Norwest Wastewater Services

Development Servicing Plan 2023

Sydney WATER

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1 Executive summary

This Development Servicing Plan (DSP) sets out the price for connecting a new development to a wastewater system in the Norwest DSP region. Additional charges may be payable depending on what services will be provided to a development, such as drinking water.

The price for new wastewater connections has been calculated using the method set by the Independent Pricing and Regulatory Tribunal's (IPART) in their 2018 Determination[1]. Our approach to implementing the 2018 Determination is described in a separate methodology document[2], while this DSP describes inputs that are specific to this DSP area. The two documents should be read together to gain a full understanding of our approach.

The wastewater infrastructure contribution for the Norwest DSP area is $3,961.58 ($2022-23) per Equivalent Tenement[3] (ET). On 19 October 2022, the NSW Treasurer issued an approval under section 18(2) of the *Independent Pricing and Regulatory Tribunal Act 1992*, authorising us to charge less than the maximum price calculated under the 2018 Determination until 30 June 2026. Table 1-1 sets out the maximum prices that will be levied on new developments for wastewater services in this DSP area from 1 July 2023 until the DSP is reviewed and replaced.

Table 1-1 – Wastewater infrastructure contribution prices for this DSP area ($2022-23)

	1 July 2023 to 30 June 2024	1 July 2024 to 30 June 2025	1 July 2025 to 30 June 2026	1 July 2026 onward
Maximum price calculated under the 2018 Determination ($/ET)	$3,961.58	$3,961.58 + CPI_1	$3,961.58 + CPI_2	$3,961.58 + CPIx
Percentage of maximum price to be charged	0%	25%	50%	100%
Maximum price that can be levied on new development ($/ET)	$0	$990.40 + CPI_1	$1,980.79 + CPI_2	$3,961.58 + CPI_x

Note: the price is also adjusted each financial year based on changes in the Consumer Price Index (CPI) compared to the March Quarter 2023.

[1] IPART (2018) *Maximum prices for connecting, or upgrading a connection, to a water supply, sewerage, or drainage system for metropolitan water agencies*
[2] Sydney Water (2023) *Infrastructure contributions: how we apply IPART's pricing method*
[3] See section 2.3 for more information regarding ET's and an overview of how to apply this price to individual developments.

2 Introduction

2.1 Infrastructure contributions and Development Servicing Plans

The *Sydney Water Act 1994* allows Sydney Water to recover the investment of infrastructure needed to provide services to new properties.

IPART is an independent authority that regulates the pricing of declared government monopoly services. IPART may set a maximum price for a government monopoly service, or it may decide to set a methodology that must be used to calculate the price.

In their 2018 Determination, IPART set a methodology that must be used to determine the maximum price for a new development connecting to a water, wastewater or stormwater system. The IPART methodology generates a price payable by all development inside a discrete Development Servicing Plan (DSP) area. Contribution prices are calculated separately for water, wastewater and stormwater (and, under a separate determination, for recycled water).

2.2 Who pays the infrastructure contribution?

As a condition of development consent, a consent authority (usually Council) may require a proponent to make satisfactory arrangements for the provision of water-related services to a development. To identify and confirm the necessary arrangements, the proponent must submit to Sydney Water an application for a Section 73 Compliance Certificate.

Upon receiving an application, we will investigate the impact a proposed development is likely to have on our systems. We will then issue a Notice of Requirements (NoR) under s74 of the *Sydney Water Act*, setting out any conditions that must be met (eg, details of works that must be constructed so that services will be available to the development). Infrastructure contributions are payable for all developments that require a Section 73 Certificate and must be paid by the proponent of the development before the Certificate can be issued.

In many cases a development is for the subdivision of land into smaller lots that are later sold to others for purposes such as building a house. Infrastructure contributions are not levied on this subsequent development, unless the subsequent development also needs its own Section 73 Compliance Certificate (eg, because a single residential lot will be sub-divided to create a dual occupancy).

2.3 How do I apply the charge to my development?

The infrastructure contribution price is the amount that must be paid by one equivalent tenement (ET). IPART's 2018 determination defines one ET as being equal to the annual total demand of an average detached, single residential dwelling[4].

The total infrastructure contribution payable by any given development would equal the base price in the DSP area multiplied the number of additional ETs. For example, if a single residential dwelling uses 200 kilolitres of water in a year, one ET equals 200 kilolitres. If we receive a section 73 application for a development and assess that it will use 1,000 kilolitres of water over a year, the development is for five ETs. Assuming a base price in the DSP area of $5,000 per ET, the development would be required to pay $25,000 ($5,000 per ET x 5 ETs).

We work out the number of ETs in a development based on information supplied to us during the Section 73 process. In broad terms:

- For residential properties, the number of ETs depends on the density of proposed dwellings. Each detached dwelling would typically be considered one ET, while medium to high-density developments (such as flats and units) would be less than one ET per dwelling (eg, 0.8);
- For non-residential developments, the number of ETs will be assessed based on the expected volumetric demand of the proposed land use (eg, use of drinking water, discharge of wastewater);
- We may account for existing land uses if, for example, the land was already occupied and used our services. For example, if a lot with a single dwelling is subdivided to create two lots, we may apply a credit for the pre-existing dwelling and only require a payment equal to one ET (being the net increase in demand for our services).

The contribution price set out in this DSP will apply to all developments requesting a new wastewater connection, where a Section 73 Compliance Certificate will be issued after 1 July 2024. Further information on our approach to assessing the number of ETs in a development will be set out in separate policy and guideline documents that will be available on Sydney Water's website or via your Water Servicing Coordinator.

If your development also requires a new drinking water connection, you will also be required to pay a drinking water infrastructure contribution. The drinking water contribution payable by new connections in this DSP area is $4,641 / ET, as set out in the Greater Sydney Drinking Water DSP.

[4] Because IPART did not specify a value for 'average demand' in their 2020 retail price determination, we must assume a value when calculating the contribution price for a DSP area. Our approach to estimating average demand is set out in our infrastructure contribution methodology report.

3 Norwest DSP area

3.1 Systems covered by this DSP

The boundary of this DSP area covers the following systems (see also Table 3-1 for selected key statistics):

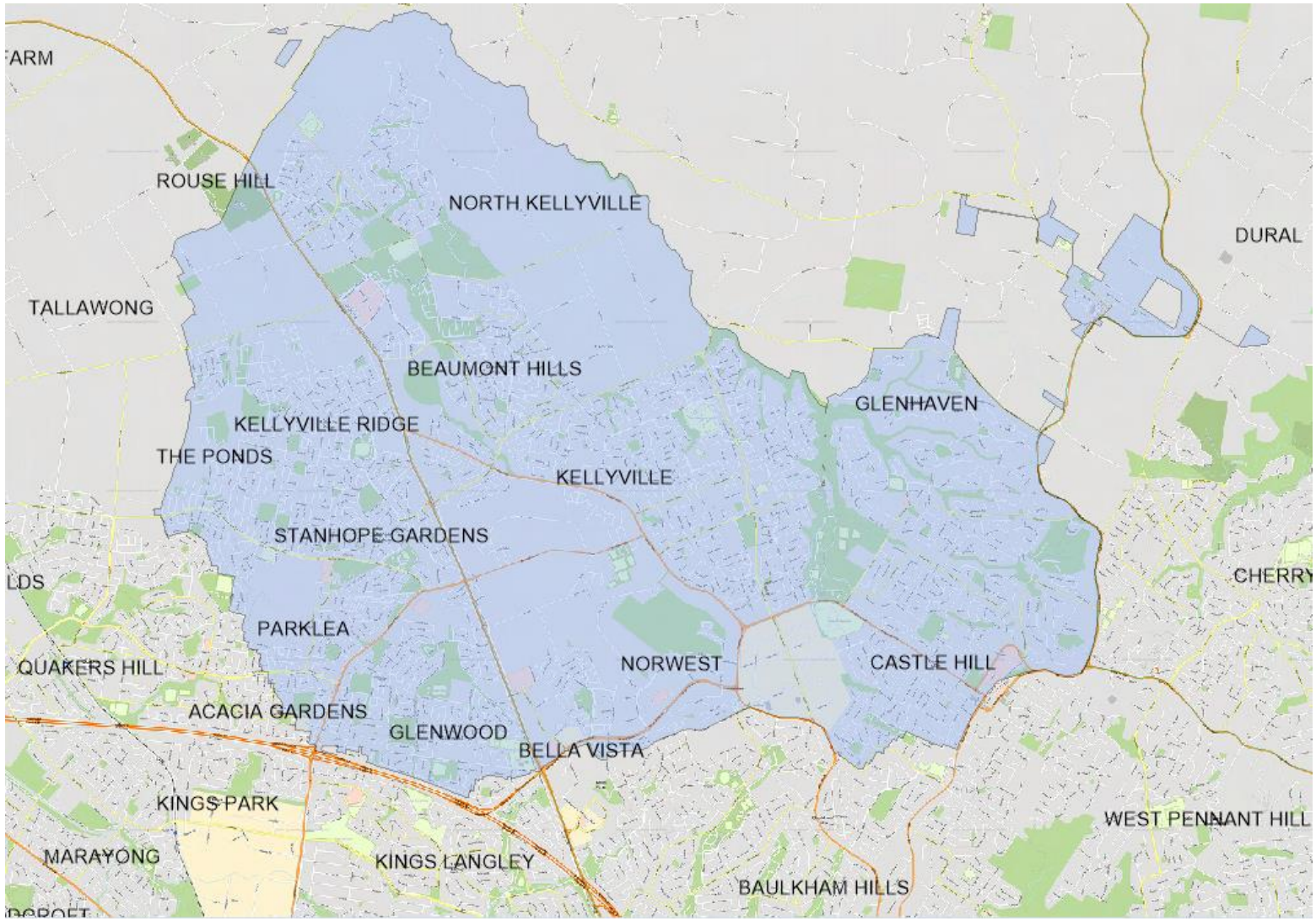
- Castle Hill sewage treatment system; and
- Rouse Hill sewage treatment system.

A sewage treatment system consists of the wastewater pipes, pumping stations, and resource recovery centres that transport used water away from homes and businesses for treatment before being beneficially reused or safely released to the environment.

Table 3-1 – Summary statistics for systems in the DSP area (as at 2022)

System	Catchment area (Ha)	Residential population	Length of mains (km)	Pump stations
Castle Hill	1,527	27,163 (2021)	207	2
Rouse Hill	3,585	100,946 (2016)	645	5
TOTAL	5,112	128,109	852	7

Figure 3-1 Norwest Development Servicing Plan Area



Both systems are in the catchment of the Hawkesbury Nepean River and fall within the Sackville 3 Sub-Zone adopted by the Environment Protection Authority (EPA) for the purposes of setting Environment Protection Licence (EPL) nutrient load limits[5]. While EPA has allocated each sewage treatment system a notional nutrient 'allowance', EPL compliance will be assessed at a Sub-Zone level. The licensing framework provides flexibility to direct investment so that it occurs at sites where licence limits can be achieved at least cost.

As each of these systems essentially face the same set of performance requirements, particularly EPL licence limits, we have grouped them together for the purposes of creating a DSP area and associated infrastructure contribution price.

Further background on each of the systems in this DSP area is contained in section **Error! Reference source not found.**.

3.2 Past and future development in the DSP area

This section provides an overview of past and historical development in the DSP area.

Historical development is summarised in **Figure 3-2**.

For the purposes of calculating an infrastructure contribution price for this DSP area, the forecast of future development must align to the available capacity provided by existing and future assets. In this DSP area, the forecast of future investment in new assets is limited to the next 10 years. As a result, the development forecast used to calculate the infrastructure contribution price must be limited to the amount of new development that can be serviced by assets commissioned within the next 10 years. Because asset capacity is typically delivered in large blocks, development can often continue to connect to a system for many years beyond the adopted investment horizon (see **Figure 3-3**).

[5] EPA (2019) *Regulating nutrients from sewage treatment plants in the Lower Hawkesbury Nepean River catchment*

Figure 3-2 Historical Development in the Norwest DSP Area

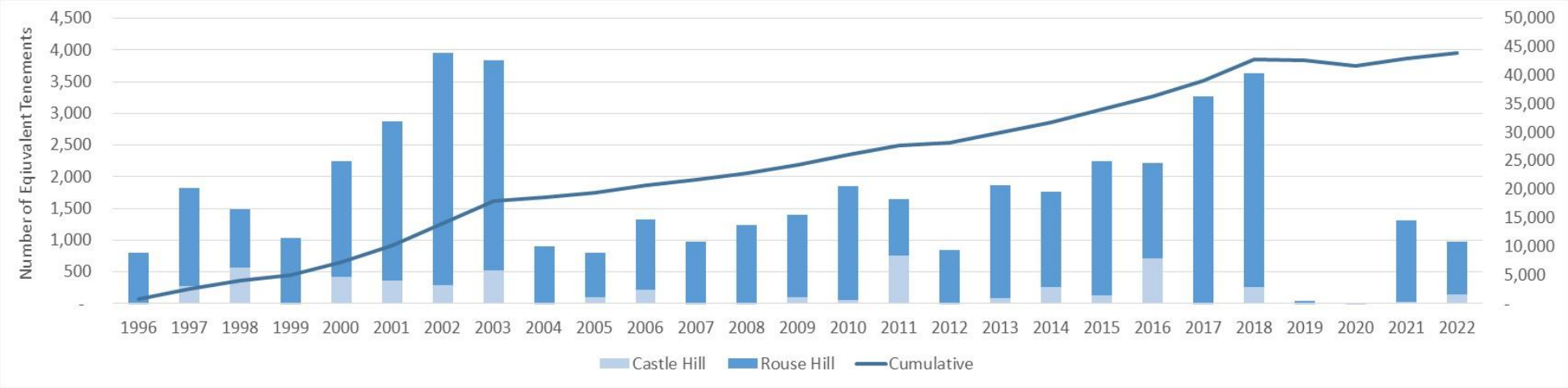
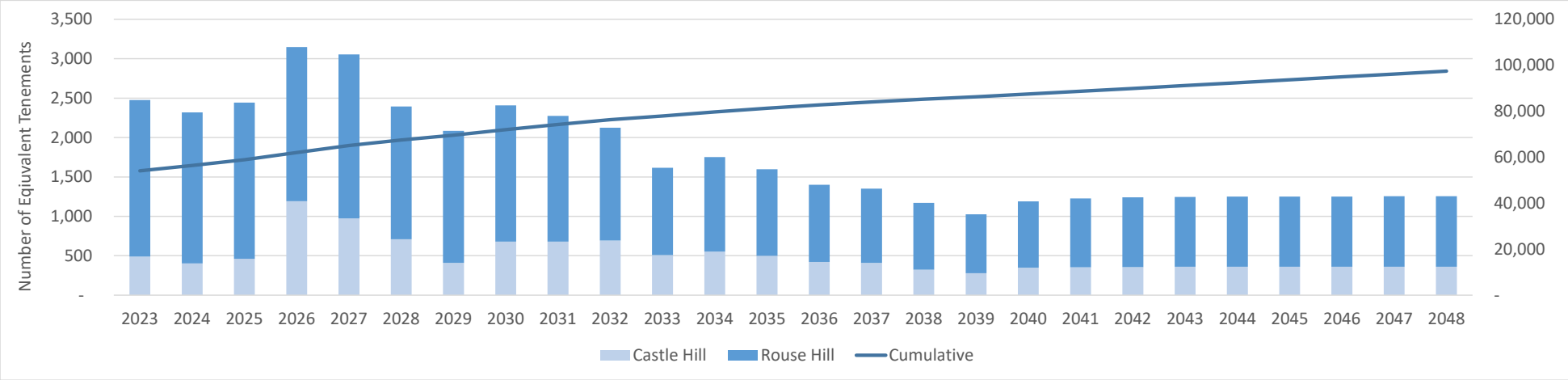


Figure 3-3 Future Development in the Norwest DSP Area



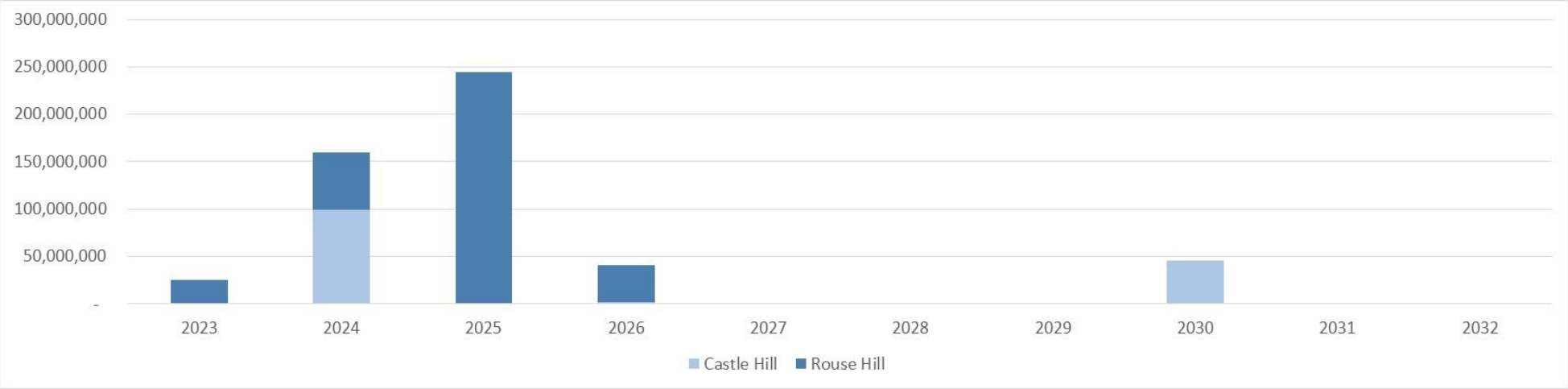
3.3 Past and future assets providing services to the DSP area

This section shows the value of past (Table 3-2) and future (**Figure 3-4**) assets constructed to provide services to new development. Consistent with IPART's pricing method, asset values are shown in the year commissioning (ie, not as a cashflow). As noted above, future assets are limited to those likely to be commissioned inside the next 10 years. The value and timing of asset commissioning beyond 10 years is more uncertain, and if further investment is needed after 10 years this will be captured in a future review of this DSP.

Table 3-2 – Total present value of commissioned assets by system, 1970 – 2022 ($2022-23)

System	Castle Hill	Rouse Hill
Pre-1996 assets	$22,701,228	$39,995,332
Post-1996 assets	$14,897,828	230,665,427

Figure 3-4 Future Uncommissioned Assets in the Norwest DSP Area



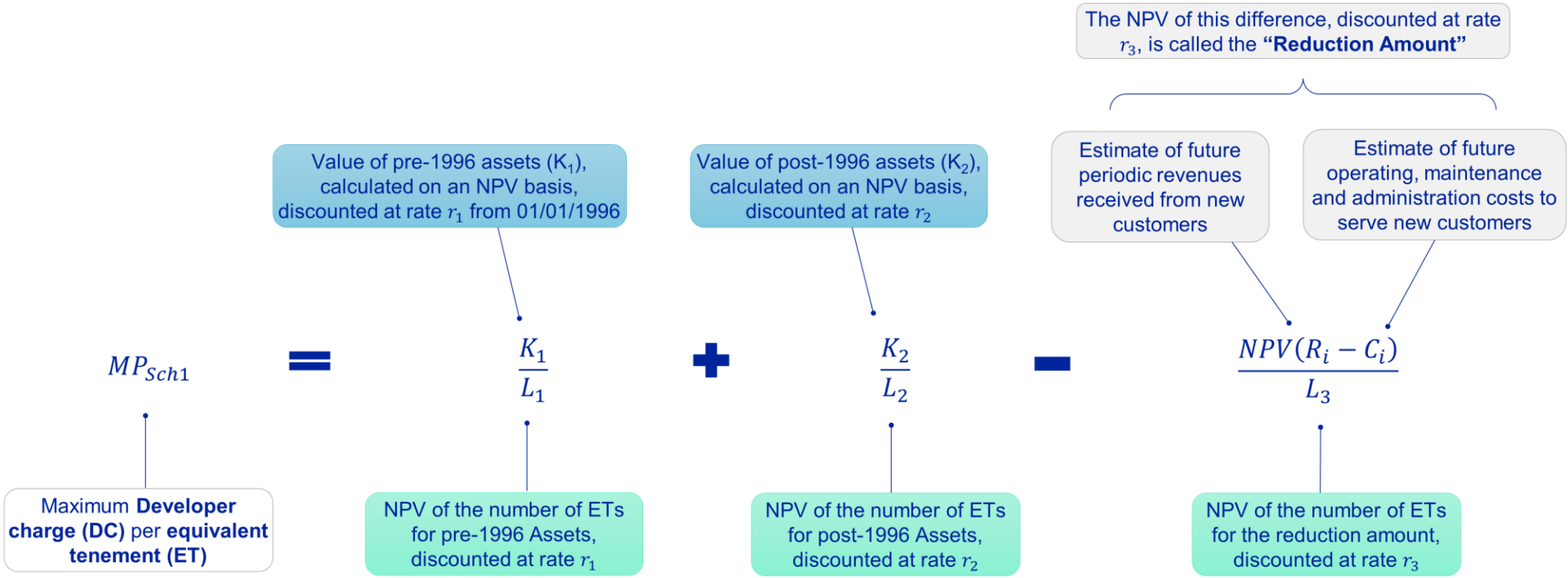
The infrastructure contribution price in this DSP will help to fund delivery of the following assets:

- Castle Hill:
    - 1 pumping station, 7ML/d in capacity upgrades, 10.2KM of pipelines, 1 amplification project and 1 ERS project
- Rouse Hill:
    - 4.1KM of gravity mains, 2 amplification projects, an ERS project, 2.8KM of rising mains, an undefined mains project, 2 pump upgrades totalling 2.5L/s, 200kW of generators, Staged Rouse Hill WRP upgrades and transfer pumping station.

4 Infrastructure contribution calculation

The main elements of IPART's pricing method are shown in **Figure 4-1**. The rest of this section presents the results of applying this method.

Figure 4-1 IPART's infrastructure contribution pricing method



4.1 Key inputs for this DSP

This section sets out assumptions used in the calculation of the infrastructure contribution price. Further detail on the approach, including assumed retail prices and escalation rates, are set out in our DSP methodology document.

Table 4-1 - Inputs to the infrastructure contribution calculation model

Input parameter	Norwest Wastewater DSP
Base Year	2022-23
Real pre-tax discount rate for pre-1996 values (K_1, L_1)	3.0%
Real pre-tax discount rate for post-1996 values (K_2, L_2, L_3)	4.2%
Demand of one equivalent tenement (kL / year)	154.2
Apportionment of commissioned assets	
(A) Total ETs (1970 – 2052)	103,176
(B) Pre-1996 ETs	5,828
(C) 1996 – 2022 ETs	51,184
Apportionment of pre-1996 assets 1 – [((B) + (C)) / (A)]	44.7%
Apportionment of post-1996 commissioned assets 1 – [(C) / (A)]	50.4%

4.2 Infrastructure contribution price elements

Table 4-2 – Charge for pre-1996 assets

(A) Present value of pre-1996 assets (K_1)	$61,046,356
(B) Present value of equivalent tenements (L_1)	114,160
Capital charge for pre-1996 assets (A) / (B)	$535 / ET

Table 4-3 – Charge for post-1996 assets

	Commissioned	Uncommissioned
(A) Present value of post-1996 assets (K_2)	$283,808,909	$641,903,107
(B) Present value of equivalent tenements (L_2)	127,040	127,040
Capital charge for post-1996 assets (A) / (B)	$2,234 / ET	$5,053 / ET

Table 4-4 – Net operating result

(A) Present value of revenue (R)	$217,954,946
(B) Present value of operating costs (C)	$87,601,421
(C) Present value of ETs (L_3)	31,563
Net operating result (A) + (B) / (C)	$4,130 / ET

4.3 Total infrastructure contribution price

The following table shows the components of the infrastructure contribution calculation.

Table 4-5 - Components of the infrastructure contribution price, $ per ET ($2022-23)

(A) Pre-1996 commissioned assets	(B) Post-1996 assets	(C) Net operating result	Infrastructure Contribution (A) + (B) – (C)
$534.74	$7,286.78	$4,129.95	$3,961.58

5 Appendices

5.1 Appendix A – Further background on the systems in this DSP area

5.1.1 Castle Hill

The Castle Hill wastewater network services a population of 27,163 across an area of 1,572 hectares. Sewage is transported through the sewage system to Castle Hill WWTP for treatment. The Castle Hill sewage system services the suburbs of Castle Hill, Glenhaven and part of North Glenhaven.

residential population growth forecast for the Castle Hill wastewater system which is projected to have population growth of 113.3% between 2020 and 2051. Notably, all this growth is through major greenfield growth sites expected within the catchment.

Table 5-1 – Residential growth within the Castle Hill system

Residential growth	Existing 2020	2021	2026	2031	2041	2051
Infill		0	409	830	1,572	2,126
Greenfield		0	0	0	0	0
Major sites		0	14,622	22,992	26,966	28,649
Sub-total (growth)		0	15,031	23,822	28,538	30,775
Total Population	**27,163**	**27,163**	**42,194**	**50,984**	**55,701**	**57,938**
% growth*		**0.0%**	**55.3%**	**87.7%**	**105.1%**	**113.3%**

Figure 5-1 Major assets in the Castle Hill Wastewater system

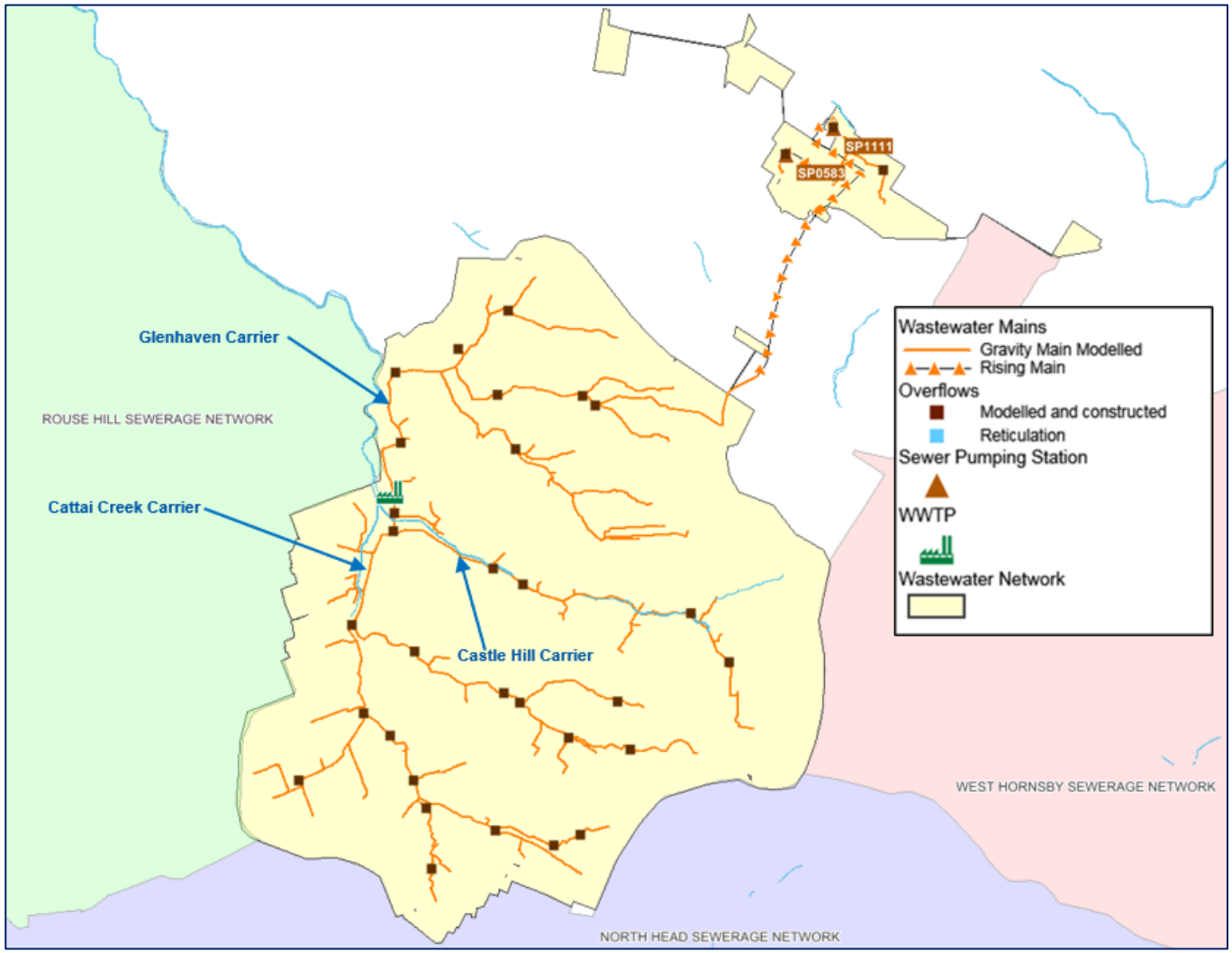


Figure 5-2 Major development sites in the Castle Hill Wastewater system

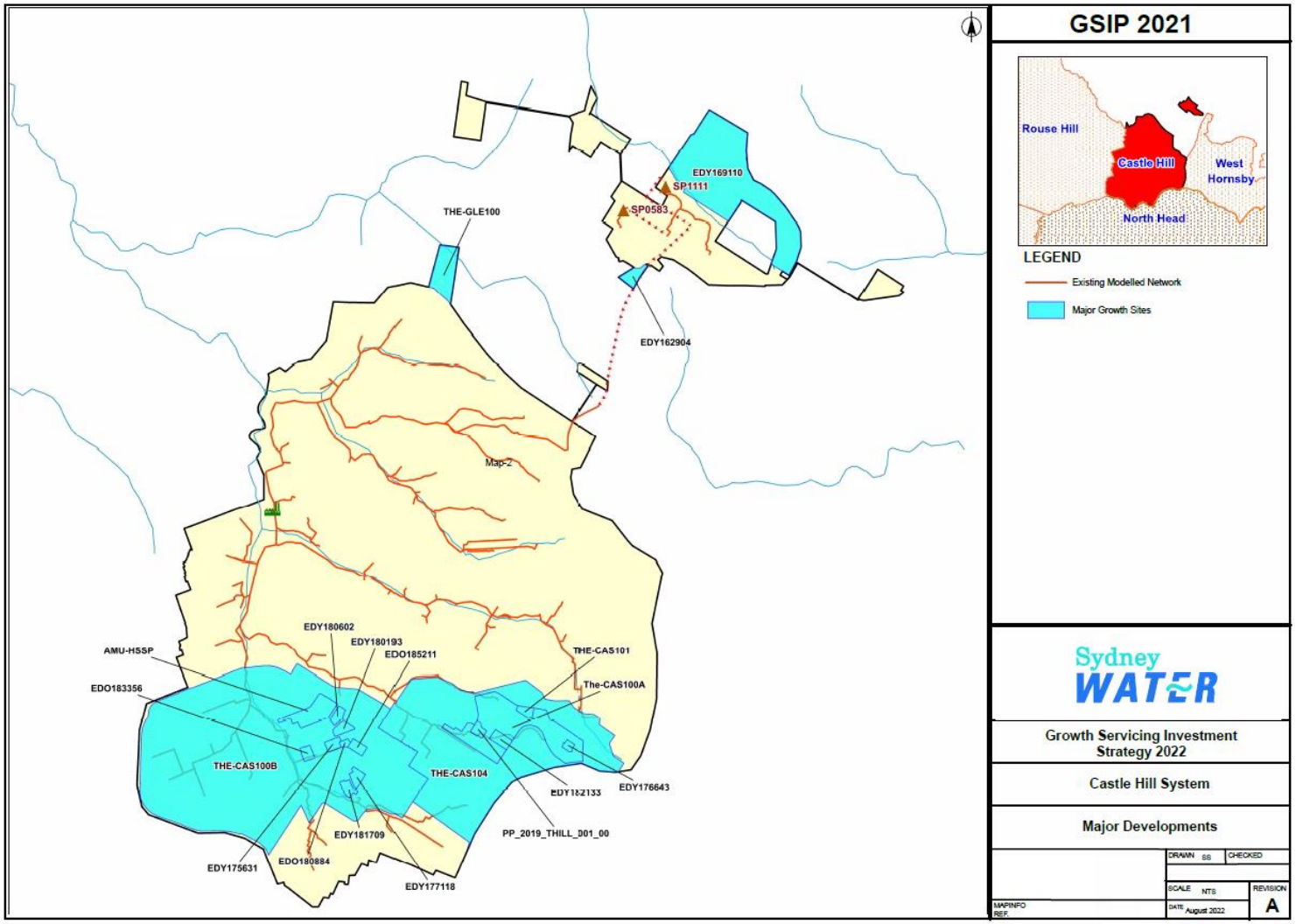
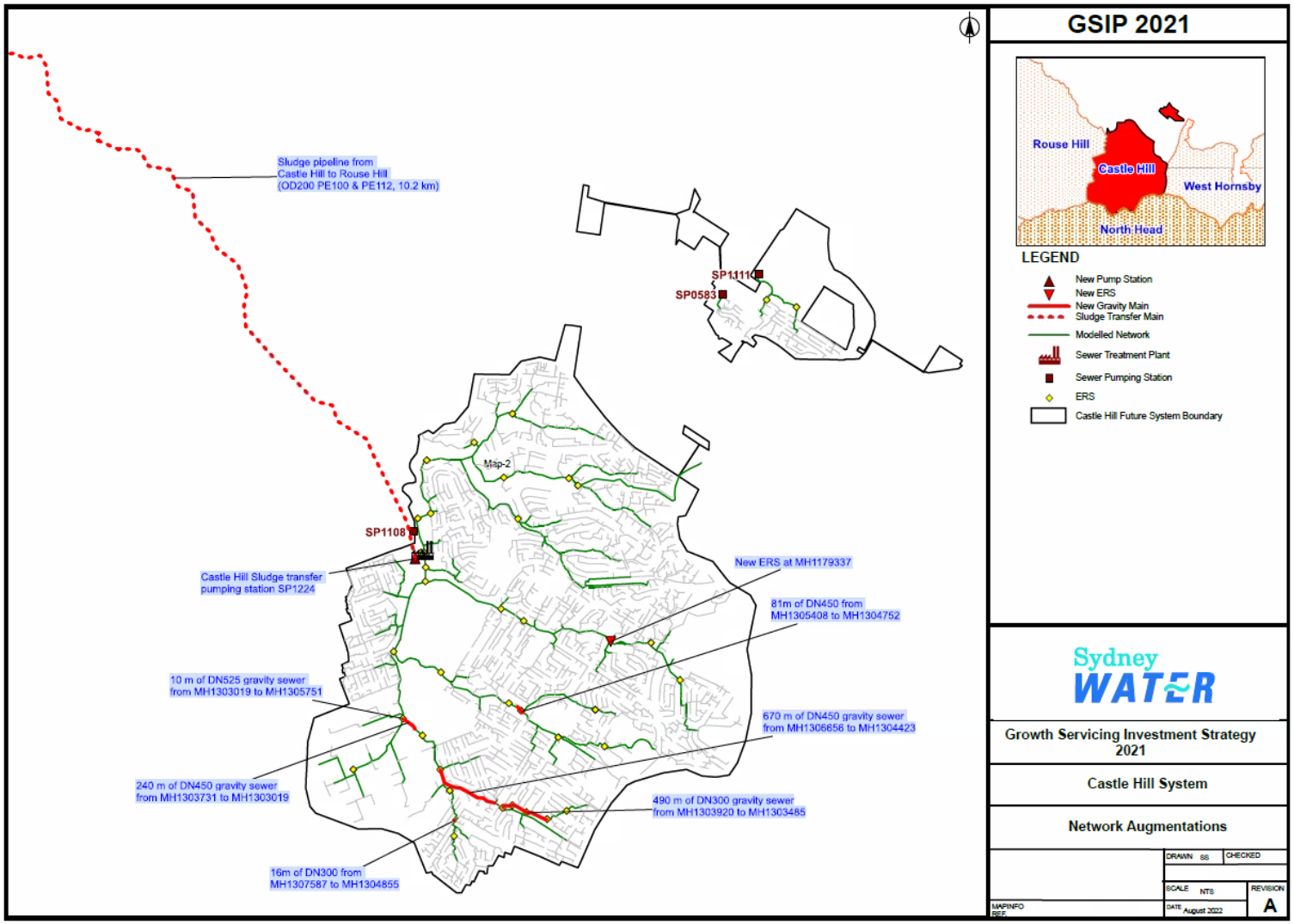


Figure 5-3 Major investments needed in the Castle Hill system to manage the impacts of growth



5.1.2 Rouse Hill

The Rouse Hill wastewater network which services 100,946 people with a flow 21.9 ML/d. The Rouse Hill wastewater system services the LGAs of The Hills Shire and Blacktown. The major suburbs include Rouse Hill, Beaumont Hills, Kellyville, Stanhope Gardens and Glenhaven. Adjacent to the Rouse Hill system is the Castle Hill system to the east, North Head system to the south, Quakers Hill system to the southwest and Riverstone system to the west.

The Rouse Hill wastewater system is part of The Hills Shire Council and Blacktown City Council LGAs and covers an area of 3,585 hectares. Wastewater is transported through the system to Rouse Hill WRP for tertiary treatment, with recycled water supplied to the catchment and excess discharging to Second Ponds Creek which is a tributary of South Creek.

Modelling of the system under future growth conditions has shown:

- There are no dry weather overflows in the network and there are no dry weather bypasses from the Rouse Hill Wastewater Treatment Plant (WWTP).
- There are currently 1.2 km of sewer mains exceeding 60% full capacity, increasing to 7.5 km by 2046.
- All pumps have adequate emergency storage, however SP1022 will have less than the minimum 4 hours of emergency storage by 2021, reducing to 2.25 hours by 2046. SP1022has dual power supply but no automated switchover.
- The environmental protection licence for the Rouse Hill Treatment System (EPL No. 4965) limits the wet weather overflow frequency to 12 overflows in 10 years. The system wet weather overflow frequency licence is currently exceeded with 17 overflows in 10 years, increasing to 26 by 2046.
- Of the maintenance holes that change in frequency between 2016 and 2046, 8 are spilling more than 5 times in 10 years on private property.

Figure 5-4 Major assets in the Rouse Hill Wastewater system

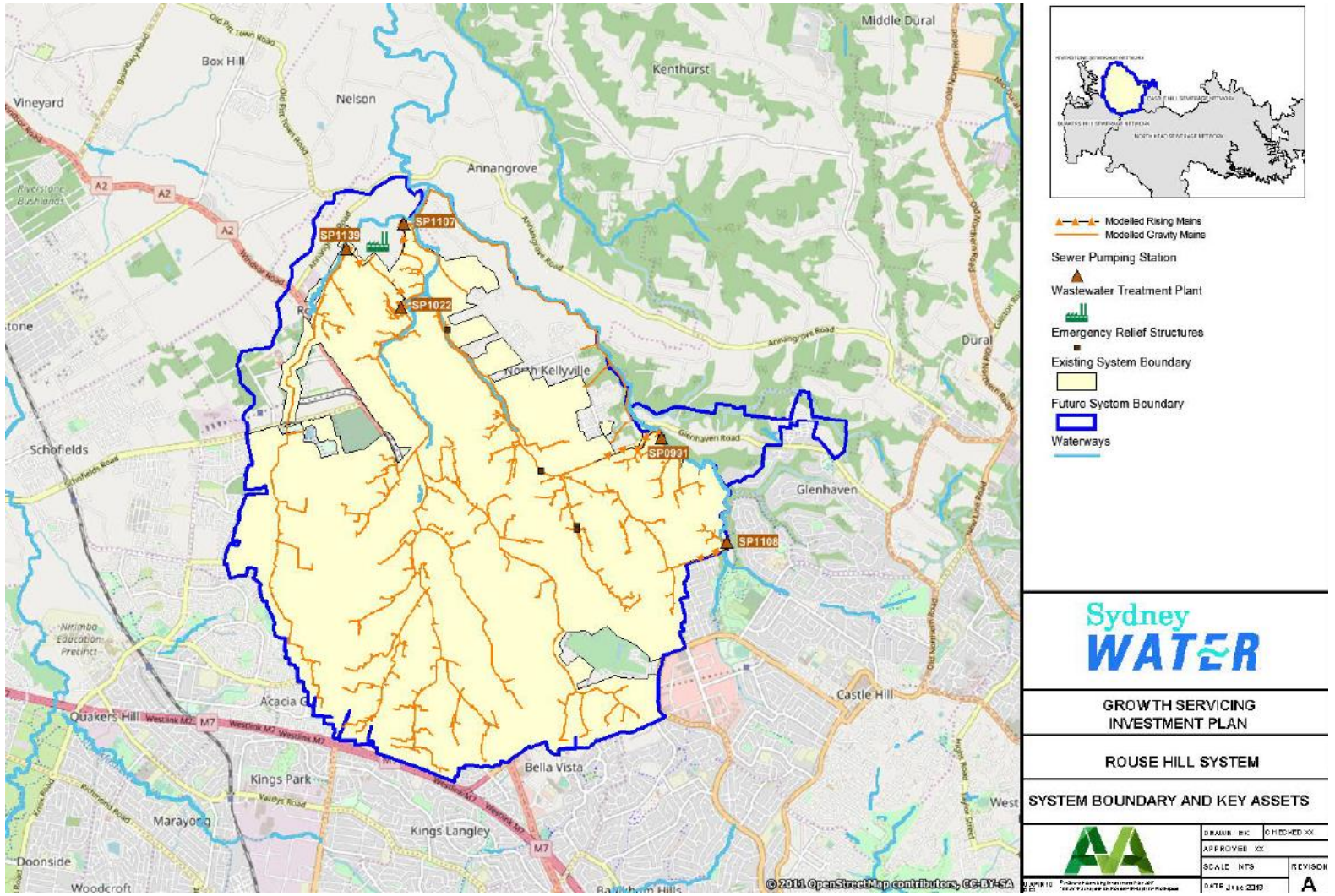


Figure 5-5 Major development sites in the Rouse Hill Wastewater system

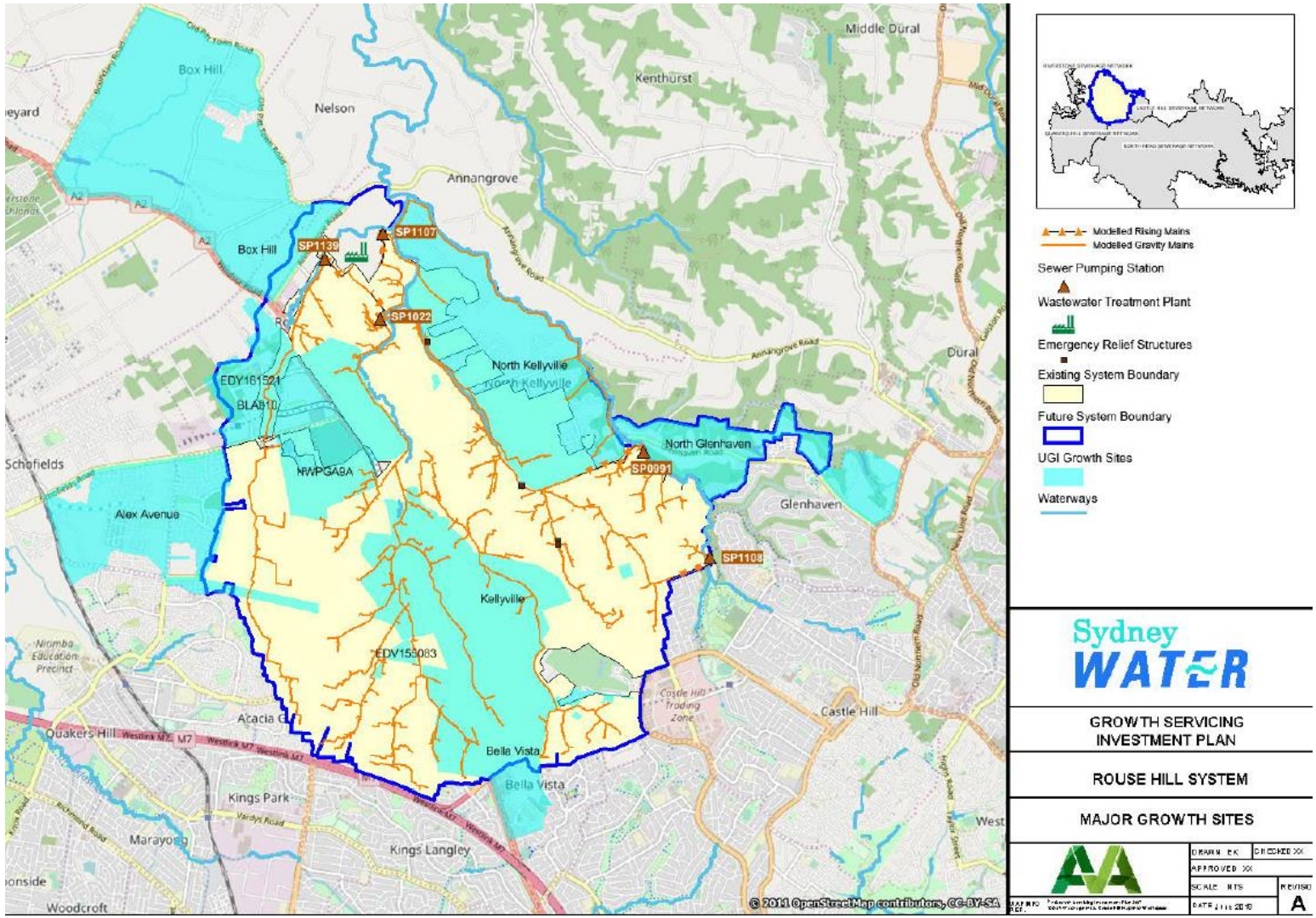
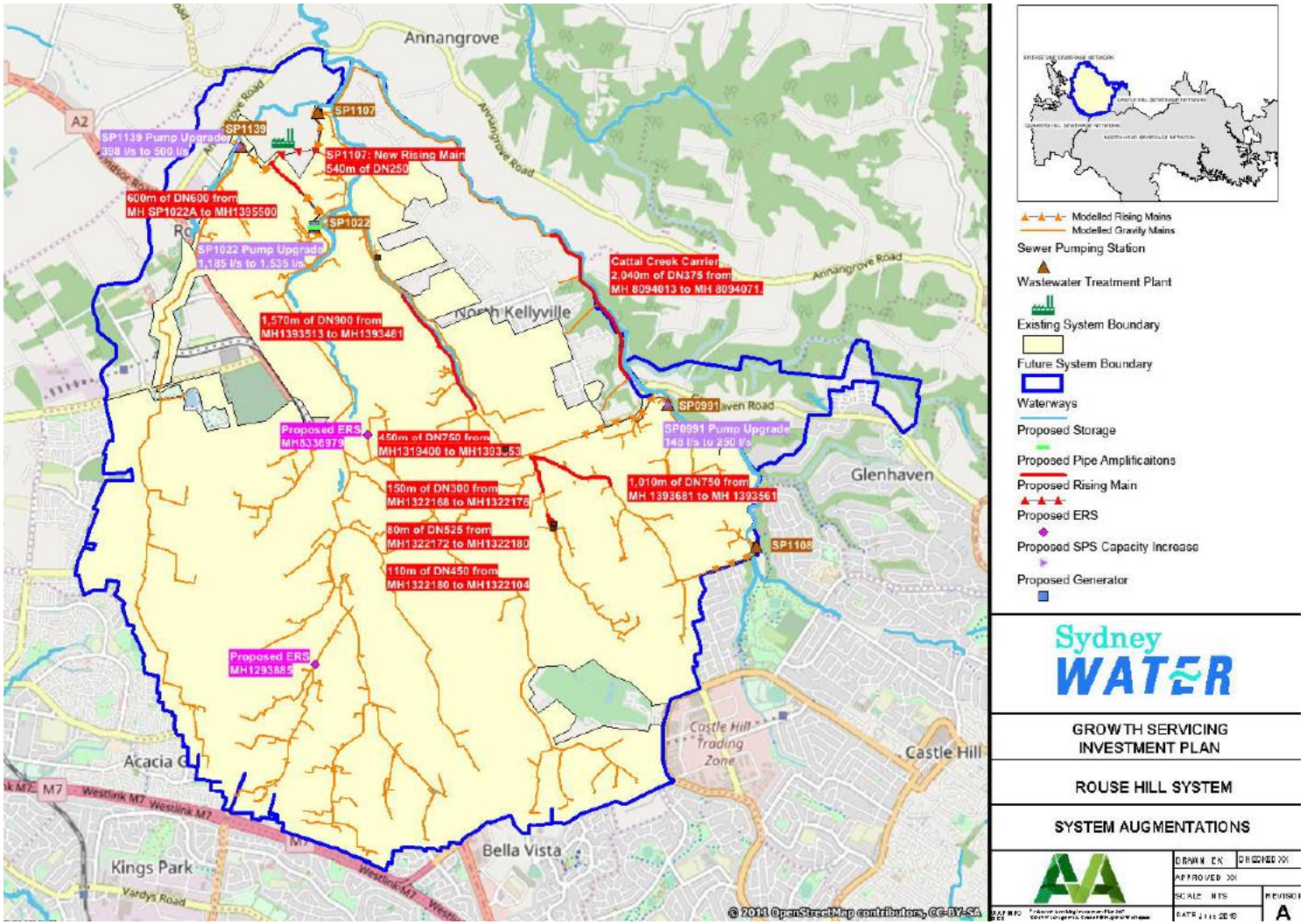


Figure 5-6 Major investments needed in the Rouse Hill system to manage the impacts of growth



5.2 Appendix B – Minimum content of documentation for public exhibition

IPART information requirement	Reference
a summary of the contents of the DSP	Contents page
a statement specifying the System (or Systems) to which the DSP relates	Section 3.1
a clear and accurate description of the DSP Area to which the DSP applies, including: (1) its size; (2) the basis for defining its boundaries; and (3) reference to other DSPs where there is an overlap or co-usage of Assets	Section 3.1 See also the DSP methodology document
demographic and land use planning information including: **(1)** the current residential population in the DSP Area; (2) the estimated Equivalent Tenements in the DSP Area as at 1 January 1996; (3) the projected population over a period of 30 financial years starting from the financial year in which the DSP was registered with IPART; and (4) the projected Equivalent Tenements in the DSP Area for each financial year over a period of 30 financial years starting from the financial year in which the DSP was registered with IPART	Table 3-1 Figure 3-2 Figure 3-3 Note: Forecast ET's align to the capacity provided by the first 10 years of uncommissioend assets
timing of works in the DSP Area including: (1) completed capital works; and (2) proposed capital works	Infrastructure contribution calculation spreadsheets
the standards of service to be provided to customers in the DSP Area and design parameters of Assets	DSP methodology document
the calculated maximum price under clause 1 of Schedule 1 (MP_{Sch1}), and the information used to calculate that price, including: (1) the future periodic revenues expected to be received from new customers in the DSP Area each financial year; (2) the charges used for the calculation of those revenues; (3) average water usage figures used for the calculation of those revenues; (4) the future expected annual operating, maintenance and administration costs of providing services to new customers in the DSP Area in each financial year; and (5) indexation principles and parameters used for that calculation	Section 4 See also the DSP methodology document

a description, or reference to a background document containing the description, of Pre-1996 Assets and Post-1996 Assets in the DSP Area including: (1) the date (or forecast date) of the commissioning of each Asset; (2) the size/length of each Asset; (3) the actual efficient cost of each Asset (where applicable); (4) the unit cost of each Asset (if applicable); (5) the MEERA valuation of each Asset (if applicable); (6) the total capacity of each Asset expressed in Equivalent Tenements (if applicable); and (7) the details of the number of Equivalent Tenements served by each Asset in each DSP Area, where that Asset serves more than one DSP Area	Infrastructure contribution calculation spreadsheets (Sydney Water Talk website)

The proposed DSP areas and infrastructure contribution prices were on public exhibition for a period of 51 working days, from 28 April 2023 to close-of-business on 7 July 2023.

Sydney Water reviewed all submissions received during the exhibition period and submitted a final proposal to IPART on 31 August 2023.

IPART will review and register each DSP, and each DSP will remain in force until reviewed and replaced.

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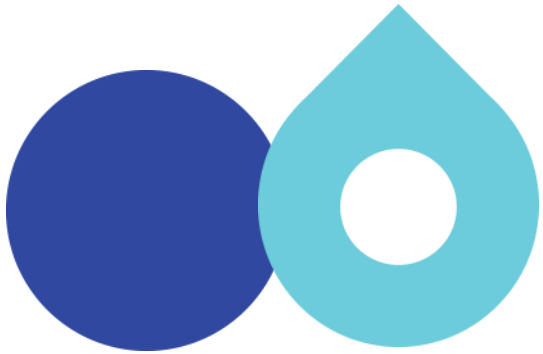

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