



Muswellbrook Shire Council

Development Servicing Plan for Sewerage

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Executive Summary

Developer Charges are an integral part of the fair pricing of water supply and sewerage services. They are the up-front charges levied on developers to recover part of the infrastructure costs incurred in servicing new developments or changes to existing development. Section 64 of the Local Government Act, 1993 enables a local government council to levy developer charges for water supply, sewerage and stormwater services.

This document covers the Development Servicing Plans (DSPs) for sewerage service areas of Muswellbrook Shire Council (MSC). The maps of the service areas for sewerage are shown in Appendix A.

This DSP has been prepared in accordance with the NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater 2016 issued by the Minister for Lands and Water, pursuant to Section 306 (3) of the Water Management Act, 2000.

The existing sewerage assets serving the Council's service areas and the timing and expenditure of assets planned for the next 10-years based on the adopted IWCM Strategy, are presented in Section 4. The levels of service to be provided in the DSP areas are summarised in Section 5.

The sewerage developer charges for the area covered by this DSP have been determined in 2020/21 dollars and are as follows:

Agglomerated DSP area	Sewerage service area	Weighted average capital charge 2020/21 (\$ per ET)	Reduction amount (\$ per ET)	Calculated developer charge (\$ per ET)
Sewerage DSP area 1	Denman	10,157	3,953	6,204
	Muswellbrook			

The public exhibition and adoption of calculated developer charge for implementation will be 2021/22 and therefore has to be adjusted for CPI of 2.9% p.a. for Sydney. The adjusted sewerage developer charges applicable from 1st July 2021 is shown below.

Sewerage DSP area	Calculated developer charge from 1 July 2021 (\$ per ET)	Adopted Developer charge from 1 July 2021 (\$ per ET)
Sewerage DSP area 1	6,384	6,384

The developer charges calculated in these DSPs will be reviewed after 4 to 8 years, unless required otherwise. In the period between any reviews, the developer charges will be indexed annually on the basis of movements in the consumer price index (CPI) for Sydney, excluding the impact of GST.

The DSPs have been adopted by Council after public exhibition on [insert date] and the adopted developer charges are effective from [insert date].

Developers shall be responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions.

The background documents for the sewerage DSP are listed in Appendix B. The electronic copy of these documents containing all the critical data and calculation models behind each DSP will be made available on request.

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Glossary

Term	Definition
Annual bill	Local Water Utility's annual sewerage bill for an annual demand of 1 ET.
Asset	An asset (or part of an asset) including land and headworks assets that directly provides, or will provide, the developer services to developments within the DSP area for which the developer charge is payable.
ADWF	Average dry weather flow. One of the design parameters for flow in sewers.
Capital cost	The Present Value (MEERA basis) of all expenditure on assets used to service the development.
Capital charge	Capital cost of assets per ET adjusted for commercial return on investment (ROI).
Council	Refers to Muswellbrook Shire Council
CPI	Consumer price index
CRC	Current replacement cost
Developer charge	Charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development.
Development area	See <i>DSP area</i>
Discount rate	The rate used to calculate the present value of money arising in the future.
DPIE Water	Department of Planning, Industry and Environment - Water
DSP	Development Servicing Plan
DSP area	That is part of a sewerage scheme area covered by a particular Development Servicing Plan. Also referred to as <i>Development Area</i> .
EP	Equivalent Persons (or equivalent population). Used as a design parameter for loadings of sewage treatment works.
ET	Equivalent tenement. The annual demand a detached residential dwelling will place on the infrastructure in terms of the sewage discharge.
IDEA	Intermittently decanted extended aeration
LWU	Local water utility (NSW). Excludes Sydney Water Corporation, Hunter Water Corporation, Gosford Council, Wyong Council, Essential Water and Fish River Water Supply.
MEERA	Modern Equivalent Engineering Replacement Asset
MSC	Muswellbrook Shire Council
Net income	Annual bill minus OMA cost per ET
NPV	Net present value means the difference between the present value of a revenue stream and the present value of a cost stream.
OMA	Operation, maintenance and administration (cost)
Operating cost	In relation to a DSP is the operation, maintenance and administration cost (excluding depreciation and interest) of a LWU in providing customer services to a DSP area.
Post-1996 asset	An asset that was commissioned by a LWU on or after 1 January 1996 or that is yet to be commissioned.
Pre-1996 asset	An asset that was commissioned by a LWU before 1 January 1996.

Term	Definition
PV	Present value. The current value of future money or ETs
Reduction amount	The amount by which the capital charge is reduced to arrive at the developer charge. This amount reflects the capital contribution that will be paid by the occupier of a development as part of future annual bills.
Reticulation assets	Reticulation is defined as the local pipes connecting water supply and sewerage service for individual properties. Reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions.
ROI	Return on investment. Represents the income that is, or could be, generated by investing money.
Service area	An area serviced by a separate sewage treatment works, a separate small town or village, or a new development of over 500 ETs.
STP	Sewage treatment plant
TRB	Typical residential bill, which is the principal indicator of the overall cost of a sewerage system and is the annual sewerage charge paid by a residential customer.

1. Introduction

The developer charges are up-front charges levied by urban water utilities to recover part of the infrastructure costs incurred in servicing new developments or additions or changes to the existing developments.

Section 64 of the Local Government Act 1993 enables a local government council to levy developer charges for water supply, sewerage and stormwater services. This derives from a cross-reference in that Act to Section 306 of the Water Management Act, 2000.

A Development Servicing Plan (DSP) details the water supply/sewerage developer charges to be levied on developments utilising a water utility's water supply, sewerage and stormwater infrastructure.

The aims and objectives of this DSP are to:

- Provide an overall administrative framework under which specific sewerage assets may be co-ordinated and constructed
- Ensure that adequate sewerage infrastructure is provided for as part of the new development
- Provide a comprehensive strategy for the assessment, collection, expenditure accounting and review of contributions on an equitable basis
- Ensure that the existing community is not burdened by the provision of sewerage infrastructure as a result of future development
- Enable Council to be both publicly and financially accountable in its assessment and administration of the Development Servicing Plans.

This DSP covers sewerage developer charges for the service areas of Muswellbrook Shire Council (MSC). Maps of the sewerage DSP areas are shown in Appendix A.

This DSP has been prepared in accordance with the 2016 NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater issued by the Minister for Lands and Water, pursuant to Section 306 (3) of the Water Management Act, 2000.

Once adopted, this DSP supersedes any other requirements related to sewerage developer charges for the development areas covered by the DSP. The DSP takes precedence over any of Council's codes or policies where there are any inconsistencies relating to sewerage developer charges.

The developer charges should be indexed based on movements in the consumer price index (CPI) for Sydney, excluding the impact of GST. The developer charges calculated in this DSP will be reviewed after eight years.

2. Administration

2.1 DSP areas and names

Muswellbrook Shire Council operates and manages two sewerage schemes to serve the townships of Muswellbrook and Denman. Council plans to provide sewerage services to Sandy Hollow in 2039/40 and has not been considered in this DSP.

This DSP is applicable to all land within the DSP area serviced by the sewerage infrastructure of the Council. The DSP names and areas covered are presented in Table 2-1.

Table 2-1: DSP names and areas covered

DSP details	Schemes covered	Area covered
SDSP 1 – Muswellbrook Shire Council Sewerage DSP area 1	Muswellbrook Denman	The maps of the sewerage service areas covered by this DSP are shown in Appendix A.

2.2 DSP boundaries

The DSP area boundaries are based on the existing and future developments to be served by Council's sewerage services. Regarding the new developments outside the sewerage DSP area boundaries, Council may:

- apply the developer charges adopted by this Plan to the new development, or
- prepare a new DSP for the new development.

2.3 Application of developer charges

Developer charges will be levied to all new developments within the DSP areas. Council will assess the demand for service in terms of equivalent tenements (ET) and will levy developer charges proportional to the number of ETs. The developer charges will also apply to re-developments (i.e., alterations, additions or change of use for an existing development) on the basis of resulting increase in the ET for the services.

These charges will be calculated and levied on an individual merits' basis based on a report prepared by the Community Infrastructure Division of the Council.

Developers shall be responsible for the full cost of the design and construction of water reticulation works within subdivisions.

2.4 Effective commencement date for this DSP

This DSP has been adopted by the Council on [insert date] and will be effective from [insert date]. Charges will be levied pursuant to this DSP, as a condition of development consent granted on or after the day this DSP comes into effect.

2.5 Timing and payment of developer charges

The developer charges will be determined and levied in accordance with the provisions of this DSP at the time of considering an application for a compliance certificate under Section 305 of the Water Management Act 2000 or a construction certificate under Section 109C of the Environmental Planning and Assessment Act 1979 or at the time of issuing a notice or other form of written advice e.g., under the SEPP (Exempt and Complying Development Codes) 2008.

The time limit for payment of developer charges will be included in the notice of determination or will be advised to the developer by a separate notice. The amount of any developer charges not

paid within the specified time limit will lapse. Any subsequent determination of developer charges will be made in accordance with Council's then current DSP.

The timing of payment of developer charges to MSC is as follows:

- subdivision – prior to the release of the linen plan or approved engineering plans, whichever occurs first;
- dwellings and other buildings – prior to the issue of construction certificate
- other developments – prior to the issuing of a notice of commencement of work, should the proposed development not involve any construction.

Other arrangements for payment are at Council's discretion and depend upon the circumstances of the contributor or the development. Where the applicant can demonstrate that the settlement of the contribution as set out above is unreasonable in the circumstances of the case, the Council may accept deferred or periodic settlement.

Due to the general consistency of subdivisions and dwellings within the Local Government Area, no discount rates apply, and the basic charge as set out in the DSPs will apply unless special circumstances can be established to the satisfaction of Council.

Payment of a developer charge is a precondition to the granting of a Compliance Certificate, which must be obtained in order to complete a development. A Compliance Certificate will not be issued until the developer charge payment has been received.

2.6 Method of payment

Developer charges must be made in the form of monetary payments to Council. The development consents will contain the conditions specifying the developer charges amount payable at the time when the consent is issued. A note will be attached to the consent condition which will advise that the developer charges will be at the rate which applies at the time of payment. That is the rate may increase, through indexation or replacement of this DSP with a new one, from the time the condition appears on the notice of development consent until the time the developer charge is actually paid to Council.

Developers may seek Council's agreement and approval on payment deferment. Where the applicant can demonstrate that the settlement of the contribution as set out by the Council is unreasonable in the circumstances of the case, the Council may accept deferred or periodic settlement. Any request should provide detailed reasons, and should agreement be granted, deferral will be subject to the following requirements:

- The applicant is to arrange for a Bank Guarantee to be prepared to the value of contributions payable as agreed to by Council (this is to include indexation where applicable),
- The Bank Guarantee is to be made in favour of Council,
- Council is to be the custodian of the original Bank Guarantee, and
- The maximum time frame granted for deferment will be determined at the discretion of the Council. Should the contributions not be paid by the agreed time, Council will exercise its right under the agreement to call in the Bank Guarantee without notice. Should the approved deferment overlap into the following financial year, then the contribution(s) payable will be subject to indexation.

Upon Council's approval, the charges will be recorded as a debt against the development and payable at a rate applicable at the time of payment.

2.7 Exemptions from developer charges

Crown Developments:

Under Section 306 (4) and (5) of the Water Management Act 2000, the Minister for Planning may decide in regard to developer charges levied on Crown Developments.

Crown developments for essential community services (education, health, community amenities, and law and order) are exempt from general developer charges. Council may charge these developments only for that portion of the direct connection cost (e.g., for a lead-in main) relating to Crown development.

Other Developments:

The contributions set out in this DSP apply to all forms of development within the Muswellbrook Shire Council, except for the following:

- a. Erection of a single dwelling house on an existing vacant allotment of land that has been previously rated for a water and sewerage access charge
- b. Alterations or additions to a single dwelling house where such alterations do not create additional dwellings
- c. Subdivision of land that does not create any additional allotments

Council will require development applications for not-for-profit developments, such as schools or senior citizen housing to be accompanied by a statement of public benefit to enable it to assess the extent, if any, of contributions to be paid.

2.8 Out-of-sequence development

Council plans infrastructure development in accordance with a desired sequence of development. If developer wishes to proceed with a development which is not in the same sequence, provided that there are no other constraints to the development, Council may approve the construction of the essential assets ahead of time. In such cases, the assets will be sized by the Council in accordance with the requirements of the DSP and the full capital cost would initially be met by this developer.

If the asset funded by this developer will serve other future development, the developer could be reimbursed when the Council collects developer charges from the future developments. The Council and the developer will enter into an agreement stating how the developer will be reimbursed in the future.

It is recommended that prospective developers seek further advice from Council on out-of-sequence development.

2.9 “Works-in-kind” contributions

Upon written request, Council will consider an offer by the applicant to contribute developer charges by way of “works-in-kind” in accordance with the Council’s Developer Contributed Water & Sewer Infrastructure Policy (Policy No. W7/1) provided that:

- a. The proposed work satisfies the demands for the kind of public amenities and facilities, for which the contribution is sought,
- b. The proposed work will not prejudice the timing or the manner of the provision of the amenity or facility for which the contribution was required,
- c. The value of the work is at least equal to the value of the contribution assessed in accordance with this plan and that this value is adequately documented,

- d. Agreement has been reached as to the standard of work to be undertaken, and
- e. Where the difference of the value of the work-in-kind is less than the contribution assessed in accordance with this plan, the balance shall be made by way of monetary contribution.

As part of the Council's decision-making process, a request would only be considered provided the applicant is agreeable to all of the following stipulations:

- An agreement between the applicant and Council on the cost of the works (and value of the work-in-kind) which is to be determined by reference to satisfactory plans, breakdown of costs, review of audited statements and accounts or similar submitted by the applicant. There would be no indexing of the value of the work-in-kind or credits so granted.
- The number of credits for a particular type of contribution will be determined by dividing the agreed value of the proposed work by the rate applying to that contribution at the time of the agreement. The credits so agreed will be progressively reduced as the development proceeds. The agreed works schedule may specify those works that may be considered as works-in-kind.
- An agreed 12-month Defects Liability Period for the cost of the agreed work.
- An agreed standard of workmanship.
- An agreed timetable for the inspection of the works.
- An agreed program for the completion of works.
- Submission of an itemised statement of costs (including all receipts) of the completed works. Where the final cost of the works is less than the initial agreed cost of works, the balance is to be paid to Council as a monetary contribution. The costs of works are to also include a breakdown of all labour costs.

It should be noted that Council will not acknowledge any costs associated with the agreement of works-in-kind as part of above itemised statement.

The decision to accept settlement of a contribution by way of a work-in-kind is at the sole discretion of Council and will require a Council resolution prior to implementation.

It is Council's preference that for broadacre release areas that Council accepts works-in-kind, and that these are to be fully constructed prior to the release of the Linen Plan or at such time as identified in a "written agreement" between the Council and the developer.

Should works-in-kind that have been agreed to by Council be later withdrawn by the applicant for any reason, then the applicant will be liable for the payment of contributions in accordance with the conditions of development consent or complying development certificate plus any indexations that may have occurred since the approval date.

2.10 Indexation

The developer charges should be indexed annually on the basis of movements in the consumer price index (CPI) for Sydney, excluding the impact of GST.

2.11 Dispute resolution

Council will adopt a transparent and consultative process for determining developer charges for a development. In case of disputes:

- If the dispute is regarding how the Council has calculated the developer charge for a development:

- The developer may lodge a formal complaint to the Council and the General Manager of the Council will review or cause it to be reviewed
- If not satisfied with the General Manager’s response, the developer may refer the complaint to the NSW Ombudsman, as the Council is not a member of the Energy & Water Ombudsman NSW (EWON)
- If the dispute is regarding the interpretation of the 2016 Developer Charges Guidelines:
 - The developer may refer the complaint to DPIE Water, which will respond to the complaint
 - If warranted, DPIE Water may refer the matter to an expert technical panel, which will include representatives from DPIE Water, IPART, the NSW Water Directorate, the Council and the development industry, and a developer charges expert for responding to the complaint
- If the developer is still dissatisfied, may request the matter to be reviewed by way of arbitration by an arbitrator, who is to be appointed by agreement between the developer and the Council, in accordance with the Commercial Arbitration Act, 2010. Costs of arbitration are to be borne equally by the developer and the Council. The decision of the arbitrator is binding on both the developer and the Council.

3. Demographics, Growth Projections and Land Use

3.1 Existing services

MSC provides sewerage services to the townships of Muswellbrook and Denman. A summary of the sewerage services is included in Table 3-1.

Table 3-1: Muswellbrook Shire Council sewerage schemes

Town	Sewerage scheme
Muswellbrook	Muswellbrook
Denman	Denman

The historical population for the towns is presented in Table 3-2. These populations are obtained from ABS Census Quickstats data.

Table 3-2: Historical urban centre population of service areas

Urban town centre	2001	2006	2011	2016
Muswellbrook	10,010	10,222	11,042	10,404
Denman	1,400	1,385	1,403	1,311

3.2 Service areas

The sewerage service areas and the basis of determination of the service areas are shown in the Table below.

Table 3-3: Sewerage service areas

Name of service area	Basis for determination
Muswellbrook	Town with separate sewerage scheme
Denman	Town with separate sewerage scheme

3.3 Growth projections for the service areas

To apportion the cost of providing sewerage services within the Council's DSP areas, the demand in each DSP area is required. The demand in each DSP area is determined in terms of equivalent tenements (ETs). An ET is the annual demand a detached residential dwelling will place on sewerage infrastructure in terms of sewage discharged. The current estimated average annual sewage discharge is 160 KL/year (based on the water demand per ET of 265 KL/year and a sewage discharge factor of 0.6).

Council's IWCM Strategy considered a number of population growth scenarios to develop a future population growth strategy and adopted a population and tenement growth forecasts for service planning. For the purpose of this Development Servicing Plan, the IWCM tenement growth forecasts adopted by Council based on sewer load analysis have been used in the calculation of developer charges. The adopted tenement growth is consistent between both the IWCM Strategy and the DSP document.

The estimated ET growth forecasts for the sewerage service areas of Muswellbrook and Denman used for the calculation of developer charges are presented in Table 3-4.

Table 3-4: Sewerage service areas ET projections

Financial Year	Muswellbrook	Denman	Total
1995/96	5,906	653	6,559
2020/21	6,850	789	7,639
2021/22	6,899	796	7,695
2022/23	6,949	803	7,752
2023/24	7,000	810	7,810
2024/25	7,051	817	7,867
2025/26	7,102	824	7,926
2026/27	7,150	831	7,980
2027/28	7,198	837	8,035
2028/29	7,246	844	8,090
2029/30	7,295	851	8,146
2030/31	7,344	857	8,202
2031/32	7,389	864	8,253
2032/33	7,435	870	8,305
2033/34	7,481	876	8,357
2034/35	7,527	882	8,409
2035/36	7,573	889	8,462
2036/37	7,615	895	8,509
2037/38	7,657	900	8,557
2038/39	7,699	906	8,605
2039/40	7,742	912	8,654
2040/41	7,785	918	8,703
2041/42	7,828	924	8,752
2042/43	7,871	930	8,801
2043/44	7,915	936	8,851
2044/45	7,959	942	8,901
2045/46	8,003	948	8,951
2046/47	8,048	954	9,002
2047/48	8,093	960	9,053
2048/49	8,138	967	9,104
2049/50	8,183	973	9,156
2050/51	8,229	979	9,208

3.4 Land use information

Information provided in this Plan should be considered in conjunction with Local Environmental Plan (LEP), Developer Control Plans (DCPs) and other planning instruments used by the Council.

4. Infrastructure

4.1 Sewerage schemes overview

MSC operates two sewerage schemes to towns previously mentioned in Table 3-1. Summaries of the sewerage schemes in MSC are provided below.

The Muswellbrook sewerage scheme consists of a Sewage Treatment Plant (STP) and 13 sewage pump stations (SPSs). The Muswellbrook STP provides secondary treatment of sewage with subsequent effluent disinfection and polishing within tertiary effluent (maturation) ponds. Treated and disinfected reuse water is pumped from the STP to customers via two reuse pumping mains. Effluent is chlorinated and reused at two reuse sites: Mt Arthur Coal Mine and Muswellbrook Golf Club.

The Denman sewerage scheme consists of an STP and two SPSs. The Denman STP is an Intermittently Decanted Extended Aeration (IDEA) activated sludge type treatment process for secondary treatment of sewage. Secondary-treated effluent is then stored in an effluent pond at the STP site for approximately 16 days before being chlorinated by a sodium hypochlorite dosing system and then pumped to the Denman recycled water system by a pump station at the STP.

4.2 Existing sewerage assets

Existing sewerage assets servicing the MSC DSP area and their current MEERA costs as valued and maintained by the Council have been included in the capital charges calculation.

The current replacement cost (CRC) for the existing sewerage assets in MSC is \$149.8 Million (2020/21\$). In accordance with the 2016 NSW Developer Charges Guidelines, all existing sewerage assets servicing MSC are included in the capital charge calculations except for the following:

- assets older than 30 years as of 2021
- assets which are unlikely to be fully utilised over the planning horizon for calculating developer charges
- reticulation assets, which are typically paid for directly by developers
- gifted assets, which were built by developers and later transferred to Council

The CRC of sewerage assets in MSC included for the calculation of capital charge is \$61.1 Million (2020/21\$).

Details of the existing assets servicing the area covered by the sewerage DSP are presented in Appendix A. A breakdown summary of the existing assets and their current replacement costs for included and excluded assets for MSC is shown in Table 4-1, with additional sewerage DSP background documents included in Appendix B.

Table 4-1: Summary of existing sewerage assets

Asset type	Current replacement cost (2020/21\$)	Excluded assets (2020/21\$)	Included assets (2020/21\$)
Muswellbrook sewerage scheme			
Effluent reuse pump stations	501,546	124,183	377,363
Sewage pump stations	9,841,027	3,377,373	6,463,654
STP	35,759,000	0	35,759,000
Telemetry	480,817	0	480,817
Reticulation	59,172,946	59,172,946	0
Trunk mains	25,730,382	12,509,257	13,221,125
Subtotal	131,485,718	75,183,759	56,301,959
Denman sewerage scheme			
Effluent reuse pump stations	285,982	81,994	203,988
Effluent reuse system	786,932	786,932	0
Sewage pump stations	1,399,121	412,915	986,206
STP	3,618,383	3,527,590	90,793
Reticulation	7,577,401	7,577,401	0
Trunk mains	4,652,518	1,155,880	3,496,638
Subtotal	18,320,337	13,542,712	4,777,625
Grand total	149,806,055	88,726,471	61,079,584

4.3 Future sewerage assets and renewals

Where DSP areas are expected to make use of future assets, the capital cost of these assets are included in the capital charges calculations. Council considered the estimated costs of capital works (including contingencies) planned for the first 10 years of the Total Asset Management Plan of the adopted IWCM Strategy for the calculation of capital charges. The MSC sewerage capital works program comprises of works for growth, improved standards and renewals.

A summary of the future capital works included for the calculation of capital charges is presented in Table 4-2. The detailed program of all the planned capital works for each of the service areas are shown in Table 4-3.

Table 4-2: 10-year total future sewerage capital works summary (2020/21\$)

Capital Works	Muswellbrook	Denman
New/upgrade works	7,813,000	4,975,000
Renewals	5,857,000	225,000
Total	13,670,000	5,200,000

The timing and expenditure for the 10-year sewerage capital works for each service area of Muswellbrook and Denman are shown in Figure 4-1 and Figure 4-2 respectively.

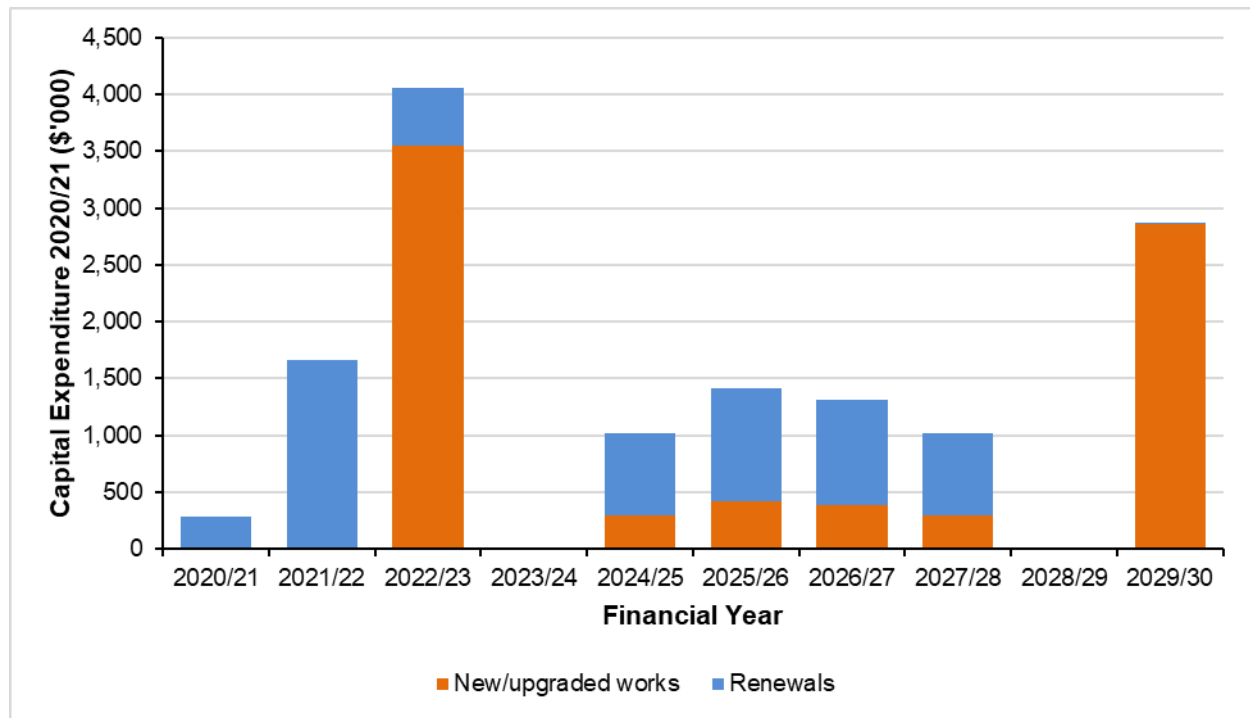


Figure 4-1: Timing of 10-year sewerage capital works program – Muswellbrook

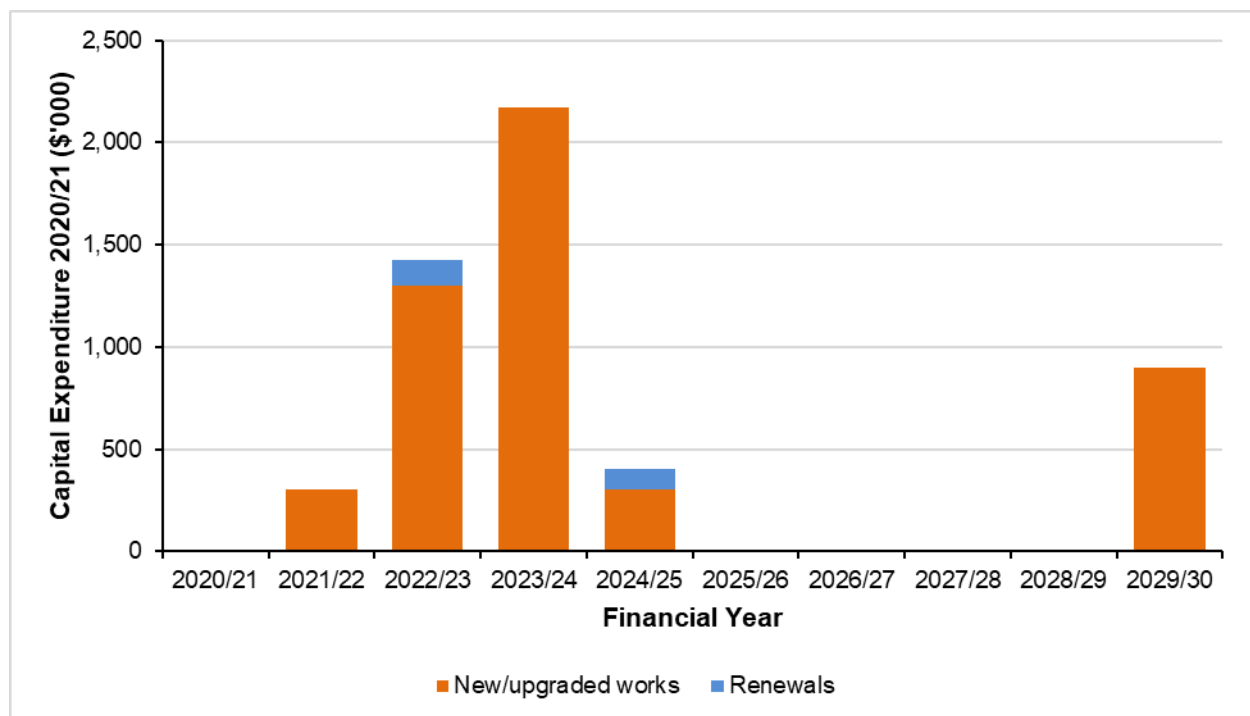


Figure 4-2: Timing of 10-year sewerage capital works program – Denman

Table 4-3: 10-year sewerage capital works program

SEWER - 10-Year Capital Works Program																
Current Year					2020	/21										
CAPITAL WORKS IN 2020/21 (\$'000)																
ITEMS	ILOS	GROWTH	RENEW	10-Yr Total	1	2	3	4	5	6	7	8	9	10		
					2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30		
MUSWELLBROOK																
Reuse option 4: Muswellbrook Golf Club + Racecourse + Industrial Area	100%			1,046			1,046									
Reuse option 4: Parks and sporting fields + STP + River Discharge	100%			2,857											2,857	
Connect Racecourse and Sheppard Avenue properties to Muswellbrook STP (2035)				0												
RWTW		30%	70%	100						100						
Decommission Ex STP - Included in item 1				0												
Energy improvements - Optional		100%		2,500			2,500									
Pumping station upgrade			100%	2,000		1,500	500									
Communications upgrade		30%	70%	0												
Transportation system upgrade		30%	70%	4,600					1,000	1,300	1,300	1,000				
Mains renewals/replacements - Reticulation			100%	4,500	400	400	400	400	400	500	500	500	500	500	500	
Access and security improvements			100%	155	20	15	15	15	15	15	15	15	15	15	15	
Safety/Quality/Risk Improvement Projects			100%	10	10											
Other system assets replacement (Asset Manager recommended)			100%	402	256	146										
DENMAN																
Sludge management - desludge sludge lagoons and construct drying beds (2023)	100%			1,050			650	400								
Grit removal - upgrade inlet works (2023)	100%			650			650									
Remedial work for opportunistic reuse (2030)	100%			900											900	
Remedial works for opportunistic reuse including golf course, recreation area and agriculture (2030)	100%			0												
Third pipe supply to Urban release areas (2035)	100%			0												
Connect Grey Gum and West Denman (2040)	100%			0												
Site work/fence access	100%			150		150										
Inlet and grit removal	100%			0												
Reactor aerators			100%	125			125									
New balance tank	100%			400				400								
Filters, UV and chlorination	100%			550			550									
Sludge lagoons and drying beds or drying system	100%			0												
New dosing system	100%			175			175									
Electrical and telemetry upgrades	100%			650			650									
Miscellaneous installments	100%			450		150			300							
Mains renewals/upgrade - Included in Muswellbrook Plan				0												
Pumping station upgrades			100%	100					100							
GRAND TOTAL				23,370	686	2,361	5,886	2,590	1,815	1,915	1,815	1,515	515	4,272		

5. Levels of service

Sewerage system design capacity and operation are based on providing the adopted levels of service (LOS). The LOS for the sewerage services, adopted following consultation with the Project Reference Group including community representatives as part of the development of the Muswellbrook IWCM Strategy 2021 are shown in Table 5-1.

Table 5-1: Muswellbrook Shire Council sewerage levels of service

Description	Unit	Muswellbrook	Denman
System failure causing overflow			
Category 1: Failure due to rainfall and inadequate design capacity	No/year	2	1
Category 2: Failure due to breakdown	No/year	1	1
Category 3: Failure due to blockages	No/year	50	15
Response time to system failures (95% of the time)			
Staff on-site	Hours	1	1
Service re-established	Hours	4	4
Odour complaints			
Treatment plant	No/year	1	1
Pump stations	No/year	1	1
Other	No/year	0	0
Effluent quantity			
Discharge sites		100% reuse	100% reuse
Discharge licence conditions			
BOD – 100 percentile limit	mg/L	<20	<20
Suspended Solids – 100 percentile limit	mg/L	<30	<30
Oil & Grease – 100 percentile limit	mg/L	<10	<10
Phosphorus (total) – Load based limit	kg/year	<1,438	No license limit
Nitrogen (total) – Load based limit	kg/year	<1,849	No license limit
Sampling and testing frequency			
pH	No/week	1	1
BOD	No/week	1	1
Suspended Solids	No/week	1	1
Oil & Grease	No/month	1	1
Oil & Grease Visible	No/month	1	1
Phosphorus (total)	No/month	2	2
Nitrogen (total)	No/month	2	2

Source: Muswellbrook Shire Council Integrated Water Cycle Management Strategy, Public Works Advisory, March 2021

6. Design parameters for sewerage

Investigation and design of sewerage system components are based on the following technical documentations:

- Muswellbrook Shire Council's levels of service (see Section 5)
- Manual of Practice: Sewer Design, NSW Public Works (1984)
- Manual of Practice: Sewage Pumping Station Design, NSW Public Works (1986)
- WSAA Sewerage Code of Australia: WSA 02–2002
- WSAA Pressure Sewerage Code of Australia: WSA 07–2007
- TAM and Financial Plans of Muswellbrook IWCM Strategy, 2021

7. Developer charges calculation methodology

7.1 Developer charge concept

The developer charges calculation methodology is based on the net present value (NPV) approach with a view to fully recover the capital cost invested for servicing a development area. The investment is recovered as the up-front developer charges and the net income over time from the annual bills/ charges.

The calculation of developer charges is a two-step process. First, the capital charge is calculated as the present value of the capital cost of assets required over time to service the development area. The capital charge will include the capital cost component that will be recovered through annual bills, which needs to be reduced from the calculated capital charge. Hence, the second step is to calculate the reduction amount, which is the present value of the expected annual charges over time to be paid by the development in excess of operation, maintenance and administration (OMA) costs i.e. net income from annual bills.

The developer charge per ET is defined as the capital charge less the reduction amount.

$$\text{Developer Charge (\$/ET)} = \text{Capital Charge (\$/ET)} - \text{Reduction Amount (\$/ET)}$$

7.2 Capital charge

The calculated capital charge represents the efficient capital cost of assets used in providing sewerage services in the DSP areas. This includes the cost of both existing and future assets per ET to be used to service the DSP areas.

Generally, the capacity of a sewerage asset would not be fully utilised until some years after construction of the asset. The calculation takes into account the time to full take-up of the capacity of an asset over the planning horizon (30 years).

The Return on Investment (ROI) is based on the cost of early investment and the recovery of the investment over time. The annual payments have to provide a return of investment to reflect the discounting of future payments.

For pre-1996 assets, the discount rate for calculating the ROI is in accordance with IPART's Determination 9, 2000, and for post-1996 assets, the ROI is calculated using the discount rates in accordance with the 2013 IPART Determination for Gosford and Wyong Councils. These are shown in Table 7-1.

Table 7-1: Discount rates used in capital charges calculations

Assets	Discount rate
Pre-1996 assets	3% p.a.
Post-1996 assets	5% p.a.

7.3 Exemption

The assets groups included and excluded from the capital charges calculations are shown in Table 7-2.

Table 7-2: Assets included and excluded in capital charges calculations

Group	Capital charge calculation inclusion
Existing assets	Included if assets less than 30 years old at the commencement of this Plan.
Future assets (new growth)	Included if assets planned within the next 10 years as adopted by Council.
Future assets (renewals)	Included if assets planned for renewal within the next 10 years and are replacing assets older than 30 years.
Reticulation (existing and future)	Reticulation assets are excluded from the calculation of developer charges.
Assets for out-of-sequence development	Excluded if the developer is required to meet the full cost of such needs.
Developer provided assets	Excluded unless the developer is reimbursed fully or partially.

Sewer reticulation

Reticulation is defined as the local sewer pipes connected to individual properties. Reticulation mains, if removed from the network, should not have a significant adverse impact on the successful operation of the network beyond the removed mains.

Both existing and future reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions. However, Council may calculate a reticulation supplement which would be payable by developers that have not provided the reticulation assets.

7.4 Reduction amount

The reduction amount is the amount by which the capital charge is reduced to arrive at the developer charge. The reduction amount represents the portion of the efficient cost of assets Council expects to recover from the new developments as part of their future annual bills for the service provision in the DSP areas.

Council has adopted the NPV of annual bills method to calculate the reduction amount. The reduction amount has been calculated using the NPV for 30 years of the future net income from the annual charge (annual bills less OMA cost) per PV of new ETs.

8. Sewerage developer charges

8.1 Sewerage capital charge and agglomeration

The details of calculation of capital charges for the two service areas covered by this DSP are presented in Appendix B. The capital charges for the two service areas namely Muswellbrook and Denman are presented in Table 8-1.

Table 8-1: Sewerage capital charges

Sewerage service area	Capital charge for EXISTING assets 2020/21 (\$ per ET)	Capital charge for FUTURE assets 2020/21 (\$ per ET)	Total capital charge 2020/21 (\$ per ET)	Percentage of highest capital charge
Denman	6,566	4,041	10,607	100%
Muswellbrook	62,72	3,823	10,095	95%

8.2 Sewerage DSP area

When the capital charges for two or more service areas are within 30%, they can be agglomerated into a single DSP area. Capital charges of Muswellbrook and Denman are within 30% of each other hence they can be agglomerated into one sewerage DSP area . The sewerage service areas agglomeration details are shown in Table 8-2.

Table 8-2: Agglomeration of sewerage service areas

Sewerage service area	Capital charge 2020/21 (\$ per ET)	Percentage of highest capital charge DSP Area 1	Agglomerated DSP area	Weighted average capital charge 2020/21 (\$ per ET)
Denman	10,607	100%	Sewerage DSP area 1	10,157
Muswellbrook	10,095	95%		

8.3 Reduction amount calculation

The reduction amount has been calculated using NPV of annual bill method on a shire-wide basis as Council has adopted a uniform tariff structure. Annual billing revenue and OMA costs forecast for the 30-year period starting 2020/21 in the IWCM Strategy Financial Plan have been used for this purpose. The details of reduction amount calculation are presented in Appendix B and a summary is shown in Table 8-3

Table 8-3: Reduction Amount calculation summary

Discount rate, p.a.	5%
Annual sewerage charge, 2020/21 (\$/ET)	723
PV of new ETs over 30 years	868
PV of net income over 30 years (\$)	3,433,253
Reduction Amount, 2020/21 (\$/ET)	3,953

8.4 Sewerage developer charge

The developer charge is the capital charge less the reduction amount. The capital charges, reduction amount and the calculated sewerage developer charges in 2020/21 dollars are presented below in Table 8-4.

Table 8-4: Sewerage developer charges

Sewerage DSP area	Weighted average capital charges 2020/21 (\$ per ET)	Reduction amount 2020/21 (\$ per ET)	Calculated developer charge 2020/21 (\$ per ET)
Sewerage DSP area 1	10,157	3,953	6,204

After adjustment for CPI of 2.90% for Sydney, the calculated sewerage developer charge from 1st July 2021 is shown in Table 8-5.

Table 8-5: Sewerage developer charge after adjustment for CPI

Sewerage DSP area	Adjusted calculated developer charge from 1 July 2021 (\$ per ET)
Sewerage DSP area 1	6,384

9. Reviewing/updating of calculated developer charges

Developer charges are to be reviewed by Council every eight years. The developer charges should be adjusted on 1 July each year on the basis of movements in the Consumer Price Index (CPI) for Sydney in the preceding 12 months to December, excluding the impact of GST.

If there is a major change such as the need for significant capital works that has not been included in the existing DSP, Council may carry out a review in less than four years, subject to DPIE Water's approval.

10. Background documents

The background references used for the preparation of this DSP are contained in the following documents:

- Developer Charges Guidelines for Water Supply, Sewerage and Stormwater 2016, DPIE Water
- NSW Water and Sewerage Strategic Business Planning Guidelines, DPIE Water, July 2011

The background documents providing details of the sewerage developer charges calculations are included in Appendix B. The background information contains details on commissioning dates, size, capacity and MEERA valuation of existing sewerage assets. They also include the details of calculations of the capital charges, reduction amount and the developer charges.

11. Other DSPs and related contribution plans

Council's other related contribution plans include:

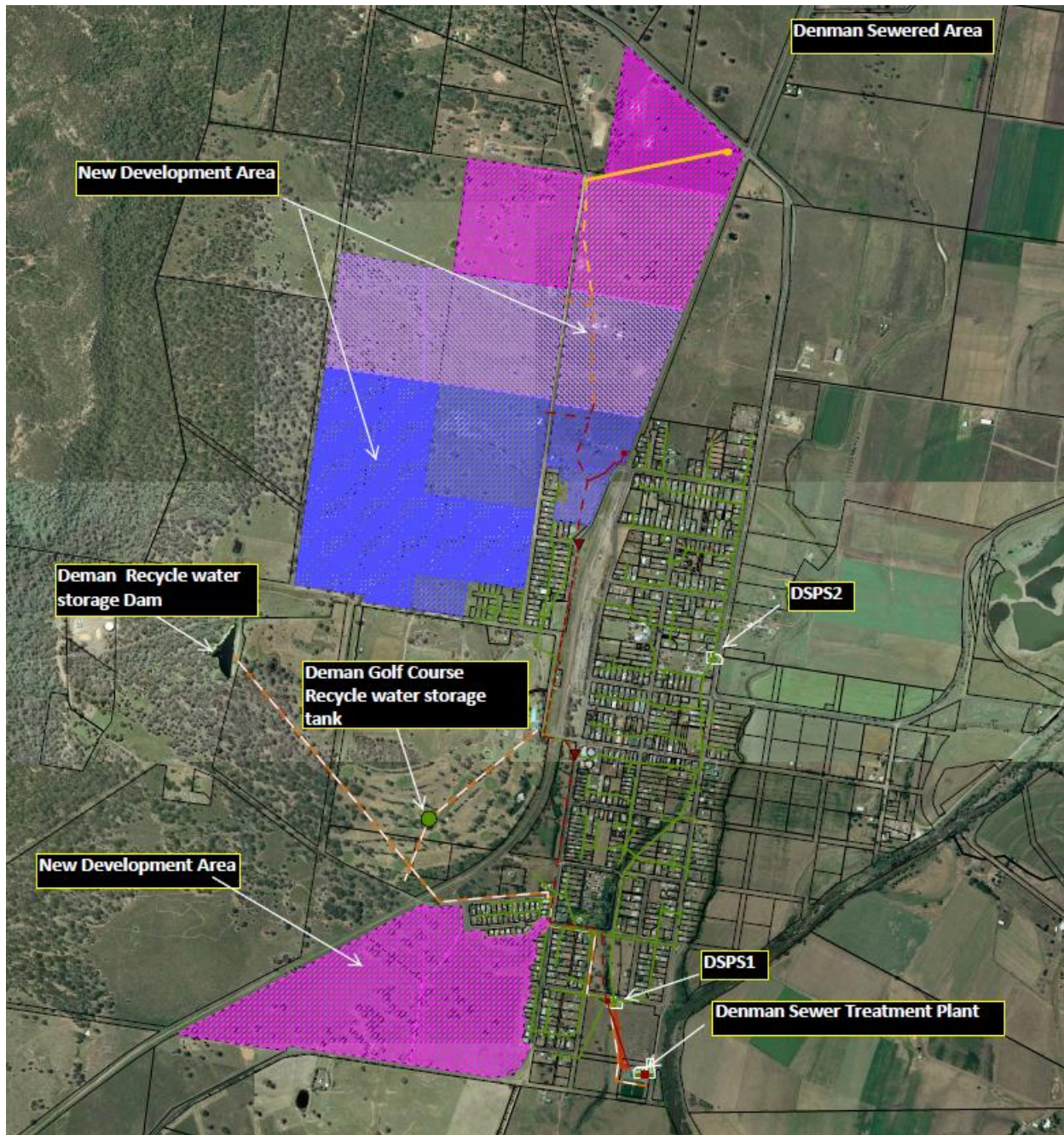
- MSC Water Supply Development Servicing Plan
- MSC Development Control Plan
- MSC Section 94 Contributions Plans

Appendix A DSP service areas

A.1 Muswellbrook sewerage scheme



A.2 Denman sewerage scheme



Appendix B Sewerage DSP background documents

Appendix C Outline of legislation

Local Government Act 1993

The power for local government councils to levy developer charges for water supply, sewerage and stormwater derives from Section 64 of the Local Government Act 1993 by means of a cross-reference in that Act to the relevant provisions of the Water Management Act 2000.

Section 64 of the Local Government Act states that:

Division 5 of Part 2 of Chapter 6 of the Water Management Act 2000 applies to a council exercising functions under this Division in the same way as it applies to a water supply authority exercising functions under that Act.

Environmental Planning and Assessment Act 1979

Prior to the introduction of the Local Government Act in 1993, councils used the provisions of Section 94 of the Environmental Planning and Assessment Act 1979 to obtain developer contributions for water supply and sewerage services. As part of the Local Government (Consequential Provisions) Act 1993, amendment was made to the Environmental Planning and Assessment Act so that Section 94 no longer applied for water supply and sewerage services.

However, Councils can levy developer charges for stormwater under either Local Government Act or Water Management Act.

Water Management Act 2000

Section 305 (1) and (2) of the Water Management Act states that:

- 1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.
- 2) as a pre-condition to granting a certificate of compliance for development, a water supply authority may, by notice in writing served on the applicant, require the applicant to do either or both of the following:
 - a) to pay a specified amount to the Authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both,
 - b) to construct water management works to serve the development.

Section 305 (3) of the Water Management Act states that:

- 3) In calculating an amount for the purposes of subsection (2) (a):
 - a) the value of existing water management works and the estimated cost of projected water management works may be taken into consideration, and
 - b) the amount of any government subsidy or similar payment is not to be deducted from the relevant value or cost of the water management works, and
 - c) consideration is to be given to any guidelines issued for the time being for the purposes of this section by the Minister.

In 2011, the Minister for Primary Industries became responsible for non-metropolitan NSW town water services. The Minister is responsible for the issue of guidelines for water utilities on the calculation of water supply, sewerage and stormwater developer charges.

Note: Use of moneys raised from developer charges is discussed in Section 2.7 on page 10 of the guidelines.

Local Government (Savings and Transitional) Regulation 1993

The Local Government (Savings and Transitional) Regulation 1993 covers the matter of developer contributions which had previously been obtained by councils under the Environmental Planning and Assessment Act as follows:

- 9) Any monetary contribution held by a council immediately before the commencement of this Regulation, being a contribution arising from a condition:
 - a) that was imposed under section 94 of the Environmental Planning and Assessment Act 1979; and
 - b) that specifies that the contribution is to be applied towards providing specified water or sewerage services or towards providing water or sewerage services generally, is to be applied towards the construction of works within the meaning of Division 2 of Part 3 of the Water Supply Authorities Act 1987, or towards the repayment of money borrowed for the construction of such works, and is not to be applied towards any other purpose.

