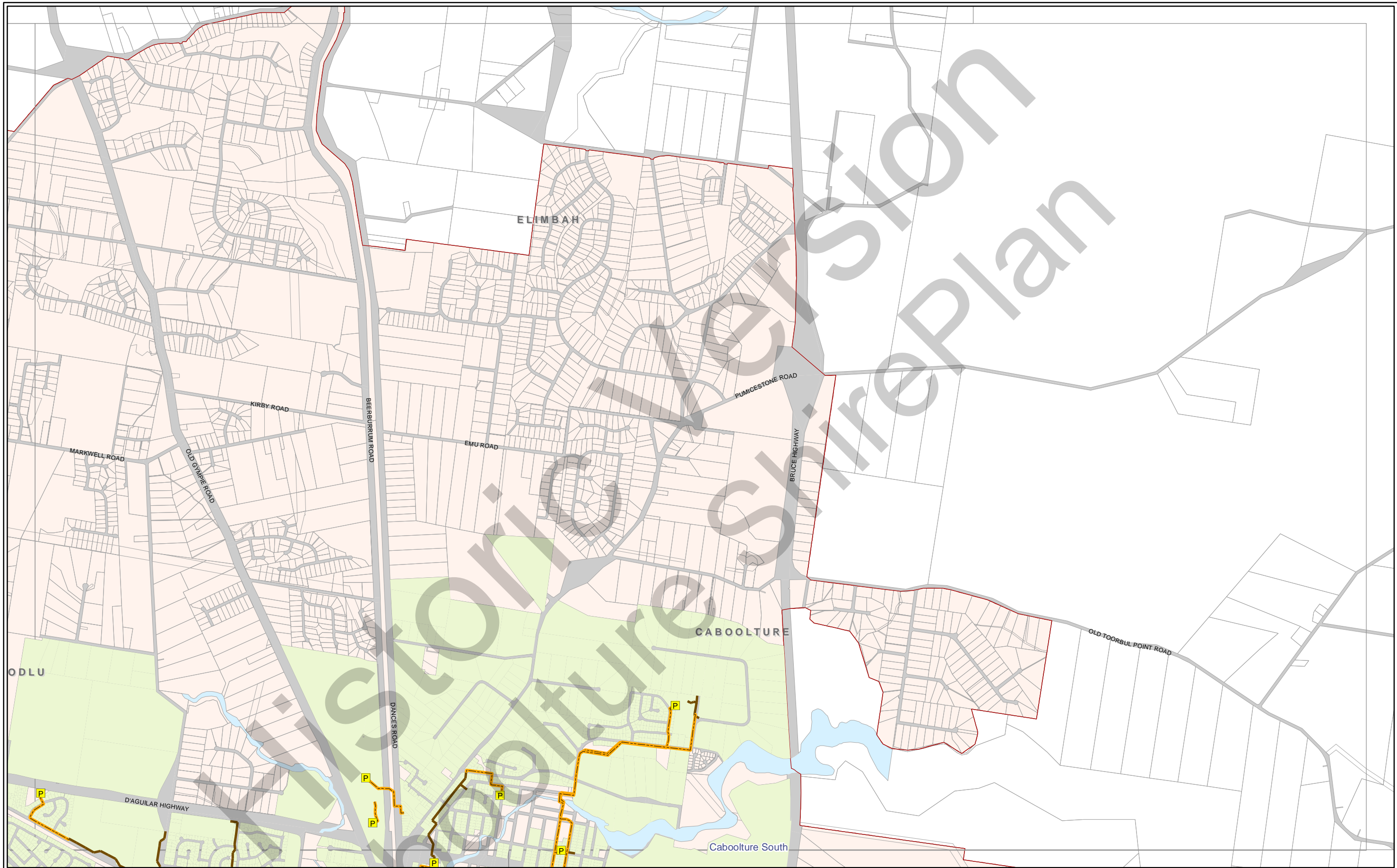


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Bribie Island | DISA Boundary |
| Sewer Treatment Plant | Burpengary East | Shire Boundary |
| Trunk Sewer Mains | Caboolture South | Cadastre |
| Sewer Gravity Main | Woodford | |
| Sewer Rising Main | | |



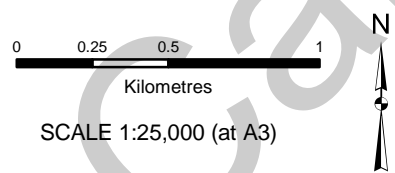
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 7

EFFECTIVE FROM 29 October 2009

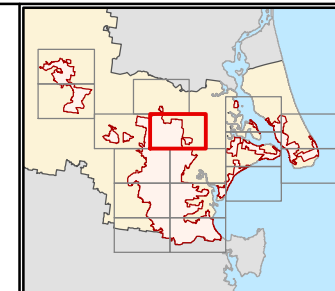


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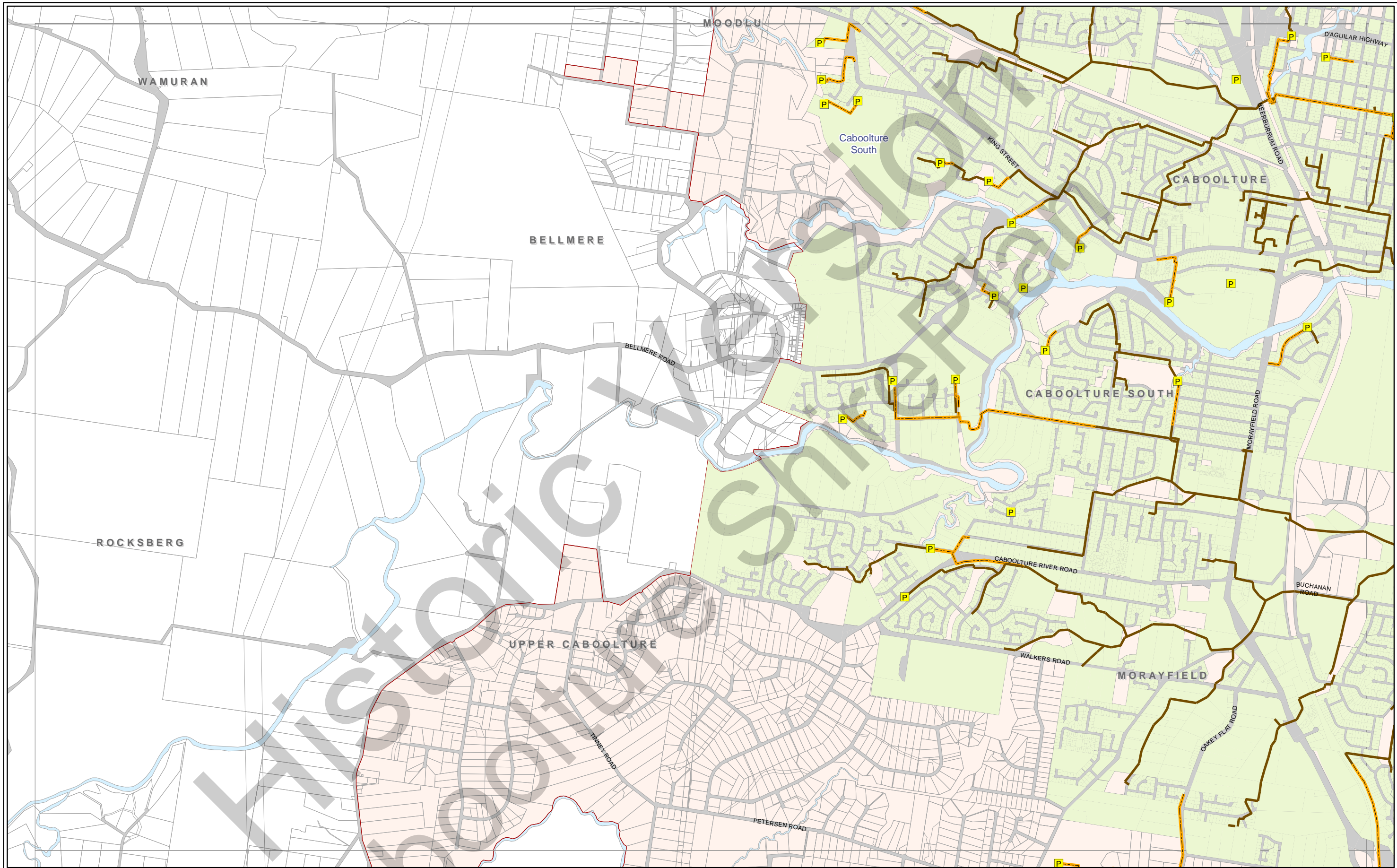


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



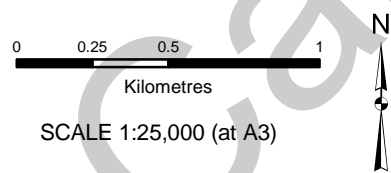
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 8

EFFECTIVE FROM 29 October 2009

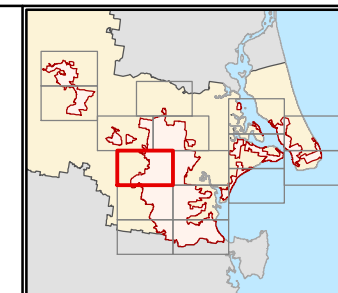


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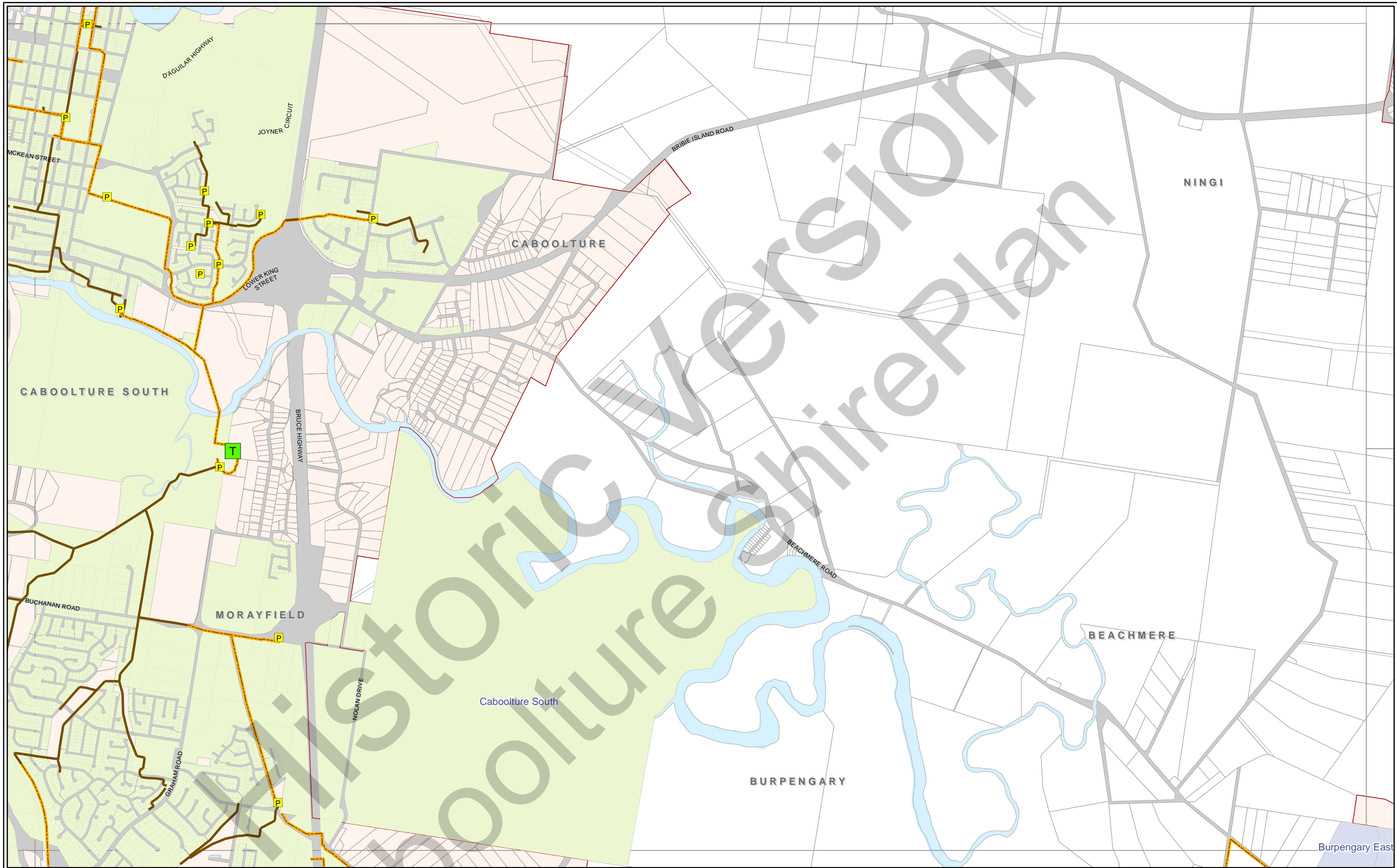


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



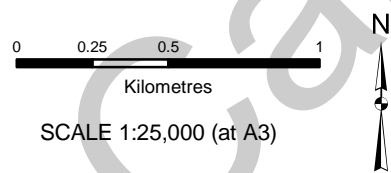
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 9

EFFECTIVE FROM 29 October 2009

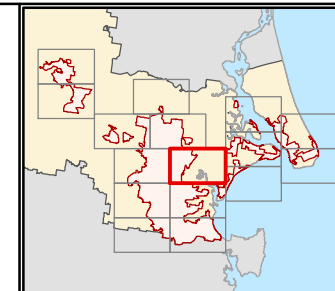


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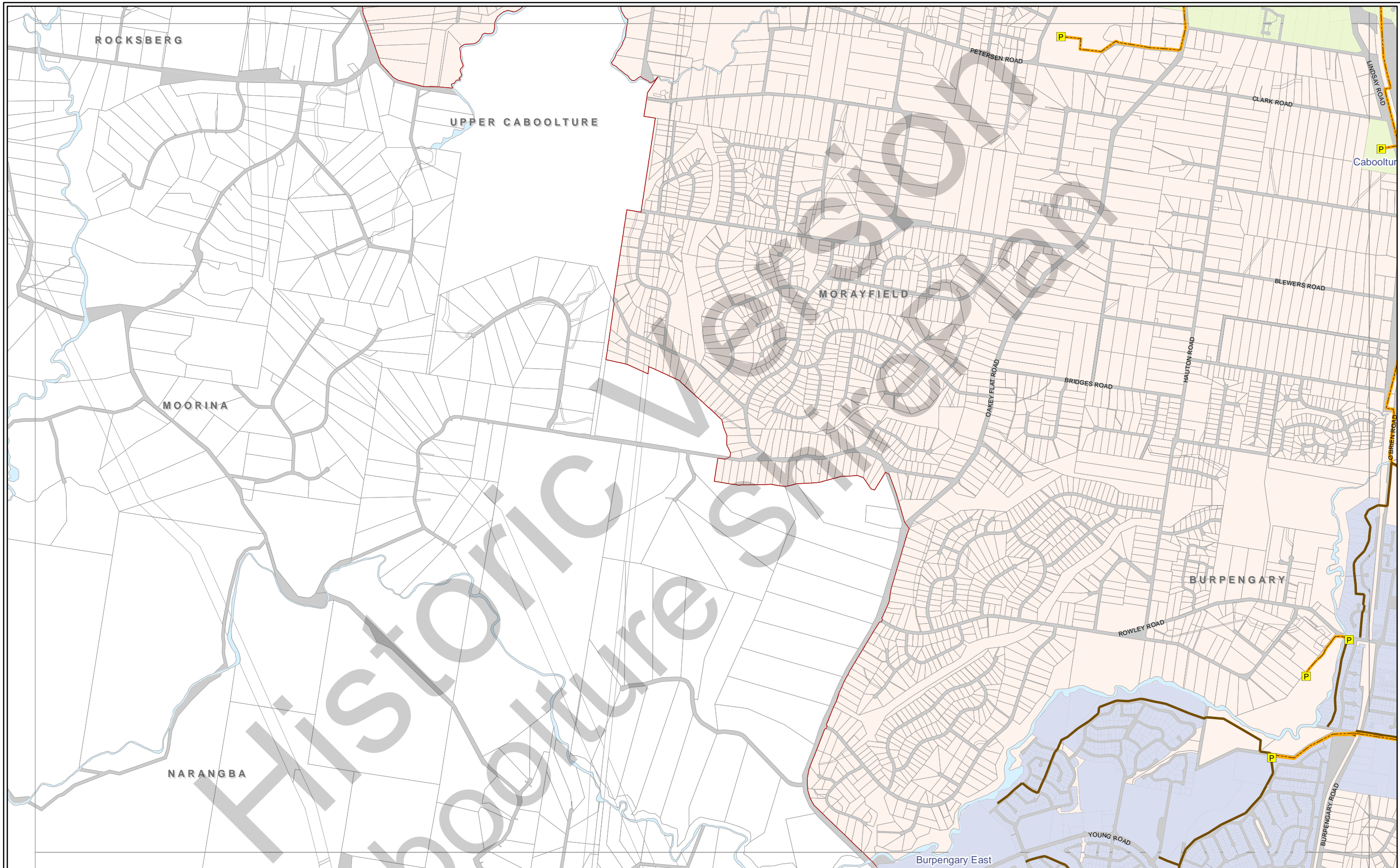


- | | | |
|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



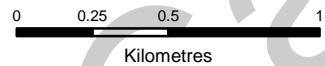
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 10

EFFECTIVE FROM 29 October 2009



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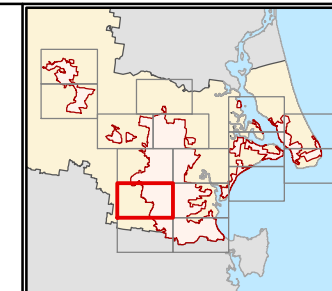
SCALE 1:25,000 (at A3)



- Sewer Pump Station
- Sewer Treatment Plant
- Trunk Sewer Mains
- Sewer Gravity Main
- Sewer Rising Main

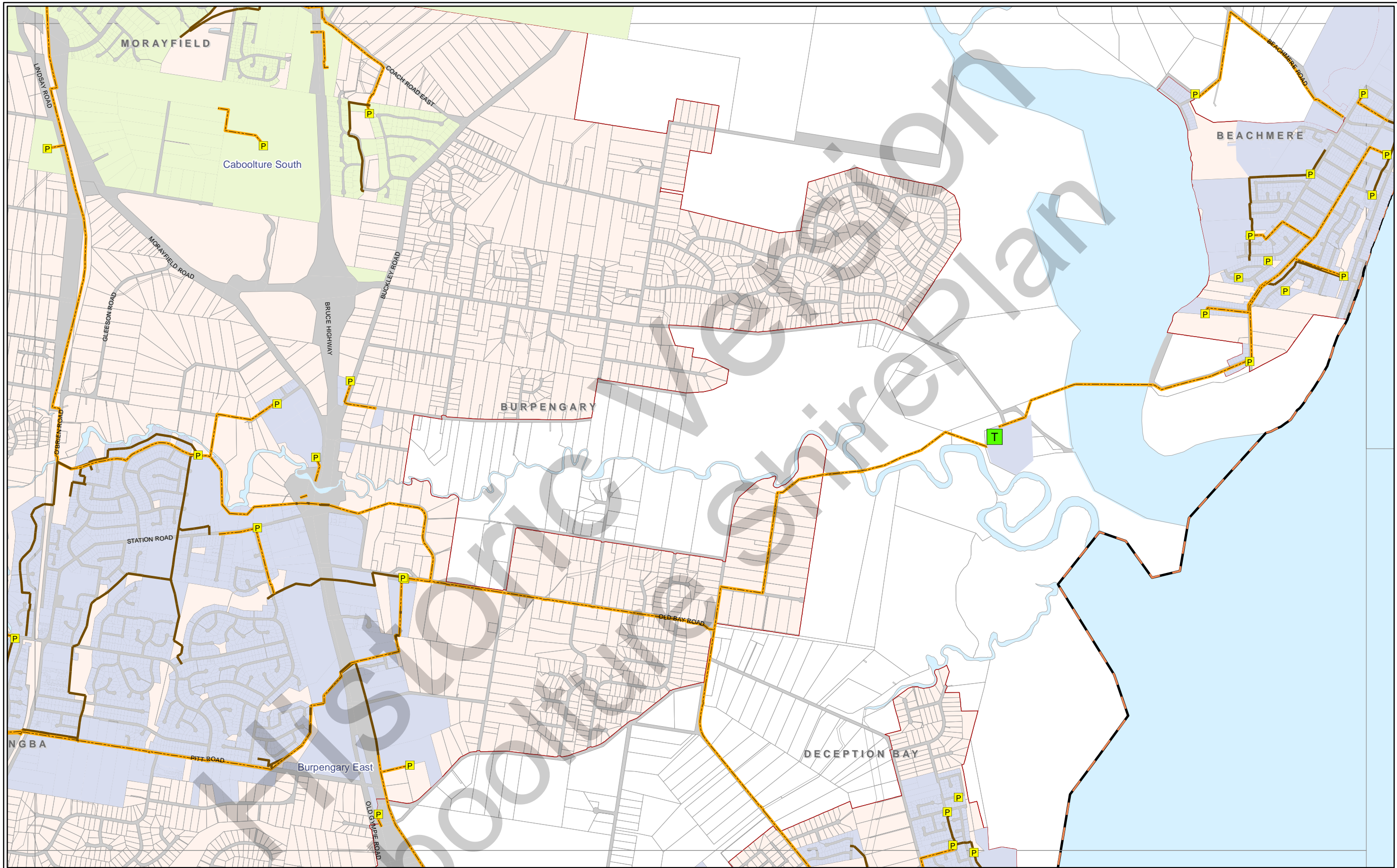
- Sewer Catchments: Bribie Island
- Burpengary East
- Caboolture South
- Woodford

- DISA Boundary
- Shire Boundary
- Cadastre



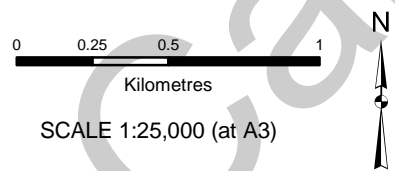
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 11

EFFECTIVE FROM 29 October 2009

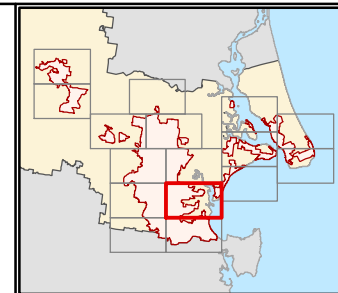


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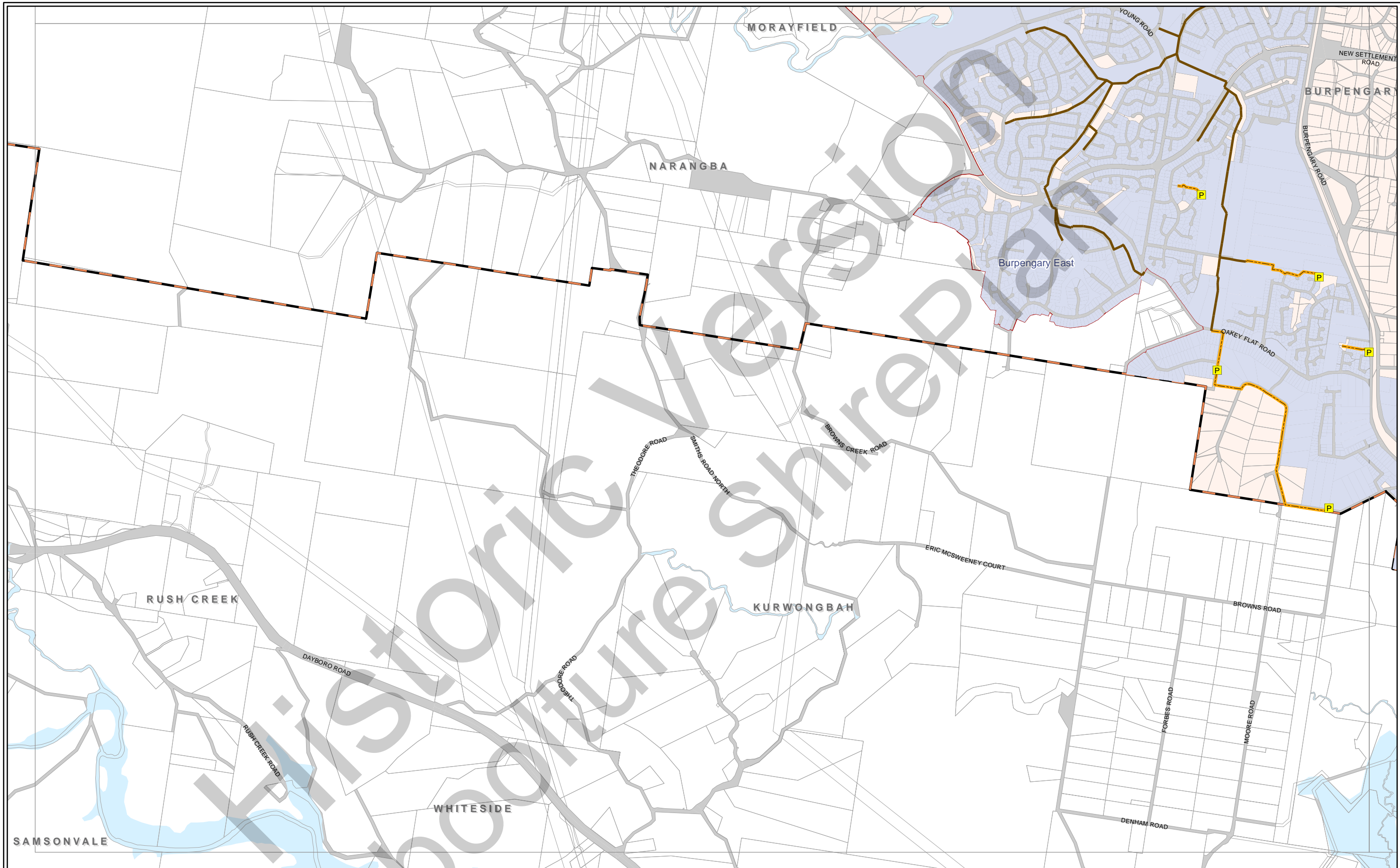


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



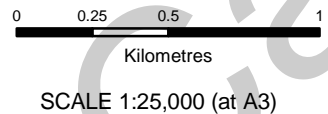
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 12

EFFECTIVE FROM 29 October 2009

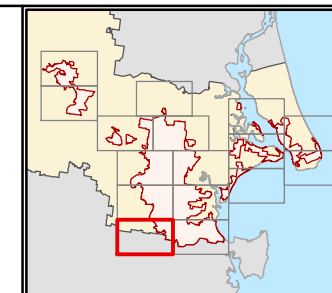


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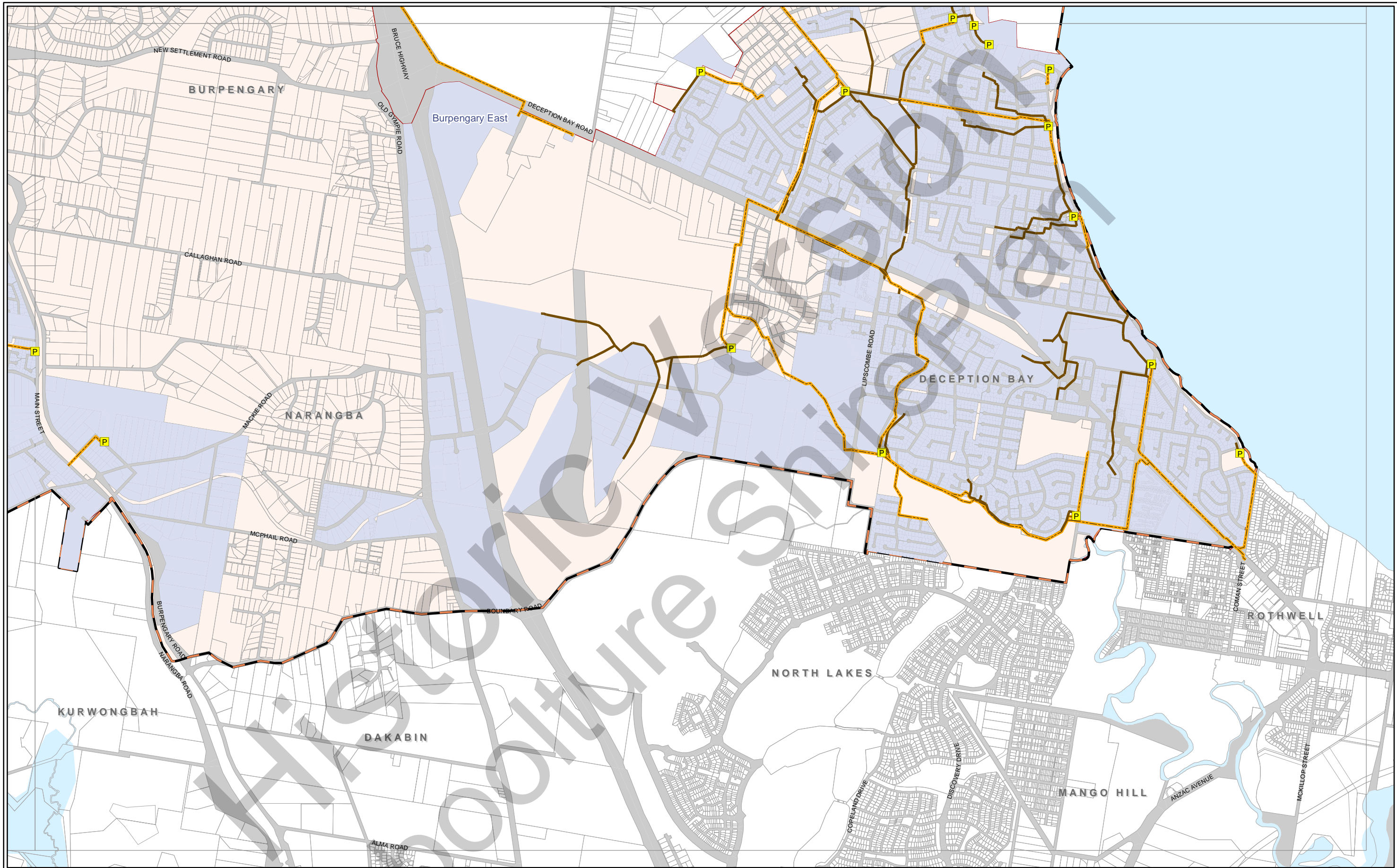


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



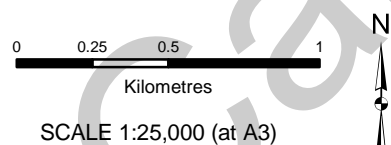
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 13

EFFECTIVE FROM 29 October 2009

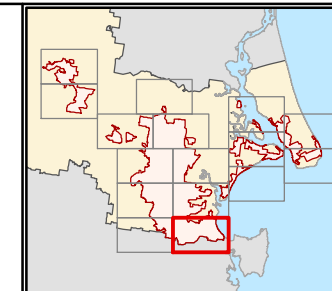


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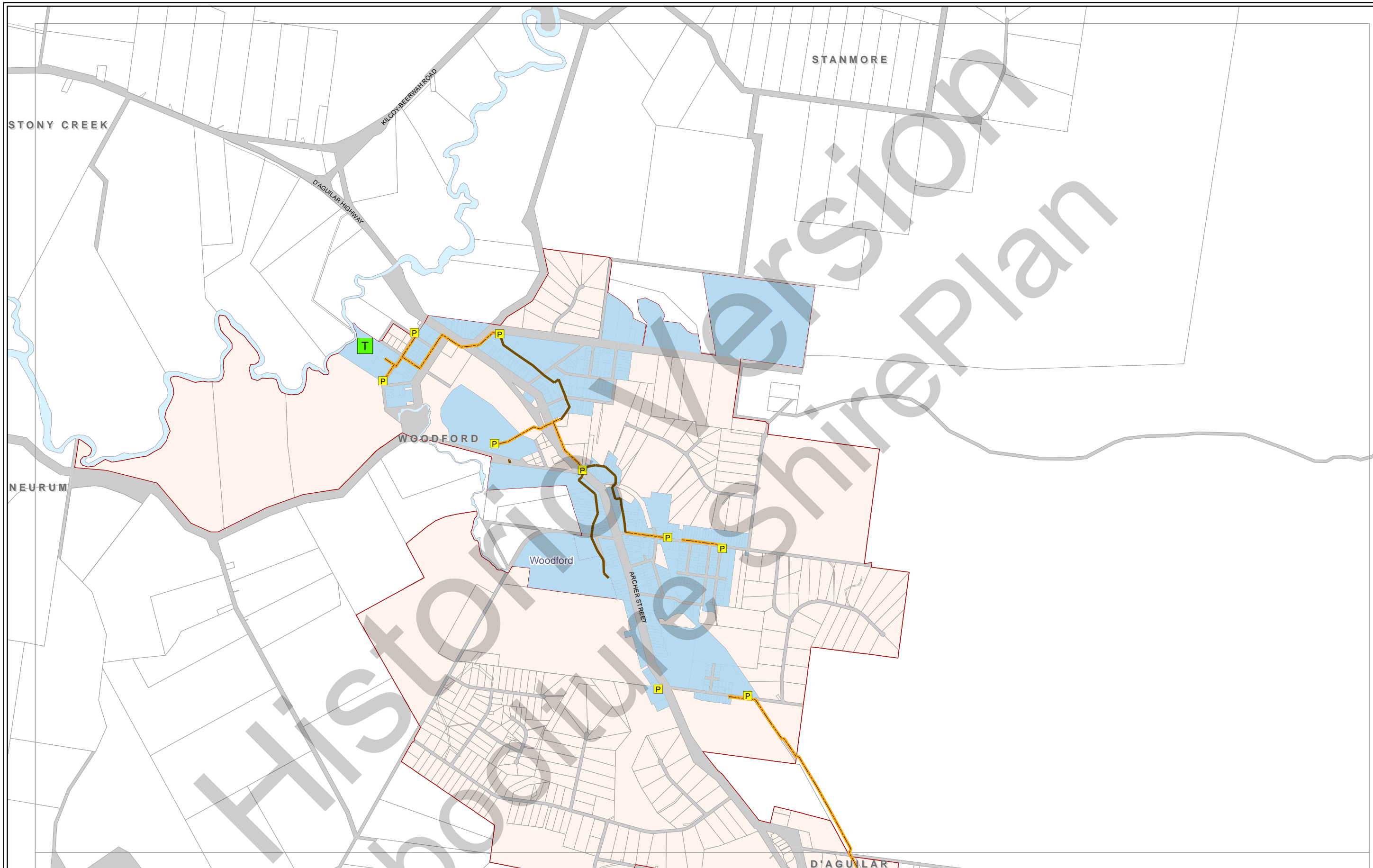


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Sewer Treatment Plant | Bribie Island | Shire Boundary |
| Trunk Sewer Mains | Burpengary East | Cadastre |
| Sewer Gravity Main | Caboolture South | |
| Sewer Rising Main | Woodford | |



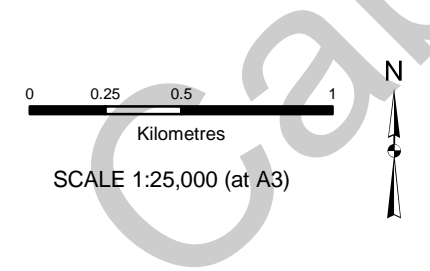
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 14

EFFECTIVE FROM 29 October 2009

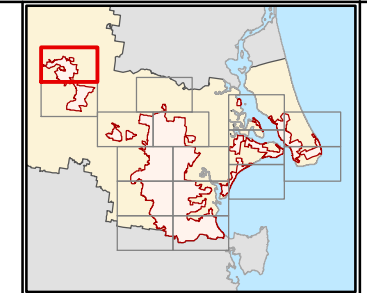


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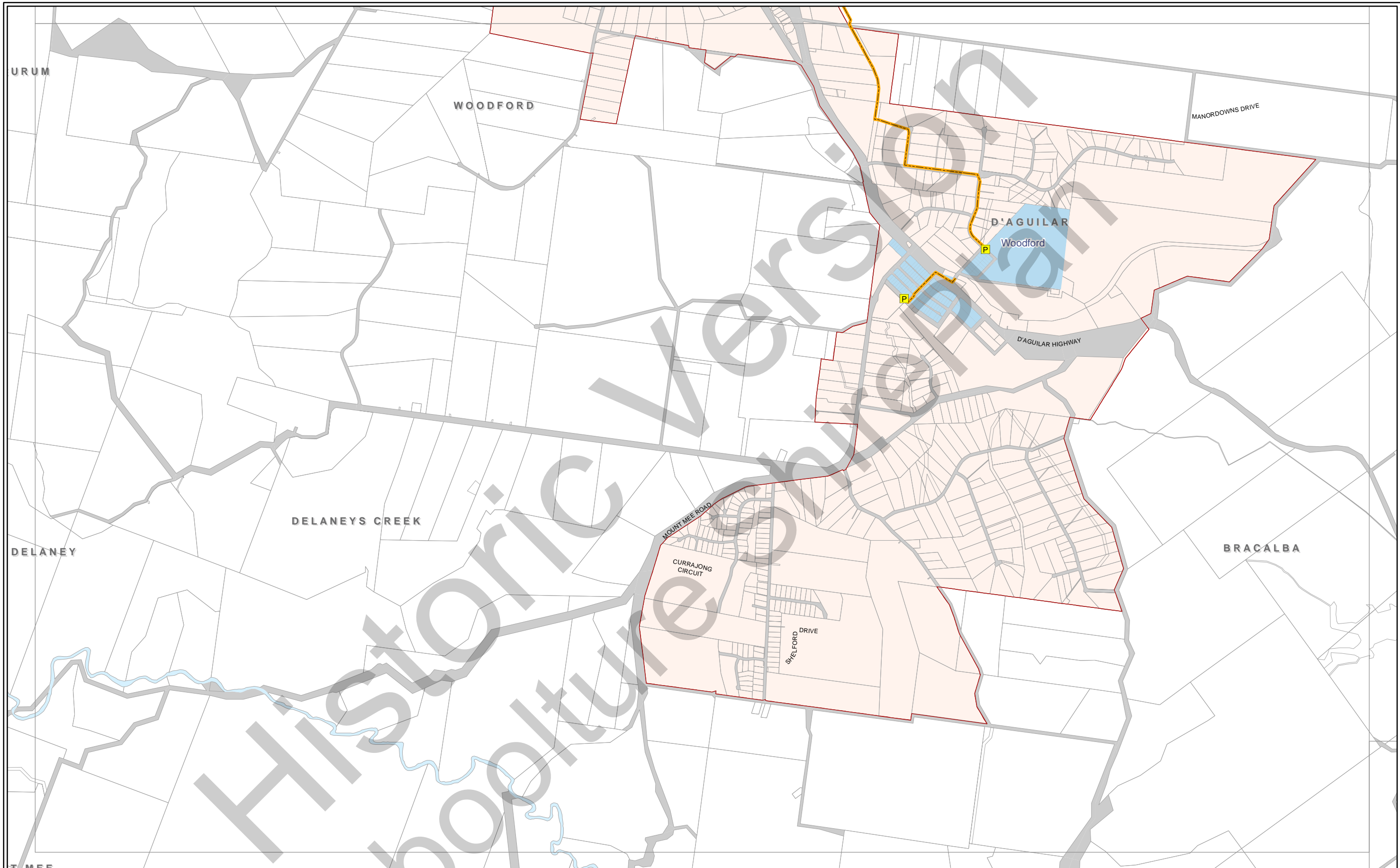
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- Sewer Pump Station
 - Sewer Treatment Plant
 - Trunk Sewer Mains
 - Sewer Gravity Main
 - Sewer Rising Main
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford
- DISA Boundary
 - Shire Boundary
 - Cadastre

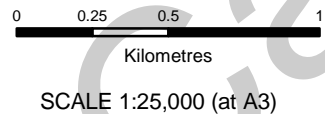


Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 15
 EFFECTIVE FROM 29 October 2009

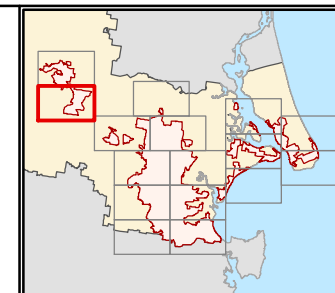


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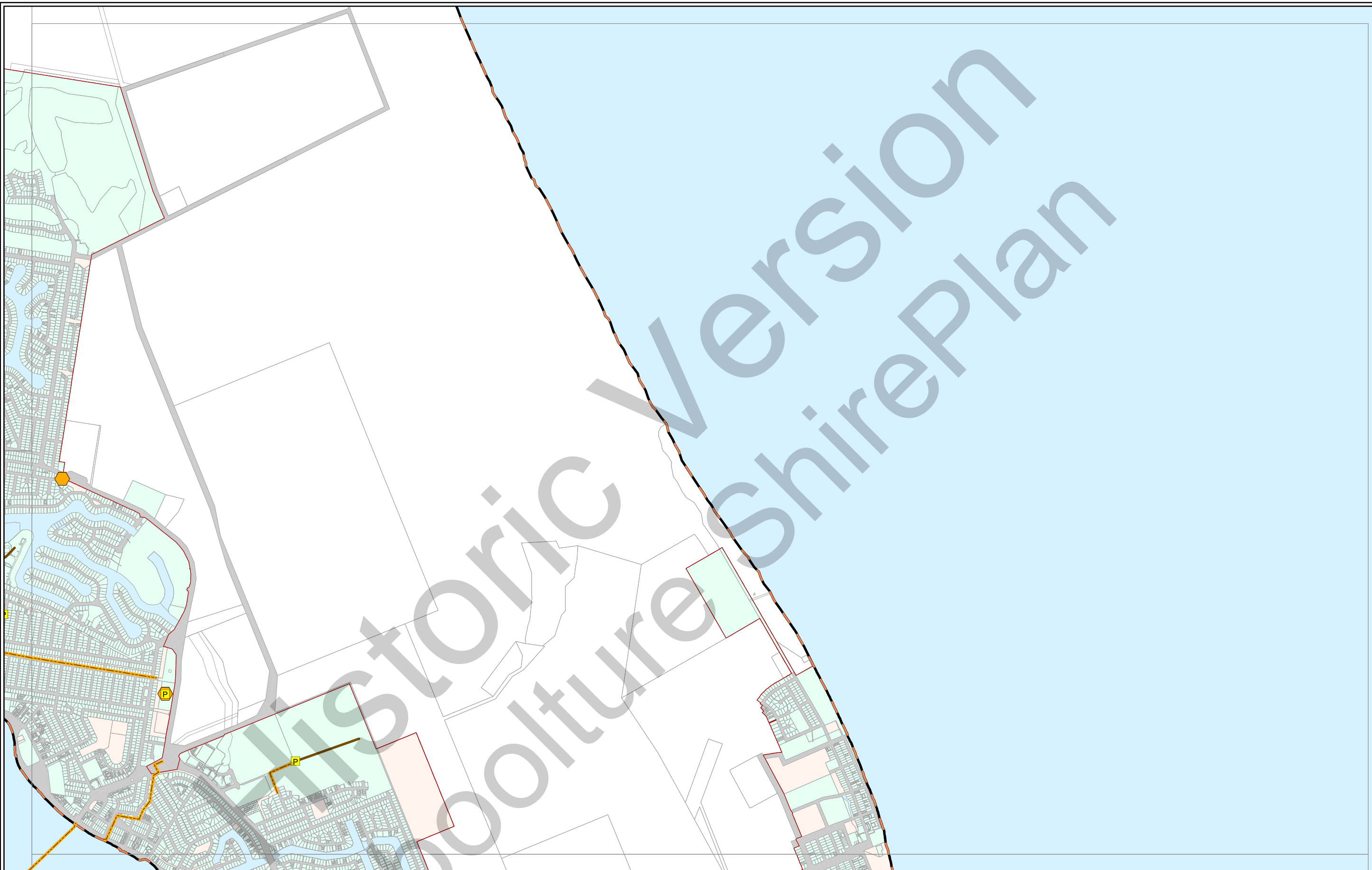


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|-----------------------|------------------|----------------|
| Sewer Pump Station | Bribie Island | DISA Boundary |
| Sewer Treatment Plant | Burpengary East | Shire Boundary |
| Trunk Sewer Mains | Caboolture South | Cadastre |
| Sewer Gravity Main | Woodford | |
| Sewer Rising Main | | |



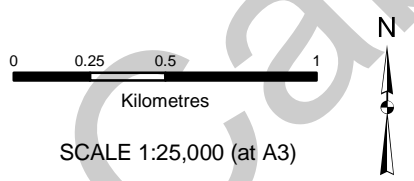
Caboolture Shire
Existing
Sewer Trunk
Infrastructure
 MAP SE 16
 EFFECTIVE FROM 29 October 2009

Historic Caboolture Shire Plan

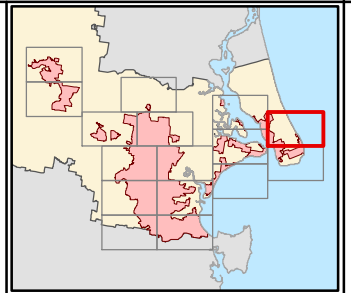


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- | | | |
|---------------------------|------------------|----------------|
| Future Sewer Pump Station | Sewer Catchments | DISA Boundary |
| Future Sewer Holding Tank | Bribie Island | Shire Boundary |
| Treatment Plants | Burpengary East | Cadastre |
| Future Gravity Main | Caboolture South | |
| Future Rising Main | Woodford | |
| CODE | | |



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

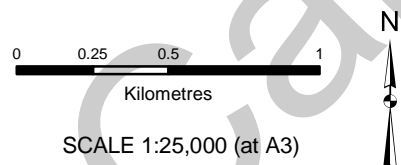
MAP SF 1

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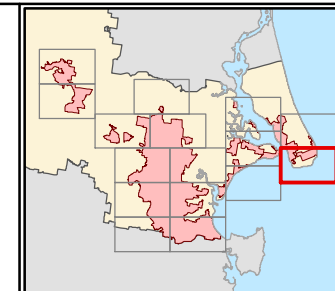
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

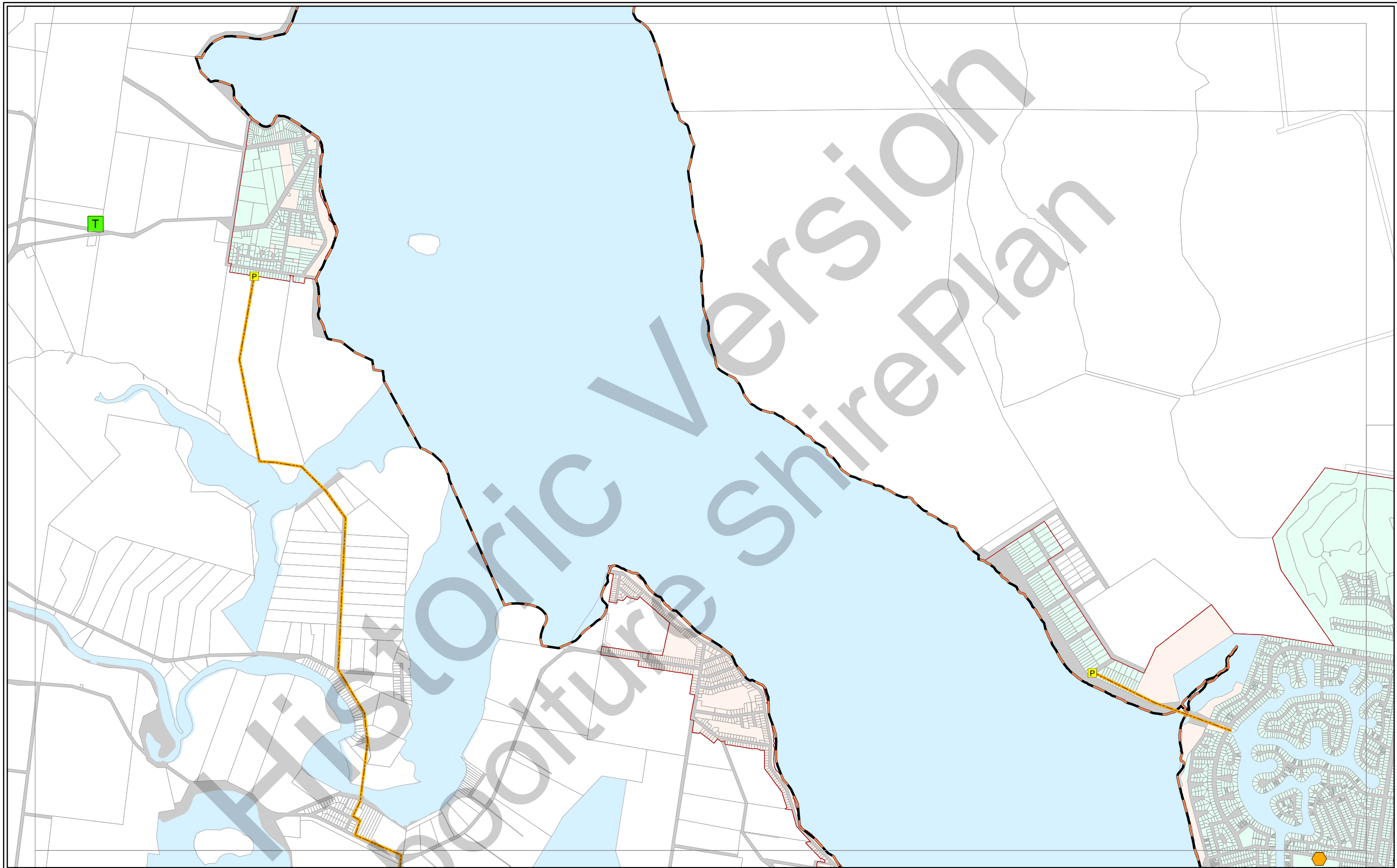
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

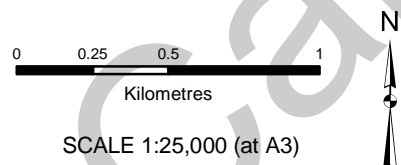
MAP SF 2

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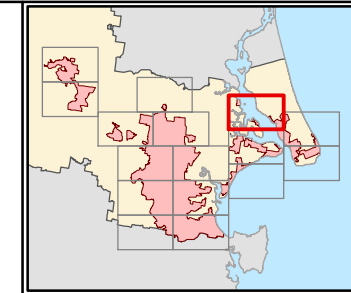
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

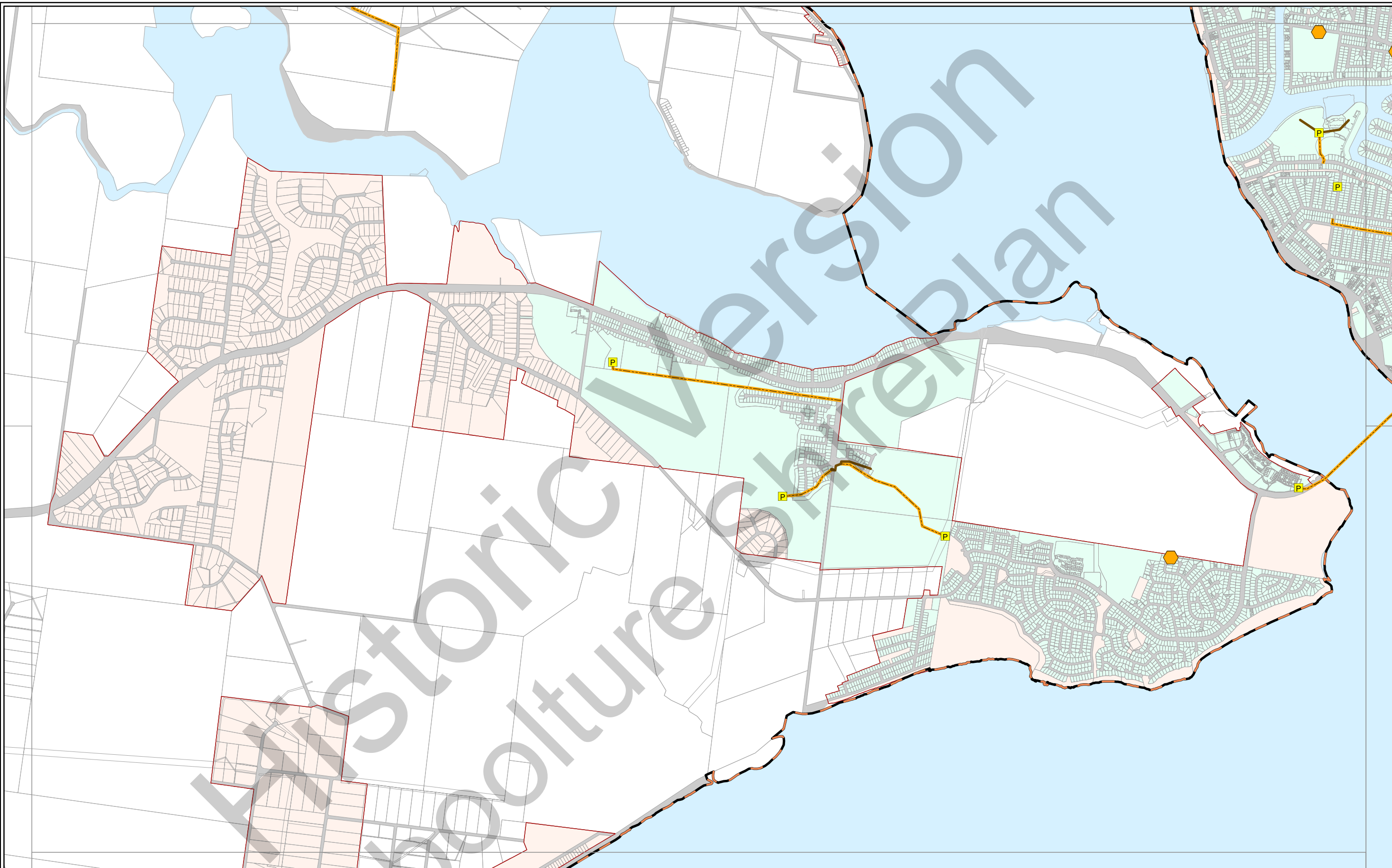
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

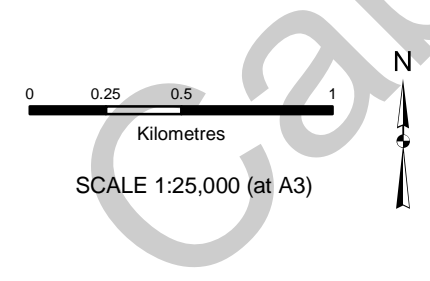
MAP SF 3











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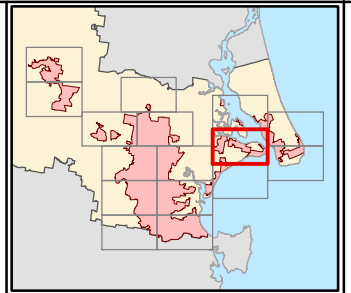


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- | | | |
|---|--|---|
| <ul style="list-style-type: none">  Future Sewer Pump Station  Future Sewer Holding Tank  Treatment Plants  Future Gravity Main  Future Rising Main | <p>Sewer Catchments</p> <ul style="list-style-type: none">  Bribie Island  Burpengary East  Caboolture South  Woodford | <ul style="list-style-type: none">  DISA Boundary  Shire Boundary  Cadastre |
|---|--|---|



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

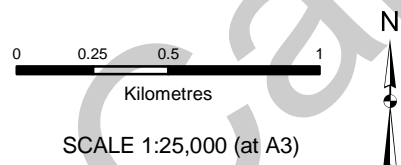
MAP SF 4

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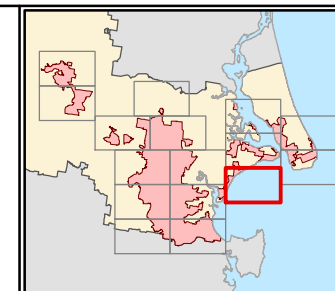
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main
CODE

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

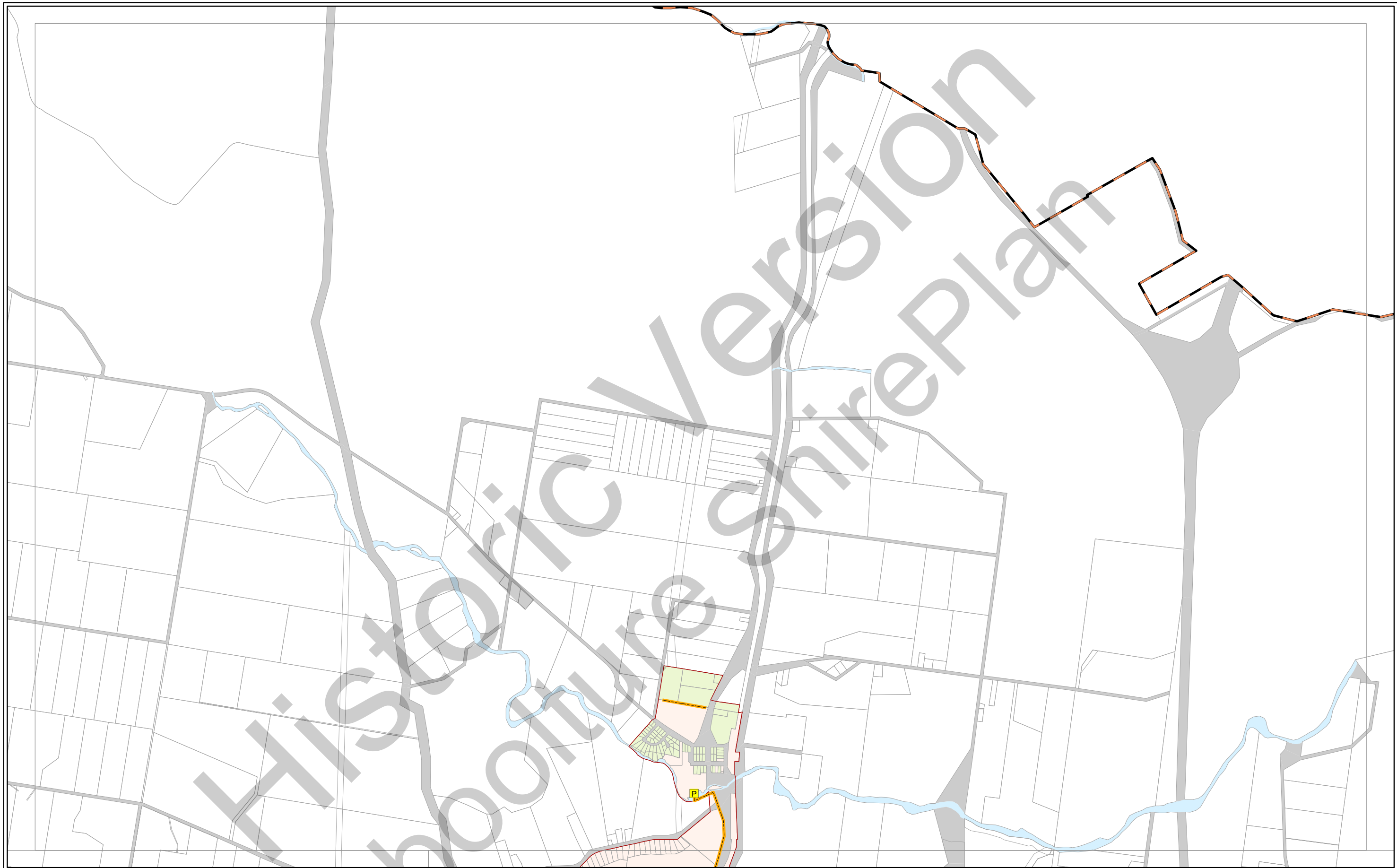
- DISA Boundary
- Shire Boundary
- Cadastre



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

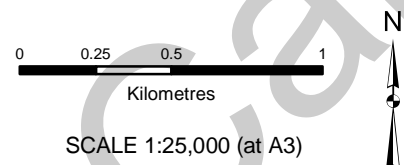
MAP SF 5

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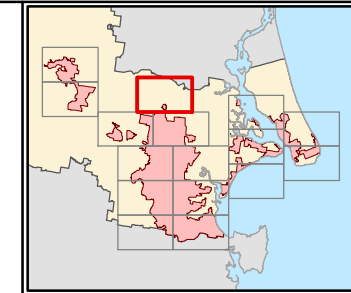
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- Future Sewer Pump Station
 - Future Sewer Holding Tank
 - Treatment Plants
 - Future Gravity Main
 - Future Rising Main
- CODE**

- Sewer Catchments**
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

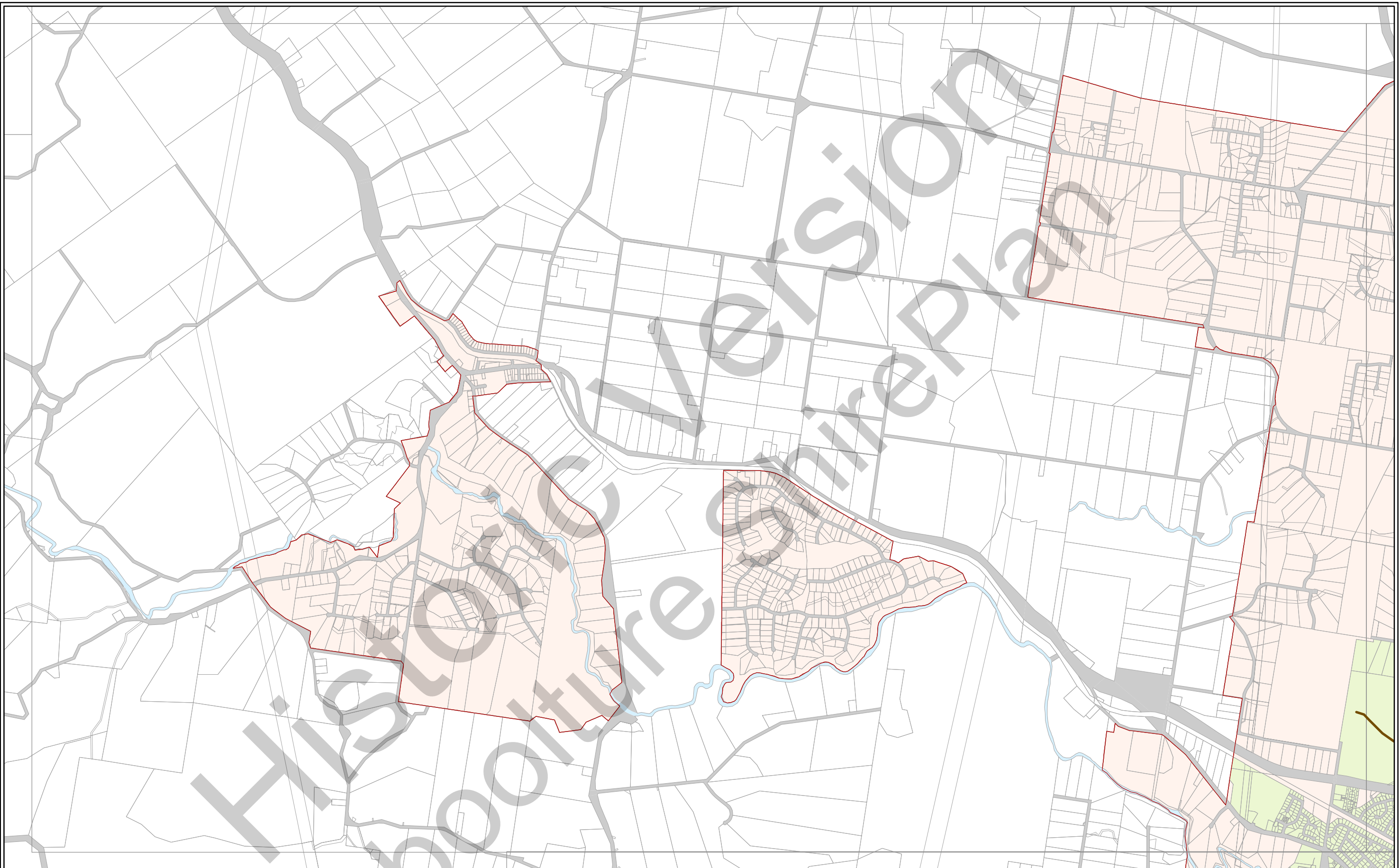
- DISA Boundary
- Shire Boundary
- Cadastre



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

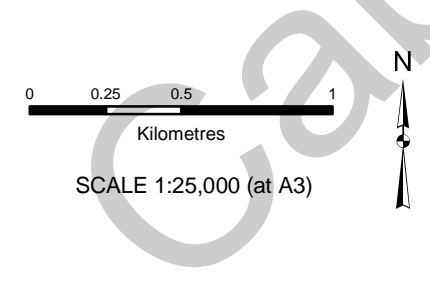
MAP SF 6

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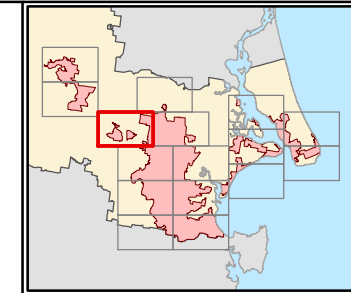
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- Future Sewer Pump Station
 - Future Sewer Holding Tank
 - Treatment Plants
 - Future Gravity Main
 - Future Rising Main
- CODE**

- Sewer Catchments**
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

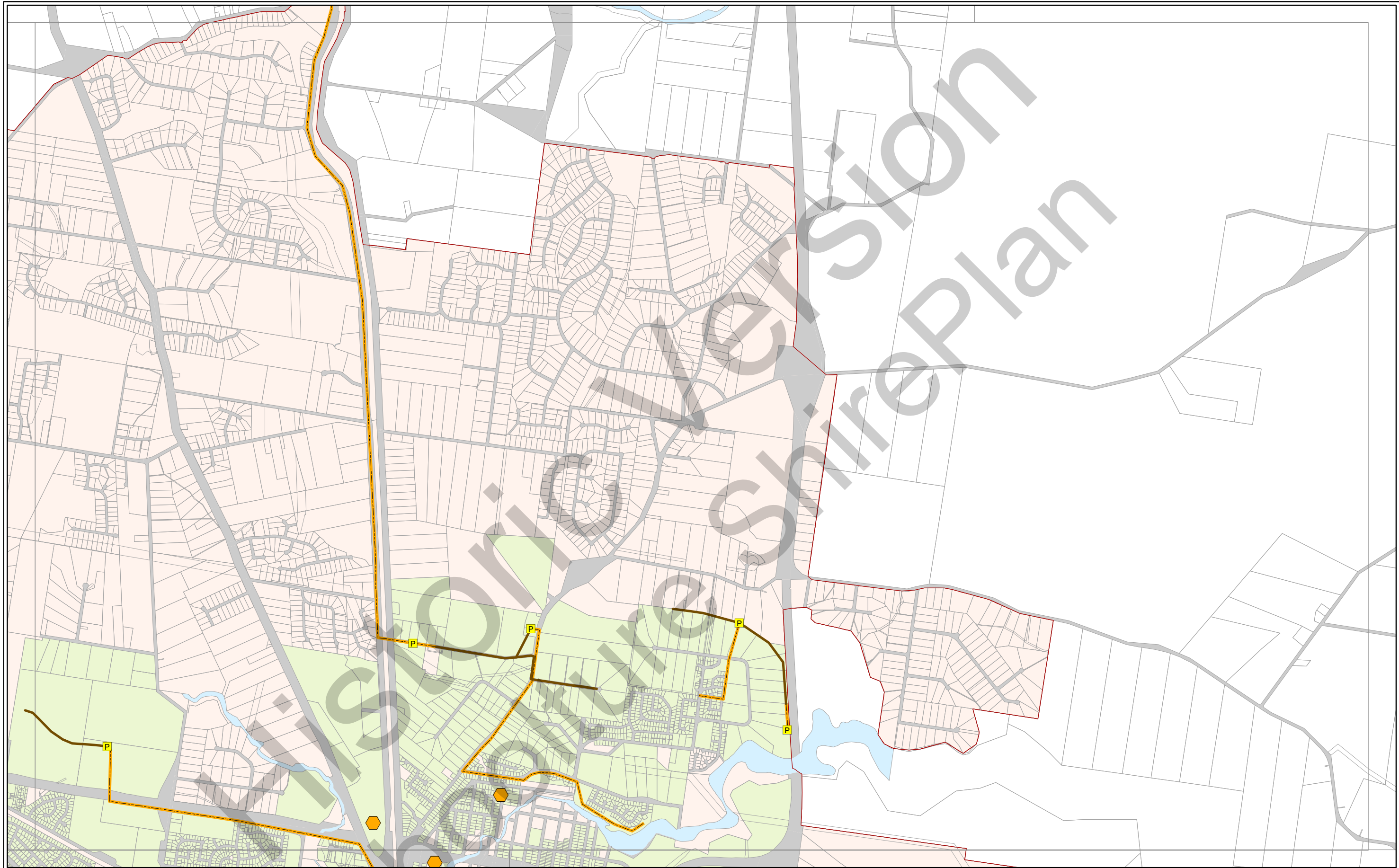
- DISA Boundary
- Shire Boundary
- Cadastre



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

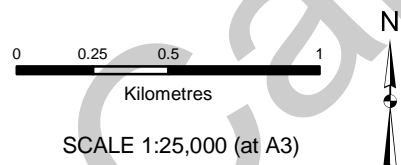
MAP SF 7

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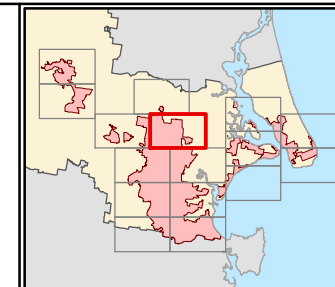
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- Future Sewer Pump Station
 - Future Sewer Holding Tank
 - Treatment Plants
 - Future Gravity Main
 - Future Rising Main
- CODE**

- Sewer Catchments**
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

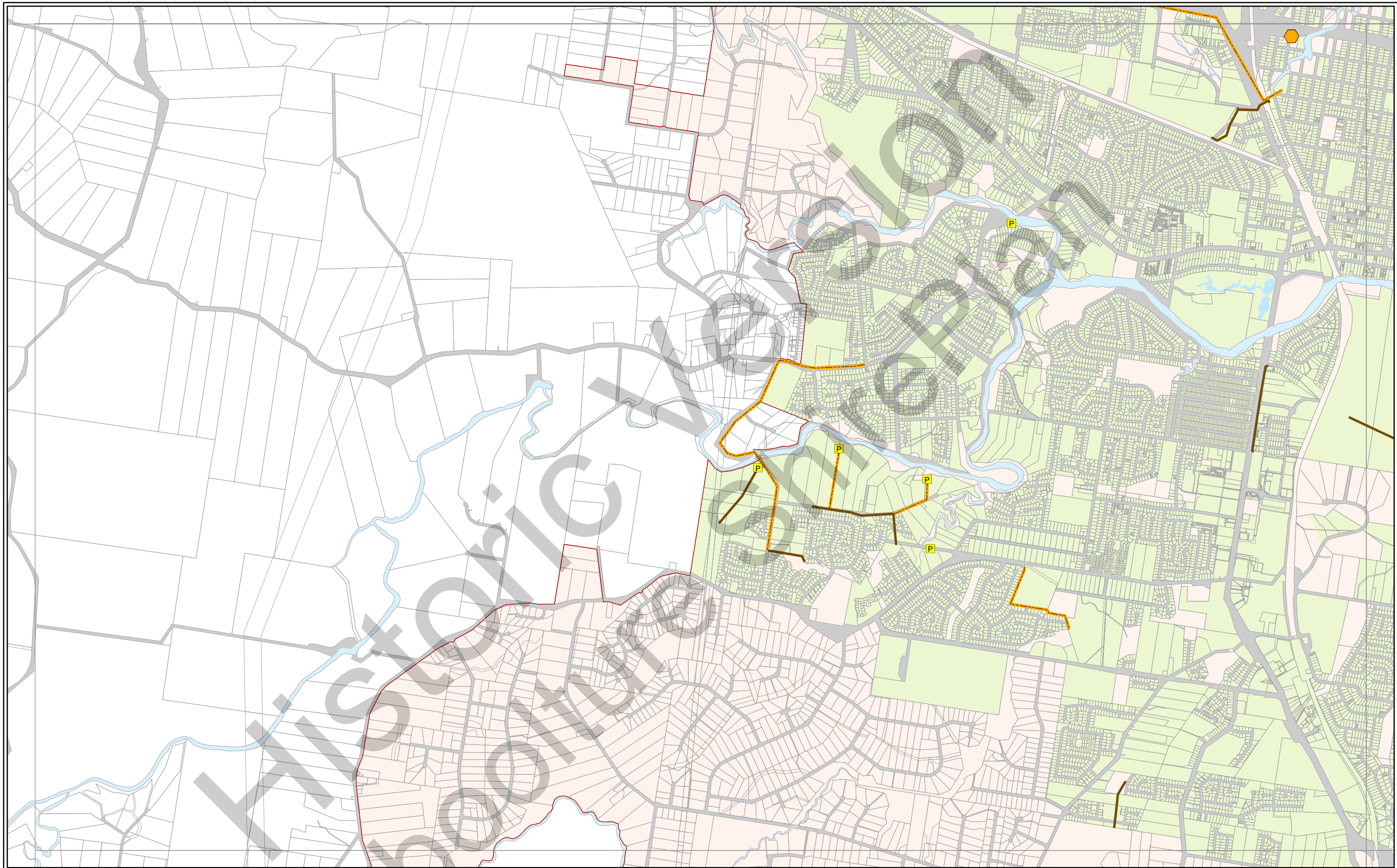
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

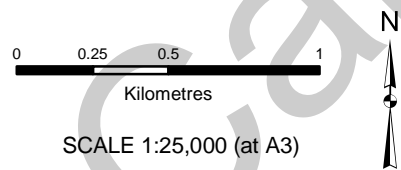
MAP SF 8

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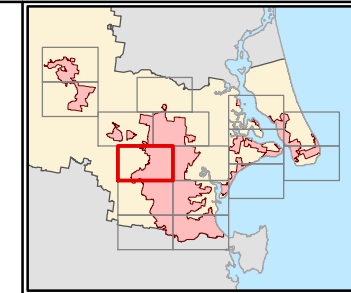
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main CODE

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

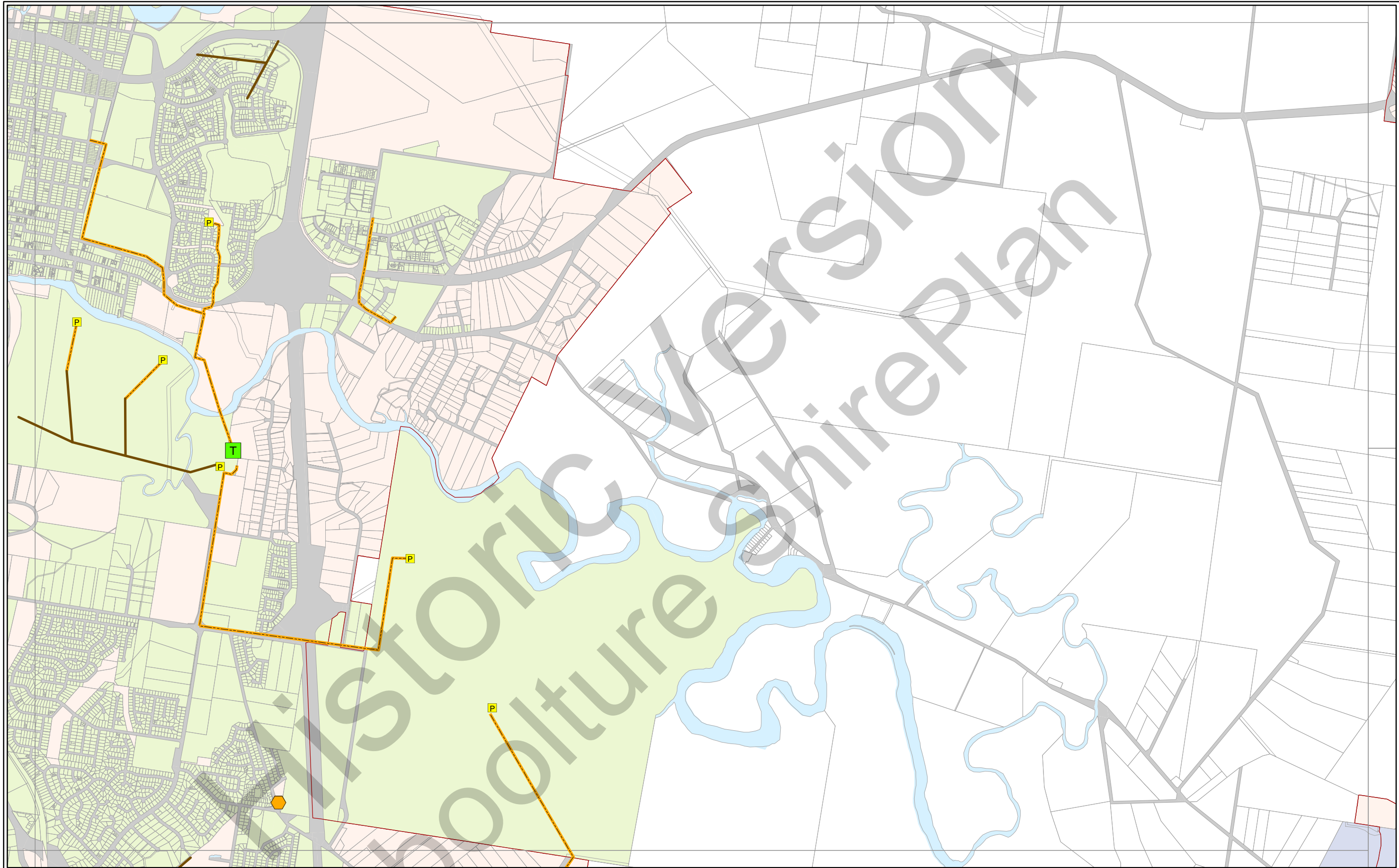
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

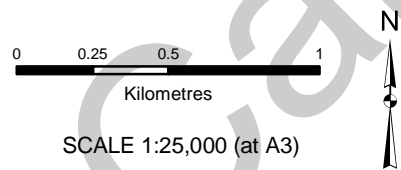
MAP SF 9

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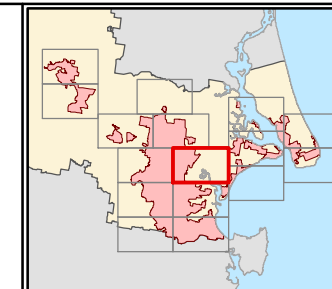
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main
CODE

- Sewer Catchments
- Bribe Island
 - Burpengary East
 - Caboolture South
 - Woodford

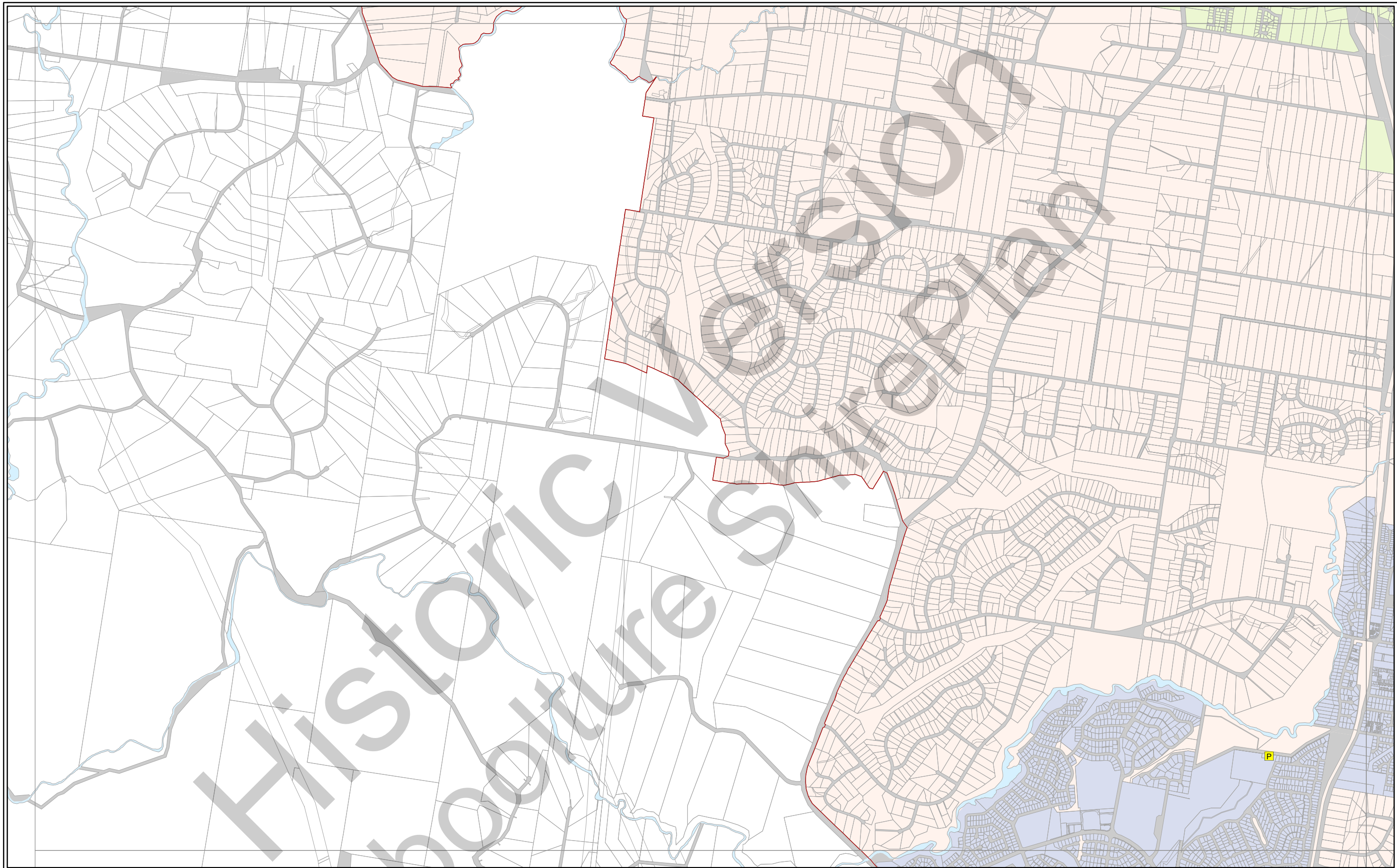
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

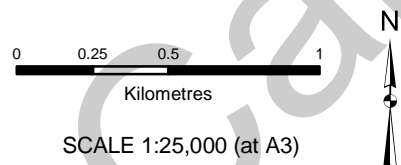
MAP SF10

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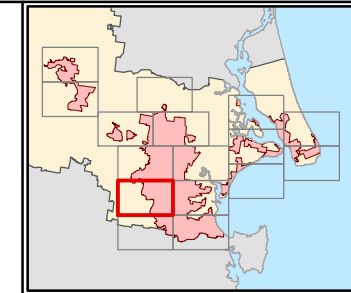
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments**
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

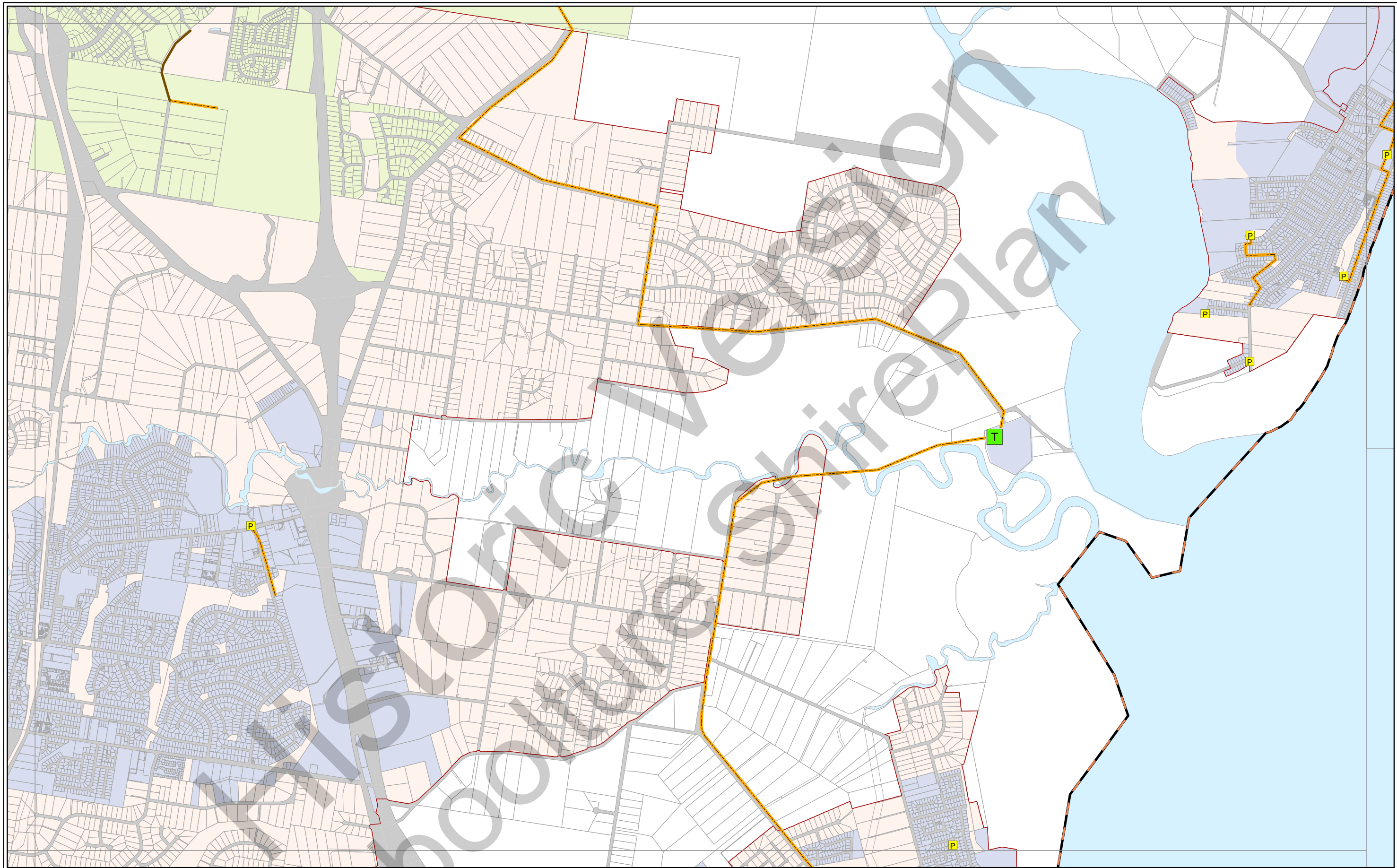
- DISA Boundary
- Shire Boundary
- Cadastre



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

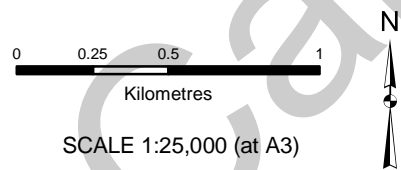
MAP SF11

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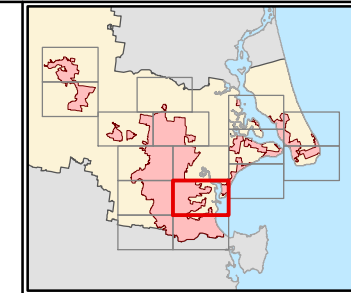
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

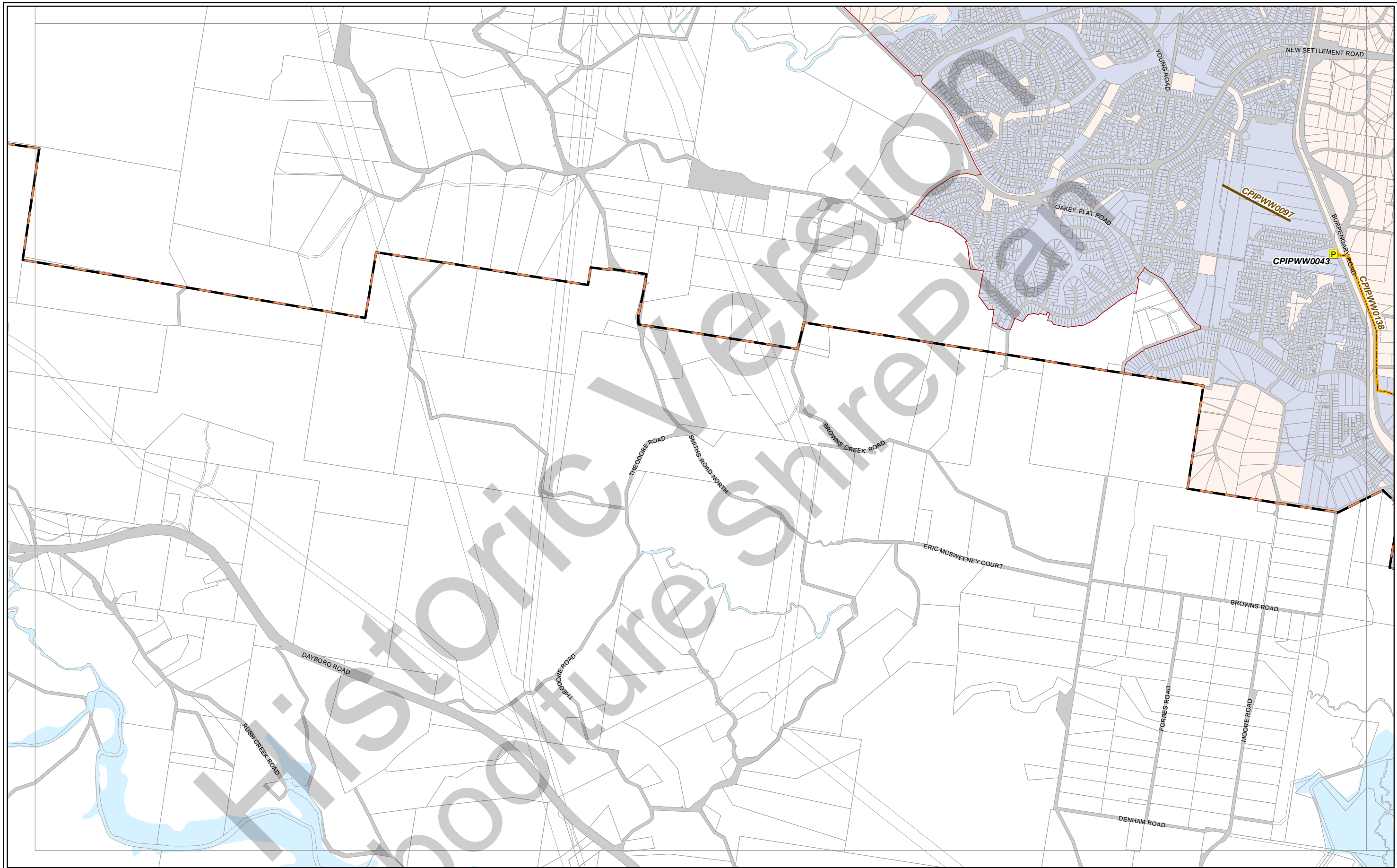
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

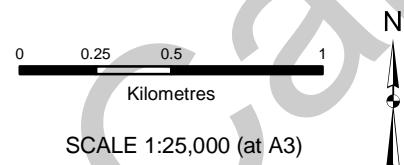
MAP SF12

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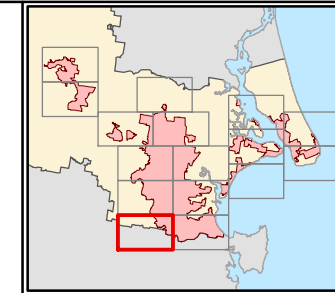
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

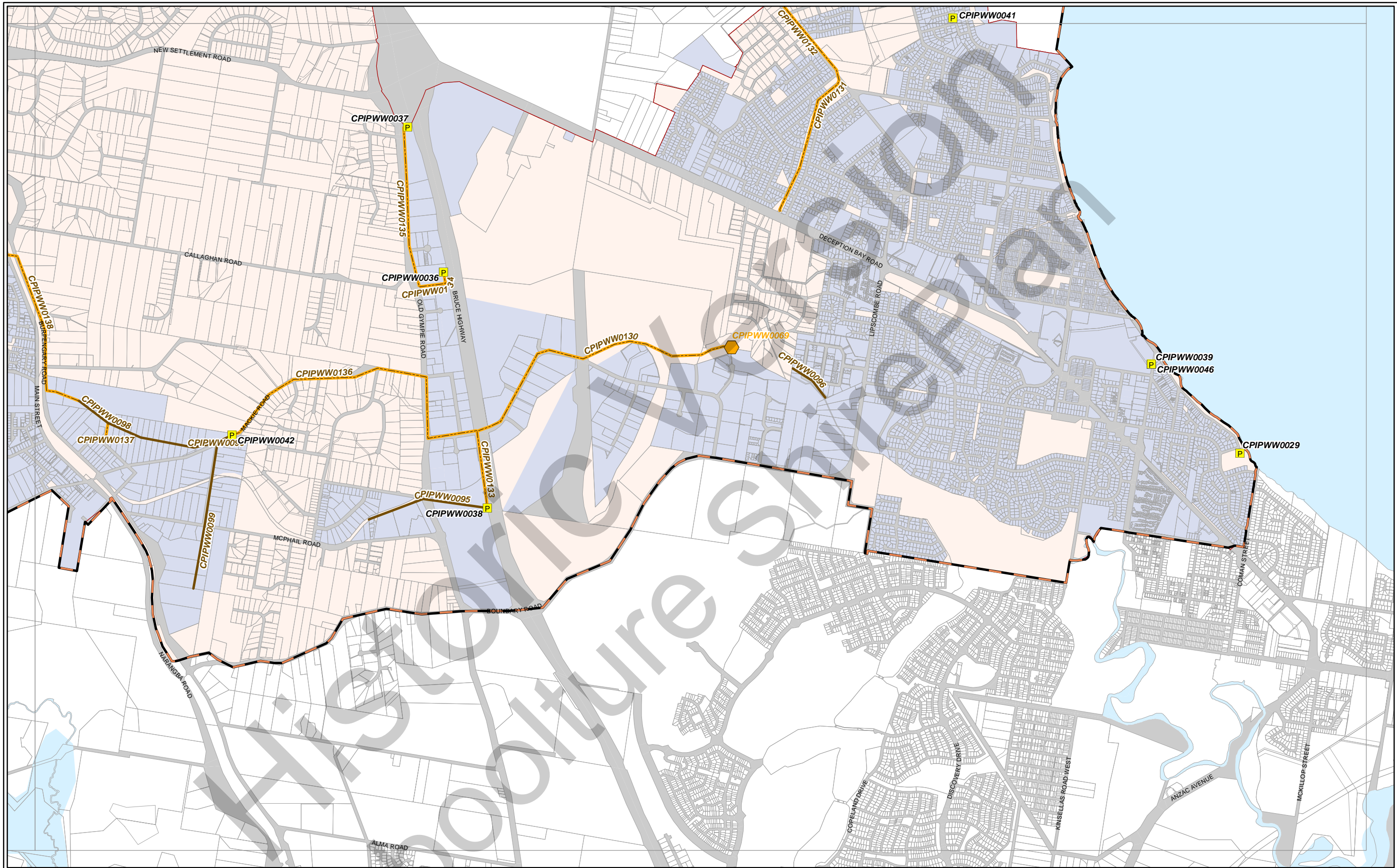
- Sewer Catchments
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

- DISA Boundary
- Shire Boundary
- Cadastre



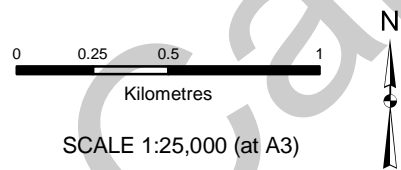
**Caboolture Shire
Future
Sewer Trunk
Infrastructure**
MAP SF13

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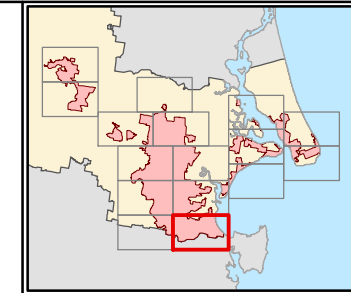
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments**
- Bribie Island
- Burpengary East
- Caboolture South
- Woodford

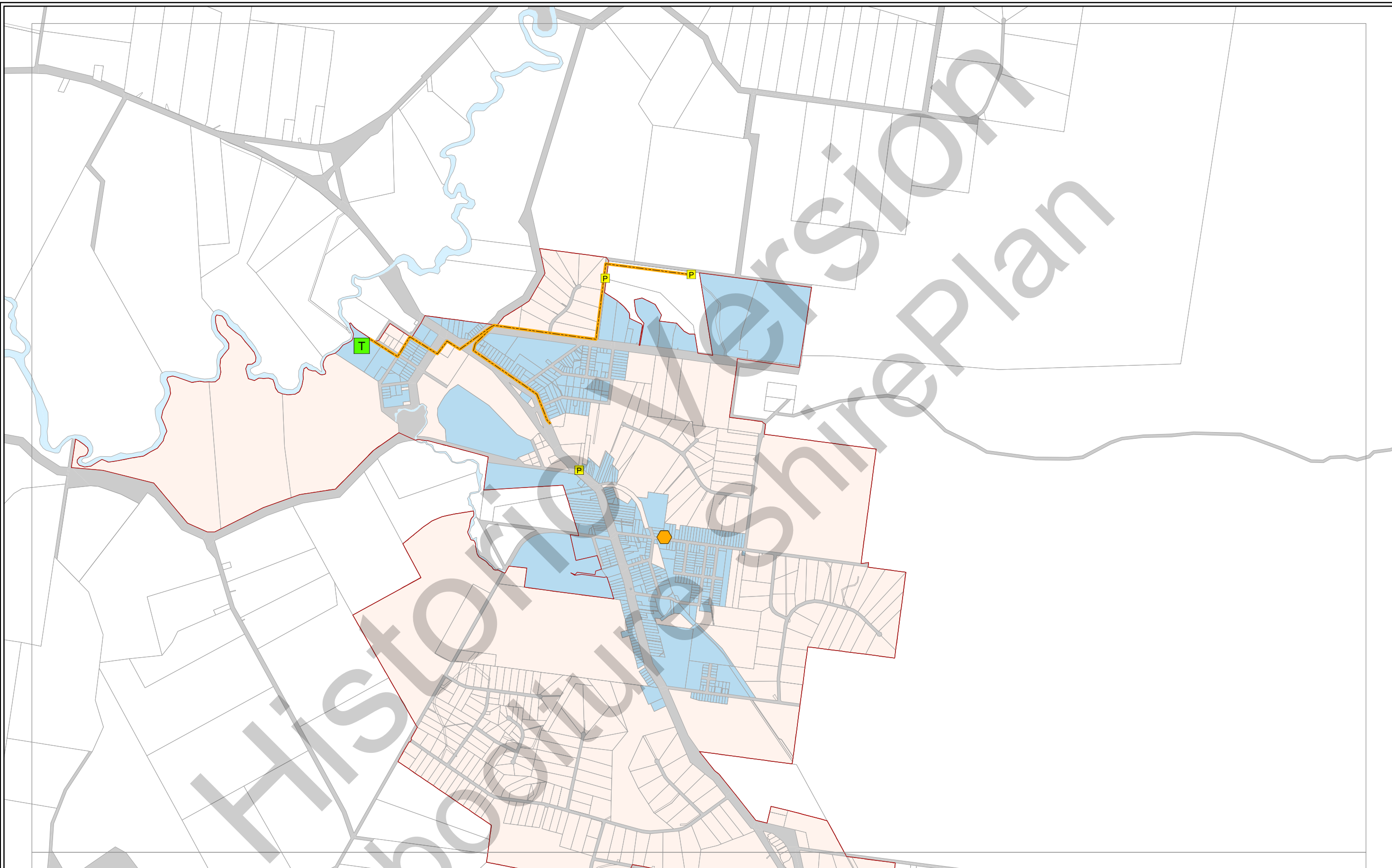
- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

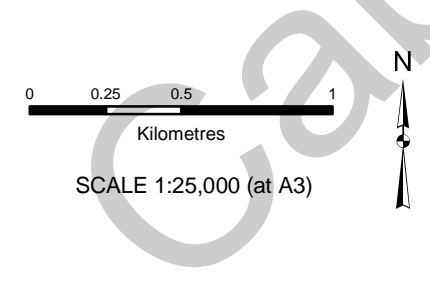
MAP SF14

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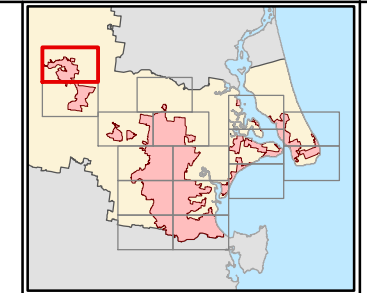


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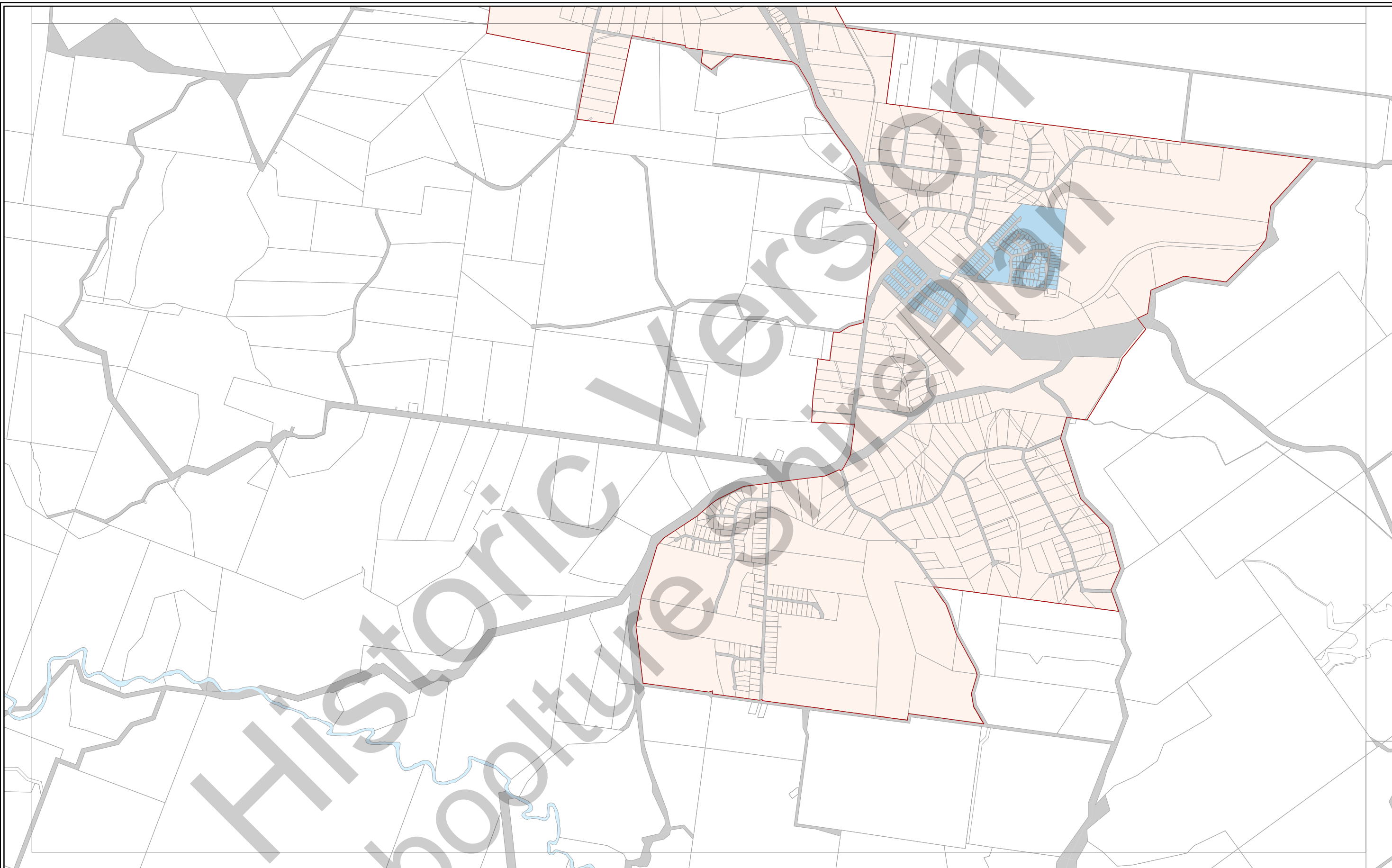
- | | | |
|---------------------------|------------------|----------------|
| Future Sewer Pump Station | Bribie Island | DISA Boundary |
| Future Sewer Holding Tank | Burpengary East | Shire Boundary |
| Treatment Plants | Caboolture South | Cadastre |
| Future Gravity Main | Woodford | |
| Future Rising Main | | |
| CODE | | |



**Caboolture Shire
Future
Sewer Trunk
Infrastructure**

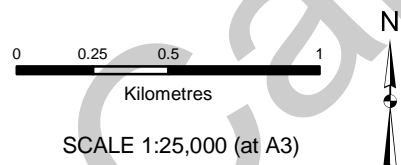
MAP SF15

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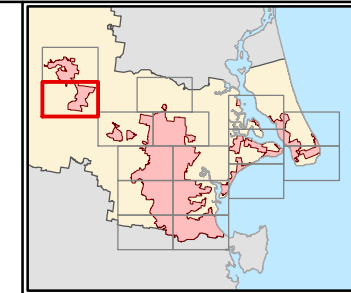
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- Future Sewer Pump Station
- Future Sewer Holding Tank
- Treatment Plants
- Future Gravity Main
- Future Rising Main

- Sewer Catchments**
- Bribie Island
 - Burpengary East
 - Caboolture South
 - Woodford

- DISA Boundary
- Shire Boundary
- Cadastre



Caboolture Shire Future Sewer Trunk Infrastructure

MAP SF16

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Schedule E: Desired Standards of Service

The Desired Standards of Service for Sewerage trunk infrastructure provision under this policy are expressed in terms of ‘Planning Criteria’ and ‘Design Criteria’.

The ‘Planning Criteria’ and ‘Design Criteria’ are aimed at achieving the stated purpose of the *Integrated Planning Act* while satisfying the relevant requirements of the *Environmental Protection Act*. The detailed design parameters are the means by which the performance requirements of the operational objectives are achieved.

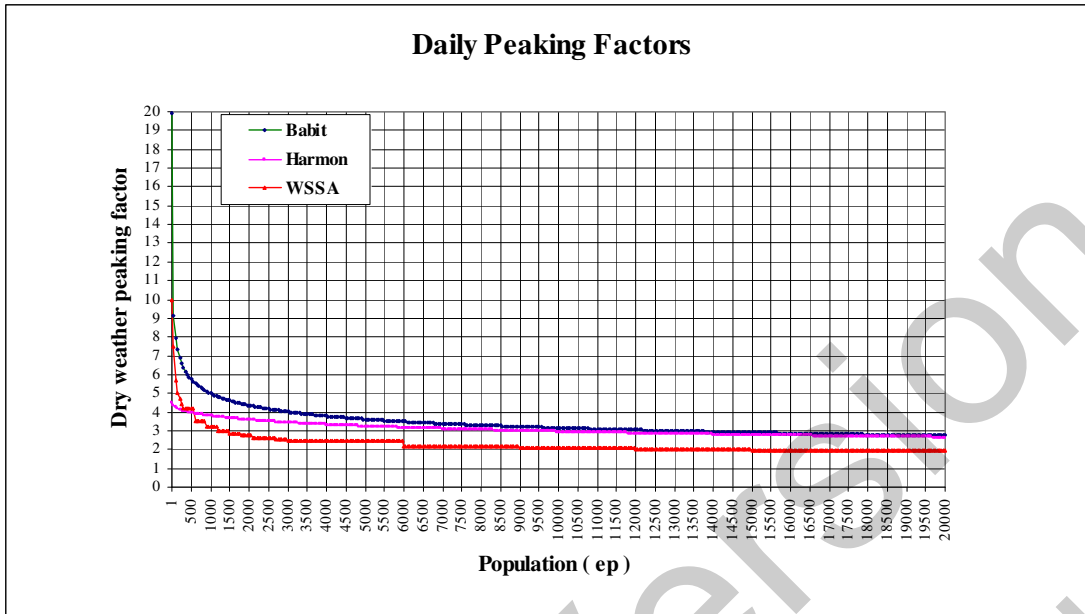
TableE1 - Sewerage Planning Criteria

Measure	Planning Objectives
<ul style="list-style-type: none"> The sewerage network is planned to utilise only the existing and planned wastewater treatment plants and is compatible with operating licence conditions prescribed by the Environmental Protection Agency for the waste water treatment plants and associated reticulation and appurtenances. 	<ul style="list-style-type: none"> Encourage the efficient location of development in relation to waste treatment and outfall facilities. Maintain nutrient loadings which comply with the waste water treatment plants licence.
<ul style="list-style-type: none"> Provide containment and odour control strategies that meet or exceed CabWater’s performance targets. Minimise whole-of-life costs for the sewer and sewage treatment systems. 	<ul style="list-style-type: none"> Less than 2 overflows onto property per thousand connections per year. Less than 8 spills exceeding 1 kilolitre in volume per 100 kilometres of sewer mains per year. Complaints about sewage odour do not exceed 1.5 complaints per 1000 connections.

Specific design criteria devised to achieve the broader planning criteria are summarised below.

Table E2 - Sewerage Design Criteria

<p><u>Demand Assumptions</u></p> <p>MBW has decided to adopt the following criteria when designing its sewer network. These values are in accordance with the per capita demands that have been nominated by Queensland Water Commission.</p> <p><u>Per Capita Sewage Generation</u></p> <p>Queensland Water Commission in its report “SE Queensland Water Strategy“, dated March 2008 has defined their Level of Service (LOS) in terms of bulk water supply. According to the report, the residential water demand is to be no more than 230 L/ Day. The corresponding per capita sewerage generation figure is 185 L/Capita/Day. This will be taken as Average Dry Weather Flow (ADWF) for planning purposes.</p> <p><u>Peaking factors</u></p> <p>Caboolture District’s Design and Development Manual adopts WSAA code to assess the Design Flows from catchments. Peaking of flows in sewers can happen in two ways which are:</p> <p>1 <i>Peak Dry Weather Flow (PDWF):</i></p> <p>This represents what happens in mornings and evenings where lots of people use bathrooms / toilets in a short span of time.</p>



As seen from above (3 different empirical formulas) the peaking effect reduces as the catchment grows.

2 Rainfall Dependant Inflow & Infiltration (RDII)

This is the other component of peak flows. This component of flow is directly related to rainfall / high water tables / leaks in the system / unauthorised rain water connections etc. The WSA code has defined a numerical method of calculating this. This calculation has been customised to suit Caboolture District's parameters:

Loading rate	185	L/EP/day
Portion wet	1	
C = 1%	0.40	
I (1,2)	47	mm/hr
ARI	1 in 2	yr

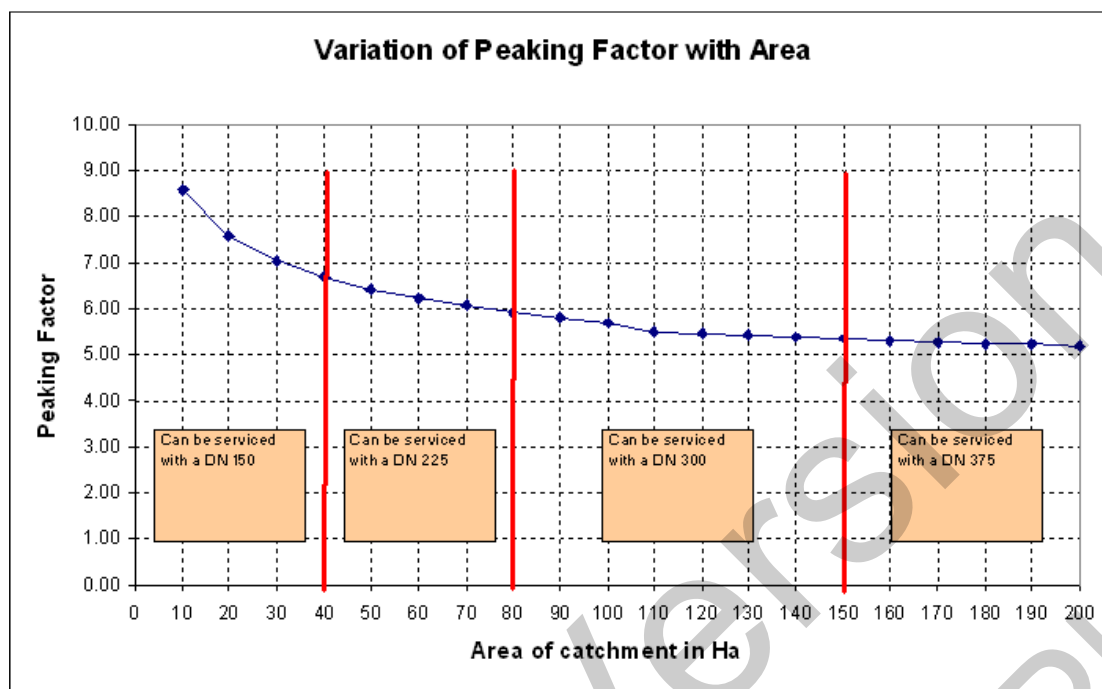
Design Flow

Method specified in WSA code has combined these two values to come up with a Design Flow.

Design Flow = PDWF + RDII

Calculation of Peaking factors Using WSA Method

The following graph shows the variation of peaking factors calculated using WSA method, and as demonstrated peaking factors tend to level off between 5 and 6 as the catchment area increases.



A peaking factor of 6 will be used to calculate design flows to not increase the risk of overflow.

Design Flow = 6 x ADWF

Gravity Sewers

Basic design criteria for gravity sewers are as follows :

- At design flow, the pipe should have an air gap of not less than 30% of pipe diameter.
- Should achieve self cleansing velocities.
- Manning's "n" to be used is 0.013

Sewer Pump Stations

Sewer Pump Stations (SPS) shall have :

- Emergency storage of not less than 6 x ADWF (the volume can be achieved by the storage of the incoming sewer)
- Installed pump capacity > 2 x Design Flow (full standby capacity)
- Standby power generation at SPS if serving a combined population of larger than 5000.

Sewer Rising Mains

- Shall have a minimum velocity of 0.7 m/s to avoid settlement of solids.
- Maximum velocity should not exceed 2 m/s
- A Hazen William flow equation with a 'C' value of 130 will be used.

REVIEW TRIGGERS

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

RESPONSIBILITY

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability, the Senior Manager Regional and Environmental Planning and the Senior Manager Planning and Strategic Asset Management in consultation with the Senior Manager Development Services.

VERSION CONTROL

CEO Approval Date

15/09/2009

Related Links: