

Prepared for Tweed Shire Council



Development Servicing Plan For Sewerage Services

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EXECUTIVE SUMMARY

This document is a Development Servicing Plan (DSP) and it contains, or references, all relevant information used to calculate the unit charge (developer charge per equivalent tenement) for developments in each relevant sewerage DSP area within the Tweed Shire local government area. It has been prepared in accordance with the Guidelines for Developer Charges for Water Supply, Sewerage and Stormwater issued by the Minister for Land and Water Conservation (now Department of Water and Energy) in December 2002 [Ref 1]. These guidelines were based on a Determination issued by the Independent Pricing and Regulatory Tribunal (IPART) in September 2000 [Ref 2].

A DSP enables Council to levy contributions where the anticipated development will or is likely to increase the demand for sewerage services. Projected population and development growth will place additional demand on the sewerage systems. Generally, additional capacity is required in the sewerage systems to accommodate the increased demands. This normally requires system components, such as pumping stations and pipelines to be upgraded. On occasions it is necessary to construct additional system components to service the growth. The principal purpose of the DSP is to identify the demand for capacity in sewerage infrastructure as a result of development and to provide for that capacity through development contributions.

This draft document incorporating the DSPs for the Tweed sewerage system will be submitted to Council for approval prior to being placed on public exhibition in conjunction with Council's 2005/2008 Management Plan for a 28 day period. This will provide an opportunity for examination by interested parties and for such parties to make submissions to Council on the draft Plans. The DSPs will come into force from 1 July 2007. The DSPs will then be forwarded to the Department of Water and Energy (DWE) for registration.

The following DSPs are referenced in this document:

- Tweed Heads servicing the Tweed Heads urban area west of Razor Back and Tweed Heads West - east of Cobaki Bridge
- Banora Point servicing Tweed Heads - east of Razor Back, Cobaki Lakes, Bilambil Heights, Tweed Heads West - west of Cobaki bridge, Terranora, Tweed Heads South and Banora Point
- Kingscliff servicing the areas of Fingal Head, Kingscliff, Salt, Casuarina and Kings Forest.



- Hastings Point servicing the areas of Tanglewood, Cabarita Beach, Bogangar, Hastings Point, Pottsville, Koala Beach and Sea Breese.
- Murwillumbah servicing the areas of Condong, Murwillumbah, South Murwillumbah and Bray Park
- Tumbulgum servicing the village of Tumbulgum
- Tyalgum servicing the village of Tyalgum
- Uki servicing the village of Uki

Tweed Shire Council also proposes to construct an additional sewerage system to service the village of Burringbar.

The areas covered by each DSP are shown in Plans included in Appendix A.

The Developer Contribution is determined by analysing the cost of existing augmentation works, existing demand, anticipated growth and the cost of works required to meet the demand created by growth. The total cost of existing and proposed augmentation works required to service development is divided between demand units to determine the capital cost per unit. Any surplus income Council generates from a development (i.e. operational income minus operational, maintenance and administration costs) is deducted from the capital cost to obtain the Developer Contribution.

The methodology adopts a Return On Investment (ROI) approach to cover the opportunity costs or borrowing cost, capital cost variations and variations in rate of connection. All calculations are undertaken using Net Present Value (NPV). NPV is a standard commercial procedure for calculating the expected net monetary gain or loss from a project by discounting all expected future cash inflows and outflows to the present time, using the required return on investment.

The Developer Contribution is therefore calculated as:

- The present value (PV) of the cost over time of capital works required to service less
- The present value of expected net income (revenue less expenses) over time from servicing development (referred to as the “reduction amount”).

The capital charge calculated for each DSP area is shown in Table A. The calculation spreadsheets are included in Appendix C.



Table A *Calculated Capital Charges*

| DSP | Calculated Capital Charge (\$/ET) |
|----------------|-----------------------------------|
| Tweed Heads | 10,243 |
| Banora Point | 5,323 |
| Kingscliff | 10,076 |
| Hastings Point | 5,176 |
| Murwillumbah | 8,191 |
| Tumbulgum | 4,773 |
| Tyalgum | 5,939 |
| Uki | 5,564 |
| Burringbar | 34,740 |

Where the capital charges of two or more service areas (DSPs) are within 30%, they should be agglomerated into a single DSP. Tweed Shire Council service areas should therefore be agglomerated into three DSPs as shown in Table B.

Table B *Agglomeration of Service Areas*

| DSP | Capital Charge \$/ET | % of Highest Capital Charge | | |
|----------------|----------------------|-----------------------------|-----|-----|
| | | A | B | C |
| Burringbar | 34,740 | 100 | | |
| Tweed Heads | 10,243 | 30 | 100 | |
| Kingscliff | 10,076 | | 98 | |
| Murwillumbah | 8,191 | | 80 | |
| Tyalgum | 5,939 | | 58 | 100 |
| Uki | 5,564 | | | 94 |
| Banora Point | 5,323 | | | 90 |
| Hastings Point | 5,176 | | | 87 |
| Tumbulgum | 4,773 | | | 80 |

DSP A would include the Burringbar sewage treatment plant catchment.

DSP B would include the Tweed Heads, Kingscliff and Murwillumbah sewage treatment plant catchments.

DSP C would include the Tyalgum, Uki, Banora Point, Hastings Point and Tumbulgum sewage treatment plant catchments.



The calculation of the agglomerated capital charges is shown in Table C.

Table C Calculation of Agglomerated Capital Charges

| DSP | Area | Capital Charge (\$/ET) | Growth (ET) | Weighted Average Capital Charge (\$/ET) |
|-----|----------------|------------------------|-------------|---|
| A | Burringbar | 34,740 | 191 | 34,740 |
| B | Tweed Heads | 10,243 | 577 | 9,689 |
| | Kingscliff | 10,076 | 7,731 | |
| | Murwillumbah | 8,191 | 2,214 | |
| C | Tyalgum | 5,939 | 66 | 5,302 |
| | Uki | 5,564 | 53 | |
| | Banora Point | 5,323 | 18,880 | |
| | Hastings Point | 5,176 | 3,507 | |
| | Tumbulgum | 4,773 | 26 | |

A uniform reduction amount of \$2,056/ET has been calculated for the Tweed Shire local government area. The calculation spreadsheet is included in Appendix D.

The calculated developer charges are summarised in Table D.

Table D Calculated Developer Charges

| DSP | Area | Capital Charge (\$/ET) | Reduction Amount (\$/ET) | Developer Charge (\$/ET) |
|-----|----------------|------------------------|--------------------------|--------------------------|
| A | Burringbar | 34,740 | 2,056 | 32,684 |
| B | Tweed Heads | 9,689 | 2,056 | 7,633 |
| | Kingscliff | | | |
| | Murwillumbah | | | |
| C | Tyalgum | 5,302 | 2,056 | 3,246 |
| | Uki | | | |
| | Banora Point | | | |
| | Hastings Point | | | |
| | Tumbulgum | | | |

On 25 October 2004 DEUS issued Circular LWU 5 which modified the guidelines to give Local Water Utilities (LWUs) more flexibility in selection of the number of DSP areas and the developer charges to be adopted. The Circular describes a process to be followed if a LWU wishes to carry out additional agglomeration of DSP areas to suit their local circumstances.



A weighted average developer charge for all new developments within the Tweed Shire Council local government area has been calculated and summarised in Table E.

Table E *Agglomerated Developer Charges*

| DSP | Area | Developer Charge (\$/ET) | Growth (ET) | Weighted Average Developer Charge (\$/ET) |
|-----|---|--------------------------|-------------|---|
| A | Burringbar | 32,684 | 191 | 4,804 |
| B | Tweed Heads Kingscliff Murwillumbah | 7,633 | 10,522 | |
| D | Tyalgum Uki Banora Point Hastings Point Tumbulgum | 3,246 | 22,532 | |

The calculated developer charges as detailed in Table D or the agglomerated developer charge of \$4,804/ET are the maximum that may be levied by Tweed Shire Council. In adopting a DSP, Tweed Shire Council may elect to levy less than these amounts, but any resulting cross subsidies must be disclosed in the DSP.

It is recommended that the agglomerated Developer Charge of \$4,804/ET be adopted for exhibition.



TABLE OF CONTENTS

| | | |
|----------|---|-----------|
| 1 | INTRODUCTION | 1 |
| 1.1 | BACKGROUND | 1 |
| 1.2 | PREVIOUS DEVELOPER CONTRIBUTIONS | 2 |
| 2 | ADMINISTRATION | 5 |
| 2.1 | REFERENCE | 5 |
| 2.2 | WHEN ARE DEVELOPER CONTRIBUTIONS APPLICABLE? | 6 |
| 2.3 | WHEN ARE DEVELOPER CONTRIBUTIONS PAYABLE? | 7 |
| 2.4 | HOW IS THE DEVELOPER CONTRIBUTION APPLIED? | 7 |
| 2.5 | WHAT RELATIONSHIP DOES THIS PLAN HAVE TO OTHER PLANS? | 8 |
| 2.6 | MONITORING AND REVIEW/UPDATE OF DEVELOPER CONTRIBUTIONS | 8 |
| 3 | PLANNING PROFILE | 9 |
| 3.1 | GROWTH PROFILE AND EXISTING LOADINGS | 9 |
| 3.2 | HISTORICAL DEVELOPMENT PROFILE | 10 |
| 3.3 | FUTURE DEVELOPMENT PROFILE | 11 |
| 4 | SEWERAGE SERVICES | 12 |
| 4.1 | EXISTING AND FUTURE SEWERAGE SERVICES | 12 |
| 4.2 | LAND USE INFORMATION | 12 |
| 4.3 | DESIGN PARAMETERS | 13 |
| 4.4 | SYSTEM CAPACITY | 13 |
| 4.5 | STANDARDS OF SERVICE | 13 |
| 4.6 | CAPITAL WORKS | 13 |
| 5 | METHODOLOGY | 15 |
| 5.1 | GENERAL | 15 |
| 5.2 | NET PRESENT VALUE PROCESS | 15 |
| 5.3 | DISCOUNT RATES | 15 |
| 5.4 | ASSETS | 16 |
| 5.5 | CALCULATION OF CAPITAL CONTRIBUTION | 17 |
| 5.6 | REDUCTION AMOUNT | 17 |
| 6 | DEVELOPER CONTRIBUTIONS | 18 |
| 6.1 | CALCULATION OF CAPITAL CHARGES | 18 |
| 6.2 | AGGLOMERATION OF CAPITAL CHARGES | 18 |
| 6.3 | CALCULATION OF REDUCTION AMOUNT | 19 |
| 6.4 | CALCULATED DEVELOPER CHARGES | 20 |
| 6.5 | AGGLOMERATION OF DEVELOPER CHARGES | 20 |
| 6.6 | CROSS SUBSIDY | 21 |
| 6.7 | DEVELOPER CHARGES ADOPTED FOR EXHIBITION | 21 |
| 7 | REFERENCES | 22 |
| 8 | GLOSSARY OF TERMS | 23 |



LIST OF TABLES

| | | |
|-----------|---|----|
| Table 1-1 | <i>Historic Developer Contributions (\$/ET)</i> _____ | 2 |
| Table 1-2 | <i>Developer Charges Adopted June 2005</i> _____ | 3 |
| Table 1-3 | <i>Current Developer Charges</i> _____ | 4 |
| Table 3-1 | <i>Growth Projections (% per annum)</i> _____ | 9 |
| Table 3-2 | <i>Tweed Sewerage Catchments – Loadings at 30 June 2006</i> _____ | 10 |
| Table 3-3 | <i>Tweed Sewerage Catchments – Historical Demands</i> _____ | 10 |
| Table 3-4 | <i>Tweed Sewerage Catchments – Future Loadings</i> _____ | 11 |
| Table 6-1 | <i>Calculated Capital Charges</i> _____ | 18 |
| Table 6-2 | <i>Agglomeration of Service Areas</i> _____ | 18 |
| Table 6-3 | <i>Calculation of Agglomerated Capital Charges</i> _____ | 19 |
| Table 6-4 | <i>Calculated Developer Charges</i> _____ | 20 |
| Table 6-5 | <i>Agglomerated Developer Charges</i> _____ | 21 |

LIST OF FIGURES

| | | |
|------------|---|----|
| Figure 4-1 | <i>Sewerage Capital Works Program</i> _____ | 14 |
|------------|---|----|

APPENDICES

| | |
|------------|---|
| Appendix A | Plans |
| Appendix B | Capital Works Program – Tweed Shire Council |
| Appendix C | Capital Charge Calculation |
| Appendix D | Reduction Amount Calculation |



1 INTRODUCTION

1.1 BACKGROUND

The development or redevelopment of land for residential, commercial or industrial purposes creates a need for additional capacity in water supply and sewerage systems. Water and sewerage providers recover the cost of providing this additional capacity predominantly through developer contributions.

Section 64 of the Local Government Act – 1993 details the provisions relating to the construction of works for developments. It states that the provisions of operation for water authorities, detailed in Division 5 of Part 2 of Chapter 6 of the Water Management Act 2000, apply to Councils exercising functions in the same way. Developers are required to pay a contribution, to the water supply authority, towards the cost of existing and projected water management works. The water supply authorities are also authorised, when calculating a developer contribution, to take into consideration the value of the existing water management works and the estimated cost of projected water management works.

This document is a Development Servicing Plan (DSP) and it contains, or references, all relevant information used to calculate the unit charge (developer charge per equivalent tenement) for developments in each relevant sewerage DSP area within the Tweed Shire local government area. It has been prepared in accordance with the Guidelines for Developer Charges for Water Supply, Sewerage and Stormwater issued by the Minister for Land and Water Conservation (now Department of Water and Energy) in December 2002 [Ref 1]. These guidelines were based on a Determination issued by the Independent Pricing and Regulatory Tribunal (IPART) in September 2000 [Ref 2].

IPART is an independent authority that regulates the pricing of declared government monopoly services. The Tribunal regulates urban water services under the Independent Pricing and Regulatory Tribunal Act 1992. Inquiries are undertaken under Section 11 of the Act for the following government agencies, which are Standing References under Schedule 1 of the Act:

- Sydney Water Corporation
-
- Hunter Water Corporation
-
- Gosford City Council
-
- Wyong Shire Council.



A DSP enables Council to levy contributions where the anticipated development will or is likely to increase the demand for sewerage services. Projected population and development growth will place additional demand on the sewerage systems. Generally, additional capacity is required in the sewerage systems to accommodate the increased demands. This normally requires system components, such as pumping stations and pipelines to be upgraded. On occasions it is necessary to construct additional system components to service the growth. The principal purpose of the DSP is to identify the demand for capacity in sewerage infrastructure as a result of development and to provide for that capacity through development contributions.

Tweed Shire Council maintains an asset register that includes details and timing of existing infrastructure. In addition, Council has prepared a schedule of capital works based on current projections of growth. In this DSP a developer contribution is determined by analysing the cost of existing infrastructure, existing demand, anticipated growth and the cost of works, required to meet the demands created by growth. The total cost of these works is divided between demand units to determine the capital cost per unit.

This draft document incorporating the DSPs for the Tweed sewerage system will be submitted to Council for approval prior to being placed on public exhibition, in conjunction with Council’s 2005/2008 Management Plan, for a 28 day period. This will provide an opportunity for examination by interested parties and for such parties to make submissions to Council on the draft Plans. The DSPs will come into force from 1 July 2007. The DSPs will then be forwarded to the Department of water and Energy (DWE) for registration.

1.2 PREVIOUS DEVELOPER CONTRIBUTIONS

The Historic developer charges for sewerage services adopted by Tweed Shire Council are shown in Table 1-1.

Table 1-1 *Historic Developer Contributions (\$/ET)*

| Year | Treatment | | | Transport | | | Total | |
|-------|-------------|-----------|------------|-------------|-----------|------------|------------|--------------|
| | Value \$ | Cap EP | Levy \$ | Value \$ | Cap EP | Levy \$ | Calc \$ | Charge \$ |
| 1991 | - | - | - | - | - | - | 1,800 | 1,800 |
| 1992 | - | - | - | - | - | - | 2,100 | 2,100 |
| 1993 | - | - | - | - | - | - | 2,100 | 2,100 |
| 94 ½y | 29,450,000 | 71,600 | 1,234 | 33,900,000 | 88,600 | 1,148 | 2,382 | 2,380 |
| 94/95 | 29,450,000 | 71,600 | 1,234 | 33,900,000 | 88,600 | 1,148 | 2,382 | 2,380 |
| 95/96 | 40,480,000 | 95,600 | 1,270 | 36,780,000 | 88,600 | 1,246 | 2,516 | 2,520 |
| 96/97 | 43,450,000 | 91,750 | 1,421 | 39,620,000 | 96,250 | 1,235 | 2,656 | 2,660 |
| 97/98 | 52,983,500 | 91,700 | 1,849 | 40,671,600 | 141,618 | 919 | 2,768 | 2,770 |



| Year | Treatment | | | Transport | | | Total | |
|-------|------------|--------|---------|------------|---------|---------|---------|-----------|
| | Value \$ | Cap EP | Levy \$ | Value \$ | Cap EP | Levy \$ | Calc \$ | Charge \$ |
| 98/99 | 52,983,500 | 91,700 | 1,849 | 40,671,600 | 141,618 | 919 | 2,768 | 2,770 |
| 99/00 | 54,195,389 | 91,700 | 1,891 | 41,155,588 | 141,618 | 930 | 2,821 | 2,820 |
| 00/01 | 57,359,467 | 91,700 | 2,002 | 42,812,081 | 141,618 | 967 | 2,969 | 2,970 |
| 01/02 | 65,758,691 | 91,700 | 2,295 | 45,609,805 | 141,618 | 1,031 | 3,325 | 3,215 |
| 02/03 | 66,974,563 | 97,700 | 2,194 | 48,315,011 | 143,366 | 1,078 | 3,272 | 3,275 |
| 03/04 | 66,812,551 | 97,700 | 2,188 | 48,979,301 | 143,366 | 1,093 | 3,282 | 3,285 |
| 04/05 | 71,011,141 | 97,700 | 2,326 | 51,982,460 | 143,366 | 1,160 | 3,486 | 3,490 |

Notes:

1. Value is the estimated replacement value at year of calculation.
2. Cap is Capacity in EP.
3. 1 ET equates to 3.2 EP.

In June 2005 Council adopted the Developer Charges detailed in Table 1-2.

Table 1-2 Developer Charges Adopted June 2005

| DSP | Area | Developer Charge (\$/ET) |
|-----|----------------|--------------------------|
| A | Burringbar | 31,494 |
| B | Uki | 10,488 |
| C | Kingscliff | 6,152 |
| | Tumbulgum | |
| | Tyalgum | |
| | Tweed Heads | |
| D | Hastings Point | 2,634 |
| | Banora Point | |
| | Murwillumbah | |



The above charges have been adjusted annually on the basis of the change in the consumer price index (CPI). The current Developer Charges are detailed in Table 1-3.

Table 1-3 *Current Developer Charges*

| DSP | Area | Developer Charge (\$/ET) |
|-----|----------------|--------------------------|
| A | Burringbar | 34,236 |
| B | Uki | 11,401 |
| C | Kingscliff | 6,688 |
| | Tumbulgum | |
| | Tyalgum | |
| | Tweed Heads | |
| D | Hastings Point | 2,863 |
| | Banora Point | 2,863 |
| | Murwillumbah | 2,863 |



2 ADMINISTRATION

2.1 REFERENCE

The following DSPs are referenced in this document:

| DSP Name | Tweed Heads |
|--------------|---|
| DSP Area 1 | The area covered by this DSP is shown in the Plan of Tweed Heads - west of Razor Back, Tweed Heads West - east of Cobaki Bridge (Refer Plan of the Tweed Heads Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Tweed Heads Sewage Treatment Plant. |

| DSP Name | Banora Point |
|--------------|--|
| DSP Area 2 | The area covered by this DSP is shown in the Plans of Tweed Heads - east of Razor Back, Cobaki Lakes, Bilambil Heights, Tweed Heads West – west of Cobaki Bridge, Terranora, Tweed Heads South and Banora Point (Refer Plans of the Banora Point Sewerage DSP Area in Appendix A). |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Banora Point Sewage Treatment Plant |

| DSP Name | Kingscliff |
|--------------|---|
| DSP Area 3 | The area covered by this DSP is shown in the Plans of Fingal Head, Kingscliff, Salt, Casuarina and Kings Forest, (Refer Plans of the Kingscliff Sewerage DSP Area in Appendix A). |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Kingscliff Sewage Treatment Plant. |

| DSP Name | Hastings Point |
|--------------|--|
| DSP Area 4 | The area covered by this DSP is shown in the Plans of Tanglewood, Cabarita Beach, Bogangar and Hastings Point, Pottsville, Koala Beach and Sea Breeze (Refer Plans of the Hastings Point Sewerage DSP Area in Appendix A). |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Hastings Point Sewage Treatment Plant |

| DSP Name | Murwillumbah |
|--------------|---|
| DSP Area 5 | The area covered by this DSP is shown in the Plans of Condong, Murwillumbah, South Murwillumbah and Bray Park (Refer Plans of the Murwillumbah Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Murwillumbah Sewage Treatment Plant |



| DSP Name | Tumbulgum |
|--------------|---|
| DSP Area 6 | The area covered by this DSP is shown in the Plan of Tumbulgum. (Refer Plan of the Tumbulgum Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary in the sewerage areas served by the Tumbulgum Sewage Treatment Plant |

| DSP Name | Tyalgum |
|--------------|--|
| DSP Area 7 | The area covered by this DSP is shown in the Plan of Tyalgum (Refer Plan of the Tyalgum Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Tyalgum Sewage Treatment Plant |

| DSP Name | Uki |
|--------------|--|
| DSP Area 8 | The area covered by this DSP is shown in the Plan of Uki (Refer Plan of the Uki Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the Uki Sewage Treatment Plant |

| DSP Name | Burringbar |
|--------------|--|
| DSP Area 9 | The area covered by this DSP is shown in the Plan of Burringbar (Refer Plan of the Burringbar – Mooball Sewerage DSP Area in Appendix A) |
| DSP Boundary | The basis for defining the DSP area boundary is the sewerage areas served by the proposed Burringbar Sewage Treatment Plant. |

2.2 WHEN ARE DEVELOPER CONTRIBUTIONS APPLICABLE?

Where additional demand is placed on its systems as a result of additional development connecting to the water supply and/or sewerage system, Council will issue a notice stating the required developer contribution.

For example, when a Developer proposes to subdivide land, erect or extend a commercial/industrial building or multiple residential dwelling units, a Development Application is lodged with Tweed Shire Council. If the new development is to be connected to Council’s water and/or sewer mains, Council will investigate the impact of the proposed development on its systems and advise the Developer of the required developer contribution. This contribution will be a condition of the approved Development Application.



2.3 WHEN ARE DEVELOPER CONTRIBUTIONS PAYABLE?

The contribution(s) will be assessed by Council and will apply for 12 months from the date of this approval. Contributions not received by Council within 12 months of the date of notice will be adjusted in accordance with the DSP current at the time of payment.

For the subdivision of land, contributions are paid prior to the issue of the Subdivision Certificate.

For the erection or extension of commercial/industrial buildings or multiple residential dwelling units etc, contributions are paid prior to the issue of the Construction Certificate.

2.4 HOW IS THE DEVELOPER CONTRIBUTION APPLIED?

The developer charge is the cost per *unit of capacity* within the relevant water and/or sewer infrastructure system. The measure for the standard *unit of capacity* is the capacity requirement relative to a single residential dwelling i.e. one residential dwelling equals to one Equivalent Tenement (ET).

The developer contribution payable for the respective water and/or sewer system is thus:

Assessed Demand or Loading (ET) x Developer Contribution (\$/ET)

In order to assess the developer contribution applicable to a specific development, it is necessary to assess the demand that the proposed development will place on the relevant water and/or sewer systems.

For the case of a development involving the creation of additional residential lots, this is a relatively simple process. The additional demand or loading created by the development is the number of additional lots.

The process of assessing the demand or loading of a potential development can be more complex if the development contains other than standard residential dwellings. For this case it is necessary to estimate the number of standard residential dwellings required to generate an *equivalent demand* or *loading* to the proposed development.

In order to assist with the assessment of sewage demand, the Water Directorate has published Technical Guidelines for Section 64 Determinations of Water and Sewer Equivalent Tenements (ETs) [Ref 3]. This document was produced specifically to aid NSW Local Government Water Authorities in the process of determining developer charges under S64 of the Local Government Act 1993.



Tweed Shire Council recognises the above guidelines cannot practically be applied to all development applications. Some developments will not 'fit' a category in the Guidelines.

For this reason Council accepts that a small proportion of applications will be assessed on individual merit. Council will determine a loading for the development using the best available data. Council's Director Engineering and Operations retains the discretion to assess an application on its merits and in situations requiring conflict resolution, to determine the appropriate course of action.

2.5 WHAT RELATIONSHIP DOES THIS PLAN HAVE TO OTHER PLANS?

In addition to the sewerage systems a developer charge has also been calculated for the water supply system that Tweed Shire Council operates and maintains. Hence the total developer charge that is applicable to a development will be the sum of the charges for each system that services the development site.

Also, in addition to any contribution which may be levied in accordance with this DSP, Council may require a contribution towards other public amenities and public services in accordance with its adopted Section 94 Contribution Plans which may be relevant to the proposed development.

Other fees and charges not relating to a Plan may also be applicable.

2.6 MONITORING AND REVIEW/UPDATE OF DEVELOPER CONTRIBUTIONS

The developer contribution calculated in this DSP is based on current projections of growth in population and development and Council's assessment of infrastructure that will be required to service this growth. It is important that trends are monitored to ensure that contributions received are spent in a manner that provides services in an efficient and effective way.

Council's commitment to future works will be dependent on development and any change in the current projections may necessitate the rescheduling of future works. This plan therefore will require periodic review, at maximum of every 5 to 6 years, to ensure the developer contributions remain valid. Any review of the plan would include a public exhibition, normally in conjunction with Councils Management Plan for that year.

In the period between any review, the developer contribution will be adjusted annually (1 July each year) on the basis of the change in the consumer price index (CPI) in the preceding 12 months to December, excluding the impact of GST.



3 PLANNING PROFILE

3.1 GROWTH PROFILE AND EXISTING LOADINGS

Census data for Tweed Shire Council to 2001 is used as the basis for serviced population determination.

The population connected to the Water supply was determined by reducing the total shire population by individual Collector District populations in rural and un-serviced areas. Best estimates were used for Collector Districts which are partially serviced.

The connected Sewerage population was then determined from the above connected Water Supply population. Note: not all Water connections have a Sewerage connection. Therefore a reduced Sewer connected population was estimated for individual Collector Districts. Again best estimates were used for Collector Districts which are partially serviced.

The above provided a total Shire wide serviced population for both Water and Sewer for each of the census periods.

The above 2001 serviced populations were projected forward. The population projections are based on the assumption that current and identified potential rezonings are fully developed in a 30 year period. A hyperbolic growth profile utilising 4.5% for 2006 declining to 2.5% in 2036 was adopted and applied. This forms the basis of a high growth profile.

Similarly medium and low growth profiles were then determined based on the percentages detailed in Table 3-1.

Table 3-1 *Growth Projections (% per annum)*

| Growth Profile | 2006 | 2036 |
|--------------------|------|------|
| High (base values) | 4.5% | 2.5% |
| Medium | 3.5% | 2% |
| Low | 2.5% | 1.5% |

The low profile closely corresponds to a linear trendline based on historic growth patterns since 1986.

The basic unit of measure to quantify the demand or loading on a water supply or sewerage system is an equivalent tenement (ET). One ET represents the equivalent demand or loading from a standard household.



An equivalent person (EP) is another basic unit of measure generally to quantify the loadings on a sewerage treatment works. One EP represents the equivalent loading from a standard person.

EPs can be converted into ET loadings by defining an EP/ET ratio. The average household density or occupancy ratio is normally adopted as this ratio.

Table 3-2 details the existing loadings for each sewerage catchment.

Table 3-2 Tweed Sewerage Catchments – Loadings at 30 June 2006

| Catchment | Existing Loadings | |
|----------------|-------------------|--------|
| | EP | ET |
| Tweed Heads | 7,791 | 2,484 |
| Banora Point | 42,073 | 13,415 |
| Kingscliff | 14,528 | 4,632 |
| Hastings Point | 9,801 | 3,125 |
| Murwillumbah | 11,096 | 3,538 |
| Tumbulgum | 463 | 147 |
| Tyalgum | 272 | 87 |
| Uki | 373 | 119 |
| Burringbar | 0 | 0 |

3.2 HISTORICAL DEVELOPMENT PROFILE

The historical loadings on the Tweed Shire sewerage system, based on historical Census data, are detailed in Table 3-3.

Table 3-3 Tweed Sewerage Catchments – Historical Demands

| Catchment | Historical Loadings (ETs) | | | | | | |
|----------------|---------------------------|-------|-------|-------|-------|-------|--------|
| | 1971 | 1976 | 1981 | 1986 | 1991 | 1996 | 2001 |
| Tweed Heads | 2,002 | 2,691 | 3,057 | 3,385 | 4,408 | 2,271 | 2,291 |
| Banora Point | 0 | 0 | 3,500 | 3,876 | 5,048 | 9,956 | 11,900 |
| Kingscliff | 1,120 | 1,505 | 1,709 | 1,893 | 2,465 | 2,586 | 2,911 |
| Hastings Point | 0 | 0 | 0 | 1,022 | 1,330 | 2,043 | 2,423 |
| Murwillumbah | 1,440 | 1,936 | 2,199 | 2,435 | 3,171 | 3,187 | 3,169 |
| Tumbulgum | 0 | 0 | 0 | 0 | 0 | 147 | 138 |
| Tyalgum | 0 | 0 | 0 | 0 | 0 | 90 | 74 |
| Uki | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burringbar | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



3.3 FUTURE DEVELOPMENT PROFILE

Projected future loadings on the Tweed sewerage systems were estimated using the medium growth profile. The future demands are summarised in Table 3-4.

Table 3-4 *Tweed Sewerage Catchments – Future Loadings*

| Catchment | Future Demands (ETs) | | | | | |
|----------------|----------------------|--------|--------|--------|--------|--------|
| | 2011 | 2016 | 2021 | 2026 | 2031 | 2036 |
| Tweed Heads | 2,676 | 2,869 | 3,061 | 3,061 | 3,061 | 3,061 |
| Banora Point | 15,443 | 18,241 | 21,282 | 24,705 | 28,262 | 32,295 |
| Kingscliff | 6,138 | 7,319 | 8,500 | 9,680 | 10,861 | 12,363 |
| Hastings Point | 3,826 | 4,528 | 5,229 | 5,931 | 6,632 | 6,632 |
| Murwillumbah | 3,906 | 4,276 | 4,644 | 5,014 | 5,382 | 5,752 |
| Tumbulgum | 157 | 166 | 173 | 173 | 173 | 173 |
| Tyalgum | 100 | 113 | 126 | 141 | 153 | 153 |
| Uki | 130 | 141 | 153 | 164 | 172 | 172 |
| Burringbar | 157 | 166 | 176 | 186 | 191 | 191 |



4 SEWERAGE SERVICES

4.1 EXISTING AND FUTURE SEWERAGE SERVICES

Tweed Shire Council operates and maintains eight separate sewerage systems. These systems and the areas they service follow:

- Tweed Heads servicing the Tweed Heads urban area west of Razor Back and Tweed Heads West - east of Cobaki Bridge
- Banora Point servicing Tweed Heads - east of Razor Back, Cobaki Lakes, Bilambil Heights, Tweed Heads West - west of Cobaki bridge, Terranora, Tweed Heads South and Banora Point
- Kingscliff servicing the areas of Fingal Head, Kingscliff, Salt, Casuarina and Kings Forest.
- Hastings Point servicing the areas of Tanglewood, Cabarita Beach, Bogangar, Hastings Point, Pottsville, Koala Beach and Sea Breese.
- Murwillumbah servicing the areas of Condong, Murwillumbah, South Murwillumbah and Bray Park
- Tumbulgum servicing the village of Tumbulgum
- Tyalgum servicing the village of Tyalgum
- Uki servicing the village of Uki

Tweed Shire Council also proposes to construct an additional sewerage system to service the village of Burringbar.

A separate DSP has been prepared for each existing and proposed sewerage system. Each DSP area has been determined based on the drainage catchment boundaries of the assets that make up these sewerage systems. These assets include sewage treatment plants, pumping stations, rising mains and trunk gravity mains. The location of the principal assets and catchment boundaries for each sewage catchment are shown in the Plans included in Appendix A.

4.2 LAND USE INFORMATION

The DSPs should be read in conjunction with the Tweed Shire Local Environmental Plan and other Council planning instruments.



4.3 DESIGN PARAMETERS

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

- Council's Development Control Plan 16 (DCP 16) and its references.
- Council's Development Design Specification – D11 Sewerage System
- Council's Development Construction Specification – C401 Sewerage System
- WSAA Sewerage Code of Australia (WSA02-2002)
- WSAA Sewerage Pumping Code of Australia (WSA04-2001).
- Manual of Practice: Sewage Pumping Station Design (1986)
- Manual of Practice: Sewer Design (1987)

4.4 SYSTEM CAPACITY

Tweed Shire Council propose to augment its sewerage systems to cater for future growth over the next 30 years. The projected number of Equivalent Tenements (ET) in 2036 has been used as the future system capacity to calculate the developer charges.

4.5 STANDARDS OF SERVICE

The standards of service to be provided to customers in the Tweed Shire sewerage systems are detailed below:

- Sewage effluent meeting Environment Protection Authority, now Department of Environment and Conservation (DEC), 90 Percentile Licence Limits (BOD5, SS, Total N, NH3N, Oil and Grease, Total P, Faecal coli forms).
- 95% of sewer chokes removed and service restored within 8 hours.
- Dry Weather Sewer overflows to water ways less than 10 per 100 km of gravity mains per year.
- Odour complaint events less than 1 per 1000 connected assessments.
- Confirmed sewer chokes less than 40 per 100 km of gravity mains per year.
- Sewer rising main breaks less than 10 per 100 km of pressure main per year.

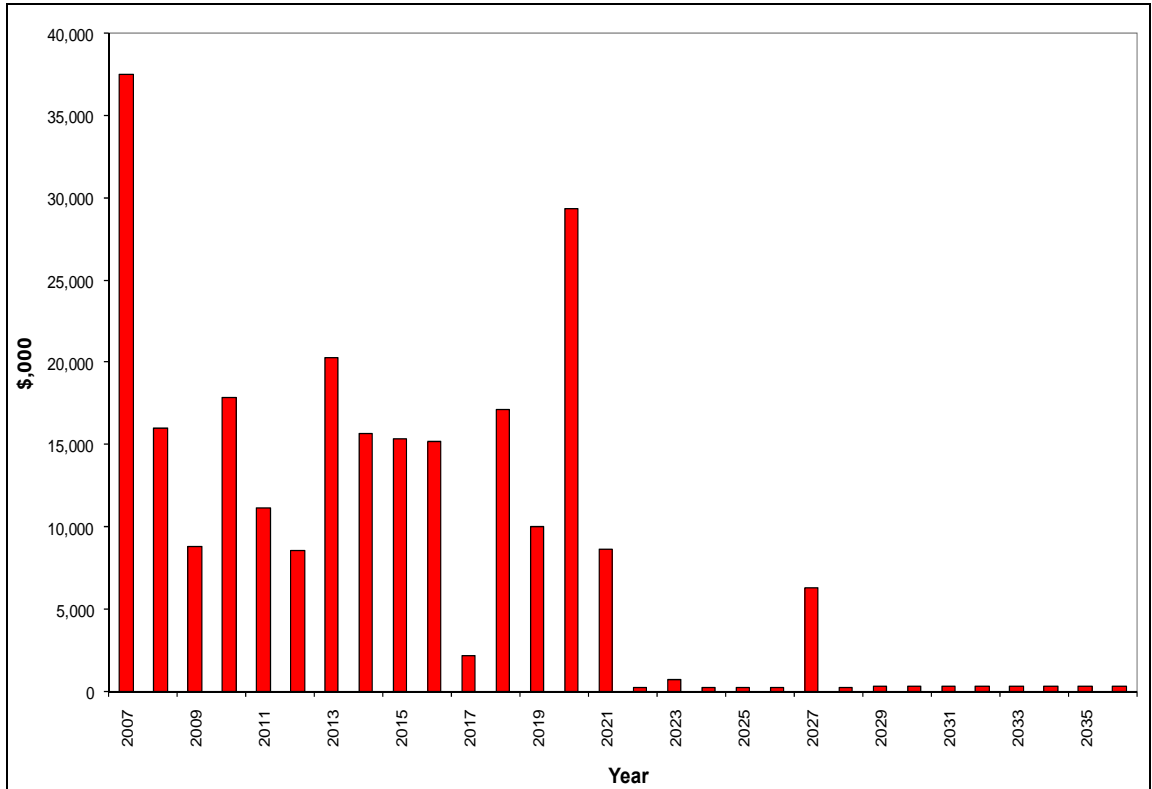
4.6 CAPITAL WORKS

Growth related capital works of \$245.5M will be required over the next 30 years to provide sewerage services to the Tweed Shire Council local government area (refer Figure 4.1).



The timing and expenditure of capital works required to service the predicted future population are shown in the capital works program included in Appendix B.

Figure 4-1 Sewerage Capital Works Program



5 METHODOLOGY

5.1 GENERAL

The Developer Contribution is determined by analysing the cost of existing augmentation works, existing demand, anticipated growth and the cost of works required to meet the demand created by growth. The total cost of existing and proposed augmentation works required to service development is divided between demand units to determine the capital cost per unit. Any surplus income Council generates from a development (i.e. operational income minus operational, maintenance and administration costs) is deducted from the capital cost to obtain the Developer Contribution.

5.2 NET PRESENT VALUE PROCESS

In order to account for the time value of money, all calculations are undertaken using Net Present Value (NPV). NPV is a standard commercial procedure for calculating the expected net monetary gain or loss from a project by discounting all expected future cash inflows and outflows to the present time, using the required return on investment.

The Developer Contribution is therefore calculated as:

- The present value (PV) of the cost over time of capital works required to service development (referred to as the “capital charge”)

less
- The present value of expected net income (revenue less expenses) over time from servicing development (referred to as the “reduction amount”).

5.3 DISCOUNT RATES

A discount rate calculates the present value of money arising in the future. The discount rate therefore converts the value of future money to today’s money.

The discount rate used in the developer charge calculation should reflect the opportunity cost to Council of funding infrastructure works. It should recognise that in providing infrastructure prior to development Council faces a number of uncertainties or risks. These uncertainties include growth rates, cost of capital works and changes in interest rates.



IPART has specified the discount rates to be used by Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong shire Council. The specified discount rates vary depending on whether the assets were commissioned prior to or following 1996. Similar values are recommended by DLWC (now DWE) for regional Councils.

For the Tweed sewerage system a pre-1996 asset real discount rate of 3% and a post-1996 asset real discount rate of 7% have been adopted. This complies with the DWE guidelines [Ref 1].

5.4 ASSETS

IPART defines assets on the basis of whether they were commissioned before or after the initial application of the NPV methodology for calculating developer contributions, i.e. 1996. This ensures a consistent rate of return is applied to all assets in subsequent reviews of a DSP.

Assets constructed prior to 1970 have generally been excluded from the developer contribution calculation as it assumed the cost of these assets has been fully recovered. Exceptions are made if the asset is a major works such as sewage treatment plants, major trunk sewers, major pumping stations and rising mains.

Tweed Shire Council has prepared a future Capital Works Schedule that includes works proposed to be constructed until 2036. Sufficient confidence of the timing of construction and costing of these works governs their inclusion in the developer contribution calculation.

A Modern Engineering Equivalent Replacement Asset (MEERA) value has been calculated for existing assets. The MEERA value has been calculated on the basis that the asset is constructed at the time of valuation in accordance with modern engineering practice and the most economically viable technologies, which provides similar utility functions to the existing asset in service.

All assets have been defined as either an 'upgrade' or an 'augment'. An 'upgrade' asset provides capacity for existing (developments already connected at the time of commissioning) as well as growth and hence only a proportion of the cost is recovered through the developer charge process. An 'augment' asset provides capacity only for growth and hence the cost is fully recoverable.

Data for existing assets has been obtained from Tweed Shire Council's TAMS database [Ref 4]. Details are included of all treatment plants, pumping stations, rising mains and gravity sewer mains associated with the sewerage schemes of Tweed Shire.

Reticulation assets are excluded from the calculation of developer charges as the developer is responsible for the full cost of the design and construction of reticulation works within developments including subdivisions.



5.5 CALCULATION OF CAPITAL CONTRIBUTION

$$\text{NPV (Contribution)} = \text{NPV } (\Sigma \text{ ASSET COSTS}) / \text{NPV } (\Sigma \text{ INCREMENT ETs})$$

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 for equivalent tenement (ET) is the value of the relevant assets divided by the capacity of these assets (in ETs).

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

- An area served by a separate sewage treatment plant
- Separate small towns or villages
- 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.

5.6 REDUCTION AMOUNT

Water utilities with more than 2000 assessments are offered the following methodologies for calculating the reduction amount:

- NPV of annual charges
- Direct NPV.

The NPV of annual charges method involves the calculation of the net present value (NPV) of the future net income from annual charges (income less OMA) for the development area.

The Direct NPV method involves the calculation of the renewal works and works to improve standards per ET, plus part of the net debt of the utility per ET.

The reduction amount for Tweed Shire Council has been calculated using the NPV of Annual Charges methodology. This is because Council has a current 30 year financial plan for its sewerage schemes. The reduction amount (cost) is determined as the difference between the operating revenue arising from a DSP area and the operating, maintenance and administration costs for that area. Projected net revenues and costs were determined until 2036 and hence a forecast horizon of 30 years was adopted to calculate the reduction amount. A single reduction amount has been calculated for the Tweed Shire local government area as common Sewerage Access and User Charges are levied.



6 DEVELOPER CONTRIBUTIONS

6.1 CALCULATION OF CAPITAL CHARGES

The capital charge calculated for each DSP area is shown in Table 6-1. The calculation spreadsheets are included in Appendix C.

Table 6-1 *Calculated Capital Charges*

| DSP | Calculated Capital Charge (\$/ET) |
|----------------|-----------------------------------|
| Tweed Heads | 10,243 |
| Banora Point | 5,323 |
| Kingscliff | 10,076 |
| Hastings Point | 5,176 |
| Murwillumbah | 8,191 |
| Tumbulgum | 4,773 |
| Tyalgum | 5,939 |
| Uki | 5,564 |
| Burringbar | 34,740 |

6.2 AGGLOMERATION OF CAPITAL CHARGES

Where the capital charges of two or more service areas (DSPs) are within 30%, they should be agglomerated into a single DSP. Tweed Shire Council service areas should therefore be agglomerated into three DSPs as shown in Table 6-2.

Table 6-2 *Agglomeration of Service Areas*

| DSP | Capital Charge \$/ET | % of Highest Capital Charge | | |
|----------------|----------------------|-----------------------------|-----|-----|
| | | A | B | C |
| Burringbar | 34,740 | 100 | | |
| Tweed Heads | 10,243 | 30 | 100 | |
| Kingscliff | 10,076 | | 98 | |
| Murwillumbah | 8,191 | | 80 | |
| Tyalgum | 5,939 | | 58 | 100 |
| Uki | 5,564 | | | 94 |
| Banora Point | 5,323 | | | 90 |
| Hastings Point | 5,176 | | | 87 |
| Tumbulgum | 4,773 | | | 80 |



DSP A would include the Burringbar sewage treatment plant catchment.

DSP B would include the Tweed Heads, Kingscliff and Murwillumbah sewage treatment plant catchments.

DSP C would include the Tyalgum, Uki, Banora Point, Hastings Point and Tumbulgum sewage treatment plant catchments.

The calculation of the agglomerated capital charges is shown in Table 6-3.

Table 6-3 Calculation of Agglomerated Capital Charges

| DSP | Area | Capital Charge (\$/ET) | Growth (ET) | Weighted Average Capital Charge (\$/ET) |
|-----|----------------|------------------------|-------------|---|
| A | Burringbar | 34,740 | 191 | 34,740 |
| B | Tweed Heads | 10,243 | 577 | 9,689 |
| | Kingscliff | 10,076 | 7,731 | |
| | Murwillumbah | 8,191 | 2,214 | |
| C | Tyalgum | 5,939 | 66 | 5,302 |
| | Uki | 5,564 | 53 | |
| | Banora Point | 5,323 | 18,880 | |
| | Hastings Point | 5,176 | 3,507 | |
| | Tumbulgum | 4,773 | 26 | |

6.3 CALCULATION OF REDUCTION AMOUNT

A uniform reduction amount of \$2,056/ET has been calculated for the Tweed Shire local government area. The calculation spreadsheets are included in Appendix D.



6.4 CALCULATED DEVELOPER CHARGES

The calculated developer charges are summarised in Table 6-4.

Table 6-4 *Calculated Developer Charges*

| DSP | Area | Capital Charge (\$/ET) | Reduction Amount (\$/ET) | Developer Charge (\$/ET) |
|-----|---|------------------------|--------------------------|--------------------------|
| A | Burringbar | 34,740 | 2,056 | 32,684 |
| B | Tweed Heads Kingscliff Murwillumbah | 9,689 | 2,056 | 7,633 |
| C | Tyalgum Uki Banora Point Hastings Point Tumbulgum | 5,302 | 2,056 | 3,246 |

6.5 AGGLOMERATION OF DEVELOPER CHARGES

On 25 October 2004 DEUS issued Circular LWU 5 which modified the guidelines to give Local Water Utilities (LWUs) more flexibility in selection of the number of DSP areas and the developer charges to be adopted. If a LWU wishes to carry out additional agglomeration of DSP areas to suit their local circumstances the process will be as follows:

1. Subject to note 4 below, any DSP area can be agglomerated with the next highest or the next lowest DSP area on the basis of the weighted average developer charge for their areas.
2. Alternatively, the LWU may agglomerate all its DSP areas to calculate a weighted average developer charge for all new development.
3. The developer charges resulting from the additional agglomeration will be the maximum charges which the LWU can levy in each of the new agglomerated DSP areas.
4. However, in order to provide appropriate signals regarding the cost of urban development, additional agglomeration is not recommended for new development areas with high calculated developer charges (over about \$20,000 per ET), where these areas involve a significant proportion of the LWU's new development.



The calculated developer charge for Burringbar is in excess of \$20,000/ET. However this DSP area includes only a minor proportion of Tweed Shire’s new development.

All of the remaining calculated developer charges for the Tweed Shire Council DSPs are below \$20,000/ET. A weighted average developer charge for all new developments within the Tweed Shire Council local government area has been calculated and summarised in Table 6-5.

Table 6-5 *Agglomerated Developer Charges*

| DSP | Area | Developer Charge (\$/ET) | Growth (ET) | Weighted Average Developer Charge (\$/ET) |
|-----|---|--------------------------|-------------|---|
| A | Burringbar | 32,684 | 191 | 4,804 |
| B | Tweed Heads Kingscliff Murwillumbah | 7,633 | 10,522 | |
| D | Tyalgum Uki Banora Point Hastings Point Tumbulgum | 3,246 | 22,532 | |

6.6 CROSS SUBSIDY

The calculated developer charges as detailed in Table 6-4 or the agglomerated developer charge of \$4,804/ET are the maximum that may be levied by Tweed Shire Council. In adopting a DSP, Tweed Shire Council may elect to levy less than these amounts, but any resulting cross subsidies must be disclosed in the DSP.

6.7 DEVELOPER CHARGES ADOPTED FOR EXHIBITION

It is recommended that the agglomerated Developer Charge of \$4,804/ET be adopted for exhibition.



7 REFERENCES

- [1] Department of Land and Water Conservation (May 2000), *Developer Contributions for Water Supply, Sewerage and Stormwater, Guidelines*.
- [2] Independent Pricing and Regulatory Tribunal of New South Wales (September 2000), *Developer Contributions, Determination No 9, 2000*.
- [3] Water Directorate (January 2005), *Section 64 Determinations of Equivalent Tenements, Technical Guidelines*.
- [4] Tweed Shire Council, *TAMS Database*.



8 GLOSSARY OF TERMS

In this DSP, unless the context or subject matter otherwise indicates or requires:

'Council' refers to Tweed Shire Council

'TSC' means Tweed Shire Council

'Development' may include a reference to the erection of a building on land; the carrying out of a work in, on, over or under land; the use of land or of a building or work on that land and/or the subdivision of land.

'DEC' means Department of Environment and Conservation

'DLWC' means former Department of Land and Water Conservation

'DWE' means Department of Water and Energy

'EPAA' means the Environmental Planning and Assessment Act 1979

'EP' means the equivalent persons and is the unit of measure to describe the flow or demand associated with an average person.

'ET' means the equivalent tenement and is the basic unit of measure used to describe flow or demand from contributing sources as a ratio to that expected from a single average residence. Other uses can be assessed as equivalent to a number of tenements

'Headworks' means those components that form the key infrastructure requirements for the supply of sewerage or water supply services to an area. Typically, Headworks comprise such components as dams, bores, pumping stations, treatment plants, purification plants and trunk mains.

'HWA' means Hunter Water Australia

'Indexation' means the percentage by which contributions are increased for each calculation period

'IPART' means Independent Pricing and Regulatory Tribunal

'LG Act' means the Local Government Act 1993;

'NPV' means Net Present Value; a process to convert future incomes or expenditures to the value of today's money.

'Occupancy Rate' means the average number of people per household; commonly referred to as the EP/ET ratio

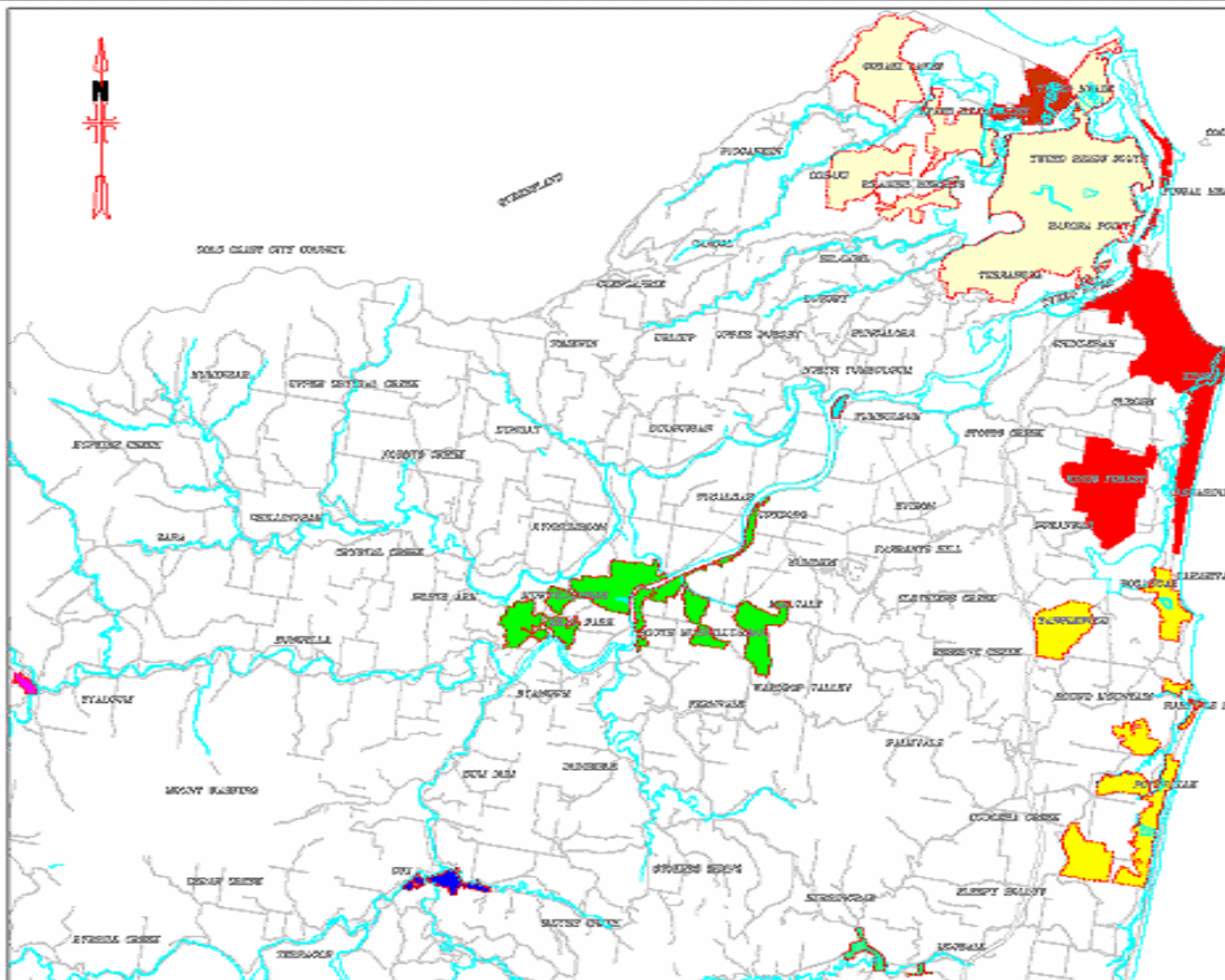
'STP' means Sewage Treatment Plant



Appendix A – Plans

Disclaimer

1. The Developer Charge is applicable to all land which is to be serviced and/or redeveloped, including land outside the DSP boundaries.
2. Land included within each boundary does not necessarily mean that it is proposed, or able, to be serviced.
3. This Plan should not be relied upon to determine development potential.
4. Additional Capital charges/levies may also apply in some instances.



LEGEND

-  BANORA POINT T.W.
-  TWEED HEADS T.W.
-  KINGSCLIFF T.W.
-  HASTINGS POINT T.W.
-  MURWILLUMBAH T.W.
-  TUMBULGUM T.W.
-  TYALGUN T.W.
-  UNI T.W.
-  BURRUMBAR-WOOBALL T.W.

TWEED SHIRE COUNCIL
GenMap System

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Drawn & P.L. (Engineering & Operations) J037129 - 18 April 2009

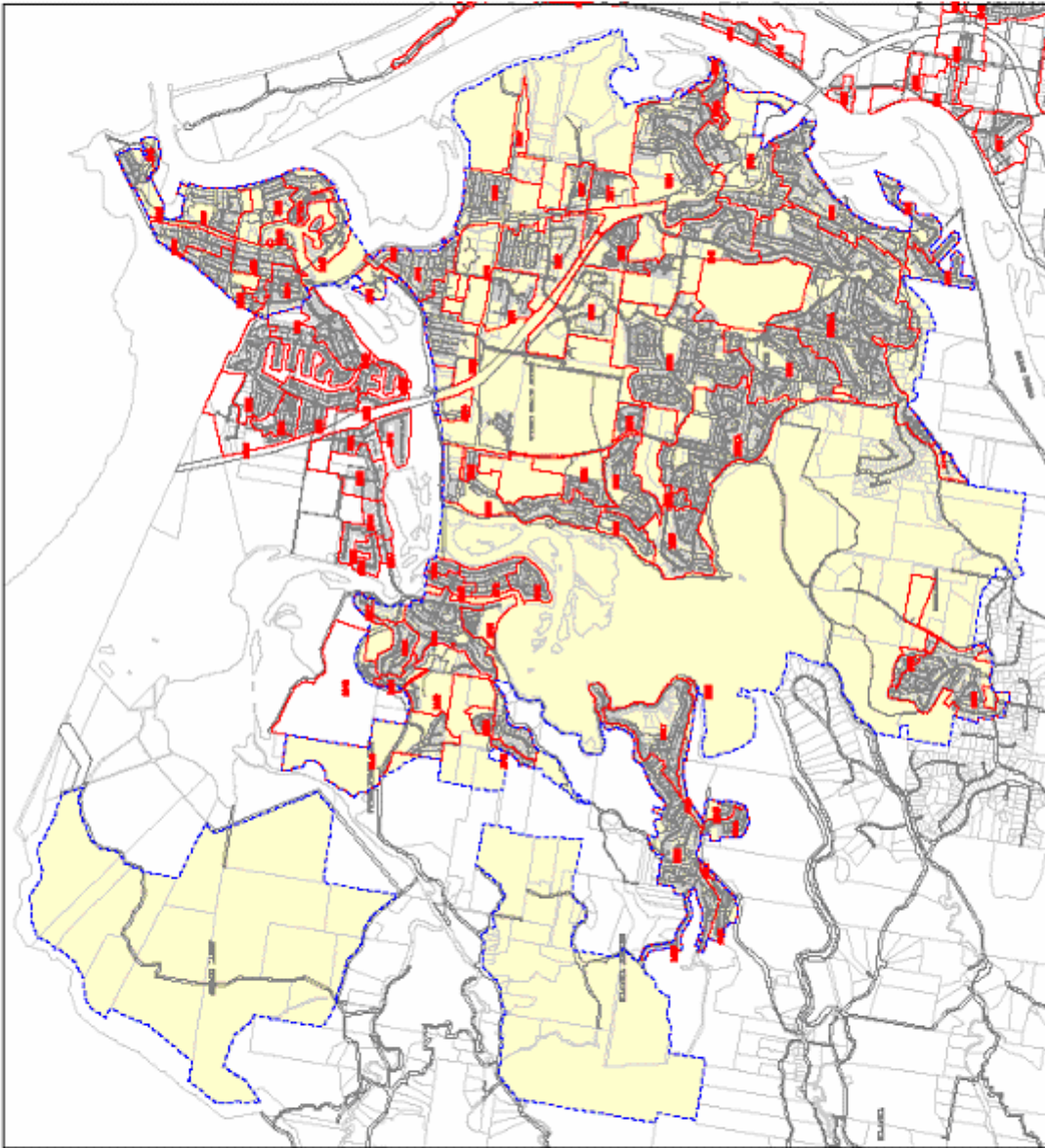


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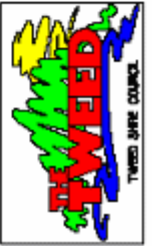
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SEWERAGE DSP AREAS
INDEX SHEET



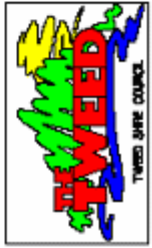
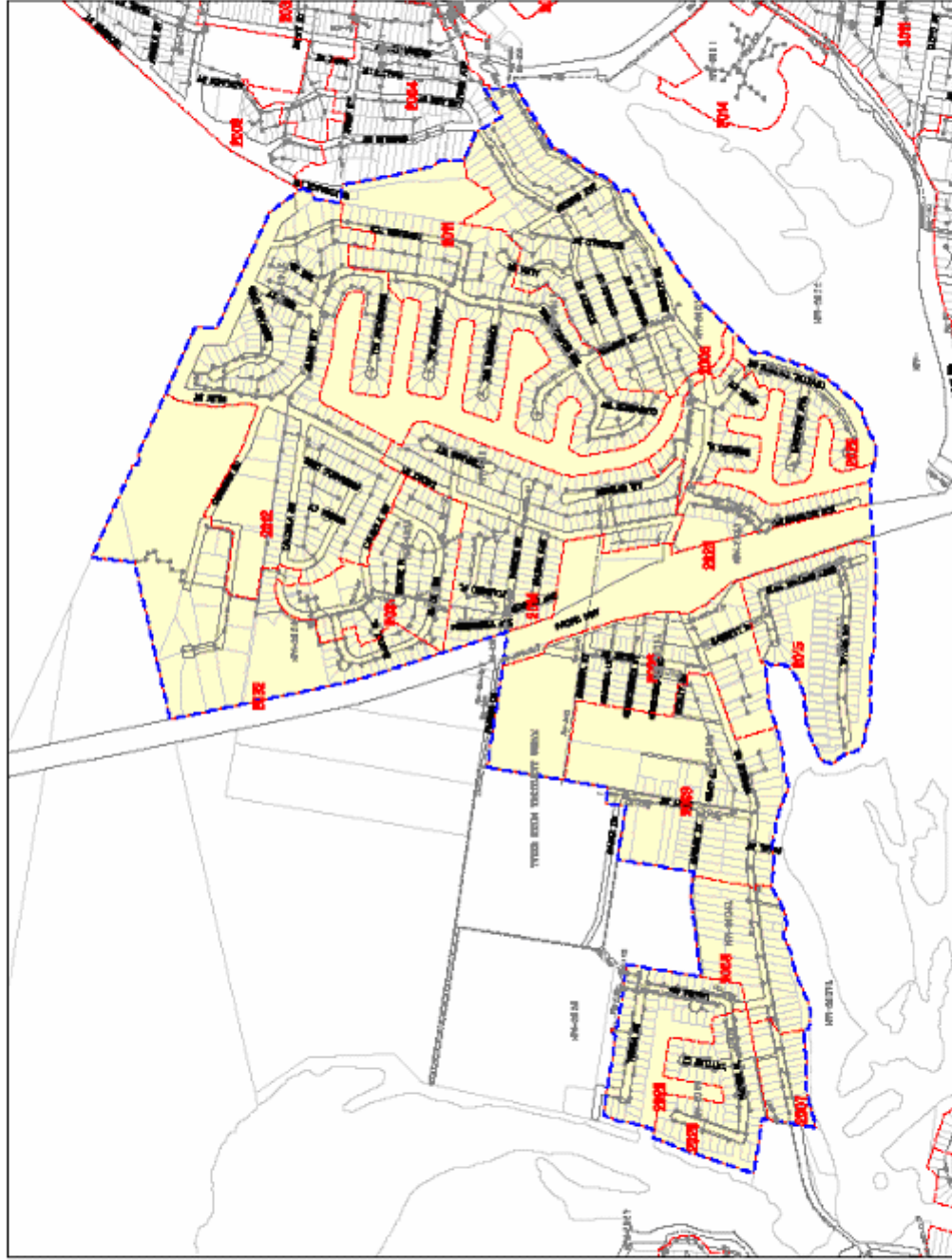
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|---------|---------|---------|---------|
| Sheet 1 | Sheet 2 | Sheet 3 | Sheet 4 |
| Sheet 5 | Sheet 6 | Sheet 7 | Sheet 8 |

Index of Detail Sheets



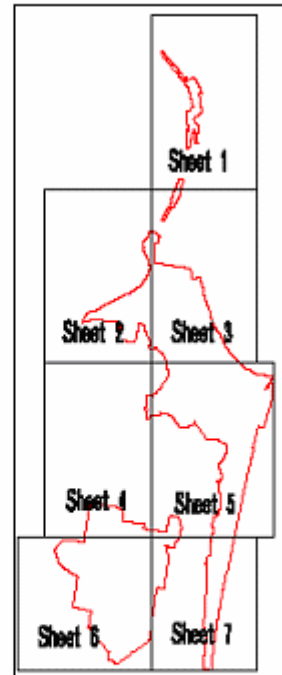
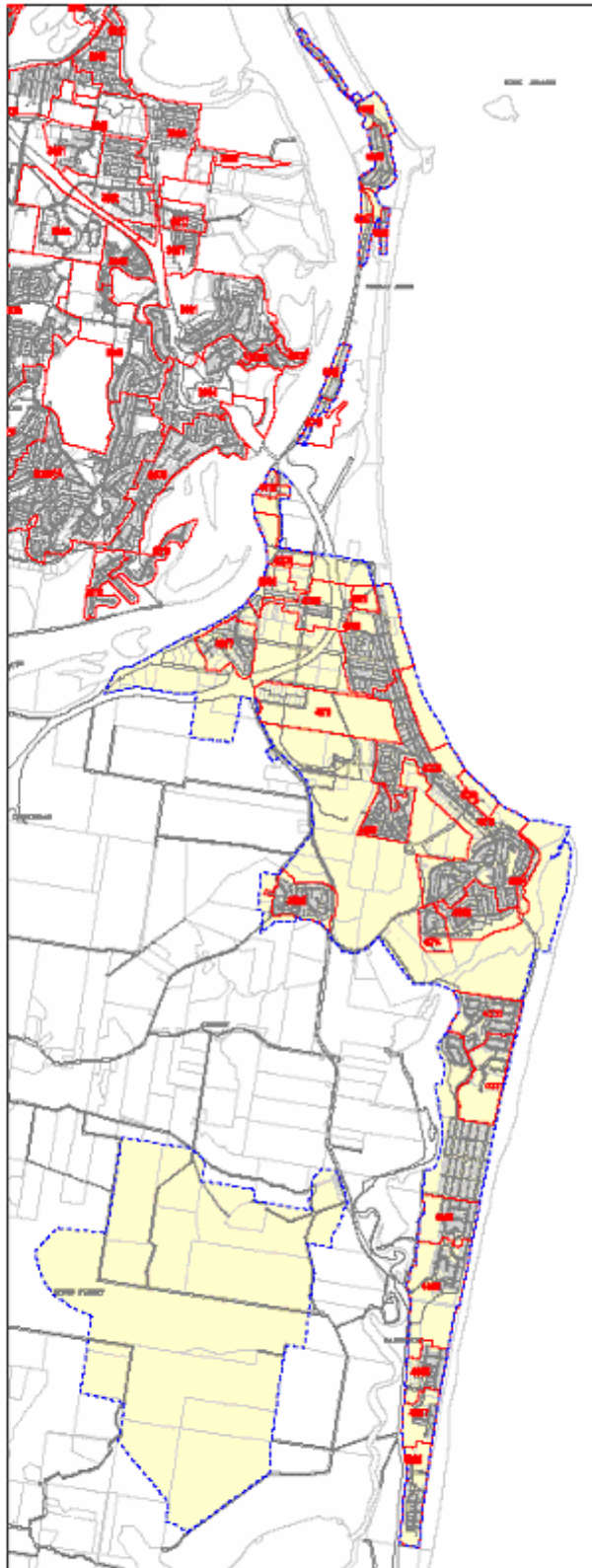
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Index of Detail Sheets

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1. The Engineer's Office is responsible to all land within its jurisdiction for the safety, health and welfare of the community.
 2. Land located within the boundary lines of this plan is proposed to be used for the purposes of the development shown on this plan.
 3. The plan should not be relied upon to determine development standards.
 4. Approval of this plan does not constitute an approval of the development shown on this plan.



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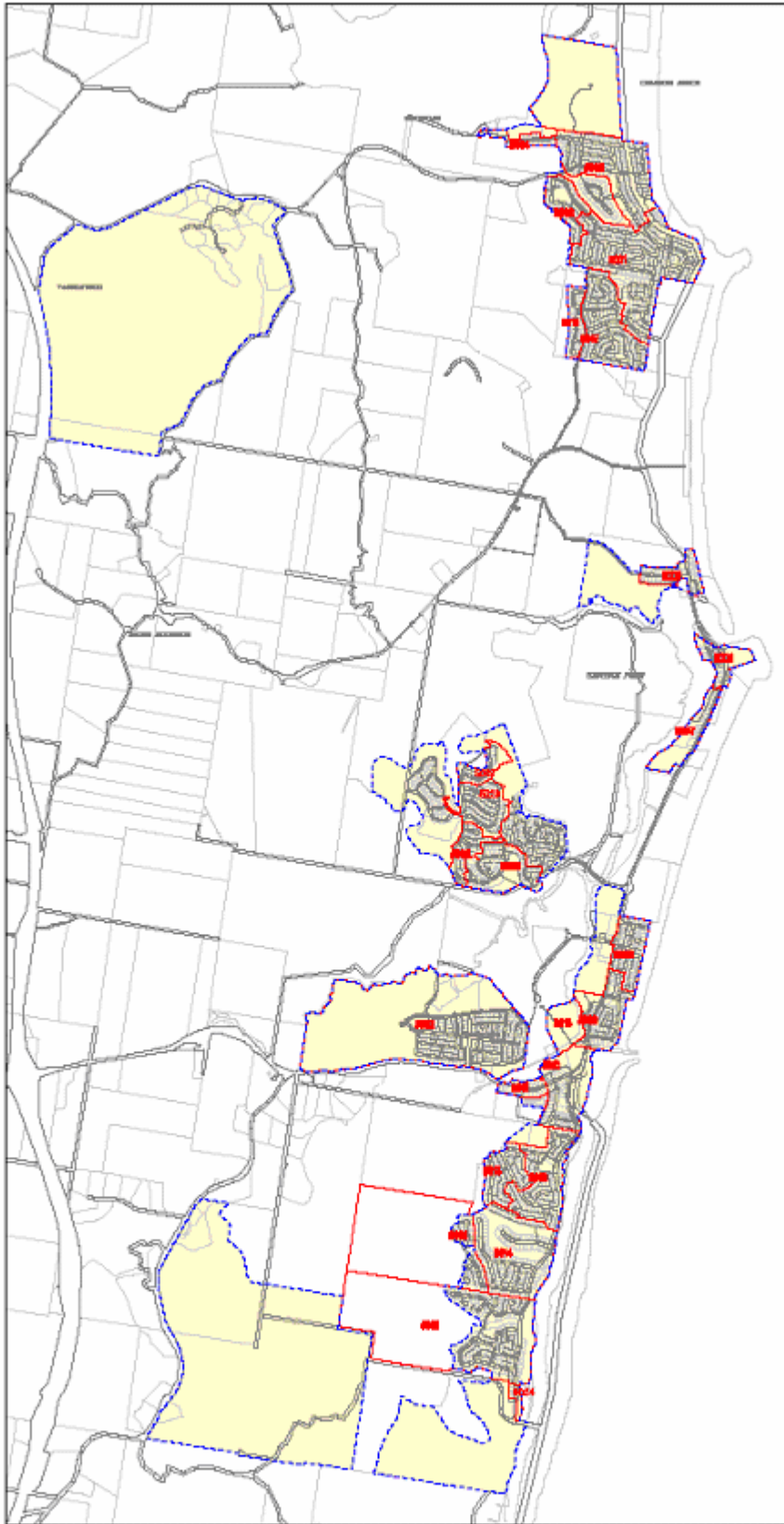
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Issue 1 - 14th September 2005 (Revised) - 14/09/05 - 14 April 2006



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KINGCLIFF
SEWERAGE DSP AREA



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- NOTES:**
1. The Designer Class is responsible to at least verify to be an accurate single dimensioned, reliable and usable DSP location.
 2. Land parcels with the boundary lines not necessarily shown that it is proposed or able to be worked.
 3. The plan shall not be relied upon to determine development potential.
 4. Additional Council requirements may also apply to some lots.



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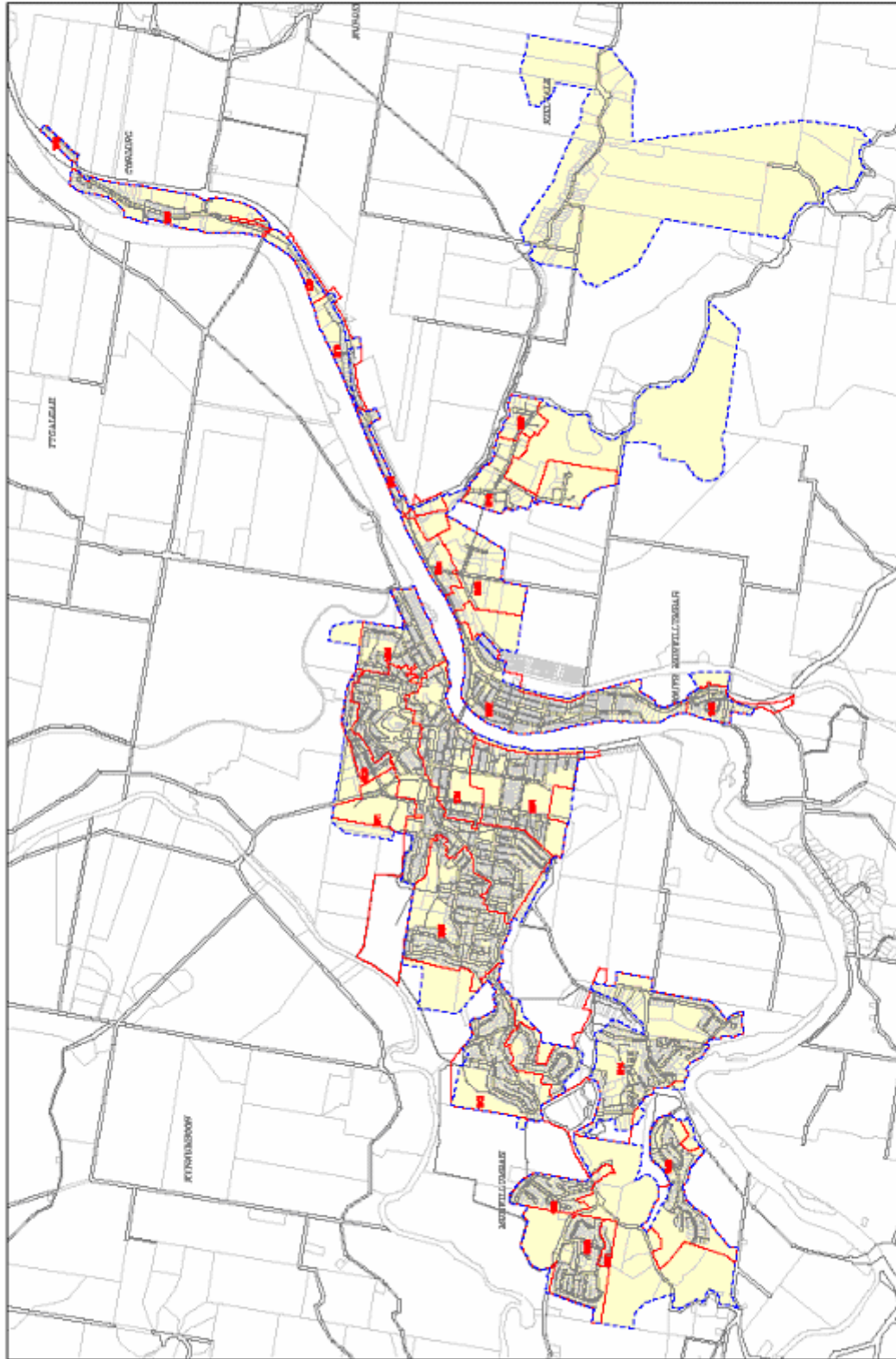
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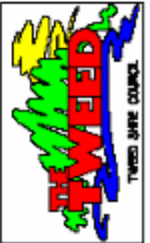


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HASTINGS POINT
SEWERAGE DSP AREA

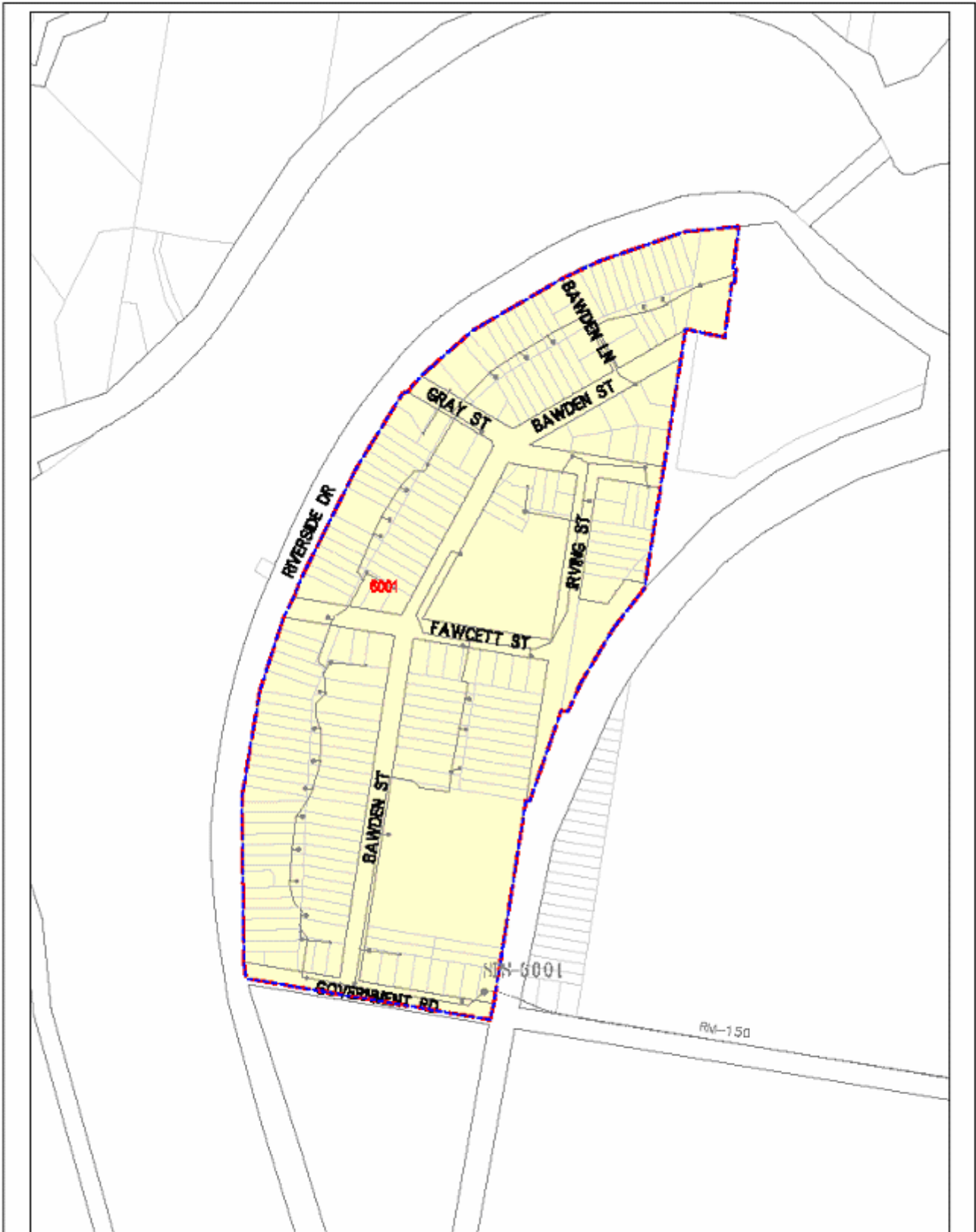


Index of Detail Maps



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1. The Engineer's Consent is a condition of all land within the Sewerage Disposal Area (SDA) and is a condition of all land within the SDA.
 2. Land located within the SDA is subject to the provisions of the Sewerage Act 1988 (NSW) and the Sewerage Regulations 1993 (NSW).
 3. The plan shall not be relied upon to determine development potential.
 4. Allroad Council reserves the right to amend this plan.



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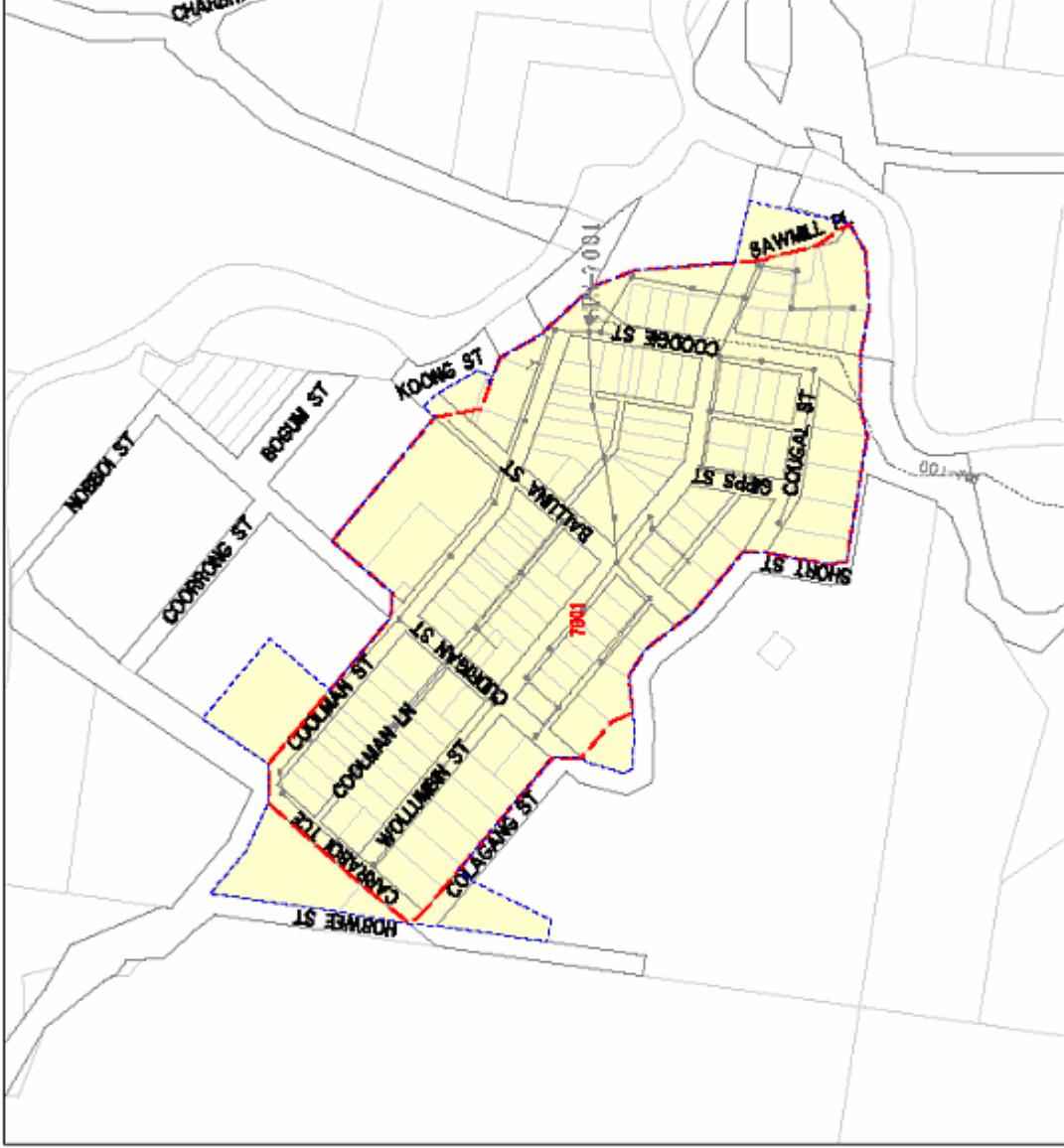
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Internet : www.tweedshire.nsw.gov.au

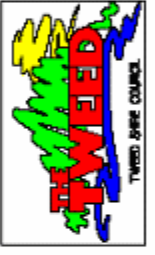
TUMBULGUM
SEWERAGE DSP AREA



TWEED SHIRE COUNCIL 2005

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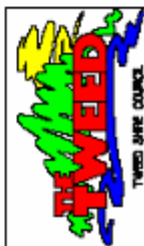
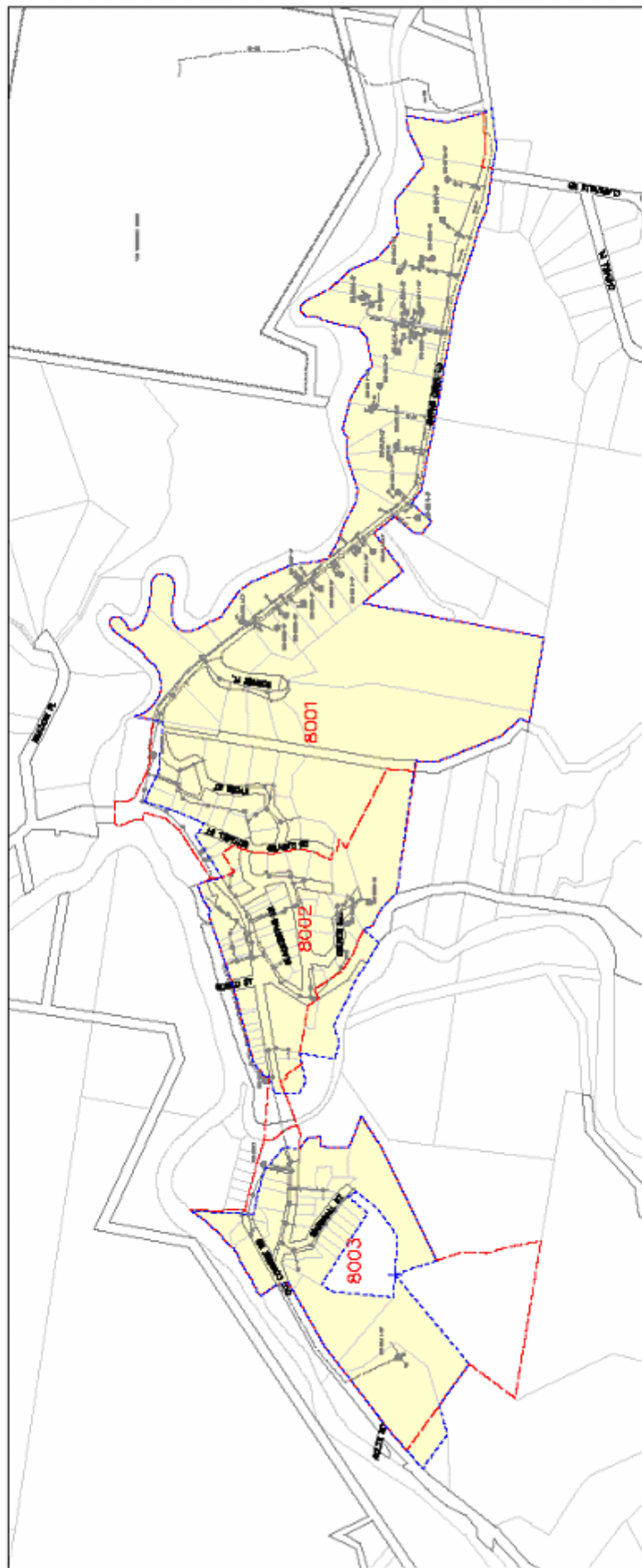


Engineering & Operations
DESIGN UNIT

Drawn: J.K.A. (Engineering & Operations) DATE: 16 April 2005

TWEED SHIRE COUNCIL
GenMap System

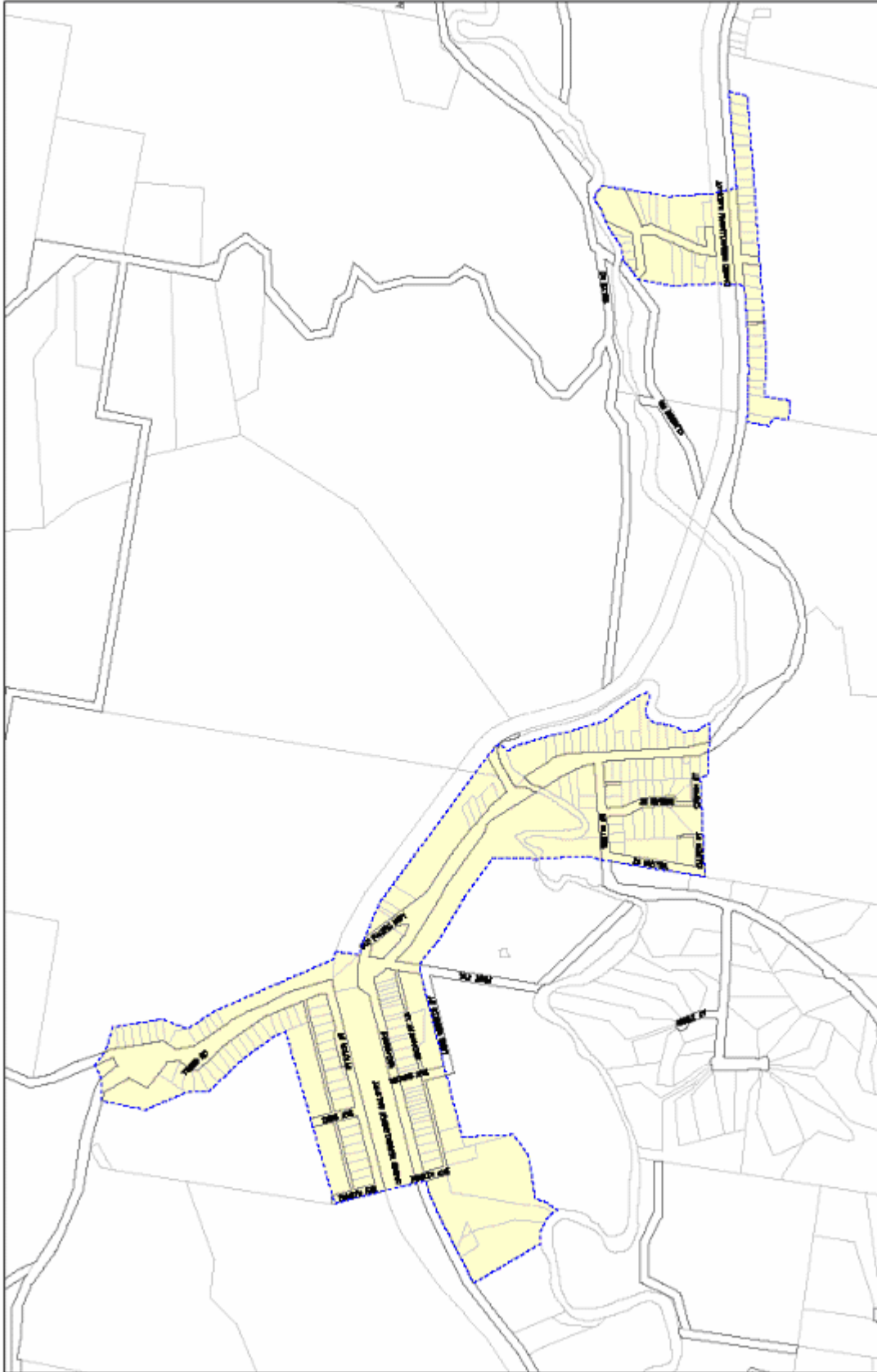
TYALGUM SEWERAGE DSP AREA



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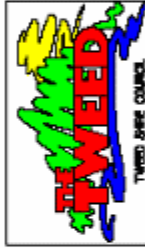


**BURRINGBAR MOORBALL
SEWERAGE DSP AREA**

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**Engineering & Operations
DESIGN UNIT**

Drawn: J. S.A. (Engineering & Operations) DATE: 16 April 2005

**TWEED SHIRE COUNCIL
GenaMap System**

**Appendix B – Capital Works Program
Tweed Shire Council**

Appendix C – Capital Charge Calculation



DEVELOPER CHARGES MODEL

Tweed Heads sewer

Year : 2006

Calculation of Capital Cost

Catchment Tweed Heads sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|------|---|------------------------|
| 1996 | 5,808,688 | 1031 |
| 1997 | | 4 |
| 1998 | | 4 |
| 1999 | | 4 |
| 2000 | | 4 |
| 2001 | | 4 |
| 2002 | | 38 |
| 2003 | | 38 |
| 2004 | | 38 |
| 2005 | | 38 |
| 2006 | | 38 |
| 2007 | | 38 |
| 2008 | | 39 |
| 2009 | | 38 |
| 2010 | | 39 |
| 2011 | | 38 |
| 2012 | | 39 |
| 2013 | | 38 |
| 2014 | | 39 |
| 2015 | | 38 |
| 2016 | | 39 |
| 2017 | | 38 |
| 2018 | | 39 |
| 2019 | | 38 |
| 2020 | | 39 |
| 2021 | | 38 |
| 2022 | | 0 |
| 2023 | | 0 |
| 2024 | | 0 |
| 2025 | | 0 |
| 2026 | | 0 |
| 2027 | | 0 |
| 2028 | | 0 |
| 2029 | | 0 |
| 2030 | | 0 |
| 2031 | | 0 |
| 2032 | | 0 |
| 2033 | | 0 |
| 2034 | | 0 |
| 2035 | | 0 |
| 2036 | | 0 |
| | NPV CHARGE (\$/ET) | 3764 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 1031 |
| 1997 | 1,431 | 4 |
| 1998 | 0 | 4 |
| 1999 | 0 | 4 |
| 2000 | 0 | 4 |
| 2001 | 433,888 | 4 |
| 2002 | 6,363 | 38 |
| 2003 | 11,931 | 38 |
| 2004 | 0 | 38 |
| 2005 | 14,312 | 38 |
| 2006 | 77,448 | 38 |
| 2007 | 0 | 38 |
| 2008 | 0 | 39 |
| 2009 | 0 | 38 |
| 2010 | 0 | 39 |
| 2011 | 0 | 38 |
| 2012 | 0 | 39 |
| 2013 | 0 | 38 |
| 2014 | 0 | 39 |
| 2015 | 0 | 38 |
| 2016 | 0 | 39 |
| 2017 | 0 | 38 |
| 2018 | 0 | 39 |
| 2019 | 0 | 38 |
| 2020 | 0 | 39 |
| 2021 | 0 | 38 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| | NPV CHARGE (\$/ET) | 276 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 1031 |
| 1997 | 0 | 4 |
| 1998 | 0 | 4 |
| 1999 | 0 | 4 |
| 2000 | 0 | 4 |
| 2001 | 0 | 4 |
| 2002 | 0 | 38 |
| 2003 | 0 | 38 |
| 2004 | 0 | 38 |
| 2005 | 0 | 38 |
| 2006 | 0 | 38 |
| 2007 | 400,000 | 38 |
| 2008 | 0 | 39 |
| 2009 | 100,000 | 38 |
| 2010 | 0 | 39 |
| 2011 | 0 | 38 |
| 2012 | 0 | 39 |
| 2013 | 0 | 38 |
| 2014 | 0 | 39 |
| 2015 | 0 | 38 |
| 2016 | 0 | 39 |
| 2017 | 0 | 38 |
| 2018 | 2,400,000 | 39 |
| 2019 | 1,800,000 | 38 |
| 2020 | 28,400,000 | 39 |
| 2021 | 8,400,000 | 38 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| | NPV CHARGE (\$/ET) | 6203 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$10,243

Demand Profile

Catchment

Tweed Heads sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 1240 | |
| 1971 | 1512 | 272 |
| 1972 | 1604 | 92 |
| 1973 | 1702 | 98 |
| 1974 | 1805 | 104 |
| 1975 | 1915 | 110 |
| 1976 | 2032 | 117 |
| 1977 | 2038 | 6 |
| 1978 | 2044 | 6 |
| 1979 | 2050 | 6 |
| 1980 | 2056 | 6 |
| 1981 | 2062 | 6 |
| 1982 | 2068 | 6 |
| 1983 | 2074 | 6 |
| 1984 | 2080 | 6 |
| 1985 | 2086 | 6 |
| 1986 | 2092 | 6 |
| 1987 | 2098 | 6 |
| 1988 | 2104 | 6 |
| 1989 | 2110 | 6 |
| 1990 | 2116 | 6 |
| 1991 | 2122 | 6 |
| 1992 | 2152 | 30 |
| 1993 | 2181 | 30 |
| 1994 | 2211 | 30 |
| 1995 | 2241 | 30 |
| 1996 | 2271 | 30 |
| 1997 | 2275 | 4 |
| 1998 | 2279 | 4 |
| 1999 | 2283 | 4 |
| 2000 | 2287 | 4 |
| 2001 | 2291 | 4 |
| 2002 | 2330 | 38 |
| 2003 | 2368 | 38 |
| 2004 | 2407 | 38 |
| 2005 | 2445 | 38 |
| 2006 | 2484 | 38 |
| 2007 | 2522 | 38 |
| 2008 | 2561 | 39 |
| 2009 | 2599 | 38 |
| 2010 | 2638 | 39 |
| 2011 | 2676 | 38 |
| 2012 | 2715 | 39 |
| 2013 | 2753 | 38 |
| 2014 | 2792 | 39 |
| 2015 | 2830 | 38 |
| 2016 | 2869 | 39 |
| 2017 | 2907 | 38 |
| 2018 | 2946 | 39 |
| 2019 | 2984 | 38 |
| 2020 | 3023 | 39 |
| 2021 | 3061 | 38 |
| 2022 | 3061 | 0 |
| 2023 | 3061 | 0 |
| 2024 | 3061 | 0 |
| 2025 | 3061 | 0 |
| 2026 | 3061 | 0 |
| 2027 | 3061 | 0 |
| 2028 | 3061 | 0 |
| 2029 | 3061 | 0 |
| 2030 | 3061 | 0 |
| 2031 | 3061 | 0 |
| 2032 | 3061 | 0 |
| 2033 | 3061 | 0 |
| 2034 | 3061 | 0 |
| 2035 | 3061 | 0 |
| 2036 | 3061 | 0 |

Existing Assets

Catchment

Tweed Heads sewer

Year of Calculation

2006

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year |
|--------------------------|-------------|------------|----------|--------------|-------------------|--------------|---------------|-------------------------|---------------|
| Manholes | Manhole | | | Augment | 1905 | \$436,200 | 100% | \$436,200 | #N/A |
| | Manhole | | | Augment | 1905 | \$210,200 | 100% | \$210,200 | #N/A |
| | Manhole | | | Augment | 1905 | \$41,600 | 100% | \$41,600 | #N/A |
| Gravity Pipes | 225mm | | | Augment | 1968 | \$570,188 | 100% | \$570,188 | 1968 |
| | 508mm | | | Augment | 1968 | \$891,269 | 100% | \$891,269 | 1968 |
| | 525mm | | | Augment | 1968 | \$29,280 | 100% | \$29,280 | 1968 |
| | 534mm | | | Augment | 1968 | \$393,788 | 100% | \$393,788 | 1968 |
| | 150mm | | | Augment | 1976 | \$37,325 | 100% | \$37,325 | 1976 |
| | 225mm | | | Augment | 1976 | \$47,065 | 100% | \$47,065 | 1976 |
| | 300mm | | | Augment | 1976 | \$360,938 | 100% | \$360,938 | 1976 |
| | 225mm | | | Augment | 1980 | \$112,021 | 100% | \$112,021 | 1980 |
| Sewer Rising Mains | 150mm | | | Augment | 1968 | \$196,361 | 13% | \$24,545 | 1968 |
| | 300mm | | | Augment | 1968 | \$602,620 | 13% | \$75,328 | 1968 |
| | 300mm | | | Augment | 1972 | \$5,717 | 13% | \$715 | 1972 |
| | 150mm | | | Augment | 1974 | \$122,697 | 13% | \$15,337 | 1974 |
| | 225mm | | | Augment | 1974 | \$131,982 | 13% | \$16,498 | 1974 |
| | 100mm | | | Augment | 1979 | \$28,671 | 13% | \$3,584 | 1979 |
| | 250mm | | | Augment | 1979 | \$483,111 | 50% | \$241,556 | 1979 |
| | 300mm | | | Augment | 1979 | \$57,562 | 50% | \$28,781 | 1979 |
| | 150mm | | | Augment | 1980 | \$94,013 | 50% | \$47,007 | 1980 |
| | 450mm | | | Augment | 1987 | \$1,503,376 | 50% | \$751,688 | 1987 |
| | 150mm | | | Augment | 1992 | \$71,659 | 50% | \$35,829 | 1992 |
| | 300mm | | | Augment | 1995 | \$27,225 | 13% | \$3,403 | 1995 |
| | 100mm | | | Augment | 2005 | \$9,847 | 50% | \$4,924 | 2005 |
| | 150mm | | | Augment | 2005 | \$55,417 | 13% | \$6,927 | 2005 |
| 150mm | | | Augment | 2005 | \$4,923 | 50% | \$2,462 | 2005 | |
| Sewer Pump Stations | SPS 2005 | | | Augment | 2001 | \$2,479,360 | 18% | \$433,888 | 2001 |
| | SPS 2006 | | | Augment | 1962 | \$382,347 | 13% | \$47,793 | #N/A |
| | SPS 2008 | | | Augment | 1962 | \$169,527 | 13% | \$21,191 | #N/A |
| | SPS 2009 | | | Augment | 1962 | \$531,127 | 13% | \$66,391 | #N/A |
| | SPS 2011 | | | Augment | 1974 | \$719,588 | 13% | \$89,949 | 1974 |
| | SPS 2012 | | | Augment | 1974 | \$607,266 | 13% | \$75,908 | 1974 |
| | SPS 2014 | | | Augment | 1974 | \$369,263 | 17% | \$63,045 | 1974 |
| | SPS 2015 | | | Augment | 1976 | \$340,206 | 17% | \$58,084 | 1976 |
| Sewerage Treatment Plant | General | | | Augment | 1987 | \$3,548,736 | 25% | \$887,184 | 1987 |
| | General | | | Augment | 1990 | \$500,000 | 25% | \$125,000 | 1990 |
| | General | | | Augment | 1997 | \$5,725 | 25% | \$1,431 | 1997 |
| | General | | | Augment | 2002 | \$25,451 | 25% | \$6,363 | 2002 |
| | General | | | Augment | 2003 | \$47,722 | 25% | \$11,931 | 2003 |
| | WIP | General | | | Augment | 2006 | \$77,448 | 100% | \$77,448 |
| | | | | | | \$16,328,821 | | \$6,354,061 | |

Future Works

Catchment Tweed Heads sewer

Year of Calculation 2006

Cut-off Year 2036

| AREA | PROJECT | | | | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|-----------------|--------------|--|--|--------------|-------------------|---------------------|-----|---------------------|
| Tweed Heads | Tweed Heads STP | Construction | | | Augment | 2007 | \$400,000 | 1 | \$400,000 |
| | Tweed Heads STP | Construction | | | Augment | 2009 | \$100,000 | 1 | \$100,000 |
| | Tweed Heads STP | Construction | | | Augment | 2018 | \$2,400,000 | | \$2,400,000 |
| | Tweed Heads STP | Construction | | | Augment | 2019 | \$1,800,000 | 1 | \$1,800,000 |
| | Tweed Heads STP | Construction | | | Augment | 2020 | \$28,400,000 | 1 | \$28,400,000 |
| | Tweed Heads STP | Construction | | | Augment | 2021 | \$8,400,000 | 1 | \$8,400,000 |
| Total | | | | | | | \$41,500,000 | | \$41,500,000 |



DEVELOPER CHARGES MODEL

Banora Point sewer

Year : 2006

Calculation of Capital Cost

Catchment Banora Point sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|------|---|------------------------|
| 1996 | 67,686,565 | 9554 |
| 1997 | | 386 |
| 1998 | | 403 |
| 1999 | | 399 |
| 2000 | | 389 |
| 2001 | | 366 |
| 2002 | | 297 |
| 2003 | | 312 |
| 2004 | | 213 |
| 2005 | | 340 |
| 2006 | | 354 |
| 2007 | | 368 |
| 2008 | | 382 |
| 2009 | | 241 |
| 2010 | | 512 |
| 2011 | | 525 |
| 2012 | | 538 |
| 2013 | | 549 |
| 2014 | | 558 |
| 2015 | | 572 |
| 2016 | | 581 |
| 2017 | | 590 |
| 2018 | | 600 |
| 2019 | | 606 |
| 2020 | | 621 |
| 2021 | | 624 |
| 2022 | | 672 |
| 2023 | | 677 |
| 2024 | | 686 |
| 2025 | | 692 |
| 2026 | | 696 |
| 2027 | | 700 |
| 2028 | | 708 |
| 2029 | | 710 |
| 2030 | | 716 |
| 2031 | | 723 |
| 2032 | | 802 |
| 2033 | | 805 |
| 2034 | | 806 |
| 2035 | | 811 |
| 2036 | | 809 |
| | NPV CHARGE (\$/ET) | 3306 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 93,338 | 9554 |
| 1997 | 65,224 | 386 |
| 1998 | 964,069 | 403 |
| 1999 | 237,693 | 399 |
| 2000 | 50,431 | 389 |
| 2001 | 304,246 | 366 |
| 2002 | 356,730 | 297 |
| 2003 | 502,138 | 312 |
| 2004 | 386,542 | 213 |
| 2005 | 51,474 | 340 |
| 2006 | 3,903,303 | 354 |
| 2007 | 0 | 368 |
| 2008 | 0 | 382 |
| 2009 | 0 | 241 |
| 2010 | 0 | 512 |
| 2011 | 0 | 525 |
| 2012 | 0 | 538 |
| 2013 | 0 | 549 |
| 2014 | 0 | 558 |
| 2015 | 0 | 572 |
| 2016 | 0 | 581 |
| 2017 | 0 | 590 |
| 2018 | 0 | 600 |
| 2019 | 0 | 606 |
| 2020 | 0 | 621 |
| 2021 | 0 | 624 |
| 2022 | 0 | 672 |
| 2023 | 0 | 677 |
| 2024 | 0 | 686 |
| 2025 | 0 | 692 |
| 2026 | 0 | 696 |
| 2027 | 0 | 700 |
| 2028 | 0 | 708 |
| 2029 | 0 | 710 |
| 2030 | 0 | 716 |
| 2031 | 0 | 723 |
| 2032 | 0 | 802 |
| 2033 | 0 | 805 |
| 2034 | 0 | 806 |
| 2035 | 0 | 811 |
| 2036 | 0 | 809 |
| | NPV CHARGE (\$/ET) | 272 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 9554 |
| 1997 | 0 | 386 |
| 1998 | 0 | 403 |
| 1999 | 0 | 399 |
| 2000 | 0 | 389 |
| 2001 | 0 | 366 |
| 2002 | 0 | 297 |
| 2003 | 0 | 312 |
| 2004 | 0 | 213 |
| 2005 | 0 | 340 |
| 2006 | 0 | 354 |
| 2007 | 5,323,825 | 368 |
| 2008 | 992,500 | 382 |
| 2009 | 4,623,000 | 241 |
| 2010 | 11,076,050 | 512 |
| 2011 | 9,317,132 | 525 |
| 2012 | 6,841,243 | 538 |
| 2013 | 20,119,391 | 549 |
| 2014 | 15,120,572 | 558 |
| 2015 | 281,791 | 572 |
| 2016 | 123,045 | 581 |
| 2017 | 124,336 | 590 |
| 2018 | 127,070 | 600 |
| 2019 | 129,833 | 606 |
| 2020 | 852,626 | 621 |
| 2021 | 135,451 | 624 |
| 2022 | 138,304 | 672 |
| 2023 | 141,185 | 677 |
| 2024 | 144,093 | 686 |
| 2025 | 147,028 | 692 |
| 2026 | 149,987 | 696 |
| 2027 | 6,176,969 | 700 |
| 2028 | 155,974 | 708 |
| 2029 | 159,005 | 710 |
| 2030 | 162,055 | 716 |
| 2031 | 165,124 | 723 |
| 2032 | 168,215 | 802 |
| 2033 | 171,322 | 805 |
| 2034 | 174,450 | 806 |
| 2035 | 177,594 | 811 |
| 2036 | 180,752 | 809 |
| | NPV CHARGE (\$/ET) | 1744 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$5,323

Demand Profile

Catchment

Banora Point sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 402 | |
| 1971 | 490 | 88 |
| 1972 | 520 | 30 |
| 1973 | 552 | 32 |
| 1974 | 585 | 34 |
| 1975 | 621 | 36 |
| 1976 | 659 | 38 |
| 1977 | 968 | 309 |
| 1978 | 1420 | 453 |
| 1979 | 2085 | 665 |
| 1980 | 3062 | 976 |
| 1981 | 4495 | 1433 |
| 1982 | 4623 | 128 |
| 1983 | 4754 | 131 |
| 1984 | 4889 | 135 |
| 1985 | 5027 | 139 |
| 1986 | 5170 | 143 |
| 1987 | 5545 | 375 |
| 1988 | 5946 | 402 |
| 1989 | 6377 | 431 |
| 1990 | 6839 | 462 |
| 1991 | 7335 | 496 |
| 1992 | 7937 | 602 |
| 1993 | 8499 | 562 |
| 1994 | 9022 | 523 |
| 1995 | 9571 | 549 |
| 1996 | 9956 | 385 |
| 1997 | 10342 | 386 |
| 1998 | 10745 | 403 |
| 1999 | 11144 | 399 |
| 2000 | 11534 | 389 |
| 2001 | 11899 | 366 |
| 2002 | 12196 | 297 |
| 2003 | 12509 | 312 |
| 2004 | 12721 | 213 |
| 2005 | 13061 | 340 |
| 2006 | 13415 | 354 |
| 2007 | 13783 | 368 |
| 2008 | 14165 | 382 |
| 2009 | 14406 | 241 |
| 2010 | 14918 | 512 |
| 2011 | 15443 | 525 |
| 2012 | 15981 | 538 |
| 2013 | 16530 | 549 |
| 2014 | 17088 | 558 |
| 2015 | 17660 | 572 |
| 2016 | 18241 | 581 |
| 2017 | 18831 | 590 |
| 2018 | 19431 | 600 |
| 2019 | 20037 | 606 |
| 2020 | 20658 | 621 |
| 2021 | 21282 | 624 |
| 2022 | 21954 | 672 |
| 2023 | 22631 | 677 |
| 2024 | 23317 | 686 |
| 2025 | 24009 | 692 |
| 2026 | 24705 | 696 |
| 2027 | 25405 | 700 |
| 2028 | 26113 | 708 |
| 2029 | 26823 | 710 |
| 2030 | 27539 | 716 |
| 2031 | 28262 | 723 |
| 2032 | 29064 | 802 |
| 2033 | 29869 | 805 |
| 2034 | 30675 | 806 |
| 2035 | 31486 | 811 |
| 2036 | 32295 | 809 |

Future Works

Catchment Banora Point sewer

Year of Calculation 2006

Cut-off Year 2036

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|---|--------------------|-------------|------------|--------------|-------------------|-------------|-----|------------------|
| Banora Point | SPS Banora Pt | Land Acquisition | | | Augment | 2008 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2009 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2010 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2011 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2012 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2013 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2014 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2015 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2016 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2017 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2018 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2019 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2020 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2021 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2022 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2023 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2024 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2025 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2026 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2027 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2028 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2029 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2030 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2031 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2032 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2033 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2034 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2035 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Land Acquisition | | | Augment | 2036 | \$25,000 | | \$25,000 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2007 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2008 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2009 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2010 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2011 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2012 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2013 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2014 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2015 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2016 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2017 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2018 | \$12,901 | | \$12,901 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2019 | \$13,308 | | \$13,308 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2020 | \$13,721 | | \$13,721 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2021 | \$14,141 | | \$14,141 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2022 | \$14,567 | | \$14,567 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2023 | \$14,999 | | \$14,999 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2024 | \$15,437 | | \$15,437 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2025 | \$15,881 | | \$15,881 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2026 | \$16,331 | | \$16,331 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2027 | \$16,786 | | \$16,786 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2028 | \$17,247 | | \$17,247 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2029 | \$17,714 | | \$17,714 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2030 | \$18,186 | | \$18,186 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2031 | \$18,663 | | \$18,663 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2032 | \$19,146 | | \$19,146 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2033 | \$19,633 | | \$19,633 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2034 | \$20,126 | | \$20,126 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2035 | \$20,624 | | \$20,624 |
| | SPS Banora Pt | Mechanical Upgrade | | | Augment | 2036 | \$21,126 | | \$21,126 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2007 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2008 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2009 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2010 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2011 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2012 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2013 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2014 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2015 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2016 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2017 | \$12,500 | | \$12,500 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2018 | \$12,837 | | \$12,837 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2019 | \$13,176 | | \$13,176 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2020 | \$13,518 | | \$13,518 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2021 | \$13,862 | | \$13,862 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2022 | \$14,208 | | \$14,208 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2023 | \$14,557 | | \$14,557 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2024 | \$14,907 | | \$14,907 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2025 | \$15,260 | | \$15,260 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2026 | \$15,614 | | \$15,614 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2027 | \$15,969 | | \$15,969 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2028 | \$16,326 | | \$16,326 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2029 | \$16,685 | | \$16,685 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2030 | \$17,044 | | \$17,044 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2031 | \$17,404 | | \$17,404 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2032 | \$17,765 | | \$17,765 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2033 | \$18,127 | | \$18,127 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2034 | \$18,490 | | \$18,490 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2035 | \$18,853 | | \$18,853 |
| | SPS Banora Pt | Electrical Upgrade | | | Augment | 2036 | \$19,216 | | \$19,216 |
| | SPS 2000 Tweed Heads Regional | SPS New | | | Augment | 2007 | \$1,900,000 | | \$1,900,000 |
| | SPS 2002 Florence Street, West | SPS New | | | Augment | 2007 | \$200,000 | | \$200,000 |
| | SPS 2018 Gollan Drive (Park) | Mechanical Upgrade | | | Augment | 2011 | \$200,000 | | \$200,000 |
| | SPS 2018 Gollan Drive (Park) | Electrical Upgrade | | | Augment | 2011 | \$100,000 | | \$100,000 |
| | SPS 2046 Cobaki Broadwater Village | Mechanical Upgrade | | | Augment | 2009 | \$30,000 | | \$30,000 |
| | SPS 2052 Piggabeen Rd (Regional) | Estimate Only | | | Augment | 2020 | \$720,000 | | \$720,000 |
| | SPS 3006 Darlington Drive (South) | Mechanical Upgrade | | | Augment | 2007 | \$6,000 | | \$6,000 |
| | SPS 3006 Darlington Drive (South) | Mechanical Upgrade | | | Augment | 2010 | \$160,000 | | \$160,000 |
| | SPS 3021 Fraser Drive | Mechanical Upgrade | | | Augment | 2009 | \$70,000 | | \$70,000 |
| | SPS 3021 Fraser Drive | Electrical Upgrade | | | Augment | 2009 | \$50,000 | | \$50,000 |
| | SPS 3028 Enterprise Ave | Mechanical Upgrade | | | Augment | 2008 | \$80,000 | | \$80,000 |
| | SPS 3028 Enterprise Ave | Electrical Upgrade | | | Augment | 2008 | \$120,000 | | \$120,000 |
| | SPS 3032 Sullivans (Future Regional) | SPS New | | | Augment | 2012 | \$190,000 | | \$190,000 |
| | SPS 3033 Henry Lawson Drive | Mechanical Upgrade | | | Augment | 2008 | \$50,000 | | \$50,000 |
| | SPS 3037 Terranora Area E Regional (Future) | SPS New | | | Augment | 2012 | \$100,000 | | \$100,000 |
| | SPS 3037 Terranora Area E Regional (Future) | SPS New | | | Augment | 2015 | \$160,000 | | \$160,000 |

Future Works

Catchment Banora Point sewer

Year of Calculation 2006

Cut-off Year 2036

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|---------------|------------------|-----------|-------------|------------|--------------|-------------------|------------|-----|------------------|
| SRM Banora Pt | Land Acquisition | | | | Augment | 2007 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2008 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2009 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2010 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2011 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2012 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2013 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2014 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2015 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2016 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2017 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2018 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2019 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2020 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2021 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2022 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2023 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2024 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2025 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2026 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2027 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2028 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2029 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2030 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2031 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2032 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2033 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2034 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2035 | \$5,000 | | \$5,000 |
| SRM Banora Pt | Land Acquisition | | | | Augment | 2036 | \$5,000 | | \$5,000 |
| Banora Pt | SRM New | | | | Augment | 2008 | \$25,000 | | \$25,000 |
| Banora Pt | SRM New | | | | Augment | 2009 | \$25,000 | | \$25,000 |
| Banora Pt | SRM New | | | | Augment | 2010 | \$25,750 | | \$25,750 |
| Banora Pt | SRM New | | | | Augment | 2011 | \$26,523 | | \$26,523 |
| Banora Pt | SRM New | | | | Augment | 2012 | \$27,318 | | \$27,318 |
| Banora Pt | SRM New | | | | Augment | 2013 | \$28,138 | | \$28,138 |
| Banora Pt | SRM New | | | | Augment | 2014 | \$28,982 | | \$28,982 |
| Banora Pt | SRM New | | | | Augment | 2015 | \$29,851 | | \$29,851 |
| Banora Pt | SRM New | | | | Augment | 2016 | \$30,747 | | \$30,747 |
| Banora Pt | SRM New | | | | Augment | 2017 | \$31,669 | | \$31,669 |
| Banora Pt | SRM New | | | | Augment | 2018 | \$32,522 | | \$32,522 |
| Banora Pt | SRM New | | | | Augment | 2019 | \$33,381 | | \$33,381 |
| Banora Pt | SRM New | | | | Augment | 2020 | \$34,247 | | \$34,247 |
| Banora Pt | SRM New | | | | Augment | 2021 | \$35,119 | | \$35,119 |
| Banora Pt | SRM New | | | | Augment | 2022 | \$35,997 | | \$35,997 |
| Banora Pt | SRM New | | | | Augment | 2023 | \$36,880 | | \$36,880 |
| Banora Pt | SRM New | | | | Augment | 2024 | \$37,768 | | \$37,768 |
| Banora Pt | SRM New | | | | Augment | 2025 | \$38,661 | | \$38,661 |
| Banora Pt | SRM New | | | | Augment | 2026 | \$39,558 | | \$39,558 |
| Banora Pt | SRM New | | | | Augment | 2027 | \$40,459 | | \$40,459 |
| Banora Pt | SRM New | | | | Augment | 2028 | \$41,363 | | \$41,363 |
| Banora Pt | SRM New | | | | Augment | 2029 | \$42,271 | | \$42,271 |
| Banora Pt | SRM New | | | | Augment | 2030 | \$43,181 | | \$43,181 |
| Banora Pt | SRM New | | | | Augment | 2031 | \$44,094 | | \$44,094 |
| Banora Pt | SRM New | | | | Augment | 2032 | \$45,009 | | \$45,009 |
| Banora Pt | SRM New | | | | Augment | 2033 | \$45,926 | | \$45,926 |
| Banora Pt | SRM New | | | | Augment | 2034 | \$46,845 | | \$46,845 |
| Banora Pt | SRM New | | | | Augment | 2035 | \$47,764 | | \$47,764 |
| Banora Pt | SRM New | | | | Augment | 2036 | \$48,685 | | \$48,685 |
| Banora Pt | SRM Upgrade | | | | Augment | 2008 | \$10,000 | | \$10,000 |
| Banora Pt | SRM Upgrade | | | | Augment | 2009 | \$10,000 | | \$10,000 |
| Banora Pt | SRM Upgrade | | | | Augment | 2010 | \$10,300 | | \$10,300 |
| Banora Pt | SRM Upgrade | | | | Augment | 2011 | \$10,609 | | \$10,609 |
| Banora Pt | SRM Upgrade | | | | Augment | 2012 | \$10,925 | | \$10,925 |
| Banora Pt | SRM Upgrade | | | | Augment | 2013 | \$11,253 | | \$11,253 |
| Banora Pt | SRM Upgrade | | | | Augment | 2014 | \$11,590 | | \$11,590 |
| Banora Pt | SRM Upgrade | | | | Augment | 2015 | \$11,940 | | \$11,940 |
| Banora Pt | SRM Upgrade | | | | Augment | 2016 | \$12,298 | | \$12,298 |
| Banora Pt | SRM Upgrade | | | | Augment | 2017 | \$12,667 | | \$12,667 |
| Banora Pt | SRM Upgrade | | | | Augment | 2018 | \$13,008 | | \$13,008 |
| Banora Pt | SRM Upgrade | | | | Augment | 2019 | \$13,352 | | \$13,352 |
| Banora Pt | SRM Upgrade | | | | Augment | 2020 | \$13,698 | | \$13,698 |
| Banora Pt | SRM Upgrade | | | | Augment | 2021 | \$14,047 | | \$14,047 |
| Banora Pt | SRM Upgrade | | | | Augment | 2022 | \$14,398 | | \$14,398 |
| Banora Pt | SRM Upgrade | | | | Augment | 2023 | \$14,751 | | \$14,751 |
| Banora Pt | SRM Upgrade | | | | Augment | 2024 | \$15,107 | | \$15,107 |
| Banora Pt | SRM Upgrade | | | | Augment | 2025 | \$15,464 | | \$15,464 |
| Banora Pt | SRM Upgrade | | | | Augment | 2026 | \$15,822 | | \$15,822 |
| Banora Pt | SRM Upgrade | | | | Augment | 2027 | \$16,183 | | \$16,183 |
| Banora Pt | SRM Upgrade | | | | Augment | 2028 | \$16,544 | | \$16,544 |
| Banora Pt | SRM Upgrade | | | | Augment | 2029 | \$16,907 | | \$16,907 |
| Banora Pt | SRM Upgrade | | | | Augment | 2030 | \$17,272 | | \$17,272 |
| Banora Pt | SRM Upgrade | | | | Augment | 2031 | \$17,637 | | \$17,637 |
| Banora Pt | SRM Upgrade | | | | Augment | 2032 | \$18,003 | | \$18,003 |
| Banora Pt | SRM Upgrade | | | | Augment | 2033 | \$18,370 | | \$18,370 |
| Banora Pt | SRM Upgrade | | | | Augment | 2034 | \$18,737 | | \$18,737 |
| Banora Pt | SRM Upgrade | | | | Augment | 2035 | \$19,105 | | \$19,105 |
| Banora Pt | SRM Upgrade | | | | Augment | 2036 | \$19,473 | | \$19,473 |

Future Works

| | |
|---------------------|--------------------|
| Catchment | Banora Point sewer |
| Year of Calculation | 2006 |

Cut-off Year 2036

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|------|--|--------------------------------|-------------|------------|--------------|-------------------|---------------------|-----|---------------------|
| | SRM 2000 Tweed Heads Regional | SRM New | | | Augment | 2007 | \$695,000 | | \$695,000 |
| | SRM 2002 Florence Street, West | SRM Upgrade | | | Augment | 2007 | \$65,000 | | \$65,000 |
| | SRM 2003 Beryl Street | SRM Upgrade | | | Augment | 2008 | \$100,000 | | \$100,000 |
| | SRM 2003 Beryl Street | SRM Upgrade | | | Augment | 2009 | \$122,000 | | \$122,000 |
| | SRM 2018 Gollan Drive (Park) | SRM Upgrade | | | Augment | 2007 | \$1,723,825 | | \$1,723,825 |
| | SRM 2018 Gollan Drive (Park) | SRM Upgrade | | | Augment | 2027 | \$1,584,000 | | \$1,584,000 |
| | SRM 2032 Caloola Drive | SRM New | | | Augment | 2008 | \$97,500 | | \$97,500 |
| | SRM 2032 Afex Park | Actuated Control Valve Upgrade | | | Augment | 2008 | \$40,000 | | \$40,000 |
| | SRM 2046 Cobaki Broadwater Village | SRM New | | | Augment | 2027 | \$120,000 | | \$120,000 |
| | SRM 2052 Piggabean Road Regional | Estimate Only | | | Augment | 2027 | \$4,320,000 | | \$4,320,000 |
| | SRM 3006 Darlington Drive (South) | SRM Upgrade | | | Augment | 2007 | \$45,000 | | \$45,000 |
| | SRM 3027 Shallow Bay Drive (Former Egg & I Site) | SRM New | | | Augment | 2007 | \$189,000 | | \$189,000 |
| | SRM 3037 Terranora Area E Regional (Future) | SRM New | | | Augment | 2012 | \$1,433,000 | | \$1,433,000 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2008 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2009 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2010 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2011 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2012 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2013 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2014 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2015 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2016 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2017 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2018 | \$12,901 | | \$12,901 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2019 | \$13,308 | | \$13,308 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2020 | \$13,721 | | \$13,721 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2021 | \$14,141 | | \$14,141 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2022 | \$14,567 | | \$14,567 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2023 | \$14,999 | | \$14,999 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2024 | \$15,437 | | \$15,437 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2025 | \$15,881 | | \$15,881 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2026 | \$16,331 | | \$16,331 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2027 | \$16,786 | | \$16,786 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2028 | \$17,247 | | \$17,247 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2029 | \$17,714 | | \$17,714 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2030 | \$18,186 | | \$18,186 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2031 | \$18,663 | | \$18,663 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2032 | \$19,146 | | \$19,146 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2033 | \$19,633 | | \$19,633 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2034 | \$20,126 | | \$20,126 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2035 | \$20,624 | | \$20,624 |
| | Banora Pt | Gravity Sewer Upgrade | | | Augment | 2036 | \$21,126 | | \$21,126 |
| | Trunk to SPS 3001 P/Hwy | Gravity Sewer Upgrade | | | Augment | 2009 | \$60,000 | | \$60,000 |
| | Trunk to SPS 3006 Darlington Dr | Gravity Sewer Upgrade | | | Augment | 2007 | \$170,000 | | \$170,000 |
| | Gollan Dr high level gravity M/H DA/1-DA/3 | Gravity Sewer Upgrade | | | Augment | 2009 | \$26,000 | | \$26,000 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2008 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2009 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2010 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2011 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2012 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2013 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2014 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2015 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2016 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2017 | \$12,500 | | \$12,500 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2018 | \$12,901 | | \$12,901 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2019 | \$13,308 | | \$13,308 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2020 | \$13,721 | | \$13,721 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2021 | \$14,141 | | \$14,141 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2022 | \$14,567 | | \$14,567 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2023 | \$14,999 | | \$14,999 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2024 | \$15,437 | | \$15,437 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2025 | \$15,881 | | \$15,881 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2026 | \$16,331 | | \$16,331 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2027 | \$16,786 | | \$16,786 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2028 | \$17,247 | | \$17,247 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2029 | \$17,714 | | \$17,714 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2030 | \$18,186 | | \$18,186 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2031 | \$18,663 | | \$18,663 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2032 | \$19,146 | | \$19,146 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2033 | \$19,633 | | \$19,633 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2034 | \$20,126 | | \$20,126 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2035 | \$20,624 | | \$20,624 |
| | Banora Pt | Gravity Sewer New | | | Augment | 2036 | \$21,126 | | \$21,126 |
| | Pearl & Florence St | Gravity Sewer New | | | Augment | 2007 | \$75,000 | | \$75,000 |
| | Data call sites Banora Pt | Gravity Sewer New | | | Augment | 2007 | \$25,000 | | \$25,000 |
| | Banora Point STP | General | | | Augment | 2011 | \$500,000 | | \$500,000 |
| | Banora Point STP | General | | | Augment | 2012 | \$5,000,000 | | \$5,000,000 |
| | Banora Point STP | General | | | Augment | 2013 | \$20,000,000 | | \$20,000,000 |
| | Banora Point STP | General | | | Augment | 2014 | \$15,000,000 | | \$15,000,000 |
| | Banora Point STP | Outfall Upgrade 125000Ep | | | Augment | 2007 | \$100,000 | | \$100,000 |
| | Banora Point STP | Outfall Upgrade 125000Ep | | | Augment | 2009 | \$2,750,000 | | \$2,750,000 |
| | Banora Point STP | Grit & Screenings Mgt | | | Augment | 2007 | \$100,000 | | \$100,000 |
| | Banora Point STP Eff Quality Upgr | Construction | | | Augment | 2010 | \$10,800,000 | | \$10,800,000 |
| | Banora Point STP Eff Quality Upgr | Construction | | | Augment | 2011 | \$8,400,000 | | \$8,400,000 |
| | Banora Point STP Eff Quality Upgr | Concept | | | Augment | 2008 | \$250,000 | | \$250,000 |
| | Banora Point STP Eff Quality Upgr | Detailed Design | | | Augment | 2009 | \$1,400,000 | | \$1,400,000 |
| | Banora Point STP Eff Quality Upgr | Aeration Upgrade | | | Augment | 2008 | \$140,000 | | \$140,000 |
| | | | | | | Total | \$76,221,399 | | \$76,221,399 |



DEVELOPER CHARGES MODEL

Kingscliffe sewer

Year : 2006

Calculation of Capital Cost

Catchment Kingscliffe sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|------|---|------------------------|
| 1996 | 12,318,898 | 1668 |
| 1997 | | 65 |
| 1998 | | 65 |
| 1999 | | 65 |
| 2000 | | 65 |
| 2001 | | 65 |
| 2002 | | 344 |
| 2003 | | 344 |
| 2004 | | 344 |
| 2005 | | 344 |
| 2006 | | 344 |
| 2007 | | 344 |
| 2008 | | 345 |
| 2009 | | 344 |
| 2010 | | 237 |
| 2011 | | 236 |
| 2012 | | 236 |
| 2013 | | 236 |
| 2014 | | 237 |
| 2015 | | 236 |
| 2016 | | 236 |
| 2017 | | 236 |
| 2018 | | 236 |
| 2019 | | 237 |
| 2020 | | 235 |
| 2021 | | 237 |
| 2022 | | 236 |
| 2023 | | 237 |
| 2024 | | 235 |
| 2025 | | 236 |
| 2026 | | 236 |
| 2027 | | 237 |
| 2028 | | 235 |
| 2029 | | 236 |
| 2030 | | 237 |
| 2031 | | 236 |
| 2032 | | 301 |
| 2033 | | 300 |
| 2034 | | 301 |
| 2035 | | 300 |
| 2036 | | 300 |
| | NPV CHARGE (\$/ET) | 1735 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 1668 |
| 1997 | 0 | 65 |
| 1998 | 496,858 | 65 |
| 1999 | 153,698 | 65 |
| 2000 | 52,125 | 65 |
| 2001 | 135,726 | 65 |
| 2002 | 0 | 344 |
| 2003 | 113,561 | 344 |
| 2004 | 1,166,989 | 344 |
| 2005 | 121,161 | 344 |
| 2006 | 8,735,172 | 344 |
| 2007 | 0 | 344 |
| 2008 | 0 | 345 |
| 2009 | 0 | 344 |
| 2010 | 0 | 237 |
| 2011 | 0 | 236 |
| 2012 | 0 | 236 |
| 2013 | 0 | 236 |
| 2014 | 0 | 237 |
| 2015 | 0 | 236 |
| 2016 | 0 | 236 |
| 2017 | 0 | 236 |
| 2018 | 0 | 236 |
| 2019 | 0 | 237 |
| 2020 | 0 | 235 |
| 2021 | 0 | 237 |
| 2022 | 0 | 236 |
| 2023 | 0 | 237 |
| 2024 | 0 | 235 |
| 2025 | 0 | 236 |
| 2026 | 0 | 236 |
| 2027 | 0 | 237 |
| 2028 | 0 | 235 |
| 2029 | 0 | 236 |
| 2030 | 0 | 237 |
| 2031 | 0 | 236 |
| 2032 | 0 | 301 |
| 2033 | 0 | 300 |
| 2034 | 0 | 301 |
| 2035 | 0 | 300 |
| 2036 | 0 | 300 |
| | NPV CHARGE (\$/ET) | 1294 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 1668 |
| 1997 | 0 | 65 |
| 1998 | 0 | 65 |
| 1999 | 0 | 65 |
| 2000 | 0 | 65 |
| 2001 | 0 | 65 |
| 2002 | 0 | 344 |
| 2003 | 0 | 344 |
| 2004 | 0 | 344 |
| 2005 | 0 | 344 |
| 2006 | 0 | 344 |
| 2007 | 30,233,418 | 344 |
| 2008 | 13,274,000 | 345 |
| 2009 | 1,283,000 | 344 |
| 2010 | 1,339,630 | 237 |
| 2011 | 1,805,279 | 236 |
| 2012 | 1,680,946 | 236 |
| 2013 | 171,635 | 236 |
| 2014 | 572,343 | 237 |
| 2015 | 15,073,075 | 236 |
| 2016 | 15,073,827 | 236 |
| 2017 | 74,601 | 236 |
| 2018 | 6,076,240 | 236 |
| 2019 | 77,901 | 237 |
| 2020 | 79,577 | 235 |
| 2021 | 81,272 | 237 |
| 2022 | 82,982 | 236 |
| 2023 | 84,710 | 237 |
| 2024 | 86,455 | 235 |
| 2025 | 88,217 | 236 |
| 2026 | 89,990 | 236 |
| 2027 | 91,783 | 237 |
| 2028 | 93,585 | 235 |
| 2029 | 95,401 | 236 |
| 2030 | 97,231 | 237 |
| 2031 | 99,075 | 236 |
| 2032 | 100,928 | 301 |
| 2033 | 102,794 | 300 |
| 2034 | 104,671 | 301 |
| 2035 | 106,556 | 300 |
| 2036 | 108,453 | 300 |
| | NPV CHARGE (\$/ET) | 7047 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$10,076

Demand Profile

Catchment

Kingscliffe sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 918 | |
| 1971 | 1120 | 202 |
| 1972 | 1188 | 68 |
| 1973 | 1261 | 72 |
| 1974 | 1337 | 77 |
| 1975 | 1419 | 81 |
| 1976 | 1505 | 86 |
| 1977 | 1544 | 39 |
| 1978 | 1584 | 40 |
| 1979 | 1624 | 41 |
| 1980 | 1666 | 42 |
| 1981 | 1709 | 43 |
| 1982 | 1744 | 35 |
| 1983 | 1780 | 36 |
| 1984 | 1817 | 37 |
| 1985 | 1855 | 38 |
| 1986 | 1893 | 38 |
| 1987 | 1996 | 103 |
| 1988 | 2104 | 108 |
| 1989 | 2218 | 114 |
| 1990 | 2338 | 120 |
| 1991 | 2465 | 127 |
| 1992 | 2489 | 24 |
| 1993 | 2514 | 24 |
| 1994 | 2538 | 24 |
| 1995 | 2562 | 24 |
| 1996 | 2586 | 24 |
| 1997 | 2651 | 65 |
| 1998 | 2716 | 65 |
| 1999 | 2781 | 65 |
| 2000 | 2846 | 65 |
| 2001 | 2911 | 65 |
| 2002 | 3255 | 344 |
| 2003 | 3599 | 344 |
| 2004 | 3944 | 344 |
| 2005 | 4288 | 344 |
| 2006 | 4632 | 344 |
| 2007 | 4976 | 344 |
| 2008 | 5321 | 345 |
| 2009 | 5665 | 344 |
| 2010 | 5902 | 237 |
| 2011 | 6138 | 236 |
| 2012 | 6374 | 236 |
| 2013 | 6610 | 236 |
| 2014 | 6847 | 237 |
| 2015 | 7083 | 236 |
| 2016 | 7319 | 236 |
| 2017 | 7555 | 236 |
| 2018 | 7791 | 236 |
| 2019 | 8028 | 237 |
| 2020 | 8263 | 235 |
| 2021 | 8500 | 237 |
| 2022 | 8736 | 236 |
| 2023 | 8973 | 237 |
| 2024 | 9208 | 235 |
| 2025 | 9444 | 236 |
| 2026 | 9680 | 236 |
| 2027 | 9917 | 237 |
| 2028 | 10152 | 235 |
| 2029 | 10388 | 236 |
| 2030 | 10625 | 237 |
| 2031 | 10861 | 236 |
| 2032 | 11162 | 301 |
| 2033 | 11462 | 300 |
| 2034 | 11763 | 301 |
| 2035 | 12063 | 300 |
| 2036 | 12363 | 300 |

Existing Assets

Catchment

Kingscliffe sewer

Year of Calculation

2006

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year | |
|---------------------|--------------------------|------------|----------|--------------|-------------------|--------------|---------------|-------------------------|---------------|------|
| Manholes | Manhole | | | Augment | 30/06/1967 | \$65,800 | 100% | \$65,800 | 1967 | |
| | Manhole | | | Augment | 30/06/1972 | \$824,400 | 100% | \$824,400 | 1972 | |
| | Manhole | | | Augment | 30/06/1982 | \$9,000 | 100% | \$9,000 | 1982 | |
| | Manhole | | | Augment | 30/06/1986 | \$464,800 | 100% | \$464,800 | 1986 | |
| | Manhole | | | Augment | 30/06/1989 | \$80,400 | 100% | \$80,400 | 1989 | |
| | Manhole | | | Augment | 30/06/1993 | \$152,400 | 100% | \$152,400 | 1993 | |
| | Manhole | | | Augment | 30/06/1998 | \$9,000 | 100% | \$9,000 | 1998 | |
| | Manhole | | | Augment | 30/06/2001 | \$36,000 | 100% | \$36,000 | 2001 | |
| | Manhole | | | Augment | 30/06/2003 | \$59,000 | 100% | \$59,000 | 2003 | |
| | Manhole | | | Augment | 1/07/1967 | \$115,311 | 100% | \$115,311 | 1967 | |
| Gravity Pipes | 225mm | | | Augment | 1/07/1972 | \$1,454,959 | 100% | \$1,454,959 | 1972 | |
| | 300mm | | | Augment | 1/07/1972 | \$631,871 | 100% | \$631,871 | 1972 | |
| | 225mm | | | Augment | 1/07/1982 | \$24,161 | 100% | \$24,161 | 1982 | |
| | 150mm | | | Augment | 1/07/1986 | \$136,849 | 100% | \$136,849 | 1986 | |
| | 225mm | | | Augment | 1/07/1986 | \$1,146,765 | 100% | \$1,146,765 | 1986 | |
| | 225mm | | | Augment | 1/07/1989 | \$175,044 | 100% | \$175,044 | 1989 | |
| | 225mm | | | Augment | 1/07/1993 | \$268,286 | 100% | \$268,286 | 1993 | |
| | 300mm | | | Augment | 1/07/2001 | \$94,055 | 100% | \$94,055 | 2001 | |
| | 225mm | | | Augment | 1/07/2003 | \$54,561 | 100% | \$54,561 | 2003 | |
| | 100mm | | | Augment | 1/07/1970 | \$60,021 | 13% | \$7,503 | 1970 | |
| | 150mm | | | Augment | 3/07/1970 | \$2,515 | 13% | \$314 | 1970 | |
| | 225mm | | | Augment | 6/07/1970 | \$234,089 | 13% | \$29,261 | 1970 | |
| | 100mm | | | Augment | 1/07/1971 | \$19,328 | 50% | \$9,664 | 1971 | |
| | 150mm | | | Augment | 1/07/1972 | \$6,704 | 13% | \$838 | 1972 | |
| 200mm | | | Augment | 3/07/1972 | \$5,609 | 13% | \$701 | 1972 | | |
| 450mm | | | Augment | 1/07/1979 | \$2,019,021 | 50% | \$1,009,511 | 1979 | | |
| 150mm | | | Augment | 1/07/1986 | \$332,471 | 13% | \$41,559 | 1986 | | |
| 200mm | | | Augment | 1/07/1986 | \$1,760,624 | 13% | \$220,078 | 1986 | | |
| 150mm | | | Augment | 1/07/1989 | \$381,021 | 13% | \$47,628 | 1989 | | |
| 225mm | | | Augment | 3/07/1989 | \$122,828 | 13% | \$15,354 | 1989 | | |
| 300mm | | | Augment | 1/07/1994 | \$191,931 | 13% | \$23,991 | 1994 | | |
| 200mm | | | Augment | 1/07/1999 | \$307,395 | 50% | \$153,698 | 1999 | | |
| 150mm | | | Augment | 1/07/2000 | \$104,250 | 50% | \$52,125 | 2000 | | |
| 150mm | | | Augment | 1/07/2001 | \$2,627 | 13% | \$328 | 2001 | | |
| 200mm | | | Augment | 4/07/2001 | \$42,742 | 13% | \$5,343 | 2001 | | |
| 500mm | | | Augment | 1/07/2005 | \$238,385 | 100% | \$119,193 | 2005 | | |
| 600mm | | | Augment | 3/07/2005 | \$3,937 | 100% | \$1,969 | 2005 | | |
| 150mm | | | Augment | 1/07/2006 | \$4,137 | 13% | \$517 | 2006 | | |
| 200mm | | | Augment | 1/07/2006 | \$76,661 | 13% | \$9,583 | 2006 | | |
| Various | | | Augment | 1/07/2006 | \$275,477 | 100% | \$275,477 | 2006 | | |
| Sewer Pump Stations | SPS 4001 | | | Augment | 30/06/1970 | \$297,207 | 50% | \$148,604 | 1970 | |
| | SPS 4002 | | | Augment | 30/06/1970 | \$541,751 | 29% | \$158,011 | 1970 | |
| | SPS 4003 | | | Augment | 30/06/1970 | \$217,388 | 50% | \$108,694 | 1970 | |
| | SPS 4005 | | | Augment | 30/06/1970 | \$2,505,121 | 50% | \$1,252,561 | 1970 | |
| | SPS 4005 | | | Augment | 30/06/2006 | \$80,246 | 100% | \$80,246 | 2006 | |
| | SPS 4006 | | | Augment | 30/06/1972 | \$692,942 | 50% | \$346,471 | 1972 | |
| | SPS 4007 | | | Augment | 30/06/1972 | \$536,437 | 50% | \$268,219 | 1972 | |
| | SPS 4008 | | | Augment | 30/06/1989 | \$632,668 | 13% | \$79,084 | 1989 | |
| | SPS 4011 | | | Augment | 30/06/1976 | \$385,228 | 50% | \$192,614 | 1976 | |
| | SPS 4015 | | | Augment | 30/06/1986 | \$731,658 | 50% | \$365,829 | 1986 | |
| | SPS 4016 | | | Augment | 30/06/1986 | \$307,106 | 50% | \$153,553 | 1986 | |
| | SPS 4017 | | | Augment | 30/06/1986 | \$379,903 | 50% | \$189,952 | 1986 | |
| | SPS 4020 | | | Augment | 30/06/1986 | \$280,478 | 50% | \$140,239 | 1986 | |
| | Sewerage Treatment Plant | General | | | Augment | 30/06/1970 | \$1,419,549 | 50% | \$709,775 | 1970 |
| | | General | | | Augment | 30/06/1987 | \$2,497,697 | 50% | \$1,248,849 | 1987 |
| | | General | | | Augment | 1/07/1998 | \$975,715 | 50% | \$487,858 | 1998 |
| General | | | | Augment | 30/06/2004 | \$2,333,978 | 50% | \$1,166,989 | 2004 | |
| New Plant | | | | Augment | 30/06/2006 | \$8,369,350 | 100% | \$8,369,350 | 2006 | |
| | | | | | | \$35,178,856 | | \$23,294,187 | | |

Future Works

| Catchment | | Kingscliffe sewer | | | | | | | |
|---------------------|----------------|--------------------|-------------|--------------|--------------|-------------------|------------|-----|------------------|
| Year of Calculation | | 2006 | | Cut-off Year | | 2036 | | | |
| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
| Kingscliff | SPS Kingscliff | Land Acquisition | | | Augment | 2008 | \$15,000 | 1 | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2009 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2010 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2011 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2012 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2013 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2014 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2015 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2016 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2017 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2018 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2019 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2020 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2021 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2022 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2023 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2024 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2025 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2026 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2027 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2028 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2029 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2030 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2031 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2032 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2033 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2034 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2035 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Land Acquisition | | | Augment | 2036 | \$15,000 | | \$15,000 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2007 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2008 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2009 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2010 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2011 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2012 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2013 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2014 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2015 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2016 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2017 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2018 | \$7,740 | | \$7,740 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2019 | \$7,985 | | \$7,985 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2020 | \$8,233 | | \$8,233 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2021 | \$8,485 | | \$8,485 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2022 | \$8,740 | | \$8,740 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2023 | \$8,999 | | \$8,999 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2024 | \$9,262 | | \$9,262 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2025 | \$9,529 | | \$9,529 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2026 | \$9,798 | | \$9,798 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2027 | \$10,072 | | \$10,072 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2028 | \$10,348 | | \$10,348 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2029 | \$10,628 | | \$10,628 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2030 | \$10,911 | | \$10,911 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2031 | \$11,198 | | \$11,198 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2032 | \$11,487 | | \$11,487 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2033 | \$11,780 | | \$11,780 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2034 | \$12,076 | | \$12,076 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2035 | \$12,374 | | \$12,374 |
| | SPS Kingscliff | Mechanical Upgrade | | | Augment | 2036 | \$12,676 | | \$12,676 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2007 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2008 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2009 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2010 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2011 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2012 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2013 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2014 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2015 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2016 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2017 | \$7,500 | | \$7,500 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2018 | \$7,702 | | \$7,702 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2019 | \$7,906 | | \$7,906 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2020 | \$8,111 | | \$8,111 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2021 | \$8,317 | | \$8,317 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2022 | \$8,525 | | \$8,525 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2023 | \$8,734 | | \$8,734 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2024 | \$8,944 | | \$8,944 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2025 | \$9,156 | | \$9,156 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2026 | \$9,368 | | \$9,368 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2027 | \$9,582 | | \$9,582 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2028 | \$9,796 | | \$9,796 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2029 | \$10,011 | | \$10,011 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2030 | \$10,226 | | \$10,226 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2031 | \$10,443 | | \$10,443 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2032 | \$10,659 | | \$10,659 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2033 | \$10,876 | | \$10,876 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2034 | \$11,094 | | \$11,094 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2035 | \$11,312 | | \$11,312 |
| | SPS Kingscliff | Electrical Upgrade | | | Augment | 2036 | \$11,530 | | \$11,530 |

Future Works

| Catchment | | Kingscliffe sewer | | | | | | | | |
|---------------------|--|----------------------------------|-------------|------------|-------------------|-------------------|---------------------|-----|---------------------|--|
| Year of Calculation | | 2006 | | | Cut-off Year 2036 | | | | | |
| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST | |
| | SRM 4003 Ocean Street | SRM New | | | Augment | 2007 | \$169,000 | | \$169,000 | |
| | SRM 4005 Kingscliff Street | SRM New | | | Augment | 2007 | \$150,000 | | \$150,000 | |
| | SRM 4006 Waugh Street | SRM New | | | Augment | 2007 | \$28,000 | | \$28,000 | |
| | SRM 4008 Chinderah Road | SRM New | | | Augment | 2007 | \$110,000 | | \$110,000 | |
| | SRM 4009 Vulcan Street | SRM New | | | Augment | 2007 | \$160,000 | | \$160,000 | |
| | SRM 4011 Chinderah Industrial Est. Morton Street | SRM New | | | Augment | 2007 | \$44,000 | | \$44,000 | |
| | SRM 4022 Ibis Court | SRM New | | | Augment | 2008 | \$118,000 | | \$118,000 | |
| | SRM 4023 Kings Forest Regional (Future) | SRM New | | | Augment | 2007 | \$60,000 | | \$60,000 | |
| | SRM 4023 Kings Forest Regional (Future) | SRM New | | | Augment | 2009 | \$1,150,000 | | \$1,150,000 | |
| | SRM 4023 Kings Forest Regional (Future) | SRM New | | | Augment | 2010 | \$1,150,000 | | \$1,150,000 | |
| | SRM 4023 Kings Forest Regional (Future) | SRM New | | | Augment | 2011 | \$1,610,000 | 1 | \$1,610,000 | |
| | SRM 4023 Kings Forest Regional (Future) | SRM New | | | Augment | 2012 | \$1,610,000 | 1 | \$1,610,000 | |
| | SRM 4025 Coast Road Casuarina Beach Sub Regional | SRM New | | | Augment | 2008 | \$631,000 | 1 | \$631,000 | |
| | SRM 4030 Salt | SRM New | | | Augment | 2007 | \$60,000 | 1 | \$60,000 | |
| | SRM 4034 Cnr Phillip & Ozone Sts | SRM New | | | Augment | 2007 | \$557,000 | 1 | \$557,000 | |
| | SRM 4035 Cnr Elrond & Turnock | SRM New | | | Augment | 2008 | \$280,000 | | \$280,000 | |
| | SRM 4040 Noble Park | SRM New | | | Augment | 2007 | \$13,000 | | \$13,000 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2008 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2009 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2010 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2011 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2012 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2013 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2014 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2015 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2016 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2017 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2018 | \$7,740 | | \$7,740 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2019 | \$7,985 | | \$7,985 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2020 | \$8,233 | | \$8,233 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2021 | \$8,485 | | \$8,485 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2022 | \$8,740 | | \$8,740 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2023 | \$8,999 | | \$8,999 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2024 | \$9,262 | | \$9,262 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2025 | \$9,529 | | \$9,529 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2026 | \$9,798 | | \$9,798 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2027 | \$10,072 | | \$10,072 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2028 | \$10,348 | | \$10,348 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2029 | \$10,628 | | \$10,628 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2030 | \$10,911 | | \$10,911 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2031 | \$11,198 | | \$11,198 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2032 | \$11,487 | | \$11,487 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2033 | \$11,780 | | \$11,780 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2034 | \$12,076 | | \$12,076 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2035 | \$12,374 | | \$12,374 | |
| | Kingscliff | Gravity Sewer Upgrade | | | Augment | 2036 | \$12,676 | | \$12,676 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2008 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2009 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2010 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2011 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2012 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2013 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2014 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2015 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2016 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2017 | \$7,500 | | \$7,500 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2018 | \$7,740 | | \$7,740 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2019 | \$7,985 | | \$7,985 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2020 | \$8,233 | | \$8,233 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2021 | \$8,485 | | \$8,485 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2022 | \$8,740 | | \$8,740 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2023 | \$8,999 | | \$8,999 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2024 | \$9,262 | | \$9,262 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2025 | \$9,529 | | \$9,529 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2026 | \$9,798 | | \$9,798 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2027 | \$10,072 | | \$10,072 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2028 | \$10,348 | | \$10,348 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2029 | \$10,628 | | \$10,628 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2030 | \$10,911 | | \$10,911 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2031 | \$11,198 | | \$11,198 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2032 | \$11,487 | | \$11,487 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2033 | \$11,780 | | \$11,780 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2034 | \$12,076 | | \$12,076 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2035 | \$12,374 | | \$12,374 | |
| | Kingscliff | Gravity Sewer New | | | Augment | 2036 | \$12,676 | | \$12,676 | |
| | Turnock St Ext Kcliff High to SPS 4035 | Gravity Sewer New | | | Augment | 2007 | \$100,000 | | \$100,000 | |
| | Turnock St Ext Kcliff High to SPS 4035 | Gravity Sewer New | | | Augment | 2008 | \$134,000 | | \$134,000 | |
| | Data call sites Kingscliff | Gravity Sewer New | | | Augment | 2007 | \$15,000 | | \$15,000 | |
| | Kingscliff STP | Construction | | | Augment | 2007 | \$26,000,000 | | \$26,000,000 | |
| | Kingscliff STP | Construction | | | Augment | 2008 | \$12,000,000 | | \$12,000,000 | |
| | Kingscliff STP | Construction | | | Augment | 2014 | \$500,000 | | \$500,000 | |
| | Kingscliff STP | Construction | | | Augment | 2015 | \$15,000,000 | | \$15,000,000 | |
| | Kingscliff STP | Construction | | | Augment | 2016 | \$15,000,000 | | \$15,000,000 | |
| | Kingscliff STP | Construction | | | Augment | 2018 | \$6,000,000 | | \$6,000,000 | |
| | Kingscliff STP | SRM new 2 x 500mm | | | Augment | 2007 | \$229,126 | | \$229,126 | |
| | Kingscliff STP | Effluent Disposal Main New 600mm | | | Augment | 2007 | \$918,892 | | \$918,892 | |
| | Kingscliff STP | Effluent main modification | | | Augment | 2007 | \$450,000 | | \$450,000 | |
| Total | | | | | | | \$84,781,660 | | \$84,781,660 | |



DEVELOPER CHARGES MODEL

Hastings Point sewer

Year : 2006

Calculation of Capital Cost

Catchment Hastings Point sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|------|---|------------------------|
| 1996 | 8,513,113 | 2043 |
| 1997 | | 76 |
| 1998 | | 76 |
| 1999 | | 76 |
| 2000 | | 76 |
| 2001 | | 76 |
| 2002 | | 140 |
| 2003 | | 140 |
| 2004 | | 140 |
| 2005 | | 140 |
| 2006 | | 140 |
| 2007 | | 140 |
| 2008 | | 141 |
| 2009 | | 139 |
| 2010 | | 141 |
| 2011 | | 140 |
| 2012 | | 141 |
| 2013 | | 140 |
| 2014 | | 140 |
| 2015 | | 141 |
| 2016 | | 140 |
| 2017 | | 140 |
| 2018 | | 140 |
| 2019 | | 141 |
| 2020 | | 140 |
| 2021 | | 140 |
| 2022 | | 140 |
| 2023 | | 141 |
| 2024 | | 140 |
| 2025 | | 140 |
| 2026 | | 141 |
| 2027 | | 140 |
| 2028 | | 141 |
| 2029 | | 139 |
| 2030 | | 141 |
| 2031 | | 140 |
| 2032 | | 0 |
| 2033 | | 0 |
| 2034 | | 0 |
| 2035 | | 0 |
| 2036 | | 0 |
| | NPV CHARGE (\$/ET) | 1787 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 2,432 | 2043 |
| 1997 | 0 | 76 |
| 1998 | 0 | 76 |
| 1999 | 207,851 | 76 |
| 2000 | 648,077 | 76 |
| 2001 | 1,402,710 | 76 |
| 2002 | 1,136 | 140 |
| 2003 | 240,020 | 140 |
| 2004 | 4,711,622 | 140 |
| 2005 | 1,862,720 | 140 |
| 2006 | 1,822,243 | 140 |
| 2007 | 0 | 140 |
| 2008 | 0 | 141 |
| 2009 | 0 | 139 |
| 2010 | 0 | 141 |
| 2011 | 0 | 140 |
| 2012 | 0 | 141 |
| 2013 | 0 | 140 |
| 2014 | 0 | 140 |
| 2015 | 0 | 141 |
| 2016 | 0 | 140 |
| 2017 | 0 | 140 |
| 2018 | 0 | 140 |
| 2019 | 0 | 141 |
| 2020 | 0 | 140 |
| 2021 | 0 | 140 |
| 2022 | 0 | 140 |
| 2023 | 0 | 141 |
| 2024 | 0 | 140 |
| 2025 | 0 | 140 |
| 2026 | 0 | 141 |
| 2027 | 0 | 140 |
| 2028 | 0 | 141 |
| 2029 | 0 | 139 |
| 2030 | 0 | 141 |
| 2031 | 0 | 140 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| | NPV CHARGE (\$/ET) | 1807 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|------|-------------------------------------|------------------------|
| 1996 | 0 | 2043 |
| 1997 | 0 | 76 |
| 1998 | 0 | 76 |
| 1999 | 0 | 76 |
| 2000 | 0 | 76 |
| 2001 | 0 | 76 |
| 2002 | 0 | 140 |
| 2003 | 0 | 140 |
| 2004 | 0 | 140 |
| 2005 | 0 | 140 |
| 2006 | 0 | 140 |
| 2007 | 1,046,000 | 140 |
| 2008 | 476,000 | 141 |
| 2009 | 547,000 | 139 |
| 2010 | 881,420 | 141 |
| 2011 | 46,852 | 140 |
| 2012 | 47,297 | 141 |
| 2013 | 47,755 | 140 |
| 2014 | 48,228 | 140 |
| 2015 | 48,716 | 141 |
| 2016 | 49,217 | 140 |
| 2017 | 2,049,735 | 140 |
| 2018 | 8,530,828 | 140 |
| 2019 | 8,051,932 | 141 |
| 2020 | 53,052 | 140 |
| 2021 | 54,181 | 140 |
| 2022 | 55,324 | 140 |
| 2023 | 536,476 | 141 |
| 2024 | 57,638 | 140 |
| 2025 | 58,809 | 140 |
| 2026 | 59,994 | 141 |
| 2027 | 61,185 | 140 |
| 2028 | 62,391 | 141 |
| 2029 | 63,601 | 139 |
| 2030 | 64,821 | 141 |
| 2031 | 66,049 | 140 |
| 2032 | 67,285 | 0 |
| 2033 | 68,530 | 0 |
| 2034 | 69,779 | 0 |
| 2035 | 71,038 | 0 |
| 2036 | 72,303 | 0 |
| | NPV CHARGE (\$/ET) | 1581 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$5,176

Demand Profile

Catchment

Hastings Point sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 0 | |
| 1971 | 0 | 0 |
| 1972 | 0 | 0 |
| 1973 | 0 | 0 |
| 1974 | 0 | 0 |
| 1975 | 0 | 0 |
| 1976 | 0 | 0 |
| 1977 | 0 | 0 |
| 1978 | 0 | 0 |
| 1979 | 0 | 0 |
| 1980 | 0 | 0 |
| 1981 | 0 | 0 |
| 1982 | 0 | 0 |
| 1983 | 0 | 0 |
| 1984 | 0 | 0 |
| 1985 | 0 | 0 |
| 1986 | 1022 | 1022 |
| 1987 | 1077 | 55 |
| 1988 | 1136 | 58 |
| 1989 | 1197 | 61 |
| 1990 | 1262 | 65 |
| 1991 | 1330 | 68 |
| 1992 | 1473 | 143 |
| 1993 | 1615 | 143 |
| 1994 | 1758 | 143 |
| 1995 | 1901 | 143 |
| 1996 | 2043 | 143 |
| 1997 | 2119 | 76 |
| 1998 | 2195 | 76 |
| 1999 | 2271 | 76 |
| 2000 | 2347 | 76 |
| 2001 | 2423 | 76 |
| 2002 | 2564 | 140 |
| 2003 | 2704 | 140 |
| 2004 | 2844 | 140 |
| 2005 | 2985 | 140 |
| 2006 | 3125 | 140 |
| 2007 | 3265 | 140 |
| 2008 | 3406 | 141 |
| 2009 | 3545 | 139 |
| 2010 | 3686 | 141 |
| 2011 | 3826 | 140 |
| 2012 | 3967 | 141 |
| 2013 | 4107 | 140 |
| 2014 | 4247 | 140 |
| 2015 | 4388 | 141 |
| 2016 | 4528 | 140 |
| 2017 | 4668 | 140 |
| 2018 | 4808 | 140 |
| 2019 | 4949 | 141 |
| 2020 | 5089 | 140 |
| 2021 | 5229 | 140 |
| 2022 | 5369 | 140 |
| 2023 | 5510 | 141 |
| 2024 | 5650 | 140 |
| 2025 | 5790 | 140 |
| 2026 | 5931 | 141 |
| 2027 | 6071 | 140 |
| 2028 | 6212 | 141 |
| 2029 | 6351 | 139 |
| 2030 | 6492 | 141 |
| 2031 | 6632 | 140 |
| 2032 | 6632 | 0 |
| 2033 | 6632 | 0 |
| 2034 | 6632 | 0 |
| 2035 | 6632 | 0 |
| 2036 | 6632 | 0 |

Existing Assets

Catchment Hastings Point sewer

Year of Calculation 2006

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year | |
|--------------------------|----------------------|------------|----------|--------------|-------------------|-------------|---------------------|-------------------------|---------------------|------|
| Manholes | Manhole | | | Augment | 30/06/1986 | \$804,600 | 100% | \$804,600 | 1986 | |
| | Manhole | | | Augment | 30/06/1988 | \$9,000 | 100% | \$9,000 | 1988 | |
| | Manhole | | | Augment | 30/06/1992 | \$20,800 | 100% | \$20,800 | 1992 | |
| Gravity Pipes | 225mm | | | Augment | 1/07/1986 | \$1,543,363 | 100% | \$1,543,363 | 1986 | |
| | 300mm | | | Augment | 1/07/1986 | \$422,186 | 100% | \$422,186 | 1986 | |
| | 375mm | | | Augment | 1/07/1986 | \$433,823 | 100% | \$433,823 | 1986 | |
| | 225mm | | | Augment | 1/07/1988 | \$32,992 | 100% | \$32,992 | 1988 | |
| Sewer Rising Mains | 300mm | | | Augment | 1/07/1992 | \$18,208 | 100% | \$18,208 | 1992 | |
| | 100mm | | | Augment | 1/07/1983 | \$222,840 | 13% | \$27,855 | 1983 | |
| | 150mm | | | Augment | 1/07/1983 | \$224,808 | 13% | \$28,101 | 1983 | |
| | 200mm | | | Augment | 5/07/1983 | \$410,381 | 13% | \$51,298 | 1983 | |
| | 225mm | | | Augment | 20/07/1983 | \$1,084,336 | 13% | \$135,542 | 1983 | |
| | 250mm | | | Augment | 24/07/1983 | \$4,149 | 13% | \$519 | 1983 | |
| | 300mm | | | Augment | 27/07/1983 | \$30,564 | 13% | \$3,821 | 1983 | |
| | 375mm | | | Augment | 29/07/1983 | \$9,910 | 13% | \$1,239 | 1983 | |
| | 225mm | | | Augment | 1/07/1996 | \$19,456 | 13% | \$2,432 | 1996 | |
| | 225mm | | | Augment | 1/07/2000 | \$60,618 | 13% | \$7,577 | 2000 | |
| | 300mm | | | Augment | 1/07/2001 | \$29,149 | 100% | \$29,149 | 2001 | |
| | 200mm | | | Augment | 1/07/2002 | \$1,136 | 100% | \$1,136 | 2002 | |
| | 150mm | | | Augment | 1/07/2003 | \$155,903 | 100% | \$155,903 | 2003 | |
| | 250mm | | | Augment | 1/07/2003 | \$32,517 | 100% | \$32,517 | 2003 | |
| | 300mm | | | Augment | 1/07/2004 | \$875,206 | 50% | \$437,603 | 2004 | |
| | 375mm | | | Augment | 1/07/2004 | \$512,537 | 50% | \$256,269 | 2004 | |
| | 200mm | | | Augment | 1/07/2005 | \$75,279 | 100% | \$75,279 | 2005 | |
| | 375mm | | | Augment | 1/07/2005 | \$147,886 | 50% | \$73,943 | 2005 | |
| | 375mm | | | Augment | 1/07/2005 | \$1,712,998 | 100% | \$1,712,998 | 2005 | |
| | 150mm | | | Augment | 1/07/2006 | \$1,876 | 100% | \$1,876 | 2006 | |
| | 200mm | | | Augment | 1/07/2006 | \$464,627 | 100% | \$464,627 | 2006 | |
| | 225mm | | | Augment | 1/07/2006 | \$7,379 | 100% | \$7,379 | 2006 | |
| | 300mm | | | Augment | 1/07/2006 | \$1,885 | 100% | \$1,885 | 2006 | |
| | 375mm | | | Augment | 1/07/2006 | \$507,429 | 100% | \$507,429 | 2006 | |
| | WIP | Various | | | Augment | 30/06/2006 | \$139,227 | 100% | \$139,227 | 2006 |
| | Sewer Pump Stations | SPS 5001 | | | Augment | 30/06/2006 | \$1,994,088 | 26% | \$509,600 | 2006 |
| | | SPS 5001 | | | Augment | 30/06/2006 | \$86,225 | 100% | \$86,225 | 2006 |
| | | SPS 5003 | | | Augment | 30/06/1983 | \$660,878 | 50% | \$330,439 | 1983 |
| SPS 5005 | | | | Augment | 30/06/2001 | \$2,289,268 | 60% | \$1,373,561 | 2001 | |
| SPS 5006 | | | | Augment | 30/06/1983 | \$377,352 | 50% | \$188,676 | 1983 | |
| SPS 5008 | | | | Augment | 30/06/1983 | \$818,964 | 50% | \$409,482 | 1983 | |
| SPS 5008 | | | | Augment | 30/06/1999 | \$415,702 | 50% | \$207,851 | 1999 | |
| SPS 5009 | | | | Augment | 30/06/1983 | \$468,333 | 50% | \$234,167 | 1983 | |
| SPS 5010 | | | | Augment | 30/06/1983 | \$727,579 | 50% | \$363,790 | 1983 | |
| SPS 5011 | | | | Augment | 30/06/1983 | \$249,240 | 13% | \$31,155 | 1983 | |
| SPS 5014 | | | | Augment | 30/06/1990 | \$1,476,546 | 20% | \$295,309 | 1990 | |
| SPS 5028 | | | | Augment | 30/06/2006 | \$35,232 | 100% | \$35,232 | 2006 | |
| WIP | | BUILD | | | Augment | 19/12/1978 | \$12,750 | 50% | \$6,375 | 1978 |
| Sewerage Treatment Plant | | BUILD | | | Augment | 18/12/1981 | \$3,250 | 50% | \$1,625 | 1981 |
| | Sludge Handling | | | Augment | 17/12/1984 | \$2,810,000 | 50% | \$1,405,000 | 1984 | |
| | BUILD | | | Augment | 17/12/1984 | \$700,500 | 50% | \$350,250 | 1984 | |
| | CHEMICAL | | | Augment | 17/12/1984 | \$25,000 | 50% | \$12,500 | 1984 | |
| | IDEAT 1 | | | Augment | 17/12/1984 | \$1,200,000 | 50% | \$600,000 | 1984 | |
| | IDEAT 2 | | | Augment | 17/12/1984 | \$1,200,000 | 50% | \$600,000 | 1984 | |
| | AMMNITIES | | | Augment | 16/12/1990 | \$20,000 | 50% | \$10,000 | 1990 | |
| | BUILD | | | Augment | 16/12/1990 | \$2,000 | 50% | \$1,000 | 1990 | |
| | INLET WORKS | | | Augment | 16/12/1990 | \$280,000 | 50% | \$140,000 | 1990 | |
| | IDEAT 1 | | | Augment | 13/12/2000 | \$698,000 | 50% | \$349,000 | 2000 | |
| | IDEAT 2 | | | Augment | 13/12/2000 | \$583,000 | 50% | \$291,500 | 2000 | |
| | BUILD | | | Augment | 13/12/2000 | \$103,200 | 50% | \$51,600 | 2000 | |
| | General | | | Augment | 12/12/2004 | \$2,700,000 | 50% | \$1,350,000 | 2004 | |
| | CHEMICAL | | | Augment | 12/12/2004 | \$79,000 | 50% | \$39,500 | 2004 | |
| | Sludge Handling | | | Augment | 12/12/2004 | \$187,500 | 50% | \$93,750 | 2004 | |
| | EFFLUENT OUTFALL SPS | | | Augment | 12/12/2004 | \$280,000 | 50% | \$140,000 | 2004 | |
| | INLET WORKS | | | Augment | 12/12/2004 | \$2,495,000 | 50% | \$1,247,500 | 2004 | |
| | OUTFALL FILTER | | | Augment | 12/12/2004 | \$640,000 | 50% | \$320,000 | 2004 | |
| | RE PUMPS | | | Augment | 12/12/2004 | \$29,000 | 50% | \$14,500 | 2004 | |
| | SITE SPS | | | Augment | 12/12/2004 | \$280,000 | 50% | \$140,000 | 2004 | |
| | STORM RETURN SPS | | | Augment | 12/12/2004 | \$260,000 | 50% | \$130,000 | 2004 | |
| | SUPANATANT SPS | | | Augment | 12/12/2004 | \$335,000 | 50% | \$167,500 | 2004 | |
| | SWITCHBOARDS | | | Augment | 12/12/2004 | \$750,000 | 50% | \$375,000 | 2004 | |
| | WIP | Various | | | Augment | 30/06/2006 | \$68,763 | 100% | \$68,763 | 2006 |
| | | | | | | | \$35,358,938 | | \$19,411,924 | |



DEVELOPER CHARGES MODEL

Murwillumbah sewer

Calculation of Capital Cost

Catchment

Murwillumbah sewer

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 :
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 :
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS :

| |
|----|
| 3% |
| 7% |
| 7% |

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|--------------------|---|------------------------|
| 1996 | 12,363,869 | 2006 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 74 | 74 |
| 2003 | 74 | 74 |
| 2004 | 74 | 74 |
| 2005 | 73 | 73 |
| 2006 | 74 | 74 |
| 2007 | 73 | 73 |
| 2008 | 74 | 74 |
| 2009 | 74 | 74 |
| 2010 | 74 | 74 |
| 2011 | 73 | 73 |
| 2012 | 74 | 74 |
| 2013 | 74 | 74 |
| 2014 | 73 | 73 |
| 2015 | 75 | 75 |
| 2016 | 74 | 74 |
| 2017 | 73 | 73 |
| 2018 | 74 | 74 |
| 2019 | 74 | 74 |
| 2020 | 74 | 74 |
| 2021 | 73 | 73 |
| 2022 | 74 | 74 |
| 2023 | 74 | 74 |
| 2024 | 73 | 73 |
| 2025 | 75 | 75 |
| 2026 | 74 | 74 |
| 2027 | 74 | 74 |
| 2028 | 73 | 73 |
| 2029 | 74 | 74 |
| 2030 | 74 | 74 |
| 2031 | 73 | 73 |
| 2032 | 74 | 74 |
| 2033 | 74 | 74 |
| 2034 | 74 | 74 |
| 2035 | 74 | 74 |
| 2036 | 74 | 74 |
| NPV CHARGE (\$/ET) | | 3665 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 1,144,278 | 2006 |
| 1997 | 0 | 0 |
| 1998 | 392,328 | 0 |
| 1999 | 4,549,813 | 0 |
| 2000 | 6,088,526 | 0 |
| 2001 | 285,761 | 0 |
| 2002 | 525,624 | 74 |
| 2003 | 112,330 | 74 |
| 2004 | 292,679 | 74 |
| 2005 | 0 | 73 |
| 2006 | 755,991 | 74 |
| 2007 | 0 | 73 |
| 2008 | 0 | 74 |
| 2009 | 0 | 74 |
| 2010 | 0 | 74 |
| 2011 | 0 | 73 |
| 2012 | 0 | 74 |
| 2013 | 0 | 74 |
| 2014 | 0 | 73 |
| 2015 | 0 | 75 |
| 2016 | 0 | 74 |
| 2017 | 0 | 73 |
| 2018 | 0 | 74 |
| 2019 | 0 | 74 |
| 2020 | 0 | 74 |
| 2021 | 0 | 73 |
| 2022 | 0 | 74 |
| 2023 | 0 | 74 |
| 2024 | 0 | 73 |
| 2025 | 0 | 75 |
| 2026 | 0 | 74 |
| 2027 | 0 | 74 |
| 2028 | 0 | 73 |
| 2029 | 0 | 74 |
| 2030 | 0 | 74 |
| 2031 | 0 | 73 |
| 2032 | 0 | 74 |
| 2033 | 0 | 74 |
| 2034 | 0 | 74 |
| 2035 | 0 | 74 |
| 2036 | 0 | 74 |
| NPV CHARGE (\$/ET) | | 4103 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 0 | 2006 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 74 |
| 2003 | 0 | 74 |
| 2004 | 0 | 74 |
| 2005 | 0 | 73 |
| 2006 | 0 | 74 |
| 2007 | 543,500 | 73 |
| 2008 | 751,000 | 74 |
| 2009 | 1,317,000 | 74 |
| 2010 | 0 | 74 |
| 2011 | 0 | 73 |
| 2012 | 0 | 74 |
| 2013 | 0 | 74 |
| 2014 | 0 | 73 |
| 2015 | 0 | 75 |
| 2016 | 0 | 74 |
| 2017 | 0 | 73 |
| 2018 | 0 | 74 |
| 2019 | 0 | 74 |
| 2020 | 0 | 74 |
| 2021 | 0 | 73 |
| 2022 | 0 | 74 |
| 2023 | 0 | 74 |
| 2024 | 0 | 73 |
| 2025 | 0 | 75 |
| 2026 | 0 | 74 |
| 2027 | 0 | 74 |
| 2028 | 0 | 73 |
| 2029 | 0 | 74 |
| 2030 | 0 | 74 |
| 2031 | 0 | 73 |
| 2032 | 0 | 74 |
| 2033 | 0 | 74 |
| 2034 | 0 | 74 |
| 2035 | 0 | 74 |
| 2036 | 0 | 74 |
| NPV CHARGE (\$/ET) | | 424 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$8,192

Demand Profile

Catchment

Murwillumbah sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 1181 | |
| 1971 | 1440 | 259 |
| 1972 | 1528 | 88 |
| 1973 | 1621 | 93 |
| 1974 | 1720 | 99 |
| 1975 | 1825 | 105 |
| 1976 | 1936 | 111 |
| 1977 | 1986 | 50 |
| 1978 | 2037 | 51 |
| 1979 | 2090 | 53 |
| 1980 | 2144 | 54 |
| 1981 | 2199 | 55 |
| 1982 | 2244 | 45 |
| 1983 | 2291 | 46 |
| 1984 | 2338 | 47 |
| 1985 | 2386 | 48 |
| 1986 | 2435 | 49 |
| 1987 | 2567 | 132 |
| 1988 | 2706 | 139 |
| 1989 | 2853 | 147 |
| 1990 | 3008 | 155 |
| 1991 | 3171 | 163 |
| 1992 | 3174 | 3 |
| 1993 | 3177 | 3 |
| 1994 | 3180 | 3 |
| 1995 | 3184 | 4 |
| 1996 | 3187 | 3 |
| 1997 | 3183 | -4 |
| 1998 | 3180 | -3 |
| 1999 | 3176 | -4 |
| 2000 | 3173 | -3 |
| 2001 | 3169 | -4 |
| 2002 | 3243 | 74 |
| 2003 | 3317 | 74 |
| 2004 | 3391 | 74 |
| 2005 | 3464 | 73 |
| 2006 | 3538 | 74 |
| 2007 | 3611 | 73 |
| 2008 | 3685 | 74 |
| 2009 | 3759 | 74 |
| 2010 | 3833 | 74 |
| 2011 | 3906 | 73 |
| 2012 | 3980 | 74 |
| 2013 | 4054 | 74 |
| 2014 | 4127 | 73 |
| 2015 | 4202 | 75 |
| 2016 | 4276 | 74 |
| 2017 | 4349 | 73 |
| 2018 | 4423 | 74 |
| 2019 | 4497 | 74 |
| 2020 | 4571 | 74 |
| 2021 | 4644 | 73 |
| 2022 | 4718 | 74 |
| 2023 | 4792 | 74 |
| 2024 | 4865 | 73 |
| 2025 | 4940 | 75 |
| 2026 | 5014 | 74 |
| 2027 | 5088 | 74 |
| 2028 | 5161 | 73 |
| 2029 | 5235 | 74 |
| 2030 | 5309 | 74 |
| 2031 | 5382 | 73 |
| 2032 | 5456 | 74 |
| 2033 | 5530 | 74 |
| 2034 | 5604 | 74 |
| 2035 | 5678 | 74 |
| 2036 | 5752 | 74 |

Future Works

Catchment

Murwillumbah sewer

Year of Calculation

2006

Cut-off Year

2036

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|---------------------------------------|------------------------|-------------|------------|--------------|-------------------|--------------------|-----|--------------------|
| Murwillumbah | SPS 1002 River Street | Building Works | | | Augment | 2008 | \$100,000 | 1 | \$100,000 |
| | SPS 1002 River Street | Mechanical Upgrade | | | Augment | 2008 | \$80,000 | 1 | \$80,000 |
| | SPS 1002 River Street | Electrical Upgrade | | | Augment | 2008 | \$30,000 | | \$30,000 |
| | SPS 1005 Tweed Valley Way Buchanan St | Mechanical Upgrade | | | Augment | 2007 | \$3,500 | 1 | \$3,500 |
| | SPS 1005 Tweed Valley Way Buchanan St | Electrical Upgrade | | | Augment | 2009 | \$20,000 | | \$20,000 |
| | SPS 1010 Lundberg Drive (West) | Electrical Upgrade | | | Augment | 2007 | \$15,000 | | \$15,000 |
| | SRM 1002 River Street (West End) | SRM New | | | Augment | 2007 | \$325,000 | | \$325,000 |
| | SRM 1005 Tweed Valley Way Buchanan St | SRM New | | | Augment | 2009 | \$277,000 | | \$277,000 |
| | SRM 1010 Lundberg Drive (West) 150mm | SRM Upgrade | | | Augment | 2007 | \$200,000 | | \$200,000 |
| | SRM 1023 North Arm Road | SRM New | | | Augment | 2008 | \$541,000 | 1 | \$541,000 |
| | O'Connor Drive | Gravity Sewer New | | | Augment | 2009 | \$20,000 | 1 | \$20,000 |
| | Kielvale STP and Scheme | Investigation & Design | | | Augment | 2009 | \$1,000,000 | | \$1,000,000 |
| | | | | | | | | | |
| | | | | | | Total | \$2,611,500 | | \$2,611,500 |



DEVELOPER CHARGES MODEL

Tumblegum sewer

Year : 2006

Calculation of Capital Cost

Catchment Tumblegum sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|--------------------|---|------------------------|
| 1996 | 308,447 | 147 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 2 | 2 |
| 2003 | 2 | 2 |
| 2004 | 1 | 1 |
| 2005 | 2 | 2 |
| 2006 | 2 | 2 |
| 2007 | 3 | 3 |
| 2008 | 1 | 1 |
| 2009 | 2 | 2 |
| 2010 | 2 | 2 |
| 2011 | 2 | 2 |
| 2012 | 1 | 1 |
| 2013 | 3 | 3 |
| 2014 | 2 | 2 |
| 2015 | 2 | 2 |
| 2016 | 1 | 1 |
| 2017 | 2 | 2 |
| 2018 | 2 | 2 |
| 2019 | 3 | 3 |
| 2020 | 0 | 0 |
| 2021 | 0 | 0 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 1816 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 474,375 | 147 |
| 1997 | 0 | 0 |
| 1998 | 1,100 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 2 |
| 2003 | 0 | 2 |
| 2004 | 0 | 1 |
| 2005 | 0 | 2 |
| 2006 | 0 | 2 |
| 2007 | 0 | 3 |
| 2008 | 0 | 1 |
| 2009 | 0 | 2 |
| 2010 | 0 | 2 |
| 2011 | 0 | 2 |
| 2012 | 0 | 1 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 2 |
| 2016 | 0 | 1 |
| 2017 | 0 | 2 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 0 |
| 2021 | 0 | 0 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 2957 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 0 | 147 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 2 |
| 2003 | 0 | 2 |
| 2004 | 0 | 1 |
| 2005 | 0 | 2 |
| 2006 | 0 | 2 |
| 2007 | 0 | 3 |
| 2008 | 0 | 1 |
| 2009 | 0 | 2 |
| 2010 | 0 | 2 |
| 2011 | 0 | 2 |
| 2012 | 0 | 1 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 2 |
| 2016 | 0 | 1 |
| 2017 | 0 | 2 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 0 |
| 2021 | 0 | 0 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 0 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$4,773

Demand Profile

Catchment

Tumblegum sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 0 | |
| 1971 | 0 | 0 |
| 1972 | 0 | 0 |
| 1973 | 0 | 0 |
| 1974 | 0 | 0 |
| 1975 | 0 | 0 |
| 1976 | 0 | 0 |
| 1977 | 0 | 0 |
| 1978 | 0 | 0 |
| 1979 | 0 | 0 |
| 1980 | 0 | 0 |
| 1981 | 0 | 0 |
| 1982 | 0 | 0 |
| 1983 | 0 | 0 |
| 1984 | 0 | 0 |
| 1985 | 0 | 0 |
| 1986 | 0 | 0 |
| 1987 | 0 | 0 |
| 1988 | 0 | 0 |
| 1989 | 0 | 0 |
| 1990 | 0 | 0 |
| 1991 | 0 | 0 |
| 1992 | 0 | 0 |
| 1993 | 0 | 0 |
| 1994 | 0 | 0 |
| 1995 | 0 | 0 |
| 1996 | 147 | 147 |
| 1997 | 145 | -2 |
| 1998 | 143 | -2 |
| 1999 | 142 | -1 |
| 2000 | 140 | -2 |
| 2001 | 138 | -2 |
| 2002 | 140 | 2 |
| 2003 | 142 | 2 |
| 2004 | 143 | 1 |
| 2005 | 145 | 2 |
| 2006 | 147 | 2 |
| 2007 | 150 | 3 |
| 2008 | 151 | 1 |
| 2009 | 153 | 2 |
| 2010 | 155 | 2 |
| 2011 | 157 | 2 |
| 2012 | 158 | 1 |
| 2013 | 161 | 3 |
| 2014 | 163 | 2 |
| 2015 | 165 | 2 |
| 2016 | 166 | 1 |
| 2017 | 168 | 2 |
| 2018 | 170 | 2 |
| 2019 | 173 | 3 |
| 2020 | 173 | 0 |
| 2021 | 173 | 0 |
| 2022 | 173 | 0 |
| 2023 | 173 | 0 |
| 2024 | 173 | 0 |
| 2025 | 173 | 0 |
| 2026 | 173 | 0 |
| 2027 | 173 | 0 |
| 2028 | 173 | 0 |
| 2029 | 173 | 0 |
| 2030 | 173 | 0 |
| 2031 | 173 | 0 |
| 2032 | 173 | 0 |
| 2033 | 173 | 0 |
| 2034 | 173 | 0 |
| 2035 | 173 | 0 |
| 2036 | 173 | 0 |

Existing Assets

Catchment

Tumblegum sewer

Year of Calculation

2004

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year |
|--------------------------|-----------------|------------|----------|--------------|-------------------|--------------------|---------------|-------------------------|---------------|
| Sewer Rising Mains | 150mm | | | Augment | 1995 | \$281,645 | 50% | \$140,823 | 1995 |
| Sewer Pump Stations | SPS 6001 | | | Augment | 1995 | \$1,340,997 | 13% | \$167,625 | 1995 |
| Sewerage Treatment Plant | IDEAT 1 | | | Augment | 1996 | \$461,000 | 25% | \$115,250 | 1996 |
| | Chemical Dosing | | | Augment | 1996 | \$67,000 | 25% | \$16,750 | 1996 |
| | Effluent | | | Augment | 1996 | \$282,000 | 25% | \$70,500 | 1996 |
| | General | | | Augment | 1996 | \$525,500 | 25% | \$131,375 | 1996 |
| | Sludge Disposal | | | Augment | 1996 | \$500,000 | 25% | \$125,000 | 1996 |
| | UV Sys | | | Augment | 1996 | \$62,000 | 25% | \$15,500 | 1996 |
| | UV Sys | | | Augment | 1998 | \$4,400 | 25% | \$1,100 | 1998 |
| | | | | | | \$3,524,542 | | \$783,922 | |

Future Works

Catchment

Tumblegum sewer

Year of Calculation

2006

Cut-off Year

2036

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|---------|-----------|-------------|------------|--------------|-------------------|------------|-----|------------------|
| | | | | | Augment | | \$0 | | \$0 |
| | | | | | Augment | | \$0 | | \$0 |
| | | | | | Augment | | \$0 | | \$0 |
| Total | | | | | | | \$0 | | \$0 |



DEVELOPER CHARGES MODEL

Tyalgum sewer

Year : 2006

Calculation of Capital Cost

Catchment Tyalgum sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|--------------------|---|------------------------|
| 1996 | 698,604 | 91 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 3 | 3 |
| 2003 | 3 | 3 |
| 2004 | 2 | 2 |
| 2005 | 3 | 3 |
| 2006 | 3 | 3 |
| 2007 | 2 | 2 |
| 2008 | 3 | 3 |
| 2009 | 3 | 3 |
| 2010 | 3 | 3 |
| 2011 | 2 | 2 |
| 2012 | 3 | 3 |
| 2013 | 3 | 3 |
| 2014 | 2 | 2 |
| 2015 | 3 | 3 |
| 2016 | 2 | 2 |
| 2017 | 4 | 4 |
| 2018 | 2 | 2 |
| 2019 | 3 | 3 |
| 2020 | 2 | 2 |
| 2021 | 2 | 2 |
| 2022 | 4 | 4 |
| 2023 | 2 | 2 |
| 2024 | 3 | 3 |
| 2025 | 3 | 3 |
| 2026 | 3 | 3 |
| 2027 | 2 | 2 |
| 2028 | 3 | 3 |
| 2029 | 3 | 3 |
| 2030 | 2 | 2 |
| 2031 | 2 | 2 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 5123 |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 10,500 | 91 |
| 1997 | 0 | 0 |
| 1998 | 78,750 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 20,375 | 0 |
| 2002 | 0 | 3 |
| 2003 | 0 | 3 |
| 2004 | 0 | 2 |
| 2005 | 0 | 3 |
| 2006 | 0 | 3 |
| 2007 | 0 | 2 |
| 2008 | 0 | 3 |
| 2009 | 0 | 3 |
| 2010 | 0 | 3 |
| 2011 | 0 | 2 |
| 2012 | 0 | 3 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 3 |
| 2016 | 0 | 2 |
| 2017 | 0 | 4 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 2 |
| 2021 | 0 | 2 |
| 2022 | 0 | 4 |
| 2023 | 0 | 2 |
| 2024 | 0 | 3 |
| 2025 | 0 | 3 |
| 2026 | 0 | 3 |
| 2027 | 0 | 2 |
| 2028 | 0 | 3 |
| 2029 | 0 | 3 |
| 2030 | 0 | 2 |
| 2031 | 0 | 2 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 816 |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|--------------------|-------------------------------------|------------------------|
| 1996 | 0 | 91 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 3 |
| 2003 | 0 | 3 |
| 2004 | 0 | 2 |
| 2005 | 0 | 3 |
| 2006 | 0 | 3 |
| 2007 | 0 | 2 |
| 2008 | 0 | 3 |
| 2009 | 0 | 3 |
| 2010 | 0 | 3 |
| 2011 | 0 | 2 |
| 2012 | 0 | 3 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 3 |
| 2016 | 0 | 2 |
| 2017 | 0 | 4 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 2 |
| 2021 | 0 | 2 |
| 2022 | 0 | 4 |
| 2023 | 0 | 2 |
| 2024 | 0 | 3 |
| 2025 | 0 | 3 |
| 2026 | 0 | 3 |
| 2027 | 0 | 2 |
| 2028 | 0 | 3 |
| 2029 | 0 | 3 |
| 2030 | 0 | 2 |
| 2031 | 0 | 2 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | | 0 |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$5,939

Demand Profile

Catchment

Tyalgum sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 0 | |
| 1971 | 0 | 0 |
| 1972 | 0 | 0 |
| 1973 | 0 | 0 |
| 1974 | 0 | 0 |
| 1975 | 0 | 0 |
| 1976 | 0 | 0 |
| 1977 | 0 | 0 |
| 1978 | 0 | 0 |
| 1979 | 0 | 0 |
| 1980 | 0 | 0 |
| 1981 | 0 | 0 |
| 1982 | 0 | 0 |
| 1983 | 0 | 0 |
| 1984 | 0 | 0 |
| 1985 | 0 | 0 |
| 1986 | 0 | 0 |
| 1987 | 0 | 0 |
| 1988 | 0 | 0 |
| 1989 | 0 | 0 |
| 1990 | 0 | 0 |
| 1991 | 84 | 84 |
| 1992 | 85 | 1 |
| 1993 | 87 | 2 |
| 1994 | 88 | 1 |
| 1995 | 89 | 1 |
| 1996 | 91 | 2 |
| 1997 | 87 | -4 |
| 1998 | 84 | -3 |
| 1999 | 80 | -4 |
| 2000 | 77 | -3 |
| 2001 | 73 | -4 |
| 2002 | 76 | 3 |
| 2003 | 79 | 3 |
| 2004 | 81 | 2 |
| 2005 | 84 | 3 |
| 2006 | 87 | 3 |
| 2007 | 89 | 2 |
| 2008 | 92 | 3 |
| 2009 | 95 | 3 |
| 2010 | 98 | 3 |
| 2011 | 100 | 2 |
| 2012 | 103 | 3 |
| 2013 | 106 | 3 |
| 2014 | 108 | 2 |
| 2015 | 111 | 3 |
| 2016 | 113 | 2 |
| 2017 | 117 | 4 |
| 2018 | 119 | 2 |
| 2019 | 122 | 3 |
| 2020 | 124 | 2 |
| 2021 | 126 | 2 |
| 2022 | 130 | 4 |
| 2023 | 132 | 2 |
| 2024 | 135 | 3 |
| 2025 | 138 | 3 |
| 2026 | 141 | 3 |
| 2027 | 143 | 2 |
| 2028 | 146 | 3 |
| 2029 | 149 | 3 |
| 2030 | 151 | 2 |
| 2031 | 153 | 2 |
| 2032 | 153 | 0 |
| 2033 | 153 | 0 |

Existing Assets

Catchment

Tyalgum sewer

Year of Calculation

2006

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year |
|--------------------------|--------------|------------|----------|--------------|-------------------|--------------------|---------------|-------------------------|---------------|
| Manholes | Manhole | | | Augment | 1905 | \$63,000 | 100% | \$63,000 | #N/A |
| Gravity Pipes | 225mm | | | Augment | 1989 | \$136,852 | 100% | \$136,852 | 1989 |
| Sewer Rising Mains | 100mm | | | Augment | 1988 | \$214,952 | 50% | \$107,476 | 1988 |
| Sewer Pump Stations | SPS 7001 | | | Augment | 1988 | \$303,609 | 13% | \$37,951 | 1988 |
| Sewerage Treatment Plant | General | | | Augment | 1967 | \$8,800 | 25% | \$2,200 | 1967 |
| | General | | | Augment | 1971 | \$13,500 | 25% | \$3,375 | 1971 |
| | Effluent | | | Augment | 1988 | \$125,000 | 25% | \$31,250 | 1988 |
| | IDEAT | | | Augment | 1988 | \$812,000 | 25% | \$203,000 | 1988 |
| | IRRIGATION | | | Augment | 1988 | \$280,000 | 25% | \$70,000 | 1988 |
| | SWITCHBOARDS | | | Augment | 1988 | \$50,000 | 25% | \$12,500 | 1988 |
| | Sludge | | | Augment | 1988 | \$75,000 | 25% | \$18,750 | 1988 |
| | IDEAT 1 | | | Augment | 1991 | \$3,000 | 25% | \$750 | 1991 |
| | IRRIGATION | | | Augment | 1991 | \$6,000 | 25% | \$1,500 | 1991 |
| | IDEAT 1 | | | Augment | 1994 | \$40,000 | 25% | \$10,000 | 1994 |
| | IDEAT 1 | | | Augment | 1996 | \$15,000 | 25% | \$3,750 | 1996 |
| | IRRIGATION | | | Augment | 1996 | \$2,000 | 25% | \$500 | 1996 |
| | SWITCHBOARDS | | | Augment | 1996 | \$25,000 | 25% | \$6,250 | 1996 |
| | General | | | Augment | 1998 | \$315,000 | 25% | \$78,750 | 1998 |
| IDEAT 1 | | | Augment | 2001 | \$30,000 | 25% | \$7,500 | 2001 | |
| SWITCHBOARDS | | | Augment | 2001 | \$51,500 | 25% | \$12,875 | 2001 | |
| | | | | | | \$2,570,213 | | \$808,229 | |

Future Works

Catchment

Tyalgum sewer

Year of Calculation

2006

Cut-off Year

2031

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|---------|-----------|-------------|------------|--------------|-------------------|------------|-----|------------------|
| | | | | | Augment | | \$0 | | \$0 |
| | | | | | Augment | | \$0 | | \$0 |
| | | | | | Augment | | \$0 | | \$0 |
| Total | | | | | | | \$0 | | \$0 |



DEVELOPER CHARGES MODEL

Uki sewer

Year : 2006

Calculation of Capital Cost

Catchment Uki sewer

Year of Calculation 2006

Assumptions

DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : 3%
 DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : 7%
 DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : 7%

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|---------------------------|---|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 115 | 115 |
| 2005 | 2 | 2 |
| 2006 | 2 | 2 |
| 2007 | 2 | 2 |
| 2008 | 2 | 2 |
| 2009 | 2 | 2 |
| 2010 | 3 | 3 |
| 2011 | 2 | 2 |
| 2012 | 2 | 2 |
| 2013 | 2 | 2 |
| 2014 | 3 | 3 |
| 2015 | 2 | 2 |
| 2016 | 2 | 2 |
| 2017 | 2 | 2 |
| 2018 | 3 | 3 |
| 2019 | 3 | 3 |
| 2020 | 2 | 2 |
| 2021 | 2 | 2 |
| 2022 | 2 | 2 |
| 2023 | 2 | 2 |
| 2024 | 3 | 3 |
| 2025 | 2 | 2 |
| 2026 | 2 | 2 |
| 2027 | 2 | 2 |
| 2028 | 2 | 2 |
| 2029 | 4 | 4 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 0 | |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|---------------------------|-------------------------------------|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 1,815 | 0 |
| 2003 | 490,935 | 0 |
| 2004 | 256,300 | 115 |
| 2005 | 0 | 2 |
| 2006 | 0 | 2 |
| 2007 | 0 | 2 |
| 2008 | 0 | 2 |
| 2009 | 0 | 2 |
| 2010 | 0 | 3 |
| 2011 | 0 | 2 |
| 2012 | 0 | 2 |
| 2013 | 0 | 2 |
| 2014 | 0 | 3 |
| 2015 | 0 | 2 |
| 2016 | 0 | 2 |
| 2017 | 0 | 2 |
| 2018 | 0 | 3 |
| 2019 | 0 | 3 |
| 2020 | 0 | 2 |
| 2021 | 0 | 2 |
| 2022 | 0 | 2 |
| 2023 | 0 | 2 |
| 2024 | 0 | 3 |
| 2025 | 0 | 2 |
| 2026 | 0 | 2 |
| 2027 | 0 | 2 |
| 2028 | 0 | 2 |
| 2029 | 0 | 4 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 5564 | |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|---------------------------|-------------------------------------|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 0 | 115 |
| 2005 | 0 | 2 |
| 2006 | 0 | 2 |
| 2007 | 0 | 2 |
| 2008 | 0 | 2 |
| 2009 | 0 | 2 |
| 2010 | 0 | 3 |
| 2011 | 0 | 2 |
| 2012 | 0 | 2 |
| 2013 | 0 | 2 |
| 2014 | 0 | 3 |
| 2015 | 0 | 2 |
| 2016 | 0 | 2 |
| 2017 | 0 | 2 |
| 2018 | 0 | 3 |
| 2019 | 0 | 3 |
| 2020 | 0 | 2 |
| 2021 | 0 | 2 |
| 2022 | 0 | 2 |
| 2023 | 0 | 2 |
| 2024 | 0 | 3 |
| 2025 | 0 | 2 |
| 2026 | 0 | 2 |
| 2027 | 0 | 2 |
| 2028 | 0 | 2 |
| 2029 | 0 | 4 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 0 | |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$5,564

Demand Profile

Catchment

Uki sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 0 | |
| 1971 | 0 | 0 |
| 1972 | 0 | 0 |
| 1973 | 0 | 0 |
| 1974 | 0 | 0 |
| 1975 | 0 | 0 |
| 1976 | 0 | 0 |
| 1977 | 0 | 0 |
| 1978 | 0 | 0 |
| 1979 | 0 | 0 |
| 1980 | 0 | 0 |
| 1981 | 0 | 0 |
| 1982 | 0 | 0 |
| 1983 | 0 | 0 |
| 1984 | 0 | 0 |
| 1985 | 0 | 0 |
| 1986 | 0 | 0 |
| 1987 | 0 | 0 |
| 1988 | 0 | 0 |
| 1989 | 0 | 0 |
| 1990 | 0 | 0 |
| 1991 | 0 | 0 |
| 1992 | 0 | 0 |
| 1993 | 0 | 0 |
| 1994 | 0 | 0 |
| 1995 | 0 | 0 |
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 115 | 115 |
| 2005 | 117 | 2 |
| 2006 | 119 | 2 |
| 2007 | 121 | 2 |
| 2008 | 123 | 2 |
| 2009 | 125 | 2 |
| 2010 | 128 | 3 |
| 2011 | 130 | 2 |
| 2012 | 132 | 2 |
| 2013 | 134 | 2 |
| 2014 | 137 | 3 |
| 2015 | 139 | 2 |
| 2016 | 141 | 2 |
| 2017 | 143 | 2 |
| 2018 | 146 | 3 |
| 2019 | 149 | 3 |
| 2020 | 151 | 2 |
| 2021 | 153 | 2 |
| 2022 | 155 | 2 |
| 2023 | 157 | 2 |
| 2024 | 160 | 3 |
| 2025 | 162 | 2 |
| 2026 | 164 | 2 |
| 2027 | 166 | 2 |
| 2028 | 168 | 2 |
| 2029 | 172 | 4 |
| 2030 | 172 | 0 |
| 2031 | 172 | 0 |
| 2032 | 172 | 0 |
| 2033 | 172 | 0 |

Existing Assets

Catchment

Uki sewer

Year of Calculation

2006

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year |
|--------------------------|--------------|------------|----------|--------------|-------------------|--------------------|---------------|-------------------------|---------------|
| Sewer Rising Mains | 63mm | | | Augment | 2004 | \$36,338 | 13% | \$4,542 | 2004 |
| | 100mm | | | Augment | 2004 | \$125,400 | 13% | \$15,675 | 2004 |
| | 150mm | | | Augment | 2004 | \$690,760 | 13% | \$86,345 | 2004 |
| Sewer Pump Stations | SPS 8001 | | | Augment | 2004 | \$516,109 | 13% | \$64,514 | 2004 |
| | SPS 8002 | | | Augment | 2004 | \$454,036 | 13% | \$56,755 | 2004 |
| | SPS 8003 | | | Augment | 2004 | \$223,340 | 13% | \$27,918 | 2004 |
| Sewerage Treatment Plant | General | | | Augment | 2002 | \$7,260 | 25% | \$1,815 | 2002 |
| | Bioreator | | | Augment | 2003 | \$1,095,000 | 25% | \$273,750 | 2003 |
| | Effluent | | | Augment | 2003 | \$242,000 | 25% | \$60,500 | 2003 |
| | General | | | Augment | 2003 | \$391,740 | 25% | \$97,935 | 2003 |
| | Inlet | | | Augment | 2003 | \$85,000 | 25% | \$21,250 | 2003 |
| | SWITCHBOARDS | | | Augment | 2003 | \$150,000 | 25% | \$37,500 | 2003 |
| | General | | | Augment | 2004 | \$2,210 | 25% | \$553 | 2004 |
| | | | | | | \$4,019,193 | | \$749,050 | |

Future Works

Catchment

Uki sewer

Year of Calculation

2006

Cut-off Year

2031

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|--------------|---------|-----------|-------------|------------|--------------|-------------------|------------|-----|------------------|
| | | | | | Augment | | \$0 | 1 | \$0 |
| | | | | | Augment | | \$0 | 1 | \$0 |
| | | | | | Augment | | \$0 | 1 | \$0 |
| Total | | | | | | | \$0 | | \$0 |



DEVELOPER CHARGES MODEL

Burringbar sewer

Calculation of Capital Cost

Catchment Burringbar sewer

Assumptions

| | |
|--|----|
| DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED BEFORE 1 JANUARY 1996 : | 3% |
| DISCOUNT RATE (pa) FOR ASSETS CONSTRUCTED ON OR AFTER 1 JANUARY 1996 : | 7% |
| DISCOUNT RATE (pa) FOR PROPOSED FUTURE ASSETS : | 7% |

Existing Assets (Pre 1996)

| Year | Recoupable Capital Expenditure (MEERA \$) | Annual ET Take-up (ET) |
|---------------------------|---|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 0 | 0 |
| 2005 | 0 | 0 |
| 2006 | 0 | 0 |
| 2007 | 0 | 0 |
| 2008 | 0 | 0 |
| 2009 | 153 | 153 |
| 2010 | 2 | 2 |
| 2011 | 2 | 2 |
| 2012 | 1 | 1 |
| 2013 | 3 | 3 |
| 2014 | 2 | 2 |
| 2015 | 2 | 2 |
| 2016 | 1 | 1 |
| 2017 | 2 | 2 |
| 2018 | 2 | 2 |
| 2019 | 3 | 3 |
| 2020 | 1 | 1 |
| 2021 | 2 | 2 |
| 2022 | 2 | 2 |
| 2023 | 1 | 1 |
| 2024 | 3 | 3 |
| 2025 | 2 | 2 |
| 2026 | 2 | 2 |
| 2027 | 1 | 1 |
| 2028 | 2 | 2 |
| 2029 | 2 | 2 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 0 | |

Existing Assets (Post 1996)

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|---------------------------|-------------------------------------|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 0 | 0 |
| 2005 | 0 | 0 |
| 2006 | 134,675 | 0 |
| 2007 | 0 | 0 |
| 2008 | 0 | 0 |
| 2009 | 0 | 153 |
| 2010 | 0 | 2 |
| 2011 | 0 | 2 |
| 2012 | 0 | 1 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 2 |
| 2016 | 0 | 1 |
| 2017 | 0 | 2 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 1 |
| 2021 | 0 | 2 |
| 2022 | 0 | 2 |
| 2023 | 0 | 1 |
| 2024 | 0 | 3 |
| 2025 | 0 | 2 |
| 2026 | 0 | 2 |
| 2027 | 0 | 1 |
| 2028 | 0 | 2 |
| 2029 | 0 | 2 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 952 | |

Future Assets

| Year | Recoupable Capital Expenditure (\$) | Annual ET Take-up (ET) |
|---------------------------|-------------------------------------|------------------------|
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 0 | 0 |
| 2005 | 0 | 0 |
| 2006 | 0 | 0 |
| 2007 | 0 | 0 |
| 2008 | 500,000 | 0 |
| 2009 | 1,000,000 | 153 |
| 2010 | 4,620,000 | 2 |
| 2011 | 0 | 2 |
| 2012 | 0 | 1 |
| 2013 | 0 | 3 |
| 2014 | 0 | 2 |
| 2015 | 0 | 2 |
| 2016 | 0 | 1 |
| 2017 | 0 | 2 |
| 2018 | 0 | 2 |
| 2019 | 0 | 3 |
| 2020 | 0 | 1 |
| 2021 | 0 | 2 |
| 2022 | 0 | 2 |
| 2023 | 0 | 1 |
| 2024 | 0 | 3 |
| 2025 | 0 | 2 |
| 2026 | 0 | 2 |
| 2027 | 0 | 1 |
| 2028 | 0 | 2 |
| 2029 | 0 | 2 |
| 2030 | 0 | 0 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| NPV CHARGE (\$/ET) | 33787 | |

TOTAL NPV CAPITAL WORKS CHARGE per ET

\$34,740

Demand Profile

Catchment

Burringbar sewer

| Year | Total Demand (ET) | Annual Demand Increase (ET) |
|------|-------------------|-----------------------------|
| 1970 | 0 | |
| 1971 | 0 | 0 |
| 1972 | 0 | 0 |
| 1973 | 0 | 0 |
| 1974 | 0 | 0 |
| 1975 | 0 | 0 |
| 1976 | 0 | 0 |
| 1977 | 0 | 0 |
| 1978 | 0 | 0 |
| 1979 | 0 | 0 |
| 1980 | 0 | 0 |
| 1981 | 0 | 0 |
| 1982 | 0 | 0 |
| 1983 | 0 | 0 |
| 1984 | 0 | 0 |
| 1985 | 0 | 0 |
| 1986 | 0 | 0 |
| 1987 | 0 | 0 |
| 1988 | 0 | 0 |
| 1989 | 0 | 0 |
| 1990 | 0 | 0 |
| 1991 | 0 | 0 |
| 1992 | 0 | 0 |
| 1993 | 0 | 0 |
| 1994 | 0 | 0 |
| 1995 | 0 | 0 |
| 1996 | 0 | 0 |
| 1997 | 0 | 0 |
| 1998 | 0 | 0 |
| 1999 | 0 | 0 |
| 2000 | 0 | 0 |
| 2001 | 0 | 0 |
| 2002 | 0 | 0 |
| 2003 | 0 | 0 |
| 2004 | 0 | 0 |
| 2005 | 0 | 0 |
| 2006 | 0 | 0 |
| 2007 | 0 | 0 |
| 2008 | 0 | 0 |
| 2009 | 153 | 153 |
| 2010 | 155 | 2 |
| 2011 | 157 | 2 |
| 2012 | 158 | 1 |
| 2013 | 161 | 3 |
| 2014 | 163 | 2 |
| 2015 | 165 | 2 |
| 2016 | 166 | 1 |
| 2017 | 168 | 2 |
| 2018 | 170 | 2 |
| 2019 | 173 | 3 |
| 2020 | 174 | 1 |
| 2021 | 176 | 2 |
| 2022 | 178 | 2 |
| 2023 | 179 | 1 |
| 2024 | 182 | 3 |
| 2025 | 184 | 2 |
| 2026 | 186 | 2 |
| 2027 | 187 | 1 |
| 2028 | 189 | 2 |
| 2029 | 191 | 2 |
| 2030 | 191 | 0 |
| 2031 | 191 | 0 |
| 2032 | 191 | 0 |
| 2033 | 191 | 0 |

Existing Assets

Catchment

Burringbar sewer

| Asset Type | Description | Sub System | Asset ID | Asset Status | Date Commissioned | MEERA Value | % Recoverable | Recoverable MEERA Value | Calendar Year |
|------------|-------------|------------|----------|--------------|-------------------|-------------|---------------|-------------------------|---------------|
| | | | | Augment | 30/06/1995 | \$0 | | \$0 | 1995 |
| | | | | Augment | 30/06/1996 | \$0 | | \$0 | 1996 |
| | | | | Augment | 30/06/1997 | \$0 | | \$0 | 1997 |
| | | | | Augment | 30/06/1998 | \$0 | | \$0 | 1998 |
| | | | | Augment | 1/01/1999 | \$0 | | \$0 | 1999 |
| | | | | Augment | 1/01/2000 | \$0 | | \$0 | 2000 |
| | | | | Augment | 1/01/2001 | \$0 | | \$0 | 2001 |
| | | | | Augment | 1/01/2002 | \$0 | | \$0 | 2002 |
| | | | | Augment | 1/12/2003 | \$0 | | \$0 | 2003 |
| | | | | Augment | 1/03/2004 | \$0 | | \$0 | 2004 |
| | | | | Augment | 30/06/2005 | \$0 | | \$0 | 2005 |
| | | | | Augment | 30/06/2006 | \$134,675 | | \$134,675 | 2006 |
| | | | | | | \$134,675 | | \$134,675 | |

Future Works

Catchment

Burringbar sewer

| AREA | PROJECT | PIPE SIZE | PIPE LENGTH | ASSET TYPE | ASSET STATUS | CONSTRUCTION DATE | ASSET COST | CPI | RECOVERABLE COST |
|------|---------|-----------|-------------|------------|--------------|-------------------|--------------------|-----|--------------------|
| | | | | | Augment | 2008 | \$500,000 | | \$500,000 |
| | | | | | Augment | 2009 | \$1,000,000 | | \$1,000,000 |
| | | | | | Augment | 2010 | \$4,620,000 | | \$4,620,000 |
| | | | | | | Total | \$6,120,000 | | \$6,120,000 |

Appendix D – Reduction Amount Calculation

Sewer Reduction Amount

| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Incremental Demand (ET) | 970 | 987 | 996 | 1013 | 1020 | 1035 | 1048 | 1056 | 1071 | 1076 | 1087 | 1098 | 1108 | 1114 | 1118 |
| Cum. Total Demand (ET) | 28,518 | 29,505 | 30,501 | 31,514 | 32,534 | 33,569 | 34,617 | 35,673 | 36,744 | 37,820 | 38,907 | 40,005 | 41,113 | 42,227 | 43,345 |
| Total Income (\$) | 16,193,718 | 16,745,686 | 17,307,852 | 17,877,131 | 18,452,876 | 19,002,165 | 19,591,489 | 20,119,279 | 20,698,319 | 21,305,964 | 21,918,350 | 22,536,772 | 23,158,642 | 23,786,978 | 24,417,901 |
| Total Cost (\$) | 10,503,074 | 10,516,100 | 10,946,772 | 11,274,967 | 11,612,981 | 11,961,405 | 12,320,238 | 12,689,803 | 13,070,405 | 13,462,368 | 13,882,686 | 14,684,621 | 15,372,713 | 16,081,081 | 16,729,873 |
| Income per ET | 568 | 568 | 567 | 567 | 567 | 566 | 566 | 564 | 563 | 563 | 563 | 563 | 563 | 563 | 563 |
| Cost per ET | 368 | 356 | 359 | 358 | 357 | 356 | 356 | 356 | 356 | 356 | 357 | 367 | 374 | 381 | 386 |
| Income | 550,960 | 560,616 | 564,732 | 574,371 | 578,340 | 585,810 | 593,168 | 595,584 | 602,973 | 605,788 | 611,981 | 618,174 | 623,804 | 627,182 | 629,434 |
| Cost | 356,960 | 351,372 | 357,564 | 362,654 | 364,140 | 368,460 | 373,088 | 375,936 | 381,276 | 383,056 | 388,059 | 402,966 | 414,392 | 424,434 | 431,548 |
| Surplus/ET | 200 | 212 | 208 | 209 | 210 | 210 | 210 | 208 | 207 | 207 | 206 | 196 | 189 | 182 | 177 |
| Cum. Surplus for Incremental Demand | 193,564 | 401,959 | 609,674 | 821,898 | 1,036,343 | 1,253,424 | 1,473,556 | 1,693,489 | 1,915,829 | 2,138,980 | 2,363,489 | 2,579,005 | 2,788,838 | 2,992,132 | 3,190,431 |

NPV Operating Profit(Loss) per ET \$2.056

Sewer Reduction Amount

| Year | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Incremental Demand (ET) | 1130 | 1134 | 1143 | 1150 | 1154 | 1156 | 1164 | 1168 | 1170 | 1174 | 1177 | 1179 | 1181 | 1185 | 1183 |
| Cum. Total Demand (ET) | 44,475 | 45,609 | 46,752 | 47,902 | 49,056 | 50,212 | 51,376 | 52,544 | 53,714 | 54,888 | 56,065 | 57,244 | 58,425 | 59,610 | 60,793 |
| Total Income (\$) | 25,053,868 | 25,693,498 | 26,337,008 | 26,984,183 | 27,633,728 | 28,285,860 | 28,941,440 | 29,599,392 | 30,258,636 | 30,920,683 | 31,583,232 | 32,247,506 | 32,912,211 | 33,579,287 | 34,246,147 |
| Total Cost (\$) | 17,398,857 | 18,088,492 | 18,799,253 | 19,531,626 | 20,286,100 | 21,063,185 | 21,863,408 | 22,687,294 | 23,535,382 | 24,408,241 | 25,306,429 | 26,230,538 | 27,181,163 | 28,158,930 | 29,164,456 |
| Income per ET | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 | 563 |
| Cost per ET | 391 | 397 | 402 | 408 | 414 | 419 | 426 | 432 | 438 | 445 | 451 | 458 | 465 | 472 | 480 |
| Income | 636,190 | 638,442 | 643,509 | 647,450 | 649,702 | 650,828 | 655,332 | 657,584 | 658,710 | 660,962 | 662,651 | 663,777 | 664,903 | 667,155 | 666,029 |
| Cost | 441,830 | 450,198 | 459,486 | 469,200 | 477,756 | 484,364 | 495,864 | 504,576 | 512,460 | 522,430 | 530,827 | 539,982 | 549,165 | 559,320 | 567,840 |
| Surplus/ET | 172 | 166 | 161 | 155 | 149 | 144 | 137 | 131 | 125 | 118 | 112 | 105 | 98 | 91 | 83 |
| Cum. Surplus for Incremental Demand | 3,384,927 | 3,574,010 | 3,758,296 | 3,937,213 | 4,110,059 | 4,276,338 | 4,436,703 | 4,590,353 | 4,736,802 | 4,876,097 | 5,007,874 | 5,131,799 | 5,247,643 | 5,355,395 | 5,454,282 |