

<b>Name of wastewater treatment plant</b>	Castle Hill Water Reclamation Plant
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System Summary	Projected				
	2016 / 2017	2021	2026	2036	2046
Castle Hill catchment ADWF (ML/d)	6.5	6.9	8.2	10.1	10.5
Castle Hill catchment load (EP <sub>COD</sub> )	40,800	43,400	52,200	65,400	66,100

Treatment capacity constraints for 2020 – 2030	Estimated year of exceedance
Dry weather constraints – particularly related to requirements for improve effluent quality.	2020
Dry weather constraints – related to requirements for further improved effluent quality and growth.	2023
Wet weather constraints – related to growth.	2023

Summary of servicing strategy for 2020 – 2030
<p>Castle Hill WWTP biosolids continued to be transferred to Rouse Hill influent stream.</p> <p>Influent flows above 6.9 ML/d to be diverted to Rouse Hill WRP, with cap reduced to 5.2 ML/d in 2023.</p> <p>Treatment modifications to improve to improve effluent TN to 8 mg/L, followed by further downrating of treatment capacity to 5.2 ML/d to achieve effluent 50th percentile target of 5 mgTN/L.</p>

Anticipated augmentation and upgrades for 2020 – 2030			
Year commissioned	Description	Approximate capital cost (\$M)	Impact on servicing capacity
2021	Plant modifications (including denitrification filters) and partial transfer to Rouse Hill to achieve 8 mgTN/L effluent.	28	Continue to service short term growth and improve effluent quality.
2023	Revise plant capacity – downrate to 5.2 ML/d	N/A	Improve effluent quality to meet new nutrient load limits to facilitate current future growth servicing beyond 2030.
2031	Increase wet weather capacity – new inlet works; UV disinfection; odour control; amplify SP1108 and duplicate rising main.	26	Provide growth servicing capacity beyond 2030.

Further investigations
Northwest Treatment Hub optioneering underway to refine servicing strategy – scope and timing of planned upgrades may change. Following plants considered in servicing hub: Castle Hill WRP, Rouse Hill WRP and Riverstone WWTP.