

Parkes Shire Council

Development Servicing Plans for Water Supply and Sewerage Services

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March 2006





Parkes Shire Council

Development Servicing Plan for Water Supply and Sewerage Services

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This plan was prepared for [Parkes Shire Council](#) by
John Wilson and Partners Pty Ltd

ABN: 85 011 022 503



Level 10, 132 Arthur Street

North Sydney, NSW, 2060

Telephone: 02 8923 1555

Facsimile: 02 9460 1866

E-mail: g.azar@jwp.com.au

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Executive Summary

This document presents water supply and sewerage developer charges for the following development areas served by Parkes Shire Council (PSC):

Service	Service Area	Areas Included
Water Supply	Parkes Shire	The towns of Parkes, Peak Hill, and Cookamidgera
Sewerage	Parkes	The town of Parkes
	Peak Hill	The town of Peak Hill

These development servicing plans (DSPs) have been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the former Department of Land and Water Conservation (DWLC) pursuant to section 306 (3) of the *Water Management Act 2000*. This document is to be registered with the Department of Energy, Utilities, and Sustainability (DEUS).

The timing and expenditure for works serving the areas covered by this document and the calculation of developer charges is given in **Appendix A** for water supply and **Appendix B** for sewerage. Levels of service to be provided to the service areas are stated within the Parkes Shire Council Strategic Business Plan 2005/06. A copy of these levels of service is given in **Appendix A** for water supply and **Appendix B** for sewerage.

One DSP for water and one for sewerage are contained in this document. The developer charges calculated are shown in **Table 1**.

Table 1 Calculated Developer Charges

DSP Name	Calculated Developer Charge (2004/05 \$ per ET)	Adopted Developer Charge (2004/05 \$ per ET)
Parkes Shire Water	\$8,393	\$8,393
Parkes Shire Sewerage	\$2,493	\$2,493
Total Developer Charges	\$10,886	\$10,886

Developer charges relating to these DSPs will be reviewed after a period of 5 years. A shorter review period is permitted if a major change in circumstances occurs. In the period between reviews, developer charges will be adjusted annually on 1 July on the basis of the movements in the CPI.

The developer charges adopted in these DSPs are scheduled to commence on 1st July 2006. As such, indexation of the adopted charge is required for the charge to reflect 2006/07 dollars. This indexation is shown in **Table 2**.



Table 2 Indexed Developer Charges

DSP Name	Adopted Developer Charge (2004/05 \$ per ET)	Indexed Adopted Developer Charge (2006/07 \$ per ET)
Parkes Shire Water	\$8,393	\$8,820
Parkes Shire Sewerage	\$2,493	\$2,620
Total Developer Charges	\$10,886	\$11,440

The developer shall be responsible for the full cost of the design and construction of reticulation works within subdivisions for both water supply and sewerage.

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1 An Introduction to Development Servicing Plans

1.1 Background

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

A Development Servicing Plan (DSP) is a document which details the developer charges to be levied on development areas utilising a Council's water supply or sewerage infrastructure.

This document is split into three sections.

- Section 1 contains a summary and introduction to Parkes Shire Council's (PSC) DSPs;
- Section 2 contains the Parkes Shire Council Development Servicing Plan for Water Supply Services; and,
- Section 3 contains the Parkes Shire Council Development Servicing Plan for Sewerage Services.

These DSPs have been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the Minister for Land and Water Conservation (now Minister for Energy and Utilities), pursuant to section 306 (3) of the *Water Management Act 2000*. These DSPs are scheduled to commence on the 1st July, 2006.

These DSP supersedes any other requirements related to water supply or sewerage developer charges for the areas covered by the DSPs. These DSPs take precedence over any of Council's codes or policies where there are any inconsistencies relating to water supply or sewerage developer charges.

1.2 The Developer Charges Process

Developer charges are up-front charges levied to recover part of the infrastructure costs incurred in servicing new developments or additions/changes to existing developments. Developer charges serve two related functions:

- They provide a source of funding for infrastructure required for new urban development.
- They provide signals regarding the cost of urban development and thus encourage less costly forms and areas of development.

The Developer Charges calculation is based on the net present value (NPV) approach adopted by the Independent Pricing and Regulatory Tribunal (IPART) for the metropolitan water utilities. The fundamental principle of the NPV approach is that the investment in assets for serving a development area is fully recovered from the development. The investment is recovered through up-front charges (i.e. developer charges) and the present value (PV) of that part of annual bills received from the development in excess of operation, maintenance and administration (OMA) costs.



i.e. Developer Charge = Capital Charge (cost of providing the assets)
Reduction Amount (cost recovered through annual bills).

The Capital Charge and Reduction Amount are discussed further in sections 1.2.1 and 1.2.2 respectively. The developer charges process is described fully in the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (DLWC, December 2002).

NSW local water utilities (LWUs) which propose to levy developer charges for water supply and/or sewerage need to prepare DSPs. The DSP details the calculation of the developer charges and is required to be fair and transparent.

LWUs need to calculate and report developer charges in accordance with section 306 (3) of the *Water Management Act 2000* and the Guidelines, and to register their DSPs with DEUS by 30 June 2004.

Developer charges relating to a particular DSP should be reviewed by the LWU after a period of 5 years. If the review indicates that the developer charges in the DSP remain valid, the DSP will apply for a further 5 years after the utility releases a public notice to this effect. However, if it is considered that a new DSP is warranted a new DSP shall be prepared, exhibited and registered.

If a major change occurs in the LWU's circumstances such as the need for significant capital works that had not been included in the DSP, the LWU may carry out a review in less than 5 years, subject to approval by the Department of Energy, Utilities, and Sustainability.

1.2.1 The Capital Charge

Capital Charge = Capital Cost x Return on Investment (ROI) Factor

The capital cost includes the cost of providing, extending or augmenting assets required, or likely to be required, to provide services to a development area. The capital cost per equivalent tenement (ET) is the value of the relevant assets divided by the capacity of these assets (in ETs).

Relevant assets include existing and future assets required to support growth, but exclude reticulation assets.

Typically, the capacity of an asset would not be fully utilised until some time after construction of the asset. The Return on Investment (ROI), also known as a holding charge, is based on the cost of early investment, and recovery of the cost over time. The ROI factor is dependent on the period for take-up of the asset capacity, and the rate of return required for the asset.

The capital charge is calculated for each service area. Service areas are:

- An area served by a separate water supply system or sewerage treatment works;
- Separate small towns or villages; or,
- A new development area of over 500 lots.

Where the capital charges for two or more service areas are within 30%, they are agglomerated into a single DSP. The local water utility may further agglomerate areas into a single DSP.



1.2.2 The Reduction Amount

PSC has adopted the NPV of Annual Charges method for calculation of the Reduction Amount. In the long term, developer charges should cover the capital charge for serving a development area less the net present value of net income from annual charges for the development area. The reduction amount represents the NPV of net income (income less recurrent expenditure) from the development. Using the NPV of Annual Charge method requires a 30 year financial plan in order to calculate the reduction amount.

1.3 Summary of Developer Charges

One Water Supply DSP and one Sewerage DSP are contained in this document. Developer charges relating to these DSPs will be reviewed after a period of 5 years. A shorter review period is permitted if a major change in circumstances occurs. In the period between reviews, developer charges will be adjusted annually on 1st July on the basis of the movements in the CPI.

The calculated developer charges are shown in **Table 3** and the charges indexed for application on 06/07 are shown in **Table 4**.

Table 3 Calculated Developer Charges

DSP Name	Calculated Developer Charge (2004/05 \$ per ET)	Adopted Developer Charge (2004/05 \$ per ET)
Parkes Shire Water	\$8,393	\$8,393
Parkes Shire Sewerage	\$2,493	\$2,493
Total Developer Charges	\$10,886	\$10,886

The developer charges adopted in these DSPs are scheduled to commence on 1st July 2006. As such, indexation of the adopted charge is required for the charge to reflect 2006/07 dollars.

Table 4 Indexed Developer Charges

DSP Name	Adopted Developer Charge (2004/05 \$ per ET)	Indexed Adopted Developer Charge (2006/07 \$ per ET)
Parkes Shire Water	\$8,393	\$8,820
Parkes Shire Sewerage	\$2,493	\$2,620
Total Developer Charges	\$10,886	\$11,440

The developer shall be responsible for the full cost of the design and construction of reticulation works within subdivisions for both water supply and sewerage.



2 Water Supply DSP

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

A Development Servicing Plan (DSP) is a document which details the water supply developer charges to be levied on development areas utilising a Council's water supply infrastructure.

This section contains one DSP that covers water supply developer charges for the areas served by Parkes Shire Council (PSC). This DSP is scheduled to commence on 1st July, 2006.

This DSP has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the Minister for Land and Water Conservation (now Minister for Energy and Utilities), pursuant to section 306 (3) of the *Water Management Act 2000*. Details of the methodology prescribed by the guidelines can be found in the Section 2 of Part 1.

This DSP supersedes any other requirements related to water supply developer charges for the area covered by the DSP. This DSP takes precedence over any of Council's codes or policies where there are any inconsistencies relating to water supply developer charges.

2.1 Reference Documents

Background information and calculations relating to this DSP are contained in the Background Document attached in **Appendix A**. These documents contain detailed calculations for the capital charge and reduction amount, including asset commissioning dates, size/length of assets, MEERA valuation of assets, and financial modelling for calculation of reduction amounts.

2.2 Other DSPs and Related Plans

Other related plans include:

- Parkes Shire Council DSP for Sewerage Services
- Other s.94 plans as made from time to time by Parkes Shire Council



2.3 Administration

DSP Name	Parkes Shire Water
DSP Area	The areas covered by this DSP are shown in Appendix A .
DSP Boundaries	The basis for defining the DSP area boundaries is the water supply catchments served by the existing assets of the Parkes / Peak-Hill water supply system (but excludes existing assets serving Northparkes Mine) and the future assets schedule for the next 5 years (also known as the capital works program).
Payment of Developer Charges	The contribution(s) will be assessed by Council and will apply for 3 months from the date of the assessment notice. Contributions not received by Council within 3 months of the date of notice will be adjusted in accordance with the DSP current at the time of payment.
Indexation of Developer Charges	The developer charges will be indexed to ensure they are not eroded by inflation. Charges will be indexed on the 1 st of July each year in line with the Consumer Price Index (CPI, All Groups Sydney) as published by the Australian Bureau of Statistics.

2.4 Existing Water Supply Services

Parkes Shire Council operates the Parkes-Peak Hill water supply scheme. This scheme supplies water to the towns of Parkes, Peak Hill, Alectown, Cookamidgera, and Trewilga. Towns located on the western side of the Shire are served by the Forbes-Tottenham water supply scheme (known also as the B-section of pipeline). Water purchased from Forbes Council is piped to the towns of Bogan Gate, Gunningbland, Trundle, and Tullamore in Parkes Shire. The pipeline continues through Parkes Shire servicing a number of towns within Lachlan Shire Council. Currently Parkes Shire uses approximately 72% of the B-section water supply whilst 28% is used by Lachlan Shire.

This DSP does not consider towns along the B-section pipeline as no growth is predicted for these towns and their capital charge would be nullified in the agglomeration process. This DSP does not consider the supply to the Northparkes Mine.

The Parkes-Peak Hill scheme supplies the towns of Parkes and Peak Hill. Water is also supplied to Northparkes Mine. The existing system includes the following major assets:

- Three water sources: groundwater from the Upper Lachlan Alluvium, surface water from Lake Endeavour Dam (2, 400ML) and Beargamil Dam (550 ML) and a new surface water off-take from the Lachlan River;
- Three high production bores and two low production bores in the alluvial aquifers of the Lachlan Valley 30 km south of Parkes town;
- Transfer system from the borefield and river intake to Parkes through two 375 mm diameter pipes and two pump stations (Eugowra and Back Yamma);
- 14 service reservoirs and balance tanks;
- 7 other pump stations to deliver to Northparkes Mine, Peak Hill, Cookamidgera and the dams;

- 289 km of water mains; and
- An 8 ML/d water treatment plant (WTP) at Parkes. The level of treatment provided differs depending on the source of the water to be supplied.

2.5 Future Capital Works

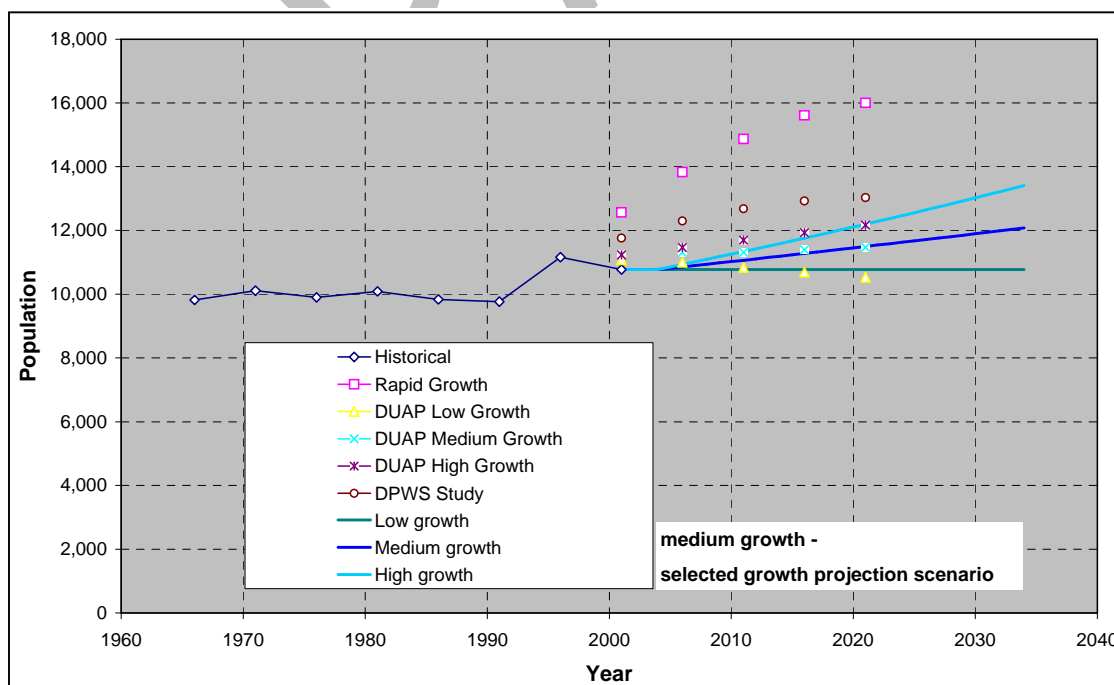
Plans have been made to construct the following capital works to ensure the future of PSC's water supply:

- Development of a permanent river intake (24 ML/d capacity) to improve supply reliability;
- New 28 ML/d Water Treatment Plant to improve the quality of water supplied to Parkes' customers;
- New clearwater storage (15ML); and,
- A recycled water ring main for the irrigation of public open space and recreation areas around Parkes, and potentially, to service a 'third pipe' scheme to new development.

2.6 Growth Projections and System Requirements

Growth projections were undertaken by Montgomery Watson Harza (MWH) as part of the Parkes Integrated Water Cycle Management Plan (IWCMP). **Figure 1** illustrates the population projections undertaken for the Parkes and Peak Hill water supply area. The 10% increase in population (medium growth) over 25 years was adopted as the forecast of the base population that would be served with water supply. No growth is forecast for Trundle and Tullamore.

**Figure 1 Population Forecasts
Parkes and Peak Hill Water Supply System**



SOURCE: MWH, Parkes IWCMP Demand Analysis and Forecasting Report, 2005



2.6.1 Land Use Information

This DSP should be read in conjunction with Council's LEP and other planning instruments.

2.6.2 Design Parameters

Investigation and design of water supply system components is based on the following design manuals:

- Water Supply Investigation Manual (1986),
- WSA water supply code of Australia - WSA 03 2002, and
- AUSPEC design specifications for water supply.

2.6.3 Levels of Service

System design and operation are based on the levels of service stated within the document, Parkes Shire Council Strategic Business Plan for Water Supply and Sewerage Services (JWP, 2005). A copy is also provided in **Appendix A**.

2.6.4 System Capacity

PSC plans to augment its water supply systems to cater for future growth. The system capacities are shown in the following table. System capacity is based on the historical demand analysis, water demand forecasts and infrastructure assessments determined as part of the IWCMS.

Table 5 Water Supply Capacity

Service Area	Headworks Capacity (Ultimate 2034 ET)	Transfer and Treatment System Capacity (Ultimate 2034 ET)	Recycled Water Capacity (Ultimate 2034 ET)
Parkes Shire Water	23,674	9,333	9,333

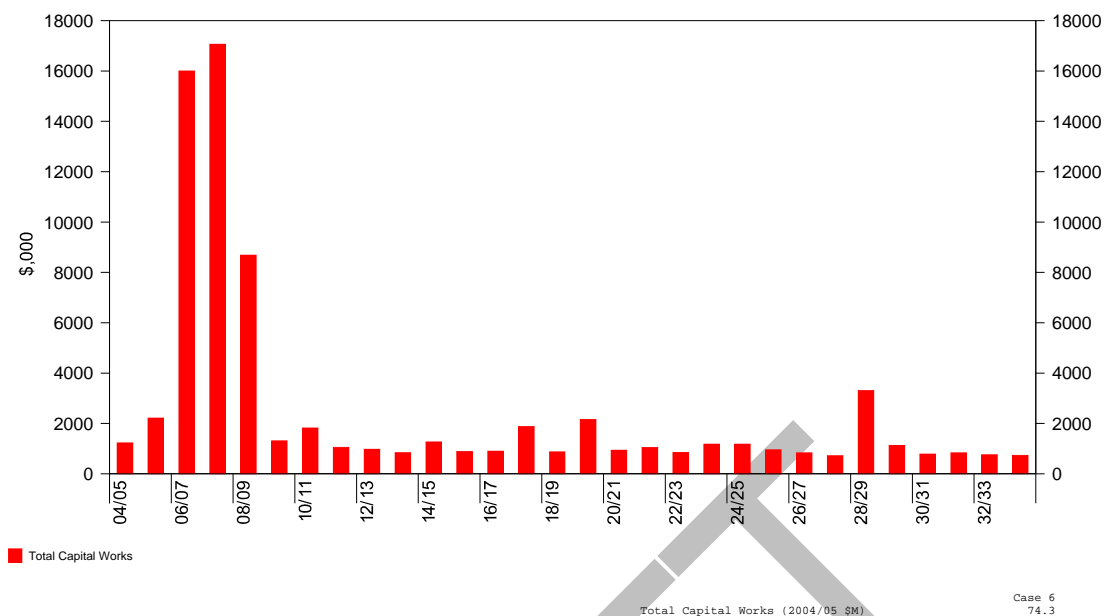
2.6.5 Capital Works

Capital works estimated at \$74.3 M (2004/05 \$) will be required over the next 30 years to provide water supply services to the shire, comprising both new works and renewals.

2.6.6 Timing of Works and Expenditure

The timing and expenditure for water supply works are shown in the capital works program, located in **Appendix A**. The annual capital works expenditure is shown graphically as **Figure 2**.

Figure 2 Capital Works Program



2.7 Calculation of Developer Charges

2.7.1 Capital Charge

The capital charge was calculated for the water supply service areas based on the existing and future assets providing the services to each of the towns. The capital charge for each area was calculated in **Table A2** (refer **Appendix A**) and summarised in **Table 6**.

Table 6 Initial Capital Charges

Capital Charge Area	Capital Charge per ET (2004/05 \$)
Parkes Shire Water	\$10,991

No developer charges were calculated for Trundle and Tullamore as no growth is predicted for these towns and their capital charge would be nullified in the agglomeration process.

2.7.2 Agglomeration of Capital Charges

As only one DSP area is served with water by Parkes Shire Council (not including towns that have no growth), no agglomeration of capital charges was necessary.

2.7.3 Reduction Amount

PSC has adopted the NPV of Annual Charges method to calculate the Reduction Amount. The Reduction Amount is calculated across all of the PSC water supplies.

In order to calculate the reduction amount using the NPV of Annual Charges Method, it is necessary to make a 30 year projection of future annual charges for residential customers. Such projections were made using the NSW Financial Planning Model (FINMOD).



Key forecasts for the Financial Planning Model for PSC include:

- 2.5% inflation,
- 6.5% pa borrowing rate, with 20 year loans, and
- 5.5% pa investment rate.

The reduction amount for PSC developer charges for water was calculated using the financial model established as part of PSC s Strategic Business Plan. The resulting reduction amount **\$2,598** per ET (2004/05 \$) (refer to **Appendix A**).

2.8 Developer Charges

The calculated developer charges for the DSP areas are shown in **Table 7**. These developer charges reflect the cost of assets for serving new development.

Table 7 Developer Charges (2004/05 \$)

DSP Name	Capital Charge (\$ per ET)	Reduction Amount (\$ per ET)	Calculated Developer Charge (\$ per ET)
Parkes Shire Water	\$10,991	\$2,598	\$8,393

PSC has elected to further agglomerate the charges to apply one charge over the entire service area (including Trundle and Tullamore in the event of unexpected growth). Weighted by growth, the charge across the whole service area was calculated as **\$8,393** per ET (2004/05 \$).

2.8.1 Reviewing/Updating of Calculated Developer Charges

As required by the Developer Charges Guidelines (section 2.5), the developer charges relating to this DSP will be reviewed by PSC after a period of 5 to 6 years. If the review indicates that the developer charges remain valid, the DSP will apply for a further 5 to 6 years after the Council releases a public notice to this effect. However, if it is considered that a new DSP is warranted, a new DSP shall be prepared, exhibited and registered.

If a major change occurs in PSC s circumstances such as the need for significant capital works that had not been included in this DSP, Council may carry out a review in less than 5 years, subject to approval by DEUS. If the review results in a new DSP, the new DSP will be exhibited and registered in accordance with the requirements of the guidelines.

In the period between any review, developer charges will be adjusted on 1st July each year on the basis of movements in the CPI for Sydney, in the preceding 12 months to December, excluding the impact of GST. The first adjustment will take effect from 1st July 2007.

2.8.2 Reticulation Works

The developer shall be responsible for the full cost of the design and construction of water supply reticulation works within developments including subdivisions. The design and construction of the works shall be in accordance with Council s development specifications for water supply services.



2.8.3 Adopted Developer Charges

As shown in **Table 8**, Council intends to levy developer charges equivalent to the calculated developer charge for commencement on the 1st of July 2006. The calculated charge is the maximum amount which may be levied by Council. Council is required to disclose the cross subsidy by existing customers. No cross-subsidy will apply to existing customers as the full calculated charge is to be levied.

Table 8 Adopted Developer Charges

DSP Name	Calculated Developer Charge (2004/05 \$ per ET)	Adopted Developer Charge (2004/05 \$ per ET)
Parkes Shire Water	\$8,393	\$8,393

2.8.4 Indexed Developer Charges

The developer charges adopted in this DSP are scheduled to commence on 1st July 2006. As such, indexation of the charge is required for the charge to reflect 2006/07 dollars.

Table 9 Indexed Developer Charges

DSP Name	Adopted Developer Charge (2004/05 \$ per ET)	Indexed Adopted Developer Charge (2006/07 \$ per ET)
Parkes Shire Water	\$8,393	\$8,820



3 Sewerage DSP

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

A Development Servicing Plan (DSP) is a document which details the sewerage developer charges to be levied on development areas utilising a Council's sewerage infrastructure.

This section contains one DSP that covers sewerage developer charges for the areas served by Parkes Shire Council (PSC). This DSP is scheduled to commence on 1st July, 2006.

This DSP has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the Minister for Land and Water Conservation (now Minister for Energy and Utilities), pursuant to section 306 (3) of the *Water Management Act 2000*. Details of the methodology prescribed by the guidelines can be found in Section 2 of Part 1.

This DSP supersedes any other requirements related to sewerage developer charges for the area covered by the DSP. This DSP takes precedence over any of Council's codes or policies where there are any inconsistencies relating to sewerage developer charges.

3.1 Reference Documents

Background information and calculations relating to this DSP are contained in the Background Document attached in **Appendix B**. These documents contain detailed calculations for the capital charge and reduction amount, including asset commissioning dates, size/length of assets, MEERA valuation of assets, and financial modelling for calculation of reduction amounts.

3.2 Other DSPs and Related Plans

Other related plans include:

- Parkes Shire Council DSP for Water Supply Services
- Other s.94 plans as made from time to time by Parkes Shire Council



3.3 Administration

DSP Name	Parkes Shire Sewerage
DSP Area	The areas covered by this DSP are shown in Appendix B .
DSP Boundaries	The basis for defining the DSP area boundaries is the sewerage catchments served by Parkes STP and Peak Hill STP.
Payment of Developer Charges	The contribution(s) will be assessed by Council and will apply for 3 months from the date of the assessment notice. Contributions not received by Council within 3 months of the date of notice will be adjusted in accordance with the DSP current at the time of payment.
Indexation of Developer Charges	The developer charges will be indexed to ensure they are not eroded by inflation. Charges will be indexed on the 1st July each year in line with the Consumer Price Index (CPI, All Groups Sydney) as published by the Australian Bureau of Statistics.

3.4 Existing Sewerage Services

Council operates two sewage treatment plants (STPs): Parkes and Peak Hill. The villages and rural areas of Parkes Shire are currently served by on-site septic tank installations.

The Parkes STP was constructed in 1936 and augmented in 1965. At this time additional process units utilising the same technology as the existing plant were added. The plant process consists of:

- Preliminary treatment (screening and grit removal);
- Two process streams, each consisting of:
- Primary settlement;
- Trickling filters for secondary treatment; and
- Humus settlement tanks;
- Tertiary lagoons;
- Effluent reuse at the Parkes Golf Course, Parkes Racecourse, and farms adjacent to the STP; and a
- Discharge point to Goobang Creek for any remaining treated effluent.

The capacity of the STP has been estimated at 10,000 EP, with an average dry weather flow of 2.3 ML/day. Sewage is reticulated through a system of vitrified clay and concrete pipes flowing to the STP via gravity main.

The Peak Hill STP was originally constructed in the late 1960s. The plant comprises:

- An inlet works, preliminary treatment works;
- Two hopper bottomed primary sedimentation tanks;
- A primary pumping station;
- A flat topped sludge digester with an associated sludge pumping station, a bacteria bed;
- A humus tank; and

- Effluent ponds.

The capacity of the STP is estimated at 2,200 EP. Some of the effluent is reused at Peak Hill Gold Mine.

3.5 Future Capital Works

Plans have been made to construct the following capital works to ensure the future sustainability of PSC s sewerage services:

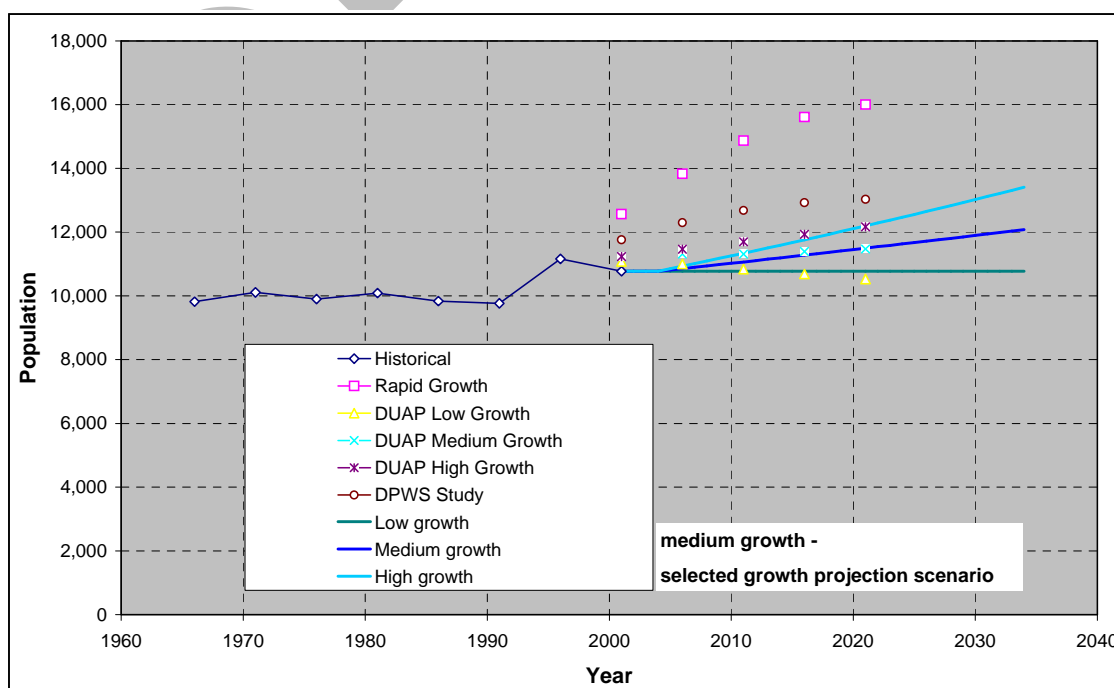
- New 3ML/d Sewage Treatment Plant for Parkes to meet water quality objectives associated with effluent reuse within the urban environment;
- Process improvement to Peak Hill sewage treatment plant to meet water quality objectives consistent with discharge to local waterways; and,
- The future provision of reticulated sewerage services to Trundle and Tullamore.

3.6 Growth Projections and System Requirements

Growth projections were undertaken by Montgomery Watson Harza (MWH) as part of the Parkes Integrated Water Cycle Management Plan (IWCMP). **Figure 1** illustrates the population projections undertaken for the Parkes and Peak Hill water supply area. The 10% increase in population (medium growth) over 25 years was adopted as the forecast of the base population that would be served with water supply. No growth is forecast for Trundle and Tullamore.

It is expected that properties that are connected with a reticulated water supply system will also be connected with reticulated sewerage over the planning horizon.

**Figure 3 Population Forecasts
Parkes and Peak Hill Water Supply System**



SOURCE: MWH, *Parkes IWCMP Demand Analysis and Forecasting Report*, 2005



3.6.1 Land Use Information

This DSP should be read in conjunction with Council's LEP and other planning instruments.

3.6.2 Design Parameters

Investigation and design of sewerage system components is based on the following design manuals:

- Manual of Practice: Sewer Design (1984)
- Manual of Practice: Sewage Pumping Station Design (1986)
- WSAA Sewerage Code of Australia (WSA02-2002)
- WSAA Sewerage Pumping Code of Australia (WSA04-2001)

3.6.3 Levels of Service

System design and operation are based on the levels of service stated within the document, Parkes Shire Council Strategic Business Plan for Water Supply and Sewerage Services (JWP, 2005). A copy is also provided in **Appendix B**.

3.6.4 System Capacity

PSC plans to augment its sewerage treatment and transfer systems to cater for future growth. The system capacities are shown in the following table. System capacity is based on the historical demand analysis, water demand forecasts and infrastructure assessments determined as part of the IWCMs. An average EP/ET ratio of 2.3 for Parkes and 2.4 for Peak Hill was adopted based on the outcomes of the MWH, *Parkes IWCM Demand Analysis and Forecasting Report* (2005).

Table 10 Sewerage Systems Capacity

Service Area	Treatment Works Capacity (Ultimate 2034 ET)	Transfer System Capacity (ET) (Ultimate 2034) ¹
Parkes Shire	7,400 ²	7,400
Peak Hill	970 ³	970

NOTES

1. Transfer system capacity assumed to be equivalent to STP capacity
2. Treatment works capacity sourced from MWH, *Parkes Integrated Water Cycle Management Plant, Technical Memo - Parkes Sewage Treatment Plant*, 2005
3. Based on 2,200 EP Peak Hill Treatment Plant, MEU, *Parkes IWCM Concept Study*, 2003

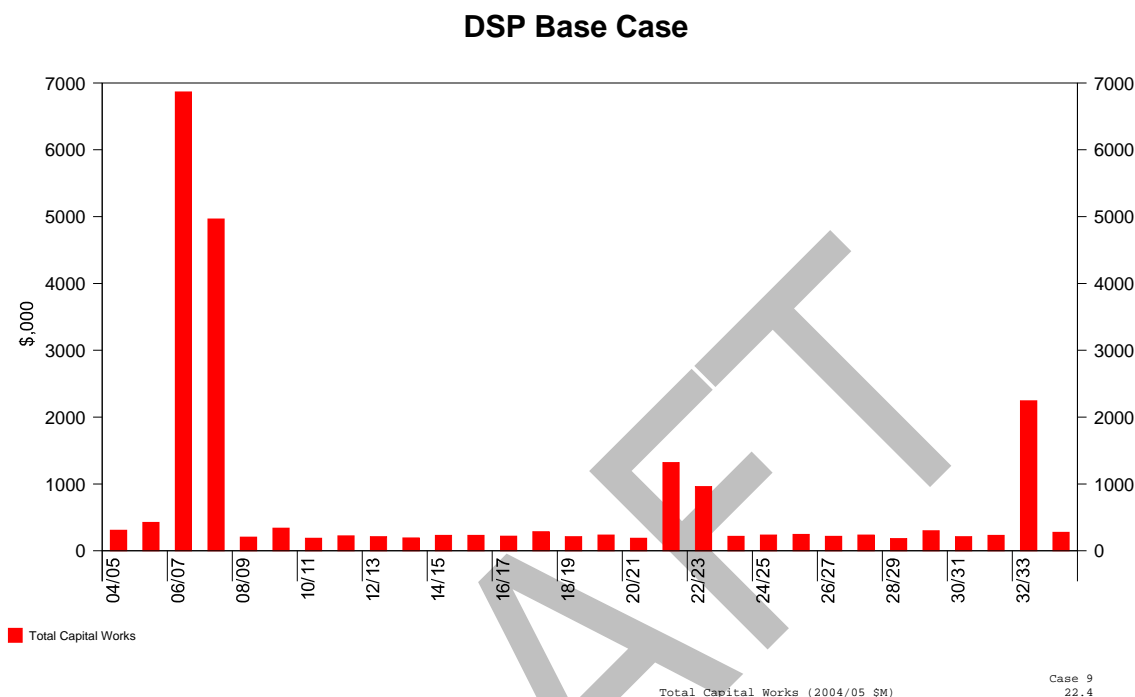
3.6.5 Capital Works

Capital works estimated at \$22.4 M (2004/05 \$) will be required over the next 30 years to provide sewerage services to the shire, comprising both new works and renewals.

3.6.6 Timing of Works and Expenditure

The timing and expenditure for sewerage works are shown in the capital works program, located in **Appendix B**. The annual capital works expenditure is shown graphically as **Figure 2**.

Figure 4 Capital Works Program



3.7 Calculation of Developer Charges

3.7.1 Capital Charge

The capital charge was calculated for the sewerage service areas based on the existing and future assets providing the services to each of the towns. The capital charge for each area was calculated in **Table B2** and **B3** (refer **Appendix B**) and summarised in **Table 6**.

Table 11 Initial Capital Charges

Capital Charge Area	Capital Charge per ET (2004/05 \$)
Peak Hill	\$4,880
Parkes	\$3,623

No developer charges were calculated for Trundle and Tullamore as no growth is predicted for these towns and their capital charge would be nullified in the agglomeration process.

3.7.2 Agglomeration of Capital Charges

The capital charges were grouped into DSP areas of within 30% of the highest capital charge. The capital charges for both DSP areas were found to be disparate by more than 30% and no agglomeration was undertaken as a result. This is shown in **Table 12** below.



The weighted average capital charge is calculated on the proportion of growth in each DSP area shown in **Table 12**. The weighted average capital charge is used to calculate the reduction amount for the whole shire.

Table 12 Agglomeration of DSP Areas

Area	2004\$ per ET Capital Charge	DSP Area 1% of highest	Proportion of Growth %	Weighted Average Capital Charge	DSP Area Capital Charge
Peak Hill	\$4,880	100%	5%	\$253	\$3,688
Parkes	\$3,623	74%	95%	\$3,436	
Weighted Average Capital Charge			100%	\$3,688	

3.7.3 Reduction Amount

PSC has adopted the NPV of Annual Charges method to calculate the Reduction Amount (Refer Developer Charges Guidelines). The Reduction Amount is calculated across all of the PSC sewerage systems.

PSC has resolved that new development will also contribute to the cost of projects which have environmental or public health outcomes that benefit the community as a whole. The reduction amount has been calculated on this basis.

In order to calculate the reduction amount using the NPV of Annual Charges Method, it is necessary to make a 30 year projection of future annual charges for residential customers. Such projections were made using the NSW Financial Planning Model (FINMOD).

Key forecasts for the Financial Planning Model for PSC include:

- 2.5% inflation,
- 6.5% pa borrowing rate, with 20 year loans, and
- 5.5% pa investment rate.

The reduction amount for PSC developer charges for sewerage was calculated as **\$1,195** per ET (2004/05 \$) (refer to **Appendix B**).

3.8 Developer Charges

The calculated developer charges for the DSP areas are shown in **Table 7**. These developer charges reflect the cost of assets for serving new development.

Table 13 Developer Charges (2004/05 \$)

DSP Name	Capital Charge (\$ per ET)	Reduction Amount (\$ per ET)	Calculated Developer Charge (\$ per ET)
Parkes Shire Sewerage	\$3,688	\$1,195	\$2,493

3.8.1 Reviewing/Updating of Calculated Developer Charges

As required by the Developer Charges Guidelines (section 2.5), the developer charges relating to this DSP will be reviewed by PSC after a period of 5 to 6 years. If the review indicates that the developer charges



remain valid, the DSP will apply for a further 5 to 6 years after the Council releases a public notice to this effect. However, if it is considered that a new DSP is warranted, a new DSP shall be prepared, exhibited and registered.

If a major change occurs in PSC's circumstances such as the need for significant capital works that had not been included in this DSP, Council may carry out a review in less than 5 years, subject to approval by DEUS. If the review results in a new DSP, the new DSP will be exhibited and registered in accordance with the requirements of the guidelines.

In the period between any review, developer charges will be adjusted on 1st July each year on the basis of movements in the CPI for Sydney, in the preceding 12 months to December, excluding the impact of GST. The first adjustment will take effect from 1st July, 2007.

3.8.2 Reticulation Works

The developer shall be responsible for the full cost of the design and construction of sewerage reticulation works within developments including subdivisions. The design and construction of the works shall be in accordance with Council's development specifications for sewerage services.

3.8.3 Adopted Developer Charges

As shown in **Table 8**, Council intends to levy developer charges equivalent to the calculated developer charge for commencement on 1st July, 2006. The calculated charge is the maximum amount which may be levied by Council. Council is required to disclose the cross subsidy by existing customers. No cross-subsidy will apply to existing customers as the full calculated charge is to be levied.

Table 14 Adopted Developer Charges

DSP Name	Calculated Developer Charge (2004/05 \$ per ET)	Adopted Developer Charge (2004/05 \$ per ET)
Parkes Shire Sewerage	\$2,493	\$2,493

3.8.4 Indexed Developer Charges

The developer charges adopted in this DSP are scheduled to commence on 1st July 2006. As such, indexation of the charge is required for the charge to reflect 2006/07 dollars.

Table 15 Indexed Developer Charges

DSP Name	Adopted Developer Charge (2004/05 \$ per ET)	Indexed Adopted Developer Charge (2006/07 \$ per ET)
Parkes Shire Sewerage	\$2,493	\$2,620



4 Glossary

ADWF	Average Dry Weather Flow
Capital Cost	The Present Value (MEERA basis) of assets used to service the development.
Capital Charge	Capital cost of assets per ET x Return on Investment (ROI) Factor.
DEUS	Department of Energy, Utilities, and Sustainability
Developer Charge	A charge levied on developers to recover all or part of the capital cost incurred in providing infrastructure to new development.
Discount Rate	The rate used to calculate the present value of money arising in the future.
DSP	Development Servicing Plan
DCP	Development Control Plan
DLWC	Former Department of Land and Water Conservation (this department no longer exists and its relevant responsibilities are assumed by DEUS).
EP	Equivalent Persons
ET	Equivalent Tenement
IPART	Independent Pricing and Regulatory Tribunal
KL/d	Kilolitres per day
LEP	Local Environmental Plan
LWU	Local Water Utility
MEERA	Modern Equivalent Engineering Replacement Asset
ML/d	Megalitres per day
NHMRC	National Health and Medical Research Council
NPV	Net Present Value
Post 1996 Asset	An Asset that was commissioned by a local water utility on or after 1 January 1996 or that is yet to be commissioned.
Pre-1996 Asset	An Asset that was commissioned by a local water utility before 1 January 1996.
PV	Present value. The value now of money, or ETs, in the future.
Real Terms	The value of a variable adjusted for inflation by a CPI adjustment.
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 charges.
ROI	Return on investment. Represents the income that is, or could be, generated by investing money.
PWWF	Peak Wet Weather Flow
PS	Pumping Station
STP	Sewage Treatment Plant
WTP	Water Treatment Plant



Appendix A

Water Supply Background Documents

Table A1	Capital Works Plan
Table A2	Parkes-Peak Hill Capital Charge Calculation
Table A3	NPV Annual Charges Operating Statement
Table A4	Summary of NPV Annual Charges Calculation of Reduction Amount
Table A5	Calculation of Developer Charges using the NPV Annual Charges Method 2nd Iteration
Table A6	Levels of Service
Plans	



Table A6 Water Levels of Service

Description	Level of service	
	Parkes/Peak Hill	B Pipeline
Normal Quantity Available:		
Extent of area serviced	Parkes and Peak Hill and Northparkes mine.	Gunningbland, Bogan Gate, Trundle, and Tullamore.
Domestic peak day	3,000 L/tenement/day	3,000 L/tenement/day
Domestic Annual	255 kL/connected residential house	255 kL/connected property assumed
Total Annual Average Consumption (potable + non-potable)	6,400 ML/annum	560 ML/annum
Peak day/average day consumption ratio	3.3 for Parkes 2.1 for Peak Hill	3.0 assumed
Maximum static pressure	90 metres head	90 metres head
Minimum static pressure	15 metres head	15 metres head
Drought Quantity Available:		
Level of restriction applied during a repeat of the worst recorded drought	80 % normal usage	
Average duration of restrictions	6 months/10 year period	
Average frequency of restrictions	1 in 10 year period	
Supply Interruptions to Consumers Planned:		
Notice given to customers	1 day	
Maximum duration of interruptions	6 hrs 90% of the time	
Supply Interruptions to Consumers Unplanned:		
Maximum Duration (urban)	4 hrs 90% of the time	8-10 hrs 90% of the time
Total number of interruptions per year per 1000 connections	20 per year	
Response Times (defined as time to have staff on-site or to investigate problem or answer inquiry):		
Supply failure		
- during working hours	3 hrs 90% of the time	6 hrs 90% of the time
- after hours	6 hrs 90% of the time	8 hrs 90% of the time
Oral inquiries or minor problems	1 day 95% of the time	2 day 95% of the time
Written inquiries or minor problems	7 days from receipt 95% of the time	
Potable Water Quality:		
Compliance with the 1996 Drinking Water Quality guidelines.	100% Intend to move towards ADWG 2004 in the future	100 %



Water Supply DSP Area Plans

Parkes & Peak Hill

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Appendix B

Sewerage Background Documents

Table B1	Capital Works Plan
Table B2	Parkes Capital Charge Calculation
Table B3	Peak Hill Capital Charge Calculation
Table B4	NPV Annual Charges - Operating Statement
Table B5	Summary of NPV Annual Charges Calculation of Reduction Amount
Table B6	Calculation of Developer Charges using the NPV Annual Charges Method 1st Iteration
Table B7	Levels of Service
Plans	



Table B7 Sewerage Levels of Service

Description	Level of Service	
	Parkes	Peak Hill
System Failures:		
STP failure due to rainfall and deficient capacity	0 per year	1 per year
Pumping station failures due to pump or other breakdown including power failure	1 per year	1 per year
Sewer main chokes and collapses per 100 km of sewer main per year	<30	<30
Catastrophic and major dry-weather sewer overflows per 100 km of sewer main per year	As per Operating Licence	As per Operating Licence
System Design Parameters:		
Average dry weather flow (ADWF)	30.9 L/s	2.9 L/s assumed
Peak wet weather flow including storm allowance (PWWF)	300 L/s	7 times ADWF assumed
Response Times: to system failures involving sewer spills (Defined as maximum time to have staff on site to commence rectification after notification)		
Priority 1: Major spill, significant environmental or health impact, or affecting large number of consumers, i.e. major main)	1 hour during working hours 90% of the time 1.5 hours after hours	1 hour during working hours 90% of the time 1.5 hours after hours
Priority 2: Moderate spill, some environmental or health impact, or affecting small number of consumers, i.e. other mains)	1 hour during working hours 90% of the time 2 hours after hours	1 hour during working hours 90% of the time 2 hours after hours
RESPONSE TIMES to general or minor customer complaints and inquiries		
Written Complaints	7 days 95% of the time	7 days 95% of the time
Oral Complaints	1 day 95% of the time	1 day 95% of the time
Number of General Complaints	8	8
Number of odour complaints outside designated buffer zone of treatment works	12	12
Sewer Connections:		
- Depth <=2m	7 working days	7 working days
- Depth >2m	10 working days	10 working days



Sewerage DSP Area Plans

Parkes

Peak Hill

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