

## 8.4 PLANNING SCHEME POLICY 4 – DEVELOPMENT CONTRIBUTIONS

This planning scheme policy presents the development contributions for the cost to provide -

- 1) administration (8.4.1) \*
- 2) tree planting (8.4.2)
- 3) public open space and community purposes (8.4.3) \*
- 4) mosquito control (8.4.4)
- 5) water supply (8.4.5) \*
- 6) sewerage (8.4.6) \*
- 7) transport (8.4.7) \*
- 8) stormwater (8.4.8) \*

This Planning Scheme Policy provides for the payment of development contributions in accordance with the transitional arrangements of the *Integrated Planning Act 1997*.

\* In accordance with Section 847 of the *Sustainable Planning Act 2009*, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.

# PSP4 PART 8.4.1 DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – ADMINISTRATION POLICY

## TABLE OF CONTENTS

<b>HEAD OF POWER</b> .....	<b>1</b>
<b>OBJECTIVE</b> .....	<b>1</b>
<b>DEFINITIONS/APPLICATION</b> .....	<b>1</b>
<b>POLICY STATEMENT</b> .....	<b>1</b>
<b>1 SCOPE</b> .....	<b>1</b>
<b>2 TRUNK INFRASTRUCTURE PROVISION</b> .....	<b>2</b>
<b>3 ASSUMPTIONS IN THE PLANS FOR TRUNK INFRASTRUCTURE</b> .....	<b>4</b>
3.1 THE DESIGNATED INFRASTRUCTURE SERVICE AREA (DISA) .....	4
3.2 PLANNING ASSUMPTIONS - GENERAL .....	4
3.3 POPULATION ESTIMATES.....	4
3.4 EMPLOYMENT ESTIMATES .....	5
<b>4 DETERMINATION OF INFRASTRUCTURE CONTRIBUTIONS FOR ASSESSABLE DEVELOPMENT</b> .....	<b>7</b>
4.1 APPLICATION .....	7
4.2 ASSESSMENT OF DEVELOPMENT APPLICATIONS AGAINST ASSUMPTIONS .....	7
4.3 TYPE 1 ASSESSMENT.....	7
4.4 TYPE 2 ADDITIONAL TRUNK INFRASTRUCTURE COST (ATIC) ASSESSMENT .....	8
4.5 INFRASTRUCTURE SPECIFIC INFORMATION TO BE SUPPLIED WITH DEVELOPMENT APPLICATIONS .....	9
4.6 TIME FOR PAYMENT OF INFRASTRUCTURE CONTRIBUTIONS INCLUDING CONTRIBUTIONS FOR ATIC .....	9
<b>5 CALCULATION OF INFRASTRUCTURE CONTRIBUTIONS</b> .....	<b>10</b>
5.1 CALCULATION FORMULA .....	10
5.2 DETERMINATION OF TOTAL DEMAND OF PROPOSAL (A) .....	11
5.3 DETERMINATION OF EXISTING DEMAND / ENTITLEMENTS (B) .....	11
5.4 ESCALATION .....	12
5.5 ADMINISTRATIVE COMPONENT.....	12
5.6 AGGREGATING CONTRIBUTIONS .....	12
5.7 CAPPING METHODOLOGY .....	13
5.8 EXEMPTIONS FROM IMPOSITION OF INFRASTRUCTURE CONTRIBUTIONS .....	14
<b>6 AGREEMENTS ABOUT, AND ALTERNATIVES TO, PAYING TRUNK INFRASTRUCTURE CONTRIBUTIONS</b> .....	<b>15</b>
6.1 SITUATIONS WHERE INFRASTRUCTURE AGREEMENTS ARE USED .....	15
6.2 INFRASTRUCTURE AGREEMENT CONTENT.....	15
6.3 INFRASTRUCTURE AGREEMENTS FOR ADVANCE FUNDING ARRANGEMENTS .....	16
6.4 INFRASTRUCTURE AGREEMENTS FOR TRUNK INFRASTRUCTURE CONSTRUCTION FOR CONSISTENT DEVELOPMENT .....	16
6.5 INFRASTRUCTURE AGREEMENTS FOR UNANTICIPATED DEVELOPMENT .....	16
6.6 INFRASTRUCTURE CREDITS.....	17
6.7 LODGEMENT OF SECURITIES .....	19
<b>7 FINANCIAL MANAGEMENT OF INFRASTRUCTURE CONTRIBUTIONS</b> .....	<b>20</b>
7.1 TRUNK INFRASTRUCTURE EXPENDITURE.....	20
7.2 REGISTER OF INFRASTRUCTURE CONTRIBUTIONS.....	20
<b>SCHEDULE A: DEFINITIONS</b> .....	<b>21</b>
<b>SCHEDULE B: REFERENCES</b> .....	<b>26</b>
<b>REVIEW TRIGGERS</b> .....	<b>27</b>
<b>RESPONSIBILITY</b> .....	<b>27</b>
<b>VERSION CONTROL</b> .....	<b>27</b>

## PSP4 Part 8.4.1 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – ADMINISTRATION POLICY

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### Head of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### Objective

The objective of this policy is to apportion the cost of trunk infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, clarify the administrative provisions for the Trunk Infrastructure Contributions Policies and assist the formulation of Infrastructure Agreements in accordance with the provisions of the *Integrated Planning Act 1997*, as amended.

### Definitions/Application

#### Application

This policy is to be read in conjunction with the other Development Contributions Policies, which set out the detailed provisions for the determination of Infrastructure Contributions for development. It applies to all assessable development which will utilise any of the following Infrastructure Networks:

- Water Supply Trunk Infrastructure;
- Sewerage Trunk Infrastructure;
- Stormwater Quality and Quantity Trunk Infrastructure;
- Council Trunk Road and Pathways Infrastructure;
- Public Open Space and Community Purpose Trunk Infrastructure.

#### Definitions

Schedule A “Definitions” provides the meaning for a number of critical terms used in this policy and in the other Development Contributions Policies. For the meaning of terms not included in Schedule A, refer to Schedule 10 of the *Integrated Planning Act* and Part 7 of the *Redcliffe City Planning Scheme*.

Note that all references in this policy to “City”, “Redcliffe City” and “local government area” relate to the former area of Redcliffe City prior to amalgamation with the former local government areas of Caboolture Shire and Pine Rivers Shire to form the Moreton Bay Regional Council Local Government Area.

### Policy Statement

#### 1 Scope

This planning scheme policy sets out:

- the overall outcomes sought for trunk infrastructure provision in the former Redcliffe City;
- how to determine if a proposal is Consistent or Unanticipated Development;
- the procedures for determining Infrastructure Contributions (including contributions for additional Trunk Infrastructure Costs) for various scenarios;
- times for payment of Infrastructure Contributions;
- alternatives to paying Infrastructure Contributions;
- the procedure for entering into Infrastructure Agreements;
- the procedures for determining and dealing with Infrastructure Credits and existing demand/entitlements;
- instances in which securities will need to be lodged with Council;
- procedures for recording Infrastructure Contributions and maintaining Contributions Registers; and
- critical trunk infrastructure related information to be provided with development applications.

This policy only deals with infrastructure provided for, or on behalf of, Council. It specifically does not deal with the policies and procedures of State Government infrastructure providers.

This policy is not to be construed, in any way, to limit the Assessment Manager’s powers in deciding a development application.

## **2 Trunk Infrastructure Provision**

### **Trunk Infrastructure Provision**

Under normal arrangements, Trunk Infrastructure which is consistent with the Plans for Trunk Infrastructure will be provided for in Council's budget and constructed by the Council as programmed in the Council's Capital Works Program.

The Plans for Trunk Infrastructure do not represent the Council's Capital Works Program. They do, however, form a direct input into the determination of the Capital Works Program. For the purpose of clarity, the Plans for Trunk Infrastructure are not meant in any way to place a rigid obligation on the Council as to the amount and timing of the construction of Trunk Infrastructure.

Where a development is undertaken and the infrastructure required by the development is anticipated to be available within the timeframe proposed by the development proponent, the responsibility of the development proponent in regard to the provision of Trunk Infrastructure will generally be limited to the payment of Infrastructure Contributions.

The imposition of an Infrastructure Contribution condition in a development approval does not automatically entitle a development proponent to the immediate construction of any Trunk Infrastructure as may be necessary to service the development.

The provision of infrastructure not identified as Trunk Infrastructure will generally be the responsibility of the development proponent. Contributions for Trunk Infrastructure will apply to a development irrespective of the conditions imposed for the provision of Non-Trunk Infrastructure.

Where the Council agrees to the provision of Trunk Infrastructure by the development proponent in lieu of payment of Infrastructure Contributions, an Infrastructure Agreement will be required.

The items of Trunk Infrastructure used in determining Infrastructure Contribution Rates are listed out in the Plans for Trunk Infrastructure.

### **Alternative Infrastructure**

Alternative infrastructure may be provided with Council's agreement in lieu of that identified in the Plans for Trunk Infrastructure, provided that:-

- a written report describing the alternative infrastructure, examining the costs and benefits to the community, along with economic, social, environmental and operational considerations has been lodged with Council for consideration (specifically, the impact of alternative infrastructure on the roll out of Council's planned infrastructure program must be addressed);
- the development proponent can prove by appropriate studies that the alternative infrastructure can provide at least the same Desired Standard of Service as that previously planned;
- the service provided to existing and other anticipated development will not be compromised in respect of quantity, quality nor the timing of service;
- the operating, maintenance and other life cycle costs will not place an unacceptable cost burden on Council; and
- the proponent meets all costs incurred by Council in assessing and testing the alternative infrastructure proposal, and the amendment of all planning documents, as well as all necessarily associated costs (these costs must be agreed and paid to Council before it undertakes the assessment of the alternative proposal).

### **Temporary Infrastructure**

It is the Council's intention to minimise the use of temporary works. The use of temporary infrastructure will only be permitted in exceptional circumstances, and only after Council has considered a written report examining the costs and benefits to the community, along with economic, social, environmental and operational considerations. Specifically, the impact of temporary works on the roll out of Council's planned infrastructure program must be assessed.

Where the Council determines that no viable arrangement for providing trunk infrastructure to service the development currently exists, it may permit the development proponent to construct temporary external Non-Trunk Infrastructure to connect the development to existing Trunk Infrastructure of sufficient capacity at the development proponent's cost.

The construction of temporary works in such instances would ordinarily be required by the Council as a condition of development approval.



All costs associated with the construction, maintenance and subsequent removal, where required, of the temporary works are to be borne by the development proponent, and the development proponent will not be eligible for Infrastructure Credits for these temporary works.

The Council may require the lodgement of a specified security to cover the payment of operation and maintenance costs of the temporary infrastructure, as well as the subsequent removal of that infrastructure.

Historic Version  
Redcliffe City Planning Scheme

### 3 Assumptions in the Plans for Trunk Infrastructure

A number of critical issues have been examined and used by Council in the development of the Plans for Trunk Infrastructure. The primary issues that have shaped those Plans are:-

- the Designated Infrastructure Service Area (DISA); and
- the Planning Assumptions.

#### 3.1 The Designated Infrastructure Service Area (DISA)

The DISA generally defines those areas within the City where Council is supportive of urban development. It indicates where provision of development infrastructure is anticipated in order to enable development of land for purposes consistent with the projections and assumptions about future development under the *Redcliffe City Planning Scheme*. The DISA for Redcliffe City includes the entire local government area.

Wherever the DISA includes some areas where Infrastructure Agreements are in place, the future growth within those areas will be in accordance with the terms and conditions of the infrastructure agreements, and this has been taken into account in the assessment of future infrastructure and revenue projections for Council.

All areas identified for urban development in the *Redcliffe City Planning Scheme* and located within the DISA are within the Urban Footprint of the SEQ Regional Plan.

#### 3.2 Planning Assumptions - General

The Planning Assumptions detail the type, scale and timing of future development anticipated for Redcliffe City under the current version of the *Redcliffe City Planning Scheme*. This exceeds the life expectancy of the Planning Scheme which must be reviewed every 8 years.

The Planning Assumptions are made in quantitative terms and address the various components for each form of development infrastructure. They include, but are not confined to, assumptions in respect of:

- population growth;
- lot or dwelling yield;
- employment growth; and
- demand generation.

The Planning Assumptions were prepared in a form that allows consistent planning of infrastructure required to service a development site or service catchment to the level prescribed by the Desired Standards of Service.

#### 3.3 Population Estimates

The growth projections for population have been compiled by cadastrally mapping the Planning Information and Forecasting Unit (PIFU) medium series projections for the 100 Census Collection Districts (CCDs) within Redcliffe, based on occupancy rates derived in the 2006 Census. With a few exceptions, the PIFU projections were adopted across the City. The exceptions were:

- growth predicted for Rothwell was shifted to the higher density intensification areas along the coastline (particularly within Urban Villages).
- growth predicted in CCD 3121611 was also moved to the coastal areas as this CCD contains a primary school with very little potential for further development.

The estimated residential population for each Statistical Local Area (SLA) at the 2006 base year and the growth expected within the planning horizon are outlined in Table 3.3A. Those population figures were subsequently converted to a corresponding number of dwellings by applying the residential occupancy rates calculated from the Australian Bureau of Statistics (ABS) data. The resulting figures showing the corresponding number of dwellings within the City for the 2006 base year and the expected growth over time are also outlined in Table 3.3A.

Table 3.3A – Population Estimates to 2021

SLA No	Location	Dwelling Type	Estimated Population (persons)				Average Household Size (persons) (2011-2021)	Estimated Dwellings			
			2006	2011	2016	2021		2006	2011	2016	2021
			6201	Clontarf	Single	7046		7539	7878	8154	2.51
		Multiple	709	759	793	821	1.63	413	466	487	504
		Other	121	129	135	140	1.3	88	100	104	108
		TOTAL	7,876	8,427	8,806	9,115		3,073	3,570	3,730	3,861
6204	Margate-Woody Point	Single	8425	9015	9510	9938	2.4	3218	3757	3963	4141
		Multiple	2275	2434	2568	2683	1.62	1362	1503	1586	1657
		Other	16	17	18	19	1.67	9	11	11	12
		TOTAL	10,716	11,466	12,096	12,640		4,589	5,271	5,560	5,810
6206	Redcliffe-Scarborough	Single	15380	16457	17362	18143	2.55	5539	6454	6809	7115
		Multiple	3758	4021	4242	4433	1.55	2204	2595	2737	2860
		Other	204	218	230	240	1.61	109	136	143	150
		TOTAL	19,342	20,696	21,834	22,816		7,852	9,185	9,689	10,125
6208	Rothwell-Kippa-Ring	Single	12824	13401	13803	14217	2.81	4188	4770	4913	5060
		Multiple	1733	1811	1866	1922	1.75	905	1035	1067	1099
		Other	27	28	29	30	1.55	14	19	19	20
		TOTAL	14,584	15,240	15,698	16,169		5,107	5,824	5,999	6,179
Inside DISA		Single	43675	46412	48553	50452	2.58	15517	17985	18824	19565
		Multiple	8475	9025	9469	9859	1.61	4884	5599	5877	6120
		Other	368	392	412	429	1.48	220	266	277	290
		TOTAL	52,518	55,829	58,434	60,740		20,621	23,850	24,978	25,975

### 3.4 Employment Estimates

- The estimated number of jobs in non-residential activities at the base year of 2006 is outlined in Table 3.4A. This information was sourced from a Council database of existing businesses within the City.
- Floor space utilisation per employee is subsequently used to determine typical gross floor area totals for each non-residential activity type by ANZSIC code. An interpolated average relative to population growth is then used to predict the change in job numbers, and therefore Gross Floor Area (GFA), over time (also shown in Table 3.4A).

Table 3.4A – Assumptions about Future Employment and Floorspace to 2021

SLA No	Location	Land Use Type	Estimated Employment (jobs)				Floor Area per Employee (m <sup>2</sup> )	Estimated GFA (m <sup>2</sup> )			
			2006	2011	2016	2021		2006	2011	2016	2021
6201	Clontarf	Commercial	486	501	516	532	25	12,150	12,525	12,900	13,300
		Retail	413	426	439	452	35	14,455	14,910	15,365	15,820
		Industry	2,710	2,792	2,876	2,962	120	325,200	335,040	345,120	355,440
		Community	242	250	257	265	35	8,470	8,750	8,995	9,275
		Other	518	534	550	567	0	0	0	0	0
		TOTAL	4,369	4,503	4,638	4,778		360,275	371,225	382,380	393,835
6204	Margate-Woody Point	Commercial	535	552	568	585	25	13,375	13,800	14,200	14,625
		Retail	694	715	737	759	35	24,290	25,025	25,795	26,565
		Industry	29	30	31	32	100	2,900	3,000	3,100	3,200
		Community	164	169	174	180	35	5,740	5,915	6,090	6,300
		Other	111	115	118	122	0	0	0	0	0
		TOTAL	1,533	1,581	1,628	1,678		46,305	47,740	49,185	50,690
6206	Redcliffe-Scarborough	Commercial	2,364	2,435	2,508	2,584	25	59,100	60,875	62,700	64,600
		Retail	1,839	1,895	1,951	2,010	35	64,365	66,325	68,285	70,350
		Industry	227	234	241	249	100	22,700	23,400	24,100	24,900
		Community	481	496	511	526	35	16,835	17,360	17,885	18,410
		Other	185	191	197	203	0	0	0	0	0
		TOTAL	5,096	5,251	5,408	5,572		163,000	167,960	172,970	178,260
6208	Rothwell- Kippa-Ring	Commercial	1,683	1,734	1,786	1,840	25	42,075	43,350	44,650	46,000
		Retail	1,877	1,934	1,992	2,052	35	65,695	67,690	69,720	71,820
		Industry	1,258	1,296	1,335	1,375	100	125,800	129,600	133,500	137,500
		Community	721	743	765	788	35	25,235	26,005	26,775	27,580
		Other	145	150	154	159	0	0	0	0	0
		TOTAL	5,684	5,857	6,032	6,214		258,805	266,645	274,645	282,900
Total		Commercial	5,068	5,222	5,378	5,541	25	126,700	130,550	134,450	138,525
		Retail	4,823	4,970	5,119	5,273	35	168,805	173,950	179,165	184,555
		Industry	4,224	4,352	4,483	4,618	100-120	476,600	491,040	505,820	521,040
		Community	1,608	1,658	1,707	1,759	35	56,280	58,030	59,745	61,565
		Other	959	990	1,019	1,051	0	0	0	0	0
		TOTAL	16,682	17,192	17,706	18,242		828,385	853,570	879,180	905,685

## **4 Determination of Infrastructure Contributions for Assessable Development**

Infrastructure Contributions are determined in accordance with the principles outlined in this policy and those Development Contributions Policies applicable to the Trunk Infrastructure Networks which serve the development.

### **4.1 Application**

This policy applies to all development on land within the City which has been made assessable against the *Redcliffe City Planning Scheme* and for which trunk infrastructure service capacity is either sought or has been allocated.

Infrastructure Contributions deemed applicable by Council will be calculated using the Development Contributions Policies and will be imposed as conditions of development approval for such development.

### **4.2 Assessment of Development Applications against Assumptions**

Applications will be assessed against the Assumptions on which planning of the Trunk Infrastructure networks was based.

A proposal is considered consistent with the planning assumptions if it is not specifically labeled as “inconsistent” in the zone assessment tables applicable to the land and it meets all of the following criteria (If it does not meet that criteria it is considered unanticipated development):-

- (1) The proposal meets all of the applicable development requirements prescribed for that land use in the *Redcliffe City Planning Scheme*.
- (2) The proposal is generally consistent with the projected growth assumptions for the SLA given within Tables 3.3A and 3.4A.
- (3) The proposed demand imposed on each of the applicable infrastructure networks is no more than that indicated in the planning assumptions. (However, for the water supply network alone, the proposal is still considered to be consistent provided that the proposed demand as calculated in accordance with section 5 of this policy does not exceed that assumed for the site by more than 5 %.)
- (4) All of the Trunk Infrastructure needed to service the development is anticipated to be available within the timeframe in which it is required by the development.

#### **Consistent Applications**

A development proposal, which is found to be consistent with the planning assumptions, will be subject to Type 1 Assessment only for the calculation of applicable infrastructure contributions.

#### **Unanticipated Development**

Council may be prepared to support a development application for Unanticipated Development, if the approval would not result in an inefficient or deficient infrastructure network and is not likely to create an adverse cost impact for the Council. The entrepreneurial risk associated with such development is not to be transferred to Council under any circumstance.

In those instances where Council is prepared to approve unanticipated development, it would normally require the development proponent to enter into an Infrastructure Agreement in accordance with Section 6 of this document prior to issuing an approval.

For the determination of Infrastructure Contributions for such applications, Council will undertake both Type 1 Assessment and Type 2 ATIC (Additional Trunk Infrastructure Cost) Assessment.

### **4.3 Type 1 Assessment**

The base level Infrastructure Contributions are calculated using a Type 1 assessment and the Calculation Formula set out in Section 5.

Since Council’s Infrastructure Contribution Regime is based on the assumptions set out in Section 3 of this policy, development proponents should note that development proposals which under-develop the site will be charged for the Trunk Infrastructure Demand assumed for the networks.

Notwithstanding the above, Council recognises that the assumptions have been derived using an averaging process, and as such may not be achievable for every development proposal given the constraints of planning scheme requirements for site specific issues. If the applicant can demonstrate to Council’s satisfaction that the

level of assumptions for the site can not reasonably be achieved, Council will take this into account when determining the amount of any infrastructure contributions to be imposed.

**Determining the Quantum of Contributions:-**

The demand factor tables for each network as shown in the Development Contribution Policies are used to determine the demand for both the proposal and the overall development. If the proposal is for a land use not listed in those tables, the applicant is required to demonstrate which land use the proposal most closely aligns with.

Applications will be assessed against the Planning Assumptions. The assumed demand has been determined from the figures set out in tables 3.3A and 3.4A.

If the demand determined for the proposal is higher than that assumed, the amount of the required contribution will be determined using the proposed level of demand.

If the demand calculated for the actual proposal is less than the assumed demand or that is reasonably achievable for the site, the amount of the required contribution will be determined using the lesser of:

- (a) the assumed demand; and
- (b) that is reasonably achievable for the site.

**Payment of Contributions:-**

Nothing in these policies precludes the development proponent from entering into an infrastructure agreement with Council to address staged payment of contributions for what is clearly staged development of land.

Unless otherwise determined in an Infrastructure Agreement, Infrastructure contributions are payable at the Infrastructure Contribution Rate applicable at the time that the contribution is paid.

**4.4 Type 2 Additional Trunk Infrastructure Cost (ATIC) Assessment**

**General Requirements**

Unanticipated Development as described in Section 4.2 of this document will generally attract a contribution for Additional Trunk Infrastructure Cost (ATIC), assuming Council decides to approve the development. In any case, Council will require that the development proponent enter into an Infrastructure Agreement with Council prior to the issue of a development approval.

Applications for development proposals that vary from the planning assumptions are required to contain detailed infrastructure reports that enable the impact of the development on the Trunk Infrastructure networks, and in particular the effect on the capacity and timing of infrastructure provision stated in the Plans for Trunk Infrastructure, to be determined.

Assuming that Council is prepared to issue a development approval for the proposal, it will undertake Type 1 assessment and also determine whether or not the requirement for payment of an ATIC is warranted in the context. These may be included as conditions of subsequent development approval or be addressed through some similar mechanism in the Infrastructure Agreement.

Any development approval requiring the payment of an ATIC will normally include conditions requiring the construction of any Trunk Infrastructure needed to ensure the proposed development does not adversely impact upon, or compromise, the ability of Council to provide a service (at the Desired Standard of Service) to both existing development and other development provided for in the Plans for Trunk Infrastructure, which has not yet been established.

**Calculation of ATIC**

For unanticipated development requiring the provision of new or upgraded Trunk Infrastructure, the scope of a contribution for ATIC may include, but not be limited to:-

- the additional financing costs for the Trunk Infrastructure as brought forward in time;
- the establishment cost of the additional Trunk Infrastructure required to service the development; and
- the cost of amending the Plans for Trunk Infrastructure.

The Council may also require the development proponent to enter into an Advance Funding Infrastructure Agreement in accordance with Section 6 of this document to cover such costs.

#### **4.5 Infrastructure Specific Information to be supplied with Development Applications**

This subsection details the extent of Infrastructure specific information which must be provided as part of any Development Application to allow the assessment of the proposal against the Planning Assumptions for Trunk Infrastructure, and the calculation of Trunk Infrastructure Contributions.

Development applications must include sufficient information to allow determination of the scope and extent of new infrastructure required to service the development. Such information is to include a detailed program of development showing the timing and sequencing of development activities. Council will use that information to determine the new Trunk Infrastructure, if any, required to service the development, the appropriate timing for the provision of the Trunk Infrastructure and the manner in which it is to be funded.

Information that needs to be provided with the development application includes (but is not limited to):-

- a comparison of the proposed development against the planning assumptions, i.e. the density and development demands proposed under the development application;
- the Trunk Infrastructure requirements to service the development to the Desired Standards of Service identified in the Development Contributions Policies;
- documented details of consultation already undertaken with Infrastructure Providers (including State and other), if undertaken;
- complete details of any probable variation from the extent, scale, form or timing of infrastructure detailed within the Plans for Trunk Infrastructure that is likely to arise as a result of the establishment of the development;
- an accurate schedule of development implementation in regard to the provision of trunk infrastructure;
- complete details of any existing demand generated on the site;
- complete details of any Infrastructure Credits applicable;
- complete details of any proposed Non-Trunk Infrastructure external to the development site; and
- identification of those Trunk Infrastructure Items “Critical” to the commencement of the use and those that could be “Deferred”.

#### **4.6 Time for Payment of Infrastructure Contributions including Contributions for ATIC**

The times for payment of Base Level Infrastructure Contributions and any contributions for ATIC under this policy are the same as those times established for payment of Infrastructure Contribution and Additional Trunk Infrastructure Costs under Chapter 5 of the *Integrated Planning Act 1997* as in force on 25 March 2005, unless some different time for payment is prescribed in either a condition of development approval or an Infrastructure Agreement.

##### **Time for Payment of Base Level Infrastructure Contributions**

Unless some different time for payment is prescribed in either a condition of development approval or an Infrastructure Agreement, the time for payment of Base Level Infrastructure Contributions under this policy is:-

- (a) if the contribution applies to Reconfiguring a Lot – before Council approves the plan of subdivision;
- (b) if the contribution applies to a Material Change of Use involving assessable building work – before the Certificate of Classification or other clearance certificate for the building work is issued; and
- (c) if the contribution applies to a Material Change of Use (not followed by an application for Reconfiguring a Lot or involving assessable building work) – before the change of use happens.

##### **Time for Payment of Contributions for Additional Trunk Infrastructure Cost (ATIC)**

The time for payment of an Additional Trunk Infrastructure Cost is as stated in either a condition of development approval or an Infrastructure Agreement.

## 5 Calculation of Infrastructure Contributions

Infrastructure Contributions are determined using the Calculation Formula in Section 5.1 below and the data obtained from the Development Contributions Policies.

### 5.1 Calculation Formula

The amount of each required Infrastructure Contribution is determined using the following equation:-

$$\text{Infrastructure Contribution} = \{A - B - C\} \times D \times E \quad \text{where } A = (P \times F)$$

This equation considers and utilises a number of logical assessment steps relating to the existing development site and the proposed use including:-

- (1) the size/scale of the proposal – Demand Parameter (**P**);
- (2) the Demand Assumption (Demand Factor) relevant to the type of development (**F**) as listed in the demand factor tables in Schedule A of each of the Development Contributions Policies for each network;
- (3) total Demand of Proposal expressed in Demand Units (**A**);
- (4) any existing demand/entitlements for the site (**B**) expressed in Demand Units; and
- (5) any Infrastructure Credits (**C**) expressed in Demand Units.

The net demand is determined by deducting an allowance for any previous payments and existing lawfully established uses on the land (**B**) as well as any Infrastructure Credits applying to the development site (**C**) from the total demand determined for the development (**A**). The actual amount of any required infrastructure contribution is then determined by applying the following to the net demand:-

- the appropriate Infrastructure Contribution Rate (**D**) for the Network, Network Component Level, Service Catchment and Land use as listed in the Infrastructure Contribution Rates tables for each network in the Development Contributions Policies; and
- the current Escalation Factor (**E**) calculated in accordance with Section 5.4 of this Planning Scheme Policy.

**Table 5.1A – Contribution Calculation Definitions**

Variable		Units	Role
Demand Factor	<b>F</b>	Demand Factors are provided for residential and non-residential land uses. For any land use not specifically covered, the Demand Factor applicable to the development will be as determined by Council having regard to the nature of the use in relation to its potential load on the relevant Trunk Infrastructure.	The demand factor is a conversion factor to equate the demand parameter with demand units commonly used in defining infrastructure demand for a particular network. The demand factors are derived from the demand assumptions for a stated equivalent demand for Land Uses and Zones within the Planning Scheme. These planning assumptions are used to ensure that a development's use of Trunk Infrastructure is accounted for and that appropriate contributions for the delivery of Trunk Infrastructure are obtained from the approved development.
Demand Parameter for determining Total Demand of Proposal	<b>P</b>	The denomination of the scale of development, specified in lots, dwelling units, m <sup>2</sup> GFA, ha et al.	Used to measure or define the scale or intensity of the proposed or existing use in common defined units.
Total Demand of Proposal	<b>A</b>	Total Demand after completion of the development, expressed as Standard Units of Demand and derived as the product of P x F. These are expressed as follows:- <b>Water Supply:</b> Equivalent Person Water Supply (EPW) <b>Sewerage:</b> Equivalent Person Sewerage (EPS) <b>Stormwater Quantity:</b> Equivalent Contributing Area Quantity (ECAQty) <b>Stormwater Quality:</b> Equivalent Contributing Area Quality (ECAQal) <b>Roads:</b> CTE (Chargeable Trip End) <b>Pathways:</b> Equivalent Tenements (ET) <b>Public Open Space and Community</b>	After the completion of the development and payment of Contribution, this is the demand entitlement which will ultimately be recorded in Council's Infrastructure Charges Register.



<i>Variable</i>		<i>Units</i>	<i>Role</i>
		<b>Purpose:</b> Equivalent Person (EP)	
Existing Demand/Entitlements	<b>B</b>	Demand of any existing lawfully established use of the land and previous payments expressed in Standard Units of Demand as per <b>A</b> .	In order to ensure fair charging, allowance is made for previous trunk infrastructure payments and the load already imposed by any existing use by subtracting it from any future liability for Infrastructure Contributions. The existing use demand is calculated in the same manner as the demand for a new use of the land would be calculated under this policy.
Infrastructure Credit	<b>C</b>	Credits expressed in Standard Units of Demand as per <b>A</b> .	Credit accrued for the provision of Trunk Infrastructure Assets by the development proponent as previously defined in an agreement.
Infrastructure Contribution Rate	<b>D</b>	Infrastructure Contribution Rate (ICR) per Equivalent Demand Unit, Network and Network Component.	Allows for a charge to be fairly based by determining a scale of use and applying a common contribution rate per “demand unit” for the network.
Escalation	<b>E</b>	Escalation to current values using the indexation method described in Section 5.4 (Escalation).	Allows for the Infrastructure Contribution Rates to be indexed regularly, to adjust for fluctuations in construction and land prices.

## **5.2 Determination of Total Demand of Proposal (A)**

The Total Demand of the Proposal is determined pursuant to the Developer Contributions Policies for each network, using the Demand Factor Tables in Schedule A of each of those policies and giving due consideration to the principles stated in Section 4 of this Policy.

## **5.3 Determination of Existing Demand / Entitlements (B)**

Infrastructure Contributions are calculated by using the existing demand of on-site activities, any previous trunk infrastructure payments, any Infrastructure Credits applicable to the development site and the total demand of the development proposal to determine the net demand generated by the proposed development.

Where an existing building or work is proposed to be extended, or a new building or work is proposed to be undertaken on land occupied by an existing lawful use, Infrastructure Contributions will only apply to the proposed extension of the existing building or existing work or to the new building or work and only to the extent that there is an increase in demand.

Existing demand for each Infrastructure Network and its components in this context is determined using one of the following with (1) taking precedence over (2) and (3), and (2) taking precedence over (3):-

- (1) any existing demand recorded within Council’s Infrastructure Charges/Contributions Register for all applications received by Council after the adoption of the Development Contributions Policies;
- or
- (2) where Infrastructure Contributions have previously been made to the Council in respect of the land, the demand on which those Infrastructure Contributions were based;
- or
- (3) the equivalent demand of each lawful use undertaken on the land prior to the application being made, expressed in demand units and calculated as follows:-
  - (a) where the mechanism for the determination of contributions is based on site area alone – the demand for the minimum equivalent site area, which would be required under the current provisions of Council’s Planning Scheme for the existing lawful use on the land, if it was to be established at the time that this application was made;
  - (b) for vacant residential zoned land not addressed in (a) - the demand allowed for a single detached house. However, there will be no demand allowance for Water or Sewerage Infrastructure if the lot has access but is not connected to those Infrastructure Networks and is not subject to a vacant water supply or sewerage charge; and
  - (c) where an existing building or work is proposed to be changed - the demand for that part of the existing use proposed to be changed.

## 5.4 Escalation

The Infrastructure Contribution Rates applicable for each service catchment and each Infrastructure Network at 01 January 2009 are set out in the Development Contributions Policies for each Infrastructure Network.

To enable contributions to reflect the fluctuations in the costs of construction and land acquisition for each Infrastructure Network, the Infrastructure Contribution Rates will be subject to adjustment through escalation.

Unless otherwise prescribed in an infrastructure agreement or a condition of development approval, the amount of any contribution payable will be at the escalated rate applicable at the date that payment is made.

The infrastructure contribution rates will be adjusted at quarterly intervals commencing 01 July 2009.

Escalation of the works component of the charge will be in accordance with the "Building Price Index" for Brisbane listed in the most recent edition of Rawlinson's "Australian Construction Handbook". Escalation of the land acquisition component of the charge will be in accordance with the Council's adopted "Land Value Index".

### Land Value Index

The "Land Value Index" is a measure of the fluctuations in the market value of vacant residential land within the former local government area of Redcliffe City over time and is compiled on behalf of Council by a Certified Practising Valuer, or some other entity having equivalent qualifications, using the following industry accepted methodology:-

- (a) a review of land types is undertaken;
- (b) suitable land types are identified and selected for indexation calculation;
- (c) selected data is retrieved from "RP Data" (The Real Estate Institute of Queensland's database);
- (d) the selected data is "cleansed" for incorrect entries and "outliers";
- (e) the "cleansed" data is loaded onto spreadsheets for analysis;
- (f) the "cleansed" data is analysed to produce periodic averages; and
- (g) index increases or decreases are calculated using the data averages.

The Land Component of all Networks is escalated by the average change across the local government area.

## 5.5 Administrative Component

Council is entitled to recover costs associated with the collection, expenditure and administration of funds collected pursuant to the Development Contributions Policies (such costs fall within the scope of the term "establishment cost"). A separate contribution for the administration of this infrastructure contributions regime will therefore be imposed on all development to which the Development Contributions Policies apply.

The extent of contributions to cover those administration costs is calculated in the following manner:-

$\text{Administrative Contribution} = \{A - B\} \times D \times E \times \%Admin$
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Refer to Table 5.1A for the meaning of A, B, D and E and how they are determined.

For the purposes of this provision, the %Admin has been set at 2% (exclusive GST).

## 5.6 Aggregating Contributions

For each development proposal to which this infrastructure contributions regime applies, there will be separate contributions for the different Network Component Levels, as well as the "Administrative component". These amounts are to be aggregated to determine the overall contribution payable for any particular development proposal.

The Network Component Levels are as follows:-

**Table 5.6A – Contribution Components**

<b>Water Supply</b>	Local Government Area
<b>Sewerage</b>	Local
<b>Stormwater Quantity</b>	Creek
<b>Stormwater Quality</b>	Creek
<b>Trunk Roads</b>	Local
<b>Pathways</b>	Local Government Area
<b>Public Open Space and Community Purpose</b>	Local Government Area

### **5.7 Capping Methodology**

A capping regime applies to Infrastructure Contributions for the net demand of new “residential development”. For payments made prior to 1 July 2009, the aggregate amount payable for the base level contribution after existing demand/entitlements and credits have been distributed is:-

- (a) \$20,000 for each additional freehold lot created pursuant to a development approval for reconfiguring a lot (excluding any lot which is required to be transferred to a public sector entity for community purpose); and
- (b) \$16,000 for each new dwelling unit or community title lot created pursuant to a development approval for either a material change of use or reconfiguring a lot.

The aggregate amount payable on or after 1 July 2009 is not to exceed the pre-July 2009 capped limit escalated from the base date of 1 July 2009 by the greater of the following as they are released:-

- (a) the quarterly movements in the “Building Price Index” for Brisbane as listed in the most recent edition of Rawlinsons “Australian Construction Handbook (including quarterly updates)”; and
- (b) the movements in the “Land Value Index” as defined in Section 5.4.

The adjusted amount is not to exceed the aggregate of the uncapped contributions which would otherwise be payable. (For purposes of clarity, the adjusted amount is deemed to already include the administrative component described in section 5.5 of this policy.)

#### **Exclusions from Capping Program**

The capping of trunk infrastructure contributions does not apply to:-

- (1) any development which is not “residential development”;
- (2) payments made after 30 June 2013;
- (3) additional trunk infrastructure contributions ATIC imposed on unanticipated development;
- (4) the dedication of land and/or the completion of works in lieu of making a cash payment for the trunk infrastructure;
- (5) instances where alternative arrangements have been made through an infrastructure agreement;
- (6) non-trunk infrastructure; or
- (7) trunk infrastructure for which Council has no maintenance responsibilities.

#### **Exclusion from Capping Program for water and sewerage trunk infrastructure**

It is acknowledged that control of, and responsibility for, water and sewerage trunk infrastructure may be transferred from Council to a new authority (“the new authority”).

Where Council is required by the new authority to charge and/or recover the full contribution for the supply of water and sewerage trunk infrastructure, the capping program will not apply to those items. The capping program will apply to the other trunk infrastructure components for which a contribution is applicable. How the capping is to be calculated for the other trunk infrastructure items will be at Council’s absolute discretion.

#### **Allocation of Infrastructure Entitlement for Reduced Contributions**

Despite the fact that the effect of the capping of contribution rates may result in a lesser amount being paid to Council during the transition period, the development proponent is to be allocated the full trunk infrastructure entitlement in demand units on payment in full of the reduced contribution applicable to the development.

#### **Allocation of Reduced Contributions to Infrastructure Networks**

Payments received under Council’s trunk infrastructure charging regime are to be distributed across all of the trunk infrastructure networks contributing to the calculation of the payment due in direct proportion to the

amount that the contribution for each network contributed to the uncapped charge which would otherwise have applied to the development. However, that distribution is only to take place following deduction of the full administrative component which would otherwise have applied to the uncapped charge.

#### **Dealing with Infrastructure Credits under the Capping Regime**

Unless otherwise stipulated in an infrastructure agreement, an infrastructure credit accrued by whatever means in relation to a specific trunk infrastructure network is to be:-

- (1) applied as a credit against any infrastructure contributions payable for that same network, but within subsequent stages or later intensification of the same development; or
- (2) in those instances where (1) can not be applied or infrastructure credits still remain even after allocation to subsequent stages, refunded to the development proponent or such other entity nominated for that purpose in a valid deed of assignment.

Where applied to subsequent stages of the development, the infrastructure credit, expressed in demand units, is to be subtracted from the units of net demand associated with the infrastructure contribution which would otherwise apply for those subsequent stages before the capping methodology is applied.

In those instances where infrastructure credits are refunded, the following process is to be applied despite the fact that the effect of the capping of contributions results in a lesser amount being paid to Council:-

- (a) establish the full monetary value of the excess infrastructure credits at the time that they were accrued; i.e. prior to the capping being applied; and
- (b) apply an indexing factor equivalent to the movements in the Consumer Price Index (All Groups) for Brisbane between the time that the credits are accrued and the time that they are paid out.

The above methodology is to be used for dealing with the refunding of infrastructure credits during the transition period of 1 July 2009 to 30 June 2011 despite what would otherwise apply under Section 6.6.

#### **5.8 Exemptions from Imposition of Infrastructure Contributions**

The imposition of infrastructure contributions does not apply to any of the following:

- (1) exempt development;
- (2) self assessable development;
- (3) development that is assessable solely against the Building Act 1975;
- (4) any development undertaken by, or on behalf of Council for any of the land uses listed in Table 5.8A, unless the goods and/or services being offered:-
  - (a) are being charged for at a level which Council would reasonably be expected to know is significantly in excess of that required to meet the normal operating and lifecycle costs of the facility; or
  - (b) would normally be provided as part of a viable business concern in that context by private enterprise, including all government subsidies on offer.

**Table 5.8A – Council Activities Exempt From Infrastructure Contributions**

Reconfiguring a Lot
Car park
Caravan park
Community well-being facilities
Community well-being infrastructure
Education centre
Entertainment outdoor
Government Infrastructure
Indoor entertainment, sport or recreation
Market
Park
Sport and recreation outdoor
Transport interchange
Utility installation

## **6 Agreements about, and Alternatives to, paying Trunk Infrastructure Contributions**

Any Infrastructure Agreement must be in writing, be prepared at no cost to the Council and be in a form acceptable to Council.

### **6.1 Situations where Infrastructure Agreements are used**

An Infrastructure Agreement (IA) must be entered into in the following situations:

- (a) where Council agrees to the development proponent supplying all or part of the necessary infrastructure instead of making a monetary contribution; or
- (b) where Council is prepared to support a development application for unanticipated development to which an ATIC applies; or
- (c) where Council agrees to delayed payment of infrastructure contributions by development proponents; or
- (d) where otherwise required by Council.

### **6.2 Infrastructure Agreement Content**

Any Infrastructure Agreement must be in writing and be prepared either by the Council at the development proponent's cost, or by the development proponent using documents that are in a form acceptable to Council.

Every Infrastructure Agreement must adequately address those matters prescribed in Chapter 5, Part 2 of the *Integrated Planning Act 1997*, and unless otherwise agreed by Council, must:-

- (a) bind successors in title in the manner prescribed in Section 5.2.5 of IPA;
- (b) identify the applicable Networks of Trunk Infrastructure to which it applies;
- (c) state the planning assumptions used to determine the necessary infrastructure works;
- (d) contain a plan identifying the area to be serviced by the Trunk Infrastructure;
- (e) detail the anticipated staging of the development;
- (f) state the calculated equivalent demand imposed by the development on each network;
- (g) list the Trunk Infrastructure to be contributed for each component or hierarchy of the network;
- (h) prescribe the Trunk Infrastructure to be provided, including a detailed description, design criteria and construction details, and the works program for its provision;
- (i) prescribe the responsible entity for the funding, design and construction of the Trunk Infrastructure including land acquisition;
- (j) prescribe the date for payment/receipt of any contributions;
- (k) state the nature of any security to be lodged and the details of the subsequent use or release of such security;
- (l) provide details in relation to maintenance of the infrastructure, including responsibilities for general maintenance activities, anticipated maintenance costs and responsibility for maintaining infrastructure performance (rectification of defects);
- (m) state the Infrastructure Credits to be accrued by, and attributed to, the development as well as the extent of any that are in excess of the Infrastructure Contributions applicable to the development;
- (n) detail any estimated refunds to be paid from other users who will benefit from the Trunk Infrastructure the subject of the Infrastructure Agreement;
- (o) indicate:
  - (i) whether or not the Council will permit the early accrual of Infrastructure Credits where a development proponent does not have any Infrastructure Credits but has substantially completed infrastructure works; and
  - (ii) the process of dedicating land for infrastructure purposes which upon completion/registration will entitle the development proponent to accrue Infrastructure Credit;
- (p) provide details of any approved temporary works and the entity responsible for meeting the costs associated with the operation and maintenance of these items over a period of five years, as well as their subsequent removal;
- (q) make provision for modification to the agreement, at Council's discretion, where issues of timing, other development or another Infrastructure Agreement entered into by either party warrants such modification; and

(r) include any other details considered appropriate by the Council.

### **6.3 Infrastructure Agreements for Advance Funding Arrangements**

Where Trunk Infrastructure is programmed in Council's Capital Works Program, but current funding from Infrastructure Contributions is insufficient for the purpose at the programmed construction date, or the construction of the Trunk Infrastructure needs to be brought forward, the Council at its sole discretion may require the development proponent to enter into an Infrastructure Agreement to provide advance funding for the infrastructure.

Such an Infrastructure Agreement is referred to for the purposes of this Planning Scheme Policy as an 'Advance Funding Infrastructure Agreement'.

Unless otherwise agreed between the parties to the agreement, funding arrangements will involve the full reimbursement by the Council or credit for the amount of advance funding for the purposes of constructing an Item of Trunk Infrastructure.

### **6.4 Infrastructure Agreements for Trunk Infrastructure Construction for Consistent Development**

Under the Council's preferred arrangements for consistent development, programmed Trunk Infrastructure will be constructed or acquired by the Council, and monetary contributions will be taken.

However, the Council at its sole discretion may enter into an agreement with the development proponent for that entity to construct or dedicate Trunk Infrastructure. The works constructed must be consistent with the Plans for Trunk Infrastructure.

The development proponent will be reimbursed for the provision of the Trunk Infrastructure through an Infrastructure Credit in accordance with Section 6.6 of this policy.

### **6.5 Infrastructure Agreements for Unanticipated Development**

#### **General Matters**

Where the Council supports a development proposal that is inconsistent with the Planning assumptions or outside of the DISA, it may refuse the application or make any approval conditional upon the development proponent and Council entering into an Infrastructure Agreement.

One of the primary purposes of the Infrastructure Agreement is to ensure the appropriate and timely provision of infrastructure to the development without compromising the Desired Standard of Service to existing and planned development allowed for in the Planning assumptions. The nature, extent, sequencing and timing of infrastructure works to meet these requirements is to be determined in detailed infrastructure reports provided by the development proponent.

In addition to those content issues outlined in Section 6.2 of this policy, the Infrastructure Agreement must include specific provisions aimed at ensuring that:-

- (a) existing and planned users within the DISA are not disadvantaged as a result of servicing the unanticipated development;
- (b) the strategy adopted for provision of infrastructure will result in no financial disadvantage to Council;
- (c) Council is indemnified against the risk associated with the expenditure that may be incurred by Council and any economic risk posed by the development;
- (d) the proposed infrastructure will be compatible with, and will form part of, the Council's scheme for the area;
- (e) the development proponent takes responsibility for the design and establishment of those parts of the systems required to service the development in accordance with relevant Council standards and a strategy approved from time to time by Council; and
- (f) the contributions for ATIC required under any condition of development approval are paid to Council.

#### **Accelerated Trunk Infrastructure required for Out of Sequence Development**

Where the relevant Trunk Infrastructure required to service the development is programmed in the Council's Capital Works Program but the development necessitates that its construction be brought forward, any development approval that may be issued will be conditional upon the development proponent entering into an Infrastructure Agreement for construction of the Trunk Infrastructure at the development proponent's cost.

The development proponent will be eligible for Infrastructure Credits determined in accordance with Section 6.6 of this policy.

The Council may impose the requirement for a contribution for ATIC to cover the cost impact of the “bring forward” of construction as a condition of development approval.

The Trunk Infrastructure to be provided may be required to also meet the demands of other anticipated development in the vicinity. In such instances, the development proponent will be required to fund all Trunk Infrastructure necessary to service that defined area or planned population of proposed and future development.

The Infrastructure Agreement may contain provision for refunding payments from future users of the infrastructure at the time the contributions are collected from those future users or at the time that the Item of Trunk Infrastructure subject of the Infrastructure Agreement was scheduled for construction in the Council's Capital Works Program, whichever is the later. Unless the payments made by future users are reduced contributions under Section 5.7 of this policy, the refunds, as determined by Council, will be generally:-

- (a) limited to the monetary equivalent of the excess Infrastructure Credits accrued by the development proponent for the provision of the Trunk Infrastructure at the time the excess Credits are accrued; and
- (b) indexed to values current at the time the refund is issued by applying the Consumer Price Index (All Groups) for the City of Brisbane as published by the Australian Bureau of Statistics.

Where the payments made by future users are reduced contributions, the monetary value of any refund made to the developer who provided the new infrastructure will be calculated using the methodology prescribed in Section 6.6 of this policy.

### **Land Transfers**

Under Council's regime for infrastructure contributions, land acquisition costs have been included in the establishment cost of Trunk Infrastructure, and the responsibility of the development proponent will be generally limited to payment of Infrastructure Contributions determined in accordance with the Development Contributions Policies.

However, land to service development would normally be required in instances where:-

- (a) Trunk Infrastructure including land is planned on the site of a development application and Council agrees to land being provided in lieu of a monetary contribution; or
- (b) Council specifically requires the transfer of part of that site to form part of the Trunk Infrastructure network.

The need for land transfers will be determined as part of the development assessment process.

Where transfer of land for Public Open Space and Community Purpose is either accepted or specifically required by Council, the development proponent may be eligible for Infrastructure Credits determined in accordance with Section 6.6 of this policy. In instances where the development proponent is likely to be eligible for Infrastructure Credits, the development proponent will need to enter into an Infrastructure Agreement confirming the precise extent of any credit and the method to be used for redeeming such credits.

Land transfers must be in fee simple and at no cost to the Council, unless otherwise agreed between the parties to the required Infrastructure Agreement.

## **6.6 Infrastructure Credits**

Infrastructure Credits are applicable where the Council:

- (a) requires or agrees to the construction of Trunk Infrastructure by the development proponent; and
- (b) determines that an allowance will be made for the development proponent to offset the costs of the Trunk Infrastructure against the Infrastructure Contributions payable; or
- (c) accepts or specifically requires the transfer of land for trunk infrastructure.

These allowances are referred to in this policy as Infrastructure Credits.

Infrastructure Credits are to be expressed in Equivalent Demand Units for each network and not in monetary terms.

Infrastructure Credits do not include allowances for existing entitlements on the land, or any previous payments made under this or a former charging regime. Those items are covered in Section 5.3 of this policy.

**Credits Calculation**

Infrastructure Credits are calculated by:-

- (1) determining the cost of the works or dedications (net of GST) to be constructed or dedicated by reference to the Plans for Trunk Infrastructure and the cost schedule for each Item of Trunk Infrastructure comprising the works (**V**), including any land contained therein;
- (2) escalating the cost of the works to current day value using the same method as outlined in Section 5.4 of this policy;
- (3) determining the service catchment for the Infrastructure Network Component under which the asset is classified and establishing the Infrastructure Contribution Rate for that Infrastructure Network; and
- (4) dividing the escalated cost of the works determined from (1) and (2) above by the Infrastructure Contribution Rate for the applicable Component of the Infrastructure Network escalated to current day value.

Infrastructure Credits = **V** escalated to current day value / Infrastructure Contribution Rate for the Infrastructure Network Service Catchment in which the asset belongs escalated to current day value.

Credits 'accrue' to the development proponent either:-

- (i) following final inspection and acceptance by the Council of the works "On Maintenance"; or
- (ii) following the lodgement with Council of a security to cover the satisfactory completion of the works in accordance with Section 6.7 of this policy.

**Deduction of Credits**

The Infrastructure Credit for constructed infrastructure, expressed as Equivalent Demand Units, will be deducted from the total demand calculated for each of the applicable networks pursuant to this and the other Development Contributions Policies. The Infrastructure Credit will only be applicable to that development and be both determined as part of the approval process and confirmed in the required Infrastructure Agreement.

The relevant Infrastructure Contributions payable will be deducted progressively from the Infrastructure Credit as they become due for each stage until the credit is reduced to zero. Once the Infrastructure Credit is reduced to zero, the development proponent must pay Infrastructure Contributions for any remaining balance of the development demand in accordance with this policy.

Where an Infrastructure Credit is allowed, it will be determined and applied to the infrastructure network component to which the credited component belongs (no cross-subsidisation of networks and network components will be permitted).

For the purpose of clarity, development proponents are advised that higher level Infrastructure Contributions (i.e. River Level for Stormwater, Regional Infrastructure for Water and Sewerage, Regional Parks and District Sports Facilities) must, unless otherwise permitted by Council, take the form of a monetary contribution and not be offset against a Credit obtained solely for the provision of lower level Infrastructure.

**Excess Credits**

The Trunk Infrastructure constructed or provided by the development proponent may need to be designed to service areas other than, and additional to, the site of the development application. In such cases, the calculated amount of Infrastructure Credits may exceed the level of the Infrastructure Contributions otherwise anticipated for the development.

Unless otherwise permitted by Council, such excess Infrastructure Credits will not be transferable:-

- (a) to other Trunk Infrastructure Networks; or
- (b) to a different development;

BUT

- (c) may be transferred between different stages of an approved staged development of the land; or
- (d) may be applied to a subsequent intensification of use or higher density development at the site.

Under no circumstances will Infrastructure Credits be cash redeemable upon demand.



### **Refunding Excess Credits**

In some cases, Council may allow the refunding of an excess credit from contributions levied against future users of the constructed/dedicated infrastructure. However, arrangements for these refunds will need to be specifically addressed in an Infrastructure Agreement, and be stated as either:-

- (1) refunds from Infrastructure Contributions made for future development on identified properties; or
- (2) refunds from Infrastructure Contributions made for future development collected in a specific service catchment and expressed as a percentage of Contributions.

The Infrastructure Agreement would ordinarily contain a specified time for refunding excess credits from contributions levied on future users of the constructed/dedicated infrastructure. Unless otherwise stated in the agreement, that time would usually be the later of the following:-

- (1) as the contributions are collected from future users; or
- (2) when the item of Trunk Infrastructure which is the subject of the Infrastructure Agreement was scheduled for construction in the Council's Capital Works Program.

The refunds will be generally limited to the monetary equivalent of the excess Infrastructure Credits accrued by the development proponent for the provision of the Trunk Infrastructure at the time the excess Credits are accrued, but indexed to values current at the time the refund is issued by applying the Consumer Price Index (All Groups) for the City of Brisbane as published by the Australian Bureau of Statistics.

### **6.7 Lodgement of Securities**

Where security is required to ensure the due and punctual performance of obligations or payment of a monetary contribution, the security is to be provided at no cost to Council.

Council is prepared to accept security provided by financial institutions which are corporations authorised under the *Banking Act 1959* as well as building societies and credit unions regulated by the Australian Prudential Regulation Authority (APRA) in terms of the *Banking Act 1959* (a list of those institutions is displayed on APRA's website [www.apra.gov.au](http://www.apra.gov.au) under the List of Authorised Deposit-Taking Institutions), and:

- (a) where the documentation is in a form acceptable to the Council's legal advisors; and
- (b) the security documentation is duly executed by a person with authority to legally bind the financial institution.

The security will be released by Council when the obligation in respect of which the security has been given is satisfied or is no longer required by the Council. Further, the Council may, in its absolute discretion, when requested, release part of a security to the extent that it is no longer reasonably required.

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## **7 Financial Management of Infrastructure Contributions**

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### **7.1 Trunk Infrastructure Expenditure**

The Plans for Trunk Infrastructure and the estimated Establishment Costs for Trunk Infrastructure shown therein form the basis of the Infrastructure Contributions being levied.

For purposes of transparency, monetary Infrastructure Contributions collected by Council will be spent on the network for which they were collected.

The imposition of a condition requiring an Infrastructure Contribution does not automatically entitle a development proponent to the immediate construction of any Trunk Infrastructure as may be necessary to service the development.

The Plans for Trunk Infrastructure demonstrate the intention of infrastructure provision by Council. The Plans for Trunk Infrastructure and the estimated establishment costs for Trunk Infrastructure contained therein are readily accessible and form part of the Development Contributions Policies.

The Plans for Trunk Infrastructure do not represent the Council's Capital Work Programs. They do, however, form a direct input into the determination of the Capital Works Programs.

For the purpose of clarity, the Plans for Trunk Infrastructure are not meant in any way to place a rigid obligation on Council as to the amount and timing of the construction of Trunk Infrastructure.

### **7.2 Register of Infrastructure Contributions**

Council will maintain a Register of Infrastructure Contributions in respect of each parcel of land for which Infrastructure Contributions have been paid, a contribution has been imposed or an Infrastructure Agreement addressing the issue of Infrastructure Contributions has been entered into. The Register will contain a record of the contributions applicable in respect of each Infrastructure Network and include:-

- (a) the real property description of the land to which the contribution applies;
- (b) the reference number of the development approval requiring the payment of an Infrastructure Contribution;
- (c) the schedule under which the contribution was imposed;
- (d) the Infrastructure Networks and Network Components for which the contribution was imposed;
- (e) the amount of the contribution levied and whether that amount was a reduced contribution under Section 5.7 of this policy;
- (f) the amount of the contribution unpaid;
- (g) the number of units of demand charged for;
- (h) if infrastructure was to be provided instead of paying the contribution – details of any infrastructure still to be provided; and
- (i) details of any accrual, allowance and reduction of Infrastructure Credit.

The Infrastructure Contributions Register will be made available for inspection at the Council's Customer Service Centre.

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## Schedule A: Definitions

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Other critical terms having general application through both the Redcliffe City Planning Scheme and the Development Contributions Policies are contained in Schedule 6 to the Planning Scheme.

Terms having specific application to the Development Contributions Policies have the meanings indicated below. Terms which are already defined either in Schedule 6 of the Redcliffe City Planning Scheme or Schedule 10 of the *Integrated Planning Act 1997* have the meaning as stated therein unless a different meaning is given in this schedule.

**Assumed Demand** - The demand for a development proposal derived from the Planning Assumptions.

**Base Level Infrastructure Contribution** - Means the contribution amount calculated pursuant to a Type 1 Assessment as outlined in section 4.3 of this policy.

**Base year (for each of the networks)** - means the year in which the network planning and cost estimates were undertaken

**Bioretention basin** - means a vegetated area where runoff is filtered through a filter media layer (e.g. sandy loam) as it percolates downwards. It is then collected via perforated under-drains and flows to downstream waterways or to storages for reuse.

**Capital Works Program** - Means the infrastructure provider's schedule of works outlined over a period of time, generally coinciding with the budget cycle, which plans the implementation of Trunk and Non-trunk Infrastructure for the Local Government area.

**Census Collection District (CCD)** - The Census Collection District (CCD) is the smallest geographic area defined in the Australian Standard Geographical Classification (ASGC). It has been designed for use in the Census of Population and Housing as the smallest unit for collection, processing and output of data.

**Constrained Public Open Space and Community Purpose Land** - Means public open space and community purpose land which:

- (a) is below the flood level resulting from the run-off from a one in twenty year storm (for the fully developed catchment) calculated in a manner as agreed with Council's engineer assuming a naturally shaped and vegetated watercourse or gully; or
- (b) contains a stormwater detention/retention basin and associated works and has a planning scheme zone other than "Low Density Residential, "Mixed Residential" or "Medium Density Residential"; or
- (c) is required to be provided to attenuate transportation noise under Council's policies; or
- (d) is a proposed street; or
- (e) is required for stormwater drainage reserve; or
- (f) is within an easement for stormwater drainage purposes, power lines or any other purpose, unless in Council's opinion the area or part of the area covered by the easement is suitable for use as Public Open Space or for Community Purpose.

**Constructed Wetland (Wetland)** - A shallow lake or pond, characterised by extensive areas of emergent aquatic plants/macrophytes, designed to support a diverse range of micro-organisms and biota associated with the breakdown of organic material and the uptake of nutrients.

**CPTED principles** - Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that reduce the likelihood of essential crime ingredients from intersecting in time and space. CPTED employs four key strategies, these are: natural surveillance, territorial reinforcement, natural access control, and target hardening.

**Credit (also Infrastructure Credit)** - Means an amount (measured in demand units) credited by the Council to a development proponent which offsets capital expenditure by the development proponent on Development Trunk Infrastructure against Infrastructure Contributions payable by the development proponent in respect of a development.

**Demand** - The assumed planning or design load (or level of use) placed on an Infrastructure Item or Network by development (For the determination of infrastructure contributions, Demand is typically expressed in demand units).

**Demand Unit** - Standard units of demand on a network generated by or likely to be generated by a development. Examples for demand units used in the Development Contributions Policies are:

- Water Supply: Equivalent Person Water Supply (EPW);
- Sewerage: Equivalent Person Sewerage (EPS);
- Stormwater Quantity: Equivalent Contributing Area Quantity ( $ECA_{QTY}$ ) - Runoff Coefficient per Zone x Catchment Area;
- Stormwater Quality : Equivalent Contributing Area Quality ( $ECA_{QAL}$ ) - Annual Pollutant Export Rate per Zone x Catchment Area;
- Roads: Chargeable Trip Ends (CTE);
- Pathways: Equivalent Tenements (ET); and
- Public Open Space and Community Purpose: Equivalent Person (EP).

**Design ARI** - Means the chosen design level of average recurrence interval (ARI) - the average, or expected, value of the periods between exceedances of a given rainfall total accumulated over a given duration.

**Designated Infrastructure Service Area (DISA)** - For a local government Designated Infrastructure Service Area means the area that is used, or approved for use, for any or all of the following:

- residential purposes, other than rural residential purposes;
- retail and commercial purposes;
- industrial purposes;
- community and government purposes related to a purpose mentioned in subparagraphs (i) to (iii); and
- that will accommodate at least 10 years, but not more than 15 years, of growth for the purposes mentioned in paragraph (a).

**Desired standards of service (DSS)** - For a network of development infrastructure, means the standard of performance stated in a planning scheme policy.

**Detention Basin** - A pond or basin designed to temporarily detain storm or flood waters, in order to attenuate peak flows to acceptable levels downstream within a constructed drainage system or stream.

**Developable Area** - The area of a parcel of land minus the area subject to Q100 flooding, Steep Slope (>25% slope) and 'Of concern' and 'Endangered' VMA areas.

**Development Contributions Policies** - The following Planning Scheme Policies for Development Contributions for Trunk Infrastructure for the Redcliffe City Planning Scheme:

PSP4 Part 8.4.1 - Development Contributions for Trunk Infrastructure - Administration Policy

PSP4 Part 8.4.3 - Development Contributions for Trunk Infrastructure - Public Open Space & Community Purpose

PSP4 Part 8.4.5 - Development Contributions for Trunk Infrastructure - Water Supply

PSP4 Part 8.4.6 - Development Contributions for Trunk Infrastructure - Sewerage

PSP4 Part 8.4.7 - Development Contributions for Trunk Infrastructure - Transport

PSP4 Part 8.4.8 - Development Contributions for Trunk Infrastructure - Stormwater

**Development Proponent** - The entity proposing to undertake a Development.

**Development Proposal** - A proposal made by a development proponent which comprises one or more of the elements constituting Development as defined in the *Integrated Planning Act 1997*.

**Drainage Corridor Easement (Corridor - Easement)** - The area of land identified by a registered easement, specifically required for the lawful discharge of drainage from upstream urban catchments but where ownership of the land is not required to be vested in Council. The easement may contain such infrastructure works or revegetated buffers necessary to meet the desired outcomes.

**Drainage Corridor Reserve (Corridor - Reserve)** - The area of land acquired or transferred to Council and identified within the applicable property records or planning documents as being specifically required for the lawful discharge of drainage from upstream urban catchments, where ownership of the land and responsibility for maintenance of revegetated buffers and maintenance and operation of any drainage system lies with Council.

**Equivalent Contributing Area** - The Equivalent Contributing Area for a catchment is calculated by multiplying the area of all land of a given Planning Scheme Zone in a catchment by the contribution factor for the zone, and then aggregating the results for the catchment.

**Equivalent Person (EP)** - A unit of demand for different uses or services. An EP is equivalent to the service demand from an occupant of an average, occupied detached house. Demand from multi-unit or non-residential uses may also be expressed in EPs, based upon statistical data on average occupancy or other relevant data.

**Equivalent Tenement (ET)** - A unit of demand for different uses or services. An ET is equivalent to the service demand from an average, occupied detached house.

**Existing Demand / Entitlements** - Means the network demand a development proponent has already paid for in the past or is entitled to by way of existing use rights on the land subject to the development proposal (For example, a development proposal for reconfiguring a lot is received over a land parcel on which a detached house already exists and the property is already connected to water supply and sewerage - the existing demand on the property is the demand for a single detached house).

**Existing Development** - For the determination of Infrastructure Contributions, existing development is any lawfully established development for which a contribution towards infrastructure has already been made or for which no opportunity to obtain a contribution is anticipated, within the planning horizon set out in the Plans for Trunk Infrastructure.

**External Catchment** - The concept of external catchments is used to allow allocation of some demand on a Trunk Infrastructure Network to users located in areas external to the Service Catchments for those networks.

**Greenfield** - Areas of undeveloped land in the Urban Footprint suitable for urban development (SEQ Regional Plan).

**Gross Pollutant Trap (GPT)** - A structure designed to collect gross pollutants such as litter, debris and coarse sediments. The collection area is usually concrete-lined to allow for rubbish removal and a trash rack is normally located at the downstream end of the trap.

**Habitable area** - Means the area used for normal domestic activities associated with the habitable room defined in the building code.

**Infrastructure Contribution Rate** - The contribution rate applicable to a unit of demand in a service catchment and for an Infrastructure Network.

**Infrastructure Item (also Item of Trunk Infrastructure)** - Any agglomeration of works or property which is represented as a single entity for the purposes of calculating Infrastructure Contributions.

**Infrastructure Network** - A number of Infrastructure Items combined for a single purpose or which, by their nature, logically combine to form a network (A network comprises the primary infrastructure elements of the Plans for Trunk Infrastructure for which Council is empowered to impose infrastructure contributions e.g.

- Water Supply Trunk Infrastructure;
- Sewerage Trunk Infrastructure;
- Stormwater Quality and Quantity Trunk Infrastructure;
- Council Trunk Roads and Pathway Infrastructure; and
- Public Open Space and Community Purpose Trunk Infrastructure.

**Infrastructure Network Component** - An element or section of Infrastructure within an Infrastructure Network (For example, the Sewerage Network is further broken down into Regional and Local Components).

**Life Cycle Cost** - For a network of development infrastructure items, is the amount of the establishment cost of the network plus the amount representing the present value of operating, renewal and maintenance costs of the network.

**Local area drainage infrastructure** - Means stormwater infrastructure identified in a Local Area Drainage Plan.

**Major drainage system** - Component of the stormwater network designed to convey runoff during large infrequent storm events in excess of the minor drainage system capacity, typically comprising of open channels and roadways.

**Minor drainage system** - Component of the stormwater network designed to convey runoff during small frequent storm events, typically comprising kerb and guttering and underground pipe systems.

**Major Riparian Corridor Management Area (RCMA - Major)** - The area of land identified for establishment and / or protection of riparian vegetation generally located along major tributaries, creek and river systems conveying permanent or semi-permanent flow.

**Minor Riparian Corridor Management Area (RCMA - Minor)** - The area of land identified for establishment and / or protection of riparian vegetation generally located along minor tributaries or flow paths, ephemeral in

nature and lacking permanent or semi-permanent flow, and some parts of the major waterway system where development constraints exist.

**Net present value (NPV)** - The expression of future cash flow as an equivalent present day figure, found by discounting all present and future receipts and outgoings at an appropriate discount rate.

**Non-trunk infrastructure** - means development infrastructure that is not trunk infrastructure.

**Open Channel** - Excavated or formed channel used to collect and convey the design stormwater flow from an upstream catchment to discharge to a watercourse, wetland or detention basin. Characteristics normally include regular profile, full or partial lining of the channel invert and batters with concrete, rock or vegetation and downstream erosion protection works.

**Redcliffe City Planning Scheme** - The IPA compliant planning scheme for the former Redcliffe City within the Moreton Bay Regional Council local government area.

**Pipe Drainage System (Pipe drainage)** - A system of pipes, pits or chambers and inlets to collect and convey design flows from urban allotments and roadways to discharge to a watercourse, wetland or detention basin. Where the system traverses private property, the installed works are generally contained within a registered easement in favour of Council.

#### Planning Horizon

- Water Supply and Sewerage Planning Horizon - the period to full development of the former Redcliffe City assuming densities consistent with the Planning Scheme.
- Stormwater Planning Horizon - the period to full development of the City assuming densities consistent with the Planning Scheme.
- Public Open Space and Community Purpose Planning Horizon - the period from 2006-2021.
- Transport Planning Horizon - the period from 2006-2021.

**Planning Assumptions** - The statements within the supporting documents for the Development Contribution Policies that outline the basis for planning, designing and funding the networks of infrastructure that are to service development undertaken in the community.

**Redcliffe City Planning Scheme (the planning scheme)** - The IPA compliant planning scheme for the former Redcliffe City within the Moreton Bay Regional Council local government area.

**Plans for Trunk Infrastructure** - The part of a planning scheme policy that identifies the trunk infrastructure network that exists or may be supplied to service future growth in the local government's area to meet the desired standard of service stated in the plan.

**QDNRM guidelines** - Are guidelines prepared by the Queensland Department of Natural Resources and Mines.

**Rehabilitation** - Improving the geomorphologic and ecological conditions of a waterway to those more closely resembling natural conditions. This includes channel enhancement to minimise erosion and siltation, stream bank protection and improving the vegetation cover of the waterway channel and corridor.

**Residential zoned land** - Land allocated or identified as a zone or area in a planning scheme, including a strategic plan in a transitional planning scheme, for residential type uses (SEQ Regional Plan).

**Revegetation** - The re-establishment of plants on an area of channel or waterway corridor that has been depleted or is devoid of vegetation in order to provide protection against erosive agents and to improve the nutrient and sediment interception and filtration capacity as well as to provide improved fauna habitat. It is an integral part of erosion control and prevention. Preferred species for revegetation are those endemic to the area and those specific to creek and riverine corridors.

**Road Crossing Upgrade (Crossing Upgrade)** - Measures to improve the hydraulic conveyance or efficiency of a waterway or constructed channel at a road crossing. These may include the installation of additional pipes or box culverts and new or increased bridge waterway openings or spans. It also includes associated headwalls, wingwalls, concrete aprons and erosion protection and may also include limited channel re-alignment upstream and downstream of the crossing.

**Runoff Coefficient** - The ratio of the peak rate of water runoff per unit of catchment area to the average rainfall intensity during the critical rainfall event for a particular catchment (refer to Queensland Urban Drainage Manual).

**Sedimentation Basin** - A basin or large open structure designed for the temporary detention of stormwater flows to provide time for the settling of suspended sediments and other heavy pollutants prior to discharge into a watercourse, lake or other water storage. It is designed to promote low-velocity and low-turbulence flows to facilitate the settling process and is generally used as a pre-treatment upstream of other stormwater quality treatment measures such as wetlands.

**Service Catchment** - The area containing the demand units being serviced by a nominated infrastructure item or collection of nominated infrastructure items.

**Shared pathway** - Pathway utilised by more than one user group. i.e. cyclists and pedestrians.

**Spare Capacity** - The additional service function or “capacity” of a network that is built into the initial construction so that other or additional calculated demands can be incorporated into the system without the need for constant incremental augmentation.

**Statistical Local Area (SLA)** - The SLA is a general purpose spatial unit. It is the base spatial unit used to collect and disseminate statistics. An SLA consists of one or more whole Census Collection Districts.

**Stormwater quality improvement device (SQID)** - Means a device that temporarily captures part or all of the stormwater flowing off a catchment for the purpose of reducing pollutant concentration. Typically includes Gross Pollutant Traps, bioretention basins, vegetated swales and constructed wetlands.

**Stream Bank Protection or Stabilisation (Bank Stabilisation)** - Works implemented to protect or reinforce existing stream banks from erosion. Measures may include the installation of loose or anchored materials such as large boulders, geotextiles, gabions, mattresses, concrete or precast concrete units. They may also include the re-shaping of batters and the installation of soil stabilising plant species.

**Swale** - A shallow open drainage flow path constructed to collect, convey and treat stormwater flows. Characteristics include batters designed for ease of maintenance, vegetation to retard flow velocities and retain sediment and nutrient prior to discharge to a watercourse, wetland or detention basin.

**Trash Rack** - A series of metal bars located across a stormwater channel or pipe to trap litter and debris. The bars may be vertical or horizontal depending upon hydraulic, cleaning and/or environmental considerations (eg fish passage). Vertical bars are normally preferred to facilitate cleaning.

**Trip** - A one-way vehicular movement from one point to another excluding the return journey. Therefore a vehicle entering and leaving a land use is counted as two trips, from *page 10-7 RTA Issue 2.2 October 2002*.

**Trunk Infrastructure** - Means development infrastructure identified in a planning scheme policy as trunk infrastructure.

**Trunk Road Infrastructure** - The roads identified as such in the Plans for Trunk Infrastructure.

**Ultimate development** - means the likely maximum development yield of the planning area within the life of the planning scheme.

**Unanticipated Development** - Development which is inconsistent with the Planning assumptions in the Plans for Trunk Infrastructure (PFTI) in respect of location, type, scale, size, intensity or timing, or otherwise inconsistent with the stated outcomes of the Planning Scheme.

**Unmaintained channel** - Means a well defined natural or man-made depression that conveys stormwater during and after heavy rain not subject to regular clearing and debris control.

**Unmaintained flow path** - Means a shallow depression that conveys stormwater during and after heavy rain not subject to regular clearing and debris control.

**Urban Footprint** - Refers to the Urban Footprint as shown on Map2 in the SEQ Regional Plan.

**Weir Type Sediment and Trash Trap (Sediment Trap)** - A small open structure designed to collect sediment and trash and which is generally located at the discharge end of pipe systems serving catchments of between two (2) hectares and five (5) hectares. The device consists of a concrete apron of sediment collection area with weir boards mounted transverse to the stormwater flow to retain and slowly release runoff from minor storm events thus enabling the collection of trash, or litter and coarse sediment.

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**Schedule B: References**

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PSP4 Part 8.4.3 - Development Contributions for Trunk Infrastructure - Public Open Space & Community Purpose

PSP4 Part 8.4.5 - Development Contributions for Trunk Infrastructure - Water Supply

PSP4 Part 8.4.6 - Development Contributions for Trunk Infrastructure - Sewerage

PSP4 Part 8.4.7 - Development Contributions for Trunk Infrastructure - Transport

PSP4 Part 8.4.8 - Development Contributions for Trunk Infrastructure - Stormwater

Rawlinson's "Australian Construction Handbook"

Planet Valuation Services, "Land Value Index Report" prepared for Redcliffe City

SEQ Regional Plan

Queensland Urban Drainage Manual

ANZSIC Code

2006 Census Data - Australian Bureau of Statistics

IPA Guidelines 1/04 and 2/04 (dated 4 October 2004)



**Review Triggers**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**Responsibility**

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability in consultation with the Senior Manager Development Services and the Senior Manager Regional and Environmental Planning.

**Version Control**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
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<b>Related Links:</b>

## ENDNOTES

Amendment	Date Adopted – 8 September 2009	Effective Date – 29 October 2009
Planning Scheme Policy Reference	Description of Amendment	
PSP 4 Part 8.4.1	<ul style="list-style-type: none"> <li>Existing Policy 8.4.1 Parkland Contributions is proposed to be replaced with a new policy that deals with the administration of contributions to all infrastructure networks, rather than just parks. This policy change aims to reflect the Administration Policy in effect in the former Pine Rivers Shire to ensure a common administrative regime across Moreton Bay Regional Council (MBRC).</li> </ul>	

Amendment	Date Adopted – 28 March 2013	Effective Date – 8 April 2013
Planning Scheme Policy Reference	Description of Amendment	
PSP 4 Part 8.4.1	<ul style="list-style-type: none"> <li>Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.</li> </ul>	

#### 8.4.2 TREE PLANTING CONTRIBUTION IN LIEU OF PLANTING

A cash contribution for the provision of street trees is made where the development does not propose to provide street trees.

The rate of charge is in accordance with Council's current Schedule of Fees and Charges.

PSP4 PART 8.4.3 DEVELOPMENT CONTRIBUTIONS FOR TRUNK  
INFRASTRUCTURE – PUBLIC OPEN SPACE AND COMMUNITY  
PURPOSES

TABLE OF CONTENTS

<b>HEAD OF POWER</b> .....	<b>1</b>
<b>OBJECTIVE</b> .....	<b>1</b>
<b>DEFINITIONS / APPLICATION</b> .....	<b>1</b>
<b>POLICY STATEMENT</b> .....	<b>1</b>
<b>1 SCOPE</b> .....	<b>1</b>
<b>2 BACKGROUND INFORMATION</b> .....	<b>2</b>
<b>3 PUBLIC OPEN SPACE AND COMMUNITY PURPOSE METHODOLOGY</b> .....	<b>2</b>
3.1 METHODOLOGY FOR PUBLIC OPEN SPACE AND COMMUNITY PURPOSE NETWORK .....	2
3.2 PUBLIC OPEN SPACE AND COMMUNITY PURPOSE SERVICE CATCHMENTS .....	3
3.3 PUBLIC OPEN SPACE AND COMMUNITY PURPOSE DEMAND ASSUMPTIONS .....	3
<b>4 PUBLIC OPEN SPACE AND COMMUNITY PURPOSE PLAN FOR TRUNK INFRASTRUCTURE</b> .....	<b>4</b>
4.1 PUBLIC OPEN SPACE AND COMMUNITY PURPOSE INFRASTRUCTURE VALUATIONS .....	4
4.2 EXISTING AND FUTURE PUBLIC OPEN SPACE AND COMMUNITY PURPOSE INFRASTRUCTURE .....	6
4.3 TOTAL COST PER NETWORK COMPONENT .....	12
<b>SCHEDULE A: DEMAND FACTORS</b> .....	<b>13</b>
<b>SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES</b> .....	<b>14</b>
<b>SCHEDULE C: NETWORK ASSET MAPS</b> .....	<b>15</b>
<b>SCHEDULE D: DESIRED STANDARDS OF SERVICE</b> .....	<b>19</b>
<b>REVIEW TRIGGERS</b> .....	<b>22</b>
<b>RESPONSIBILITY</b> .....	<b>22</b>
<b>VERSION CONTROL</b> .....	<b>22</b>

## **PSP4 Part 8.4.3 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – PUBLIC OPEN SPACE and COMMUNITY PURPOSES**

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### **Head of Power**

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### **Objective**

The objective of this policy is to apportion the cost of over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of public open space and community purposes trunk infrastructure between Council and developers of land in the former Redcliffe City.

### **Definitions / Application**

#### **Application**

This policy applies to all applications for development which has been made assessable against the *Redcliffe City Planning Scheme* and which will utilise any part of the Public Open Space and Community Purpose Trunk Infrastructure Network. For the purposes of this policy, the extent of the Public Open Space and Community Purpose Trunk Infrastructure Network within the City is shown in Schedule C.

The policy outlines the basis of Council's Infrastructure Contributions Regime for the Public Open Space and Community Purpose Trunk Infrastructure Network in the former Redcliffe City. It is to be read in conjunction with PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy.

Payment of any monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk infrastructure works. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

#### **Definitions**

The definitions of applicable terms are contained in PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy. Where a term used in this policy is not defined in PSP4 Part 8.4.1, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Redcliffe City Planning Scheme* or in the *Integrated Planning Act 1997*.

### **Policy Statement**

#### **1 Scope**

This policy sets out the basis for the determination of Development Contributions for Public Open Space and Community Purpose Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Redcliffe City which, in the opinion of Council, may generate a need for or actually impose a load on its Public Open Space and Community Purposes Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP 4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Public Open Space and Community Purposes Trunk Infrastructure within the former Redcliffe City;
- specifies the works, structures or equipment, which the Council determines to be Public Open Space and Community Purposes Trunk Infrastructure;
- establishes the estimated cost of works and basic embellishments of the Public Open Space and Community Purposes Trunk Infrastructure Network in respect of which contributions are to be made; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.

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## 2 Background Information

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The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the work undertaken by Council in the preparation of its proposed Priority Infrastructure Plan under the *Integrated Planning Act 1997*.

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## 3 Public Open Space and Community Purpose Methodology

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### 3.1 Methodology for Public Open Space and Community Purpose Network

The methodology used for determining the rate of infrastructure contributions for Council Public Open Space and Community Purpose trunk infrastructure under this policy is based upon the method set out in the Department of Local Government and Planning's IPA Guidelines 1/04 and 2/04 (dated 4th October 2004).

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community) and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the public open space (and community purposes) trunk infrastructure network to be consumed by that entity's development proposal.

#### **Step 1 – Determine Desired Standards of Service (refer Schedule D):**

The DSS were developed through an assessment of the current provision of public open space and community purposes and the typical embellishments included in them during the work undertaken by Council in the preparation of its proposed Priority Infrastructure Plan.

#### **Step 2 – Assess Existing Network:**

The existing infrastructure, including parks embellishments, was determined from Council's asset management records.

#### **Step 3 – Determine Plan for Trunk Infrastructure:**

Analysis of the land area of Redcliffe City showed that the existing quantity of land in the public open space and community purpose network met the land quantity component of the DSS and no further acquisitions were necessary in the future. An exercise was conducted to ensure that 90% of households were within 800m of local park facilities and the land provision was found to be compliant. However, upgrades to existing embellishments are required to fully meet the DSS, and those have been determined for each individual network item and were valued by applying the 2005 unit rates for embellishments shown in Table 4.1A , escalated to 01 January 2009 values (refer Table 4.2.1).

#### **Step 4 - Determine External Use of the Network:**

It has been assumed regional parks and sports facilities are used by users external to the former Redcliffe City and a 30% allowance has been attributed to external use. This has been taken into account in the calculation of the Infrastructure Contribution Rate applicable to users within the former Redcliffe City.

#### **Step 5 - Calculate Contribution Rates**

Add the valuations of existing infrastructure items and the net present value of the future infrastructure items minus any value allocated to external catchment or non-residential users to determine the 'total (chargeable) network value'.

To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand which has been indexed for anticipated fluctuations in construction costs (general increases) and discounted for cost of capital, resulting in NPV Demand.

The 'total (chargeable) network value' is then divided by the NPV demand to arrive at the contribution rate.

#### **Step 6 – Determine Plan for Trunk Infrastructure**

The Plan for Trunk Infrastructure was developed by comparing the existing infrastructure to Council's adopted desired standards of service and establishing a reasonable upgrading program based on perceived demand. A relatively uniform rate of growth in demand across the City suggests that a program of linear expenditure distribution over the Planning Horizon to upgrade the Public Open Space and Community Purposes Network is appropriate.

### 3.2 Public Open Space and Community Purpose Service Catchments

Given the nature and size of the former Redcliffe City local government area, it is reasonable to consider it as one single service catchment.

The concept of an External Catchment has been introduced to acknowledge that the Public Open Space and Community Purpose Trunk Infrastructure Network is an open network. This allows for the identification of a proportion of users of the network that come from within the City and users that come from areas External to the City for the purpose of fair cost apportionment.

### 3.3 Public Open Space and Community Purpose Demand Assumptions

#### Demand Units

The Public Open Space and Community Purpose Infrastructure contributions regime relies on population projections as a means of determining infrastructure needs. For Public Open Space and Community Purpose Infrastructure, the Equivalent Person (EP) has been adopted as the standard unit against which the demand for capacity and hence contributions are assessed. Equivalent Persons for Public Open Space and Community Purpose network planning have been derived from the Population Projections.

#### Projected Demand

Projected ultimate demand for the public open space and community purposes network is shown in Table 3.3A. To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand indexed for anticipated fluctuations in construction costs (generally increases) and discounted for cost of capital, resulting in NPV Demand.

**Table 3.3A - Equivalent Persons (EPs)**

	Actual 2021 EPs	NPV 2021 EPs
EP's for residential development	60,740	60,257
EP's based on GFA for non residential demand	2,539	2,525
<b>Total</b>	<b>63,279</b>	<b>62,782</b>

## 4 Public Open Space and Community Purpose Plan for Trunk Infrastructure

The Public Open Space and Community Purpose network consists of the following components:

- Recreation parks: local, neighbourhood or regional;
- Sporting facilities: district or regional; and
- Land for community facilities.

### 4.1 Public Open Space and Community Purpose Infrastructure Valuations

There is no Land Acquisition component cost factored into the valuations for the Public Open Space and Community Purpose network.

Table 4.1A outlines the typical embellishments by park type required to meet Council's adopted DSS, as well as the relevant Unit Rates for those embellishments. This is an indicative list only. An analysis was conducted on each park within the City to determine appropriate embellishments based on the function performed by each site.

**Table 4.1A: Typical Embellishments per Park Type**

Embellishment type	Local	Neighbourhood	Regional	Sports	Community	Cost
Concept plan	•					\$10,000
Park toilets		•	•	•		\$234,000
Change room/shower			•	•		\$173,400
Shade shelters	•	•	•	•		\$34,680
BBQ Shelters			•			\$28,900
Small play equipment	•			•		\$34,680
Large play equipment		•	•			\$92,480
Playground Fencing Small				•		\$23,120
Playground Fencing Large		•				\$46,240
Impact Absorption Small	•			•		\$11,560
Impact Absorption Large		•	•			\$34,680
Playground Shade Cover Small	•			•		\$28,900
Playground Shade Cover Large		•	•			\$57,800
Picnic tables	•	•	•	•		\$3,468
Park bench seats	•	•	•	•		\$2,312
Park Name Signage	•	•	•	•		\$2,312
Park Bins		•	•			\$1,156
Recycle Bins			•			\$1,734
Turf irrigation		•	•			\$57,800
Garden irrigation			•			\$28,900
Recycled Water Storage			•	•		\$11,560
Sport field irrigation				•		\$150,280
Drink fountain		•				\$5,780
Water tap			•			\$2,312
Outdoor Beach Showers			•			\$13,872
Property pole		•		•		\$5,780
Park lighting	•		•			\$4,624
Feature Lighting			•			\$4,046
Pathway lighting		•	•			\$5,780
Facility lighting				•		\$4,046
Field lighting				•		\$23,120
Carpark lighting				•		\$8,670
BBQ		•	•			\$9,248
Power outlets				•		\$5,780



Embellishment type	Local	Neighbourhood	Regional	Sports	Community	Cost
Pathways		●				\$150,280
Bike Ways/Shared Footpath			●			\$1,156
Footbridges			●	●		\$80,920
Boardwalks			●			\$173,400
Ramps						\$173,400
Steps		●	●		●	\$115,600
Retaining walls			●			\$57,800
Barrier bollards	●	●	●			\$578
Park Drainage				●		\$86,700
Shade tree planting	●	●				\$57,800
Garden/Shrub beds		●			●	\$57,800
Turf – Parks			●			\$34,680
Turf - Playing Field				●		\$115,600
Site establishment	●	●	●	●	●	\$17,340
Fishing platforms		●				\$57,800
Fish cleaning station		●				\$17,340
Boat Ramp			●			\$115,600
Trailer Parking			●			\$115,600
Skate Park			●			\$173,400
BMX Park						\$52,020
Tennis rebound wall		●				\$52,020
Ball activities	●			●		\$23,120
Exercise station				●		\$34,680
Half-court basketball		●				\$57,800
Goal Posts				●		\$4,624
Cricket Nets				●		\$52,020
Sports Surfacing				●		\$289,000
Athletics Facilities				●		\$462,400
Field Safety Fencing				●		\$57,800
Basic Spectator Seating				●		\$57,800
Memorial Plaques	●	●	●			\$11,560
Feature Infrastructure						\$57,800
Monuments	●	●	●			\$11,560
Car Parking Small		●				\$57,800
Car Parking Large			●	●		\$173,400
Wheelchair Pram Crossings	●		●	●		\$3,468
Bike Racks		●	●	●		\$2,312

## 4.2 Existing and Future Public Open Space and Community Purpose Infrastructure

As previously indicated, analysis of the land area of the former Redcliffe City showed that the existing quantity of public open space and community purpose network land met the quantity component of the DSS and no further acquisitions were necessary in the future. An exercise was conducted to ensure that 90% of households were within 800m of local park facilities and the land provision was found to be compliant. Table 4.2A outlines the split of park types and their hierarchies across the network.

**Table 4.2A: Total land provision**

Park Type	Hierarchy Level	Total Land Area (Ha)
Recreation Park	Local	95.9
	Neighbourhood	125.3
	Regional	34.4
Sporting Facilities	District	68.7
	Regional	
Community Facilities	All	4.5
<b>Total</b>		<b>328.8 Ha</b>

No land cost has been included for the Public Open Space and Community Purpose network, only the embellishments have been costed and shared equally across all users, existing and future.

The future works to be undertaken within the network are limited to embellishments to improve the usability and access features of existing facilities.

The following tables outline the existing value of the Public Open Space and Community Purpose infrastructure and the Net Present Value of future works to be undertaken, all measured in 01 January 2009 dollars.

## Local Park

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK79	ALBATROSS CANAL	Local park	\$-	\$-	\$-	\$-
PK80	ASHMOLE CNR/GRIFFITH	Local park	\$-	\$-	\$-	\$-
PK81	BEACON PARK	Local park	\$ 30,518	\$124,661	\$-	\$155,179
PK82	BELLS PARK	Local park	\$-	\$ 46,433	\$-	\$46,433
PK83	BERTIE DOW PARK	Local park	\$ 1,907	\$-	\$-	\$1,907
PK84	BEVINGTON WOODLAND	Local park	\$ 76,296	\$ 77,389	\$-	\$153,685
PK85	BINGARRA PARK	Local park	\$ 35,605	\$ 5,159	\$-	\$40,764
PK86	BOAMA PARK	Local park	\$174,209	\$ 11,158	\$-	\$185,367
PK87	BOARDMAN ROAD drainage reserve	Local park	\$-	\$-	\$-	\$-
PK88	CHARTWELLPARK	Local park	\$115,716	\$ 5,159	\$-	\$120,875
PK89	CLAYFIELD STREET	Local park	\$-	\$-	\$-	\$-
PK90	CLONTARF BEACH PARK	Local park	\$644,701	\$116,083	\$-	\$760,784
PK91	COMAN PARK	Local park	\$ 3,815	\$-	\$-	\$3,815
PK92	COOPERPARK	Local park	\$-	\$-	\$-	\$-
PK93	CORESCADDEN PARK	Local park	\$364,949	\$557,198	\$-	\$922,147
PK94	CORMORANT CANAL	Local park	\$ 1,272	\$-	\$-	\$1,272
PK95	CURLEW CANAL ( 6)	Local park	\$-	\$-	\$-	\$-
PK96	DAPHNE CARPENTER PARK	Local park	\$ 13,988	\$ 18,057	\$-	\$32,045
PK97	Donkin Street (Unnamed Soubiruos 1)	Local park	\$ 1,272	\$-	\$-	\$1,272
PK98	EUSTON STREET / fleet drive	Local park	\$-	\$-	\$-	\$-
PK99	FALCON CANAL	Local park	\$-	\$-	\$-	\$-
PK100	GARNNET CANAL	Local park	\$-	\$-	\$-	\$-
PK101	GLANVILLE PARK	Local park	\$170,394	\$288,917	\$-	\$459,312
PK102	GRANT PARK	Local park	\$178,024	\$ 85,127	\$-	\$263,151
PK103	HALAMKA PARK	Local park	\$147,506	\$216,688	\$-	\$364,194
PK104	HAWK CANAL	Local park	\$-	\$-	\$-	\$-
PK105	HAYSMOUTH PARADE	Local park	\$-	\$-	\$-	\$-
PK106	HERON CANAL	Local park	\$-	\$-	\$-	\$-
PK107	HITCHINSPARK	Local park	\$ 1,907	\$-	\$-	\$1,907
PK108	HOMEFIELD STREET centre median	Local park	\$-	\$-	\$-	\$-
PK109	HUBNERPARK	Local park	\$ 2,543	\$-	\$-	\$2,543
PK110	IBIS CANAL	Local park	\$-	\$-	\$-	\$-
PK111	INTREPID PARK	Local park	\$ 61,037	\$134,140	\$-	\$195,177
PK112	JABIRU CANAL	Local park	\$-	\$-	\$-	\$-
PK113	JIM FINLAY PARK	Local park	\$ 2,543	\$ 45,143	\$-	\$47,687
PK114	JIM MCGAHEY PARK	Local park	\$ 2,543	\$ 45,143	\$-	\$47,687
PK115	JOHN OXLEY PARK	Local park	\$ 86,469	\$ 11,158	\$-	\$97,626
PK116	KENNA PARK	Local park	\$ 67,395	\$ 73,519	\$-	\$140,914
PK117	KIRKWOOD SQUARE - HOMEFIELD STREET	Local park	\$-	\$ 5,159	\$-	\$5,159
PK118	LESLIE SLAUGHTER PARK	Local park	\$148,777	\$105,764	\$-	\$254,542
PK119	LIONS MEMORIAL PARK	Local park	\$ 58,494	\$ 91,126	\$-	\$149,619
PK120	MACFARLANEPARK	Local park	\$264,493	\$196,051	\$-	\$460,544
PK121	MACKENZIEPARK	Local park	\$ 8,901	\$-	\$-	\$8,901
PK122	MADELEINE CT	Local park	\$ 1,907	\$-	\$-	\$1,907
PK123	MAGNOLIA PARK	Local park	\$ 73,753	\$-	\$-	\$73,753
PK124	MAHOGANY PARK	Local park	\$ 86,469	\$ 7,739	\$-	\$94,208

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK125	MARSALAPARK	Local park	\$ 54,679	\$ 69,650	\$ -	\$124,329
PK126	MARSALA ST DRAIN reserve	Local park	\$-	\$-	\$ -	\$ -
PK127	MORRIS PARK	Local park	\$ 10,173	\$ 55,462	\$ -	\$65,635
PK128	OASIS CRT	Local park	\$-	\$-	\$ -	\$ -
PK129	OSPREY CANAL	Local park	\$-	\$-	\$ -	\$ -
PK130	PACIFICPARK	Local park	\$-	\$-	\$ -	\$ -
PK131	PARADISE PARK	Local park	\$ 55,950	\$-	\$ -	\$55,950
PK132	PARSONS PARK	Local park	\$ 80,111	\$335,351	\$ -	\$415,461
PK133	PASKPARK	Local park	\$ 86,469	\$ 10,318	\$ -	\$96,787
PK134	PELICAN CANAL	Local park	\$ 2,543	\$-	\$ -	\$2,543
PK135	PETREL CANAL	Local park	\$-	\$-	\$ -	\$ -
PK136	PLUMEPARK	Local park	\$ 12,716	\$163,355	\$ -	\$176,071
PK137	QUEENSPARK	Local park	\$ 66,123	\$ 6,449	\$ -	\$72,572
PK138	QUEENS BEACH PARK	Local park	\$324,258	\$146,588	\$ -	\$470,846
PK139	QUEENS BEACH SOUTH PARK	Local park	\$ 17,802	\$153,037	\$ -	\$170,839
PK140	REGENCY PARK	Local park	\$ 7,630	\$ 18,057	\$ -	\$25,687
PK141	ROTHWELL RESERVOIR ( )	Local park	\$-	\$-	\$ -	\$ -
PK142	SANDPIPER CANAL	Local park	\$ 2,543	\$-	\$ -	\$2,543
PK143	SEAEAGLE CANAL	Local park	\$-	\$-	\$ -	\$ -
PK144	SEAGULL CANAL	Local park	\$-	\$-	\$ -	\$ -
PK145	SEAHAWK CANAL	Local park	\$-	\$-	\$ -	\$ -
PK146	SHEARWATER CANAL	Local park	\$-	\$-	\$ -	\$ -
PK147	SPOONBILL CANAL	Local park	\$ 63,580	\$-	\$ -	\$63,580
PK148	SWAN CANAL	Local park	\$-	\$-	\$ -	\$ -
PK149	TERN CANAL	Local park	\$ 12,716	\$-	\$ -	\$12,716
PK150	TINGIRAPARK	Local park	\$ 83,926	\$ 94,156	\$ -	\$178,082
PK151	TOM CURRY PARK	Local park	\$ 50,864	\$-	\$ -	\$50,864
PK152	TOM WALLACE PARK	Local park	\$ 47,049	\$-	\$ -	\$47,049
PK153	UNNAMED PARK OFF HAYSMOUTH PDE	Local park	\$-	\$-	\$ -	\$ -
PK154	VISTA COURT WALKWAY	Local park	\$-	\$-	\$ -	\$ -
PK155	WALSH ST	Local park	\$-	\$-	\$ -	\$ -
PK156	WATTLEPARK	Local park	\$ 3,815	\$-	\$ -	\$3,815
PK157	YOURELLPARK	Local park	\$109,358	\$ 67,070	\$ -	\$176,428
<b>Totals</b>			<b>\$ 3,919,707</b>	<b>\$ 3,386,466</b>	<b>\$ -</b>	<b>\$ 7,306,173</b>

## Neighbourhood Park

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK28a	ADMINISTRATION CENTRE	Neighbourhood park	691,750	-	-	\$691,750
PK29	AMITY PARK	Neighbourhood park	66,123	37,404	-	\$103,528
PK30	ANZAC PLACE	Neighbourhood park	493,381	-	-	\$493,381
PK31	APEX PARK	Neighbourhood park	432,344	-	-	\$432,344
PK32	ATKINSON PARK	Neighbourhood park	353,505	109,634	-	\$463,139
PK33	BARRY BOLTON	Neighbourhood park	308,999	442,405	-	\$751,404
PK34	BELLEVUE PARK	Neighbourhood park	282,295	39,984	-	\$322,279
PK35	BELLS BEACH PARK	Neighbourhood park	362,406	161,226	-	\$523,632
PK36	BILL ROGERS PARK	Neighbourhood park	466,677	70,940	-	\$537,617
PK37	CAPTAIN COOK PARK	Neighbourhood park	587,479	256,672	-	\$844,151
PK38	CARRICKPARK	Neighbourhood park	100,456	7,739	-	\$108,195
PK39	CHARLISHPARK	Neighbourhood park	460,319	407,580	-	\$867,899
PK40	DOBELL PARK	Neighbourhood park	356,048	60,621	-	\$416,669
PK41	ENDEAVOUR PARK	Neighbourhood park	496,560	853,854	-	\$ 1,350,414
PK42	GAYUNDAH ARBORETUM PARK	Neighbourhood park	689,970	697,787	-	\$ 1,387,757
PK43	GREG ENRIGHT PARK	Neighbourhood park	-	37,404	-	\$37,404
PK44	HENRY PIEPER PARK	Neighbourhood park	479,393	196,051	-	\$675,444
PK45	HUMPYBONG CREEK PARK NORTH	Neighbourhood park	779,491	41,274	-	\$820,765
PK46	HUMPYBONG CREEK PARK SOUTH	Neighbourhood park	726,084	883,520	-	\$ 1,609,603
PK47	JAMIESONPARK	Neighbourhood park	1,035,464	159,936	-	\$ 1,195,400
PK48	KALOWENPARK	Neighbourhood park	104,271	2,580	-	\$106,851
PK49	KIRAMPARK	Neighbourhood park	225,709	25,796	-	\$251,505
PK50	KROLL GARDENS	Neighbourhood park	445,314	254,093	-	\$699,407
PK51	LAHORE PARK	Neighbourhood park	105,543	104,475	-	\$210,017
PK52	LANCASTERPARK	Neighbourhood park	57,222	-	-	\$57,222
PK53	LANGTREE PARK	Neighbourhood park	7,630	6,449	-	\$14,079
PK54	M.J. BROWN PARK	Neighbourhood park	438,702	236,035	-	\$674,737
PK55	MCKILLOPPARK	Neighbourhood park	703,831	234,745	-	\$938,576
PK56	MORGANPARK	Neighbourhood park	476,977	-	-	\$476,977
PK57	MUNGARAPARK	Neighbourhood park	53,407	301,816	-	\$355,223
PK58	NEWPORT PARK - stage 22	Neighbourhood park	137,333	419,188	-	\$556,521
PK59	OWEN PARK	Neighbourhood park	247,962	-	-	\$247,962
PK60	OXLEY AVE JETTY	Neighbourhood park	227,616	322,452	-	\$550,069
PK61	OXLEY AVE hall	Neighbourhood park	1,272	-	-	\$1,272
PK62	PETER MORRIS PARK	Neighbourhood park	509,276	103,185	-	\$612,461
PK63	PIKETTPARK	Neighbourhood park	191,503	-	-	\$191,503
PK64	QUEENS BEACH NORTH PARK	Neighbourhood park	1,373,328	266,991	-	\$ 1,640,319
PK65	REDCLIFFE BOTANIC GARDENS	Neighbourhood park	703,195	286,338	-	\$989,533
PK66	REDCLIFFE MEMORIAL SWIMMING POOL PARK	Neighbourhood park	621,812	-	-	\$621,812
PK67	ROBERT DALTON PARK	Neighbourhood park	144,072	12,898	-	\$156,970
PK68	ROMAPARK	Neighbourhood park	297,300	33,535	-	\$330,835
PK69	ROTARYPARK	Neighbourhood park	362,787	99,315	-	\$462,103
PK70	SCOTTS POINT PROGRESS PARK	Neighbourhood park	1,066,109	357,277	-	\$ 1,423,387
PK71	SEACRESTPARK	Neighbourhood park	433,616	183,153	-	\$616,769
PK72	SOUTHERN CROSS PARK	Neighbourhood park	2,543	3,869	-	\$6,413
PK73	SUNSTATE PARK	Neighbourhood park	492,109	313,424	-	\$805,533

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK74	TACOMA PARK	Neighbourhood park	226,090	5,159	-	\$231,250
PK75	TARADALE PARK	Neighbourhood park	251,777	10,318	-	\$262,095
PK76	WALKER PARK	Neighbourhood park	52,136	-	-	\$52,136
PK77	WOODCLIFFEPARK	Neighbourhood park	16,531	180,573	-	\$197,104
PK78	WOODY POINT PARK	Neighbourhood park	261,950	128,981	-	\$390,931
<b>Totals</b>			<b>19,407,668</b>	<b>8,356,679</b>	<b>-</b>	<b>\$27,764,347</b>

### 1. Regional Park

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK16	BICENTENNIAL PARK	Regional park	\$ 1,195,685	\$629,427	\$ 547,534	\$ 1,277,579
PK17	CROCKATT PARK	Regional park	\$ 1,396,980	\$632,007	\$ 608,696	\$ 1,420,291
PK18	CULTURAL PRECINCT PARK	Regional park	\$462,862	\$ 58,041	\$ 156,271	\$364,633
PK19	MARGATE BEACHPARK	Regional park	\$ 4,225,527	\$ 18,057	\$1,273,075	\$ 2,970,509
PK20	PELICAN PARK	Regional park	\$ 1,761,166	\$877,064	\$ 791,469	\$ 1,846,761
PK21	REDCLIFFE JETTY PARK	Regional park	\$ 1,304,662	\$ 7,739	\$ 393,720	\$918,680
PK22	SCARBOROUGH BEACHPARK	Regional park	\$ 1,985,858	\$915,765	\$ 870,487	\$ 2,031,136
PK23	SETTLEMENT COVE PARK	Regional park	\$ 2,528,322	\$510,765	\$ 911,726	\$ 2,127,361
PK24	SUTTONS BEACH	Regional park	\$ 3,102,704	\$-	\$ 930,811	\$ 2,171,893
PK25	THURECHTPARK	Regional park	\$ 1,307,205	\$829,348	\$ 640,966	\$ 1,495,587
PK26	WOODY POINT BEACH PARK	Regional park	\$ 1,174,958	\$ 15,478	\$ 357,131	\$833,305
PK27	YOUTHPARK	Regional park	\$670,133	\$201,210	\$ 261,403	\$609,940
<b>Totals</b>			<b>\$ 21,116,062</b>	<b>\$ 4,694,903</b>	<b>\$7,743,289</b>	<b>\$18,067,676</b>

### Sports Facility

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK1	A.J. (JOCK) KELLY PARK	Sports facility	1,093,067	88,351.98	354,426	\$826,994
PK2	BOARDMAN PARK	Sports facility	994,773	168,965.10	349,121	\$814,616
PK3	BRADLEY PARK	Sports facility	385,931	334,060.78	215,997	\$503,994
PK4	DALTON PARK	Sports facility	982,057	626,847.63	482,671	\$ 1,126,233
PK5	FILMER PARK	Sports facility	920,384	321,162.68	372,464	\$869,083
PK6	GEORGE MORRIS FIELDS	Sports facility	37,894	69,649.74	32,263	\$75,280
PK8	K.R.BENSON	Sports facility	2,066,986	211,528.83	683,554	\$ 1,594,960
PK9	LANGDON PARK	Sports facility	1,021,095	257,961.99	383,717	\$895,340
PK7	MARY NANN HOCKEY FIELDS	Sports facility	694,294	317,293.25	303,476	\$708,111
PK10	OXLEY AVE	Sports facility	226,345	-	67,903	\$158,441
PK11	PEARSON PARK	Sports facility	200,913	288,917.43	146,949	\$342,881
PK12	RAY FRAWLEY FIELDS	Sports facility	818,402	292,786.86	333,357	\$777,832
PK13	REDCLIFFE SHOWGROUNDS PARK (HOCKEY FIELDS)	Sports facility	924,453	1,434,268.01	707,616	\$ 1,651,105
PK14	ROTHWELLPARK	Sports facility	829,719	835,796.20	499,655	\$ 1,165,861
PK15	TALOBILLA 1 PARK	Sports facility	1,674,697	1,204,681.58	863,814	\$ 2,015,565
<b>Totals</b>			<b>\$ 12,871,008</b>	<b>\$ 6,452,273</b>	<b>\$5,796,984</b>	<b>\$13,526,297</b>

**Community Purpose**

Park Number	Park Name	Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
PK158	CULTURAL PRECINCT (Redcliffe Museum)	Community area	\$ 34,333	\$-	\$ -	\$34,333
PK159	MUSEUM PARK	Community area	\$ 34,333	\$-	\$ -	\$34,333
PK160	P.C.Y.C.	Community area	\$ 34,333	\$-	\$ -	\$34,333
PK161	REDCLIFFE LIBRARY	Community area	\$ 34,333	\$-	\$ -	\$34,333
<b>Totals</b>			<b>\$137,333</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$137,333</b>

### 4.3 Total Cost per Network Component

**Table 4.3A: Total Infrastructure Value as at 01 January 2009**

Park Type	Existing Value	NPV of Future Works	Less External Users	Total Park Cost
Community area	\$137,333	\$ -	\$ -	\$137,333
Local park	\$ 3,919,707	\$ 3,386,465	\$ -	\$ 7,306,172
Neighbourhood park	\$19,407,668	\$ 8,356,679	\$ -	\$27,764,346
Regional park	\$21,116,062	\$ 4,694,902	\$ 7,743,289	\$18,067,675
Sports facility	\$12,871,008	\$ 6,452,272	\$ 5,796,984	\$13,526,296
<b>Grand Total</b>	<b>\$57,451,778</b>	<b>\$22,890,318</b>	<b>\$13,540,273</b>	<b>\$66,801,822</b>

The proportion of future infrastructure expenditure anticipated to be collected from future development after 01 January 2009 is equivalent to 35%. The proportion of the value of the overall network anticipated to be collected from future development after 01 January 2009 is equivalent to 10.5% without giving regard to the capping regime. The remainder of future embellishment costs will be funded directly by Council so that costs associated with 'deficiencies' within the existing network and the use of facilities by external users are not passed to proponents of development approved after 01 January 2009.



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**Schedule A: Demand Factors**


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Table A shows the demand factors expressed in Equivalent Persons (EPs) for different uses.

**Table A - Demand Factors for Public Open Space and Community Purpose Infrastructure Contributions**

Land Use Category	Demand Unit (EP)
Detached residential	2.9 EP/dwelling unit
Attached residential	1.3 EP/dwelling unit
Non-residential use	0.3 EP/100 m <sup>2</sup> GFA
Non-residential use (reconfiguring a lot)	1 EP/lot

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**Schedule B: Infrastructure Contribution Rates**

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Table B shows the Infrastructure Contribution Rates for the network.

**Table B: Public Open Space and Community Purpose Infrastructure Contribution Rates**

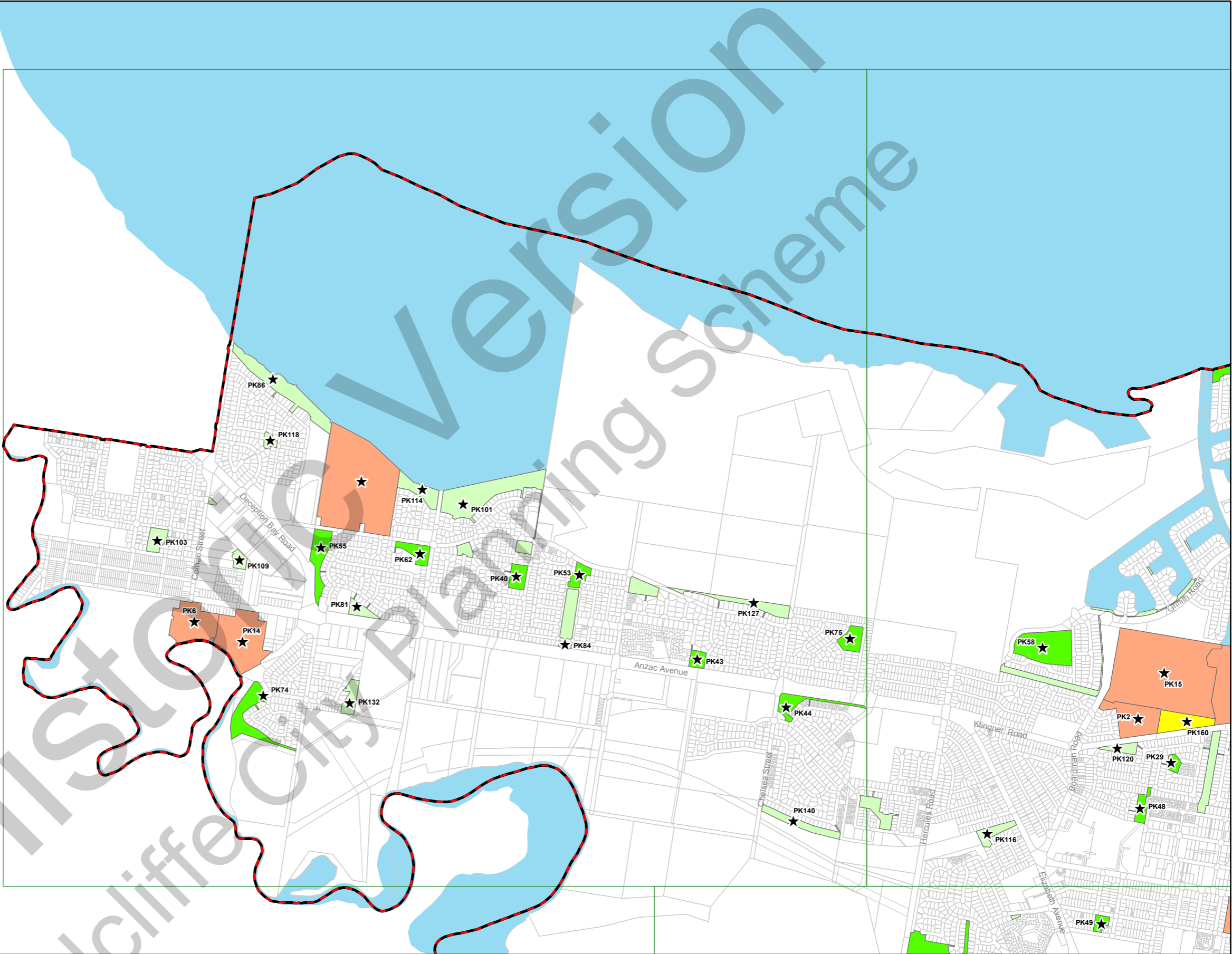
Charge	ICR per EP
City-wide charge	<b>\$1,064.03</b>

**Schedule C: Network Asset Maps**

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Historic Version  
Redcliffe City Planning Scheme

# Open Space Network

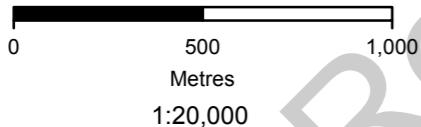


**Legend**

- ★ Park - Future Embellishment

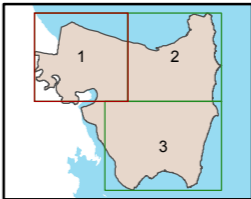
**Park/FacilityType**

- Local Park
- Neighbourhood Park
- Regional Park
- Sports Facility
- Community Purpose
- DISA Boundary



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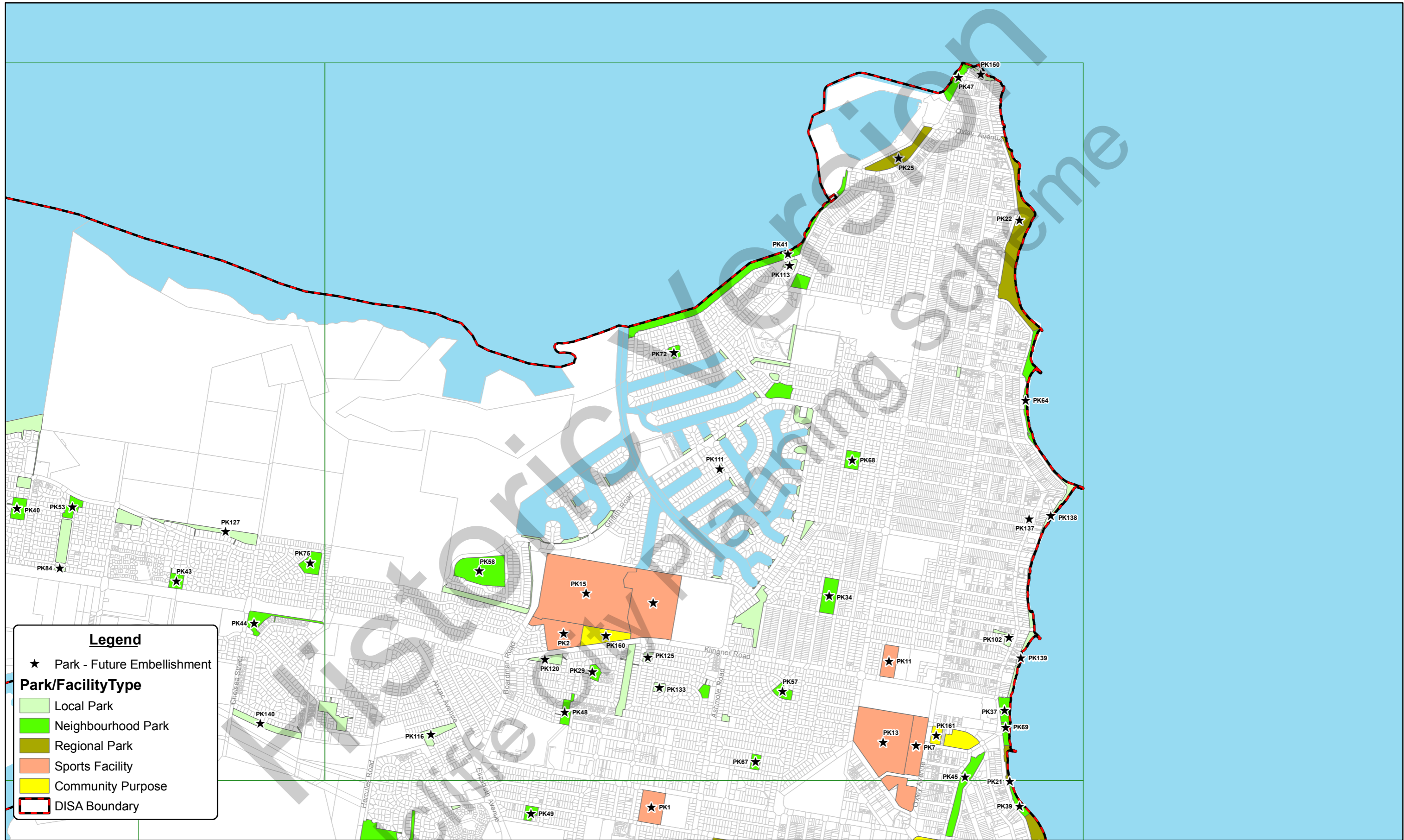


**MORETON BAY REGIONAL COUNCIL  
Redcliffe City**

Map No: 1

EFFECTIVE FROM 29 October 2009

# Open Space Network

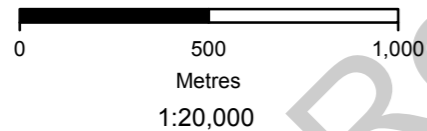


**Legend**

- ★ Park - Future Embellishment

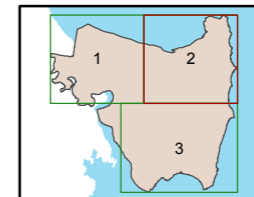
**Park/Facility Type**

- Local Park
- Neighbourhood Park
- Regional Park
- Sports Facility
- Community Purpose
- DISA Boundary



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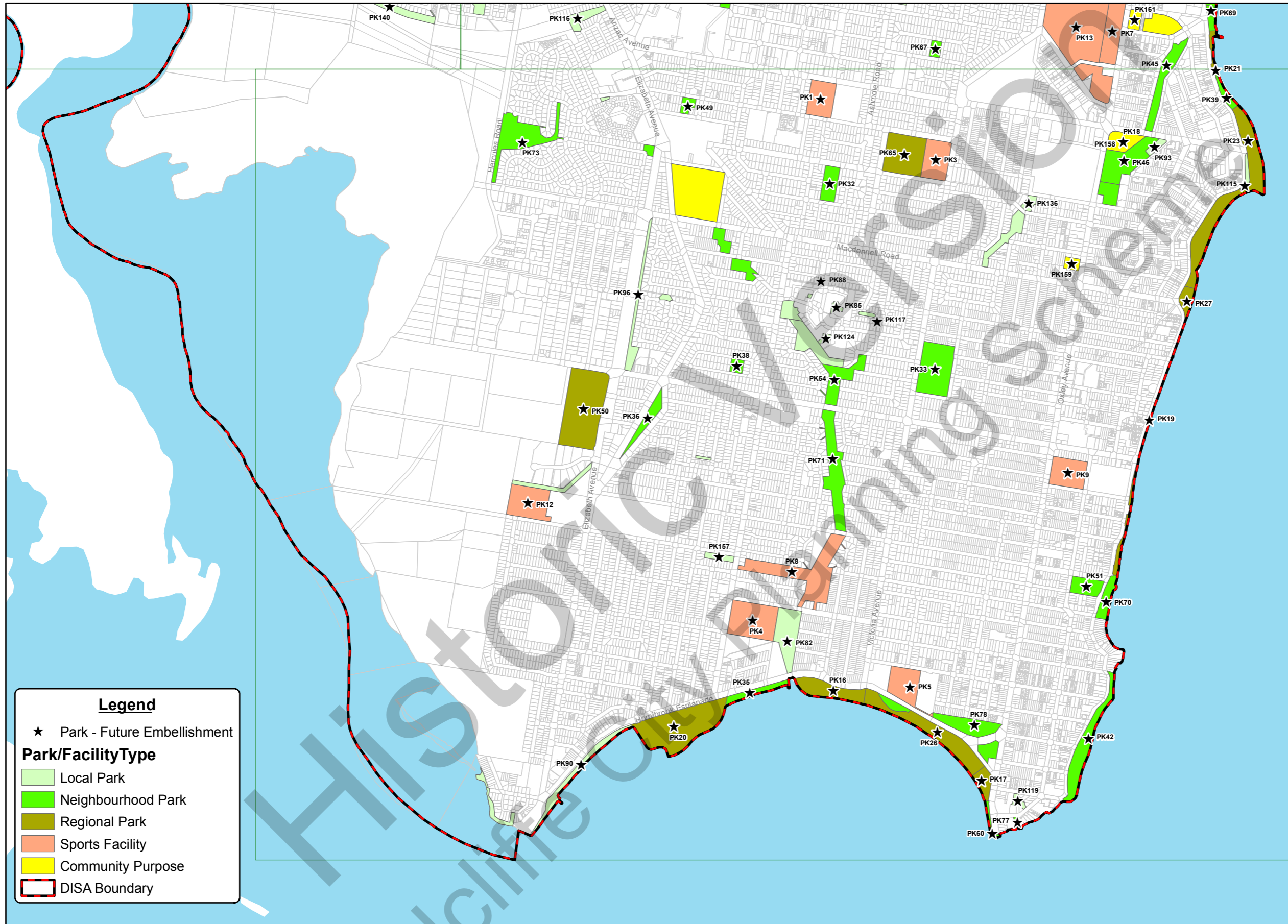
**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 2

*EFFECTIVE FROM 29 October 2009*



# Open Space Network

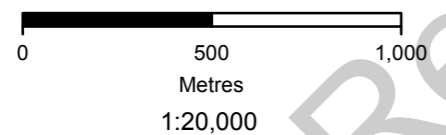


**Legend**

- ★ Park - Future Embellishment

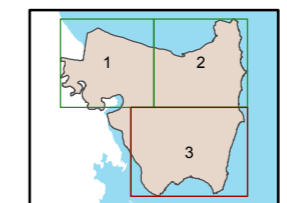
**Park/Facility Type**

- Local Park
- Neighbourhood Park
- Regional Park
- Sports Facility
- Community Purpose
- DISA Boundary



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**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 3

*EFFECTIVE FROM 29 October 2009*

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**Schedule D: Desired Standards of Service**

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The planning provisions for the entire network are outlined in Table D and include some general considerations for each type of park within the hierarchy. The DSS were developed through an assessment of the current provision of public open space and community purposes and the typical embellishments included in them during the work undertaken by Council in the preparation of its proposed Priority Infrastructure Plan. The network is planned and designed to meet a hierarchy of user needs. Each park type/facility meets different needs within the community and the DSS aims to provide embellishments which service a variety of reasonable user needs.

Historic Version  
Redcliffe City Planning Scheme

**Table D Desired Standards of Service for the Public Open Space and Community Purpose Network**

Facility Item	Local Park/ Informal Areas	Neighbourhood park	Regional Park	Sports Facilities	Community Purpose
Park/facility Description	Smallest public open space recreation area which may be either named or unnamed, These spaces provide informal recreation opportunities where children can play and/or adults can relax in a pleasant setting. Park space may also provide a buffering role to conservation/environmental areas.	Moderate size public recreation area which can provide multiple informal recreation opportunities for small events, gatherings, family parties and celebrations.	Large public recreation areas which provide multiple formal and informal recreation opportunities. The recreational, leisure and visual amenity of these parks is highly desirable.	Special purpose public activity area designed and used for formal/organised sporting activities e.g. soccer field. . Where feasible multi use and co habitation of user groups is to be encouraged.	Special purpose community activity area designed and used for predominant by indoor use e.g. Library.
Visitation Levels	Regular daily or weekend visits. Users are encouraged to enjoy the resource 'as is'. However, visitation may vary and is directly related to what activities may be undertaken in the space available.	Extensive daily or weekend visits, providing opportunity for individual and/or group participation. Use is directly related to what activities may be undertaken in the space available. Prolonged visitation would be expected due to the options available for recreation.	Intensive day or weekend visits, with visitation higher at weekends and public holidays. Use is directly related to what activities may be undertaken, such as active and passive recreation, picnicking, games, socialising and other activities.	Visitation rate usually tied to activity type and frequency However, it is generally aligned to regular programmed and structured participation in designated sporting activities and may also be aligned with advertised and ticketed events.	Most of these facilities are aligned to regular programmed and structured participation in designated indoor activities and may also be aligned with advertised and ticketed events.
Catchment Area	Up to 850 metres walking distance of facility.	Up to 1.5 kilometres travel distance of facility.	Up to 4 kilometres travel distance of facility but may attract day visitation from outer regions.	Up to 5 kilometres travel distance of facility but may attract visitation from outside this range.	Up to 7 kilometres travel distance of facility but may attract visitation from outside this range's.
Area Criteria	Size will generally be within a range of 0.1 to 1 hectare but may be greater.	Size will generally be within a range of 0.2 to 2.8 hectares but may be greater.	Size will generally be within a range of 0.4 to 3.5 hectares but may be greater.	Sportsfield area is dependent on that required for associated ancillary facilities such as car parks and the playing field configuration - Refer to sport/code regulations. Size will generally be within a range of 1.5 to 5.5 hectares but may be greater.	Area is dependent on that required for building footprint and associated ancillary facilities such as car parks. May be any size but would usually be greater than 1 hectare in size.



Facility Item	Local Park/ Informal Areas	Neighbourhood park	Regional Park	Sports Facilities	Community Purpose
Social Interaction	The facility is to provide avenues for Individuals or groups to be involved in social interaction.	The facility is to provide avenues for individuals or groups to be involved in interaction, and other activities which may attract spectator audience.	The facility is to provide avenues for a variety of groups and individuals to have protracted contact and allow for both visible and audible sharing of facilities.	The facility is to provide avenues for individuals or groups to be involved in social and sporting interaction. The sports activity may be unstructured or structured but usually attracts spectator audience.	The facility is to provide avenues for individuals or groups to be involved in social and cultural activities.

**REVIEW TRIGGERS**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**RESPONSIBILITY**

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability in consultation with the Senior Manager Regional and Environmental Planning and Development Services.

**VERSION CONTROL**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
<b>Related Links:</b>	

**ENDNOTES**

<b>Amendment</b>	<b>Date Adopted – 8 September 2009</b>	<b>Effective Date – 29 October 2009</b>
<b>Planning Scheme Policy Reference</b>	<b>Description of Amendment</b>	
PSP 4 Part 8.4.3	<ul style="list-style-type: none"> <li>Amendments to this policy reflect the intent of the draft Redcliffe Priority Infrastructure Plan and incorporated changes to bring cost estimates up to current values.</li> </ul>	

<b>Amendment</b>	<b>Date Adopted – 28 March 2013</b>	<b>Effective Date – 8 April 2013</b>
<b>Planning Scheme Policy Reference</b>	<b>Description of Amendment</b>	
PSP 4 Part 8.4.3	<ul style="list-style-type: none"> <li>Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.</li> </ul>	

#### 8.4.4 MOSQUITO CONTROL CONTRIBUTION

Where reconfiguration of a lot results in 5 or more new lots a cash contribution for mosquito control is made.

The rate of charge is in accordance with Council's current Schedule of Fees and Charges.

## PSP4 PART 8.4.5 DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – WATER SUPPLY

### TABLE OF CONTENTS

HEAD OF POWER .....	1
OBJECTIVE .....	1
DEFINITIONS / APPLICATION .....	1
POLICY STATEMENT .....	1
1 SCOPE .....	1
2 BACKGROUND INFORMATION .....	2
3 WATER SUPPLY METHODOLOGY .....	2
3.1 METHODOLOGY .....	2
3.2 WATER SUPPLY SERVICE CATCHMENTS .....	3
3.3 WATER SUPPLY DEMAND ASSUMPTIONS .....	3
4 WATER SUPPLY PLAN FOR TRUNK INFRASTRUCTURE .....	5
4.1 WATER SUPPLY TRUNK INFRASTRUCTURE NETWORK .....	5
4.2 WATER SUPPLY TRUNK INFRASTRUCTURE VALUATIONS .....	5
SCHEDULE A: DEMAND FACTORS .....	7
SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES .....	10
SCHEDULE C: SERVICE CATCHMENTS AND NETWORK ASSETS .....	11
SCHEDULE D: DESIRED STANDARDS OF SERVICE .....	13
REVIEW TRIGGERS .....	16
RESPONSIBILITY .....	16
VERSION CONTROL .....	16

## PSP4 Part 8.4.5 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – WATER SUPPLY

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### Head Of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### Objective

The objective of this policy is to apportion the cost of Water Supply Trunk Infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of Water Supply Trunk Infrastructure works between Council and developers of land in the former Redcliffe City.

### Definitions / Application

#### Application

This policy applies to all applications for development which have been made assessable against the *Redcliffe City Planning Scheme* and which will utilise any part of the Water Supply Trunk Infrastructure Network. For the purposes of this policy, the extent of the Water Supply Trunk Infrastructure Network within the former Redcliffe City is shown in Schedule C.

The policy outlines the basis of Council's Infrastructure Contributions Regime for Water Supply Trunk Infrastructure in the former Redcliffe City. It is to be read in conjunction with Planning Scheme Policy PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy.

Payment of any monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk works or to connect the development to trunk infrastructure. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

#### Definitions

The definitions of applicable terms are contained in PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy. Where a term used in this policy is not defined in PSP4 Part 8.4.1, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Redcliffe City Planning Scheme* or in the *Integrated Planning Act 1997*.

### Policy Statement

#### 1 Scope

This policy sets out the basis for determining the amount of Development Contributions for Water Supply Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Redcliffe City which, in the opinion of Council, may impact on its Water Supply Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP4 PART 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Water Supply Trunk Infrastructure within Council's Local Government Area;
- specifies the works, structures or equipment, which the Council determines to be Water Supply Trunk Infrastructure;
- establishes the estimated cost of construction and any required augmentation of the Trunk Water Supply Network in respect of which contributions are to be made; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.

## 2 Background Information

The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the methodology identified in the report by MWH Australia Pty Ltd (MWH), "Redcliffe ICS Study – Water Supply System Master Plan" (the Study Report). This Study Report comprises:-

- (1) Executive Summary (March 2004);
- (2) Main Report (March 2004); and
- (3) Maps (March 2004);

The following additional reports for the former Redcliffe City were also used as a basis for this policy:

- (4) Derivation of Water Supply & Sewerage Infrastructure Charges report by MWH, May 2004;
- (5) Moreton Bay Water, "Water Supply Network Master Plan", Draft, September 2008; and
- (6) Council's 15 year capital works program - internal minute to Moreton Bay Regional Council Financial Department 23 December 2008.

## 3 Water Supply Methodology

### 3.1 Methodology

The methodology used for determining the rate of Infrastructure Contributions for Trunk Water Supply under this policy is based upon the approach set out in the Department of Local Government and Planning's IPA Guidelines 1/04 and 2/04 (dated 4<sup>th</sup> October 2004) and the Standard Infrastructure Charges Schedule Nov 2008.

In summary, Infrastructure Contribution Rates for the Water Supply Trunk Infrastructure Network have been derived in the following manner:-

- (a) determine the service catchments for Trunk Infrastructure Delivery;
- (b) estimate the amount of existing and new development, or the planned / ultimate population and its resulting demand on the network within each service catchment up to the planning horizon for the trunk water supply network;
- (c) determine the Trunk Infrastructure likely to be needed to service that development or planned / ultimate population within each service catchment to deliver the Desired Standard of Service (DSS) outlined in Schedule D of this policy;
- (d) determine the current replacement costs for existing Trunk Infrastructure, and the future establishment costs for required future Trunk Infrastructure in net present values for each service catchment; and
- (e) derive the applicable Infrastructure Contribution Rates by dividing the total network costs in net present values by the total discounted 'ultimate' demand on the network for each service catchment, thereby producing a rate per selected demand unit.

The contribution rate, for each particular service catchment, was determined by applying the formula:-

$$CR_{\text{Catchment}} = (\text{Asset Values}) / (\text{Demand})$$

Where:-

<b>CR<sub>Catchment</sub></b>	=	<b>Contribution Rate for an individual service catchment (expressed in \$/EPW)</b>
<b>Asset Values</b>	=	<b>Value of Catchment's Assets (\$)</b>
	=	<b>Σ(Current Replacement Cost of Existing assets at 01-01-2009 x proportion of the asset utilised by the service catchment) + Σ (net present value at 01-01-2009 of future assets x proportion of the asset utilised by the service catchment)</b>
<b>Demand</b>	=	<b>Σ(Existing Demand in the service catchment at 01-01-2009) + (Net Present Value at 01-01-2009 of the Future Demand to Ultimate Development) (expressed in EPW)</b>

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community), and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the water supply trunk infrastructure network planned to be consumed by that entity's development proposal.

### 3.2 Water Supply Service Catchments

The former Redcliffe City has been divided into the Trunk Water Supply service catchments shown in Table 3.2A.

**Table 3.2A – Water Supply Service Catchments**

Service Catchment
Rothwell
Margate

The extent of each of these Service Catchments is shown graphically on the maps contained in Schedule C.

### 3.3 Water Supply Demand Assumptions

#### Approach to Demand and Load Modelling

The reports referred to in Section 2 of this policy documented assumed demand across the City, the most cost effective servicing strategy and suggested Capital Works Programs aligning with assumed growth rates for all of the former Redcliffe City.

As part of the preparation of this policy, new Demand and Load Models for Water Supply were built, based on the *Redcliffe City Planning Scheme*, to full development of the City assuming densities consistent with the Planning Scheme – this being termed ‘ultimate’ development. The Hydraulic Models have been re-run to reflect the Desired Standards of Service adopted in this policy and the permanent water restrictions imposed for SEQ by the State. The updated Water Network information from this model run has been used for this policy.

The determination of demand and load for residential zoned land was based on population numbers assumed for the land. Demand and load for non-residential zoned land was derived from land use zoning and an assumed number of Equivalent Persons (Water) per hectare per zone as outlined in Table 3.3A.

#### Water Supply Demand Assumptions

The Demand Projections, Capacity Planning and Infrastructure Contribution Rates developed for the Water Supply Network are expressed in the Standard Demand Units of ‘Equivalent Person (Water)’ (EPW). One EPW equates to 230 litres per person per day, allowing for system losses and operational factors, in accordance with the permanent water restrictions in place in South East Queensland.

For each cadastral parcel in the former Redcliffe City, water demand was assigned by zoning for existing and anticipated future development. Geo-coded water billing data for the 2004 to 2008 first billing cycle has been used to determine existing demand on developed parcels in 2008. The Planning Assumptions outlined in PSP4 PART 8.4.1 Section 3, and the DSS shown in Schedule D were used to assign future water demand to each cadastral lot based on anticipated future land uses consistent with the Redcliffe City Planning Scheme.

The *Redcliffe City Planning Scheme* envisages a combination of different types of dwellings and development in all three residential zones. Therefore EPW assumptions had to be made for different sized lots and development characteristics within each of the residential zones. A similar process was then applied to non-residential zones. Careful screening of different types of development was done to assign specific EPW values to each cadastral lot. The assumptions shown in Table 3.3A have been used in doing so:

**Table 3.3A - Water Demand Assumptions by Zone and Lot Type**

Planning Scheme Zone	EPW's/ha
<b>Low Density Residential Zone</b>	
Lot Size $\leq 500\text{m}^2$	2.0 EPW/lot
Lot Size $501\text{-}1500\text{ m}^2$	2.6 EPW/lot
Lot Size $>1500\text{ m}^2$	30 EPW/Ha
<b>Mixed Density Residential Zone</b>	
Lot Size $\leq 500\text{m}^2$	2.0 EPW/lot
Lot Size $501\text{-}700\text{ m}^2$	2.6 EPW/lot
Lot Size $>700\text{ m}^2$	60 EPW/Ha
<b>Medium Density Residential Zone</b>	
< 3 Storeys	
Lot Size $\leq 500\text{m}^2$	2.0 EPW/lot
Lot Size $501\text{-}750\text{ m}^2$	2.6 EPW/lot



Planning Scheme Zone	EPW's/ha
Lot Size >750 m <sup>2</sup>	60 EPW/Ha
3 Storeys	120 EPW/Ha
6 Storeys	175 EPW/Ha
8 Storeys	220 EPW/Ha
<b>Retail Core Zone</b>	
1-2 storeys	30 EPW/Ha
3 storeys	130 EPW/Ha
6 storeys	190 EPW/Ha
8 storeys	240 EPW/Ha
12 storeys	290 EPW/Ha
<b>Frame Business Zone</b>	
1-2 storeys	30 EPW/Ha
3 storeys	120 EPW/Ha
6 storeys	175 EPW/Ha
8 storeys	220 EPW/Ha
12 storeys	260 EPW/Ha
<b>Industry Zone</b>	30 EPW/Ha
<b>Health services Zone</b>	30 EPW/Ha
<b>Community Purpose Zone</b>	30 EPW/Ha
<b>Natural value Zone</b>	0
<b>Open Space and Recreation Zone</b>	5 EPW/Ha

### **Projected Water Supply Demand**

Projected ultimate demand for the water supply trunk network is shown in Table 3.3B. To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand indexed for anticipated fluctuations in construction costs (generally increases) and discounted for cost of capital, resulting in NPV Demand.

**Table 3.3B –Demand in EPWs by Water Supply Service Catchment**

Service Catchment	Ultimate Demand in EPWs	Total Ultimate NPV Demand in EPWs
Rothwell	8,607	8,425
Margate	75,167	74,556
	<b>83,774</b>	<b>82,981</b>

## 4 Water Supply Plan for Trunk Infrastructure

### 4.1 Water Supply Trunk Infrastructure Network

The following Infrastructure items as shown on the maps contained in Schedule C of this policy are deemed to be Trunk Infrastructure for the purpose of planning and funding of the Trunk Water Supply Network:-

- (1) water mains with a diameter 300mm and above
- (2) pumping stations
- (3) storage reservoirs

The land on which these components are situated is also essential component of the water trunk infrastructure network. However, with the exception of the reservoirs and possibly some of the pumping stations, those assets are located on land which is road reserve, or public open space, or private land outside of Council's ownership. As such, the land content has been excluded from the calculation of infrastructure contribution rates for the trunk water supply network.

Assets are also grouped into '**Active**' and '**Passive**' Assets:

Active water supply infrastructure assets consist mainly of above ground visible assets such as pumping stations and reservoirs.

Passive water supply infrastructure assets consist of underground assets such as trunk mains, reticulation mains, pipe fittings and property connections.

The various elements of this Trunk Infrastructure are shown on the maps in Schedule C and are tabulated in Section 4.2.

### 4.2 Water Supply Trunk Infrastructure Valuations

#### Existing Asset Valuations

Valuations of existing water supply trunk infrastructure contained in this policy are based on the report titled "Derivation of Water Supply and Sewerage Infrastructure Charges" dated May 2004 prepared by MWH which, was subsequently supplemented by information on trunk assets recorded in the Redcliffe water asset data base with a creation date between January 2005 and December 2007 to recognise assets created since the May 2004 report. For a full Schedule of existing Water Supply Trunk Infrastructure Assets refer to Appendix B of that MWH report.

The valuations shown in Table 4.2A are higher than those contained in the above report due to escalation being applied to bring the costs to 01 January 2009 values, based on Rawlinson's Construction Index for Brisbane.

#### Costing Information for Planned Future Assets

Cost for Planned Future Assets have been taken from the estimates in Council's adopted Capital Works Program valued for, and current at, 01 January 2009, expressed in Net Present Values.

**Table 4.2A Asset Costs allocated to Service Catchments**

	Margate	Rothwell	Totals
<b>Total Costs:</b>			
<b>Active-Existing (Jan 2009)</b>	\$13,475,301	\$3,153,858	\$16,629,159
<b>Passive-Existing (Jan 2009)</b>	\$43,987,526	\$9,562,543	\$53,550,069
<b>Future (Jan 2009)</b>	\$62,312	\$652,725	\$715,037
<b>Total (Jan 2009)</b>	<b>\$57,525,139</b>	<b>\$13,369,126</b>	<b>\$70,894,265</b>

**Table 4.2B Future Asset Schedule**

Project ID	Project Name	Anticipated Timing of Works	Service Catchment	NPV - 01 January 2009
<b>PUMP STATIONS</b>				
RPIPWS0001	Emergency Power Supply for Rothwell Pumps	2010	Rothwell	\$148,384
RPIPWS0002	Petrie Main Booster pumps upgrade	2009	Shared	\$19,892
<b>MAINS</b>				
RPIPWS0003	Remaining work on Cathodic protection of Petrie Main	2010	Shared	\$49,461
RPIPWS0004	Upgrade of Nathan Road Main up to Newport development connection (225mm pipe 700m and two section valves)	2009	Rothwell	\$497,299
<b>TOTAL</b>				<b>\$715,037</b>

**SCHEDULE A: DEMAND FACTORS**

Demand factors are calculated based on defined uses within the jurisdiction of each relevant planning scheme, and are therefore unique to each district within the Moreton Bay Regional Council shire area.

**Table A - Demand Factors for Water Supply Infrastructure Contributions**

Demand Factors For MCUs – by Land Use	Demand Factor	Comment
<b>Accommodation unit</b>	1.6 EPW/du	Water Planning Assumptions
<b>Aerodrome</b>		Assess Impact on Application
<b>Business premises</b>		Assess Impact on Application
<b>Car park</b>		Assess Impact on Application
<b>Caravan park</b>		Assess Impact on Application
Tent site	1.4 EPW/site	Per site
Caravan site	1.8 EPW/site	Per site
<b>Caretaker's residence</b>		As per appropriate dwelling house or multiple dwelling
<b>Club</b>		Assess Impact on Application
<b>Community well-being facilities</b>		Assess Impact on Application
<b>Community well-being infrastructure</b>		Assess Impact on Application
<b>Display home /Estate sales office</b>		Assess Impact on Application
<b>Duplex dwelling</b>	2.8 EPW/du	Per dwelling unit
<b>Education centre</b>		Assess Impact on Application
<b>Employment related storage</b>		Assess Impact on Application
<b>Entertainment outdoor</b>		
Swimming Pools	0.0100	Pool volume in cubic metres
Changing Rooms, Showers and Toilets (see note 1)		
▪ Water Closet	0.7000	Pedestal
▪ Urinal (Stall)	0.1250	Stall
▪ Urinal (Trough)	0.2500	metre
▪ Shower Bath	0.4000	shower
▪ Wash Basin	0.2000	basin
Drinking fountains and standpipes	0.2000	fountain/standpipe
Areas irrigated by potable water	0.1000	per 100 square metres under irrigation
Any other item identified elsewhere in this table		As per item
<b>Food service</b>		Assess Impact on Application
<b>General industry</b>		Assess Impact on Application
<b>Government Infrastructure</b>		Assess Impact on Application
<b>Home based business</b>		Assess Impact on Application
<b>Hotel</b>		
Single room (without kitchen facilities)	0.9000	room
Double room (without kitchen facilities)	1.3000	room
Suites or rooms with kitchen facilities		As Serviced Apartments
Restaurant		As Restaurant
Shop		As Shop
Bar and Gaming Areas	4.0000	100 square metres gross use area
Beer Garden	3.0000	100 square metres gross use area
Function Rooms	2.0000	100 square metres gross use area
Swimming Pools	0.0100	Pool volume cubic metres
Any other item identified elsewhere in this table		As per item
<b>House</b>		
lot area > 1000m <sup>2</sup>	3.4 EPW/du	Per dwelling unit
lot area 501m <sup>2</sup> to 1000m <sup>2</sup>	2.8 EPW/du	Per dwelling unit
lot area < 501m <sup>2</sup>	2.25 EPW/du	Per dwelling unit

	Demand Factor	Comment
<b>Demand Factors For MCUs – by Land Use</b>		
<b>Indoor entertainment, sport or recreation</b>		
Cinema	0.05	seat
Licensed Clubs & Organisations		As Hotel
Swimming Pools	0.01	Pool volume in cubic metres
Gymnasiums and Fitness Centres		
▪ Water Closet	0.7	Pedestal
▪ Urinal (Stall)	0.125	Stall
▪ Urinal (Trough)	0.25	metre
▪ Shower/ Bath	0.4	Shower/ bath
▪ Wash Basin	0.2	basin
Commercial Clubs & Organisations		As Hotel
Community Service or not-for-profit Clubs and Organisations with no gaming or liquor licence	Assess Impact on Application	
▪ With facilities for the frequent provision of cooked food	1	100 square metres gross floor area
▪ Without facilities for the frequent provision of cooked food	0.5	100 square metres gross floor area
Other Types	Assess Impact on Application	Individual Basis
<b>Industry with substantial impacts</b>		Assess Impact on Application
<b>Market</b>		Assess Impact on Application
<b>Multiple dwelling</b>	1.6 EPW/du	Water Planning Assumptions
<b>Outdoor sales premises</b>		Assess Impact on Application
<b>Park</b>	5 EPW/Ha	Water Planning Assumptions
<b>Relative's accommodation</b>		Assess Impact on Application
<b>Rural activities</b>		Assess Impact on Application
<b>Service station</b>		Assess Impact on Application
<b>Service trade</b>		Assess Impact on Application
<b>Shop</b>		Assess Impact on Application
<b>Showroom/super store</b>		Assess Impact on Application
<b>Special needs housing</b>	1.6 EPW/du	Water Planning Assumptions
<b>Sport and recreation outdoor</b>		Assess Impact on Application
<b>Stable</b>		Assess Impact on Application
<b>Transport interchange</b>		Assess Impact on Application
<b>Utility installation</b>		Assess Impact on Application
<b>Warehouse</b>	0.9	100 square metres of gross use area
<b>Demand Factors for RALs– by Zone</b>		
<b>Low Density Residential Zone</b>		
Lot Size ≤ 500m <sup>2</sup>	2.0 EPW/lot	Water Planning Assumptions
Lot Size 501-1500 m <sup>2</sup>	2.6 EPW/lot	Water Planning Assumptions
Lot Size >1500 m <sup>2</sup>	30 EPW/Ha	Water Planning Assumptions
<b>Mixed Density Residential Zone</b>		
Lot Size ≤ 500m <sup>2</sup>	2.0 EPW/lot	Water Planning Assumptions
Lot Size 501-700 m <sup>2</sup>	2.6 EPW/lot	Water Planning Assumptions
Lot Size >700 m <sup>2</sup>	60 EPW/Ha	Water Planning Assumptions
<b>Medium Density Residential Zone</b>		
< 3 Storeys		
Lot Size ≤ 500m <sup>2</sup>	2.0 EPW/lot	Water Planning Assumptions
Lot Size 501-750 m <sup>2</sup>	2.6 EPW/lot	Water Planning Assumptions
Lot Size >750 m <sup>2</sup>	60 EPW/Ha	Water Planning Assumptions
3 Storeys	120 EPW/Ha	Water Planning Assumptions
6 Storeys	175 EPW/Ha	Water Planning Assumptions
8 Storeys	220 EPW/Ha	Water Planning Assumptions
<b>Retail Core Zone</b>		
1-2 storeys	30 EPW/Ha	Water Planning Assumptions

<b>Demand Factors for RALs– by Zone</b>		
3 storeys	130 EPW/Ha	Water Planning Assumptions
6 storeys	190 EPW/Ha	Water Planning Assumptions
8 storeys	240 EPW/Ha	Water Planning Assumptions
12 storeys	290 EPW/Ha	Water Planning Assumptions
<b>Frame Business Zone</b>		
1-2 storeys	30 EPW/Ha	Water Planning Assumptions
3 storeys	120 EPW/Ha	Water Planning Assumptions
6 storeys	175 EPW/Ha	Water Planning Assumptions
8 storeys	220 EPW/Ha	Water Planning Assumptions
12 storeys	260 EPW/Ha	Water Planning Assumptions
<b>Industry Zone</b>	30 EPW/Ha	Water Planning Assumptions
<b>Health services Zone</b>	30 EPW/Ha	Water Planning Assumptions
<b>Community Purpose Zone</b>	30 EPW/Ha	Water Planning Assumptions
<b>Natural value Zone</b>	0	Water Planning Assumptions
<b>Open Space and Recreation Zone</b>	5 EPW/Ha	Water Planning Assumptions

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**SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES**


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Table B shows the Infrastructure Contribution Rates for the network.

**Table B – Trunk Water Supply - Infrastructure Contribution Rates (ICR's)**

Service Catchment	ICR / (\$EPW)
Rothwell	\$1,587
Margate	\$772

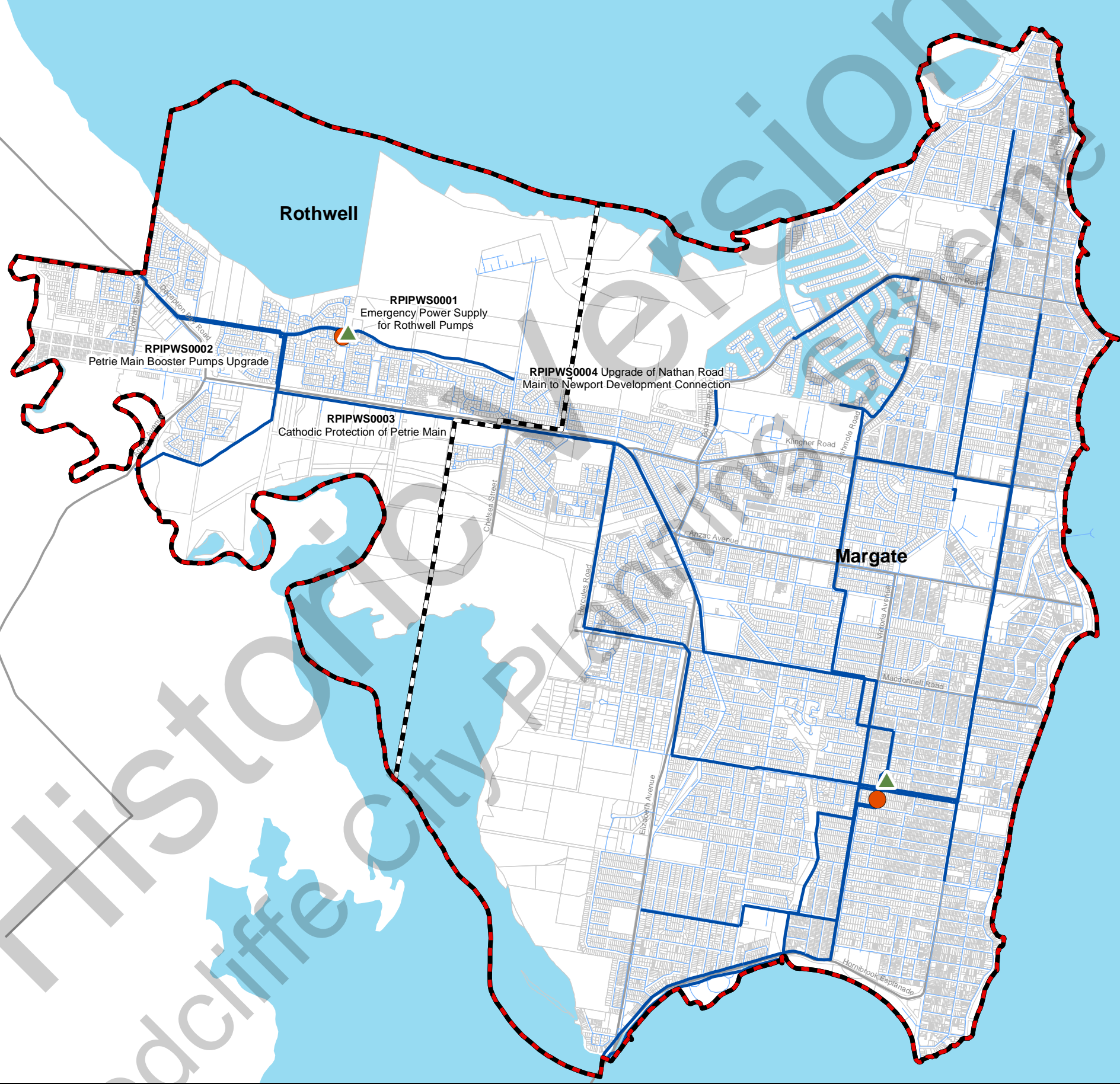
**Schedule C: Service Catchments and Network Assets**

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Historic Version  
Redcliffe City Planning Scheme



# Trunk Water Supply Network



**Legend**

- Reservoir Complex
- ▲ Pumping Station
- Existing Water Mains
- Existing Potable Water Network
- Water Supply Catchments
- DISA Boundary

0 500 1,000  
Metres  
1:35,000

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## Schedule D: Desired Standards of Service

The Desired Standards of Service (DSS) for water supply and sewerage trunk infrastructure within the Designated Infrastructure Service Area have been determined in accordance with the requirements of the Water Supply (Safety and Reliability) Act 2008. Moreton Bay Water's approved Strategic Asset Management Plan and Total Management Plan detail ongoing practice and future initiatives to achieve and maintain the published standards of service.

The Desired Standards of Service for water supply and sewerage infrastructure provision under this policy are expressed in terms of 'Operational Objectives' and 'Detailed Design Parameters'.

The 'Operational Objectives' and 'Detailed Design Parameters' are aimed at achieving the stated purpose of the Integrated Planning Act while satisfying the relevant requirements of the Environmental Protection Act. The detailed design parameters are the means by which the performance requirements of the operational objectives are achieved.

The Guidelines prepared by the Queensland Government for design of urban water supply and a survey of current practice of local governments in South-East Queensland have also been used in establishing the desired standards of service and design criteria for the water supply systems. Authorities that were consulted to confirm current practice in South-East Queensland included Ipswich Water, Redland Water, Brisbane Water, former CalAqua, former Cooloola Shire, Wide Bay Water, Logan Water and Gold Coast Water.

### Operational Objectives for Trunk Water Supply Services

Each of the 'Operational Objectives' for the provision of water supply services in Moreton Bay Regional Council's local government area is examined in the context of corresponding user benefits and environmental effects. The Primary Objectives adopted for water services in this policy are set out in Table E1.

**Table D1 – Water Supply Operational Objectives**

Objective	User Benefit	Environmental Effect
<ul style="list-style-type: none"> <li>Corporate / Business Objective</li> </ul>	<ul style="list-style-type: none"> <li>Community and Customer Service</li> <li>Quality and Safety</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Protection</li> </ul>
Drinking water will comply with the Australian Drinking Water Guidelines.	<ul style="list-style-type: none"> <li>Uniform quality of water monitored in relation to recognised standards.</li> <li>Safe and reliable water supply.</li> </ul>	<ul style="list-style-type: none"> <li>Improves community health.</li> </ul>
Designs will comply with State Government Guidelines, and Council's Planning Scheme Policy PSP 28 "Civil Infrastructure Design".	<ul style="list-style-type: none"> <li>System will be adequate in terms of; <ul style="list-style-type: none"> <li>day-to-day reliability,</li> <li>long term continuity of supply;</li> <li>delivery of high quality drinking water to the consumer ;and</li> <li>minimum life cycle cost (i.e., optimum maintenance, replacement and operation costs).</li> </ul> </li> <li>Cost effective service for community.</li> </ul>	<ul style="list-style-type: none"> <li>Maintains the health of the community.</li> <li>Chemicals are stored and handled in accordance with relevant legislation to ensure safety of worker, public safety and to protect the environment.</li> <li>Minimisation of Greenhouse gas emissions.</li> <li>Optimum use of resources.</li> </ul>
Minimise water loss.	<ul style="list-style-type: none"> <li>Extend asset life.</li> <li>Defer system augmentation.</li> <li>Conserve raw water supply.</li> <li>Minimise energy consumption.</li> <li>Optimise size of elements within water supply network.</li> </ul>	<ul style="list-style-type: none"> <li>Improve environmental flows.</li> <li>Minimisation of Greenhouse gas emissions.</li> </ul>
Effective management of water consumption (Demand Management).	<ul style="list-style-type: none"> <li>Reduced cost of water.</li> <li>Defer requirement for new water source.</li> <li>Minimise energy consumption.</li> <li>Optimise size of elements within water supply network.</li> </ul>	<ul style="list-style-type: none"> <li>Improve environmental flows</li> <li>Minimisation of Greenhouse gas emissions.</li> </ul>
Implement environmental responsibilities with respect to water supply operations.	<ul style="list-style-type: none"> <li>Noise control.</li> <li>No adverse visual impact.</li> <li>Control of overflows from system.</li> <li>Management of flushing water.</li> <li>Maintain flows or storage in raw water. sources for environmental purposes.</li> </ul>	<ul style="list-style-type: none"> <li>Improves community health.</li> <li>Maintain amenity (e.g., visual and noise characteristics) of locality.</li> <li>Reductions in discharges that have concentrations of free chlorine greater than 1 mg/l.</li> </ul>

Objective	User Benefit	Environmental Effect
<ul style="list-style-type: none"> <li>Corporate / Business Objective</li> </ul>	<ul style="list-style-type: none"> <li>Community and Customer Service</li> <li>Quality and Safety</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Protection</li> </ul>
System design will aim to minimise energy consumption and optimise the use of green energy.	<ul style="list-style-type: none"> <li>Reduced energy costs.</li> <li>Cost effective service for community.</li> </ul>	<ul style="list-style-type: none"> <li>Control of discharge of turbid water to stormwater drainage during construction of infrastructure and flushing or scouring operations.</li> <li>Required environmental flows maintained.</li> </ul>
The design of the water supply network shall provide fire fighting flow and specified water pressures and flow to the consumer.	<ul style="list-style-type: none"> <li>Reliable water supply.</li> <li>Adequate supply for community services.</li> <li>Adequate pressures and flow for fire fighting purposes.</li> </ul>	<ul style="list-style-type: none"> <li>Maintains health and safety of the community.</li> </ul>
Infrastructure will be designed, constructed and operated in accordance with Workplace Health and Safety Legislation.	<ul style="list-style-type: none"> <li>Minimisation of risk to workers and community (reduction in accidents and insurance premiums).</li> </ul>	<ul style="list-style-type: none"> <li>Minimise risk of pollution events.</li> <li>Safer work environment for staff and public.</li> </ul>

### Detailed Design Parameters – Water Supply

Following an examination of the Queensland Government Guidelines and a survey of current practice of local governments in South East Queensland, Moreton Bay Regional Council has adopted the parameters summarised in Table D2 for design and assessment of water supply systems.

These factors are applied in accordance with procedures detailed in the Queensland Government Guidelines.

The summary outlined in Table D2 must be interpreted in conjunction with the design and construction standards for water supply set out in other Planning Scheme Policies of the relevant planning scheme.

**Table D2 - Water Supply Design Parameters**

Item	Description	Adopted Design Parameter
<b>Water Demand</b>		
1	Average Day Demand (AD)	Existing and Future Demand – 296 L/EPW/d  AD is calculated as follows: AD= (230 x 1.2) + System Losses Where: <ul style="list-style-type: none"> <li>230 L/EPW/day is the demand target under SEQ 'permanent water conservation measures';</li> <li>1.2 is an operational flexibility factor that provides sufficient capacity to maintain an adequate level of service in the event that an element of the trunk infrastructure fails; and</li> <li>System Losses = 20 L/EPW/day</li> </ul>
<b>Peaking Factors</b>		
2	Mean Day Maximum Month (MDMM/AD)	1.2 x AD (355.2 L/EPW/day)
3	Maximum Day (MD/AD)	1.6 x AD (473.6 L/EPW/day)
4	Maximum Hour (MH/AD)	4.3 x AD (53.03 L/hr/EPW)
<b>System Pressure</b>		
5	Minimum Operating Pressure	<ul style="list-style-type: none"> <li>At maximum hour demand the minimum pressure at the water meter shall not be less than 22m.</li> <li>In isolated high level areas, the minimum operating pressure may be reduced to 16 m above the highest elevation on any lot with the water level in the reservoir not more than 1.0 m above reservoir floor level.</li> </ul>
6	Maximum Operating Pressure	80 m at the property's water meter.
<b>Fire Fighting Requirements</b>		
7	System Pressure	12 m minimum pressure head at the hydrant/dedicated service location, and minimum 6m pressure head at any location in the water supply zone during the fire event with model conditions as detailed in Items 8, 9 and 10.



Item	Description	Adopted Design Parameter
8	Fire Flow	<ul style="list-style-type: none"> <li>Predominantly residential development not more than 3 storeys - 15 L/s simultaneous with background demand as defined in Item 9 for a period of 2 hours.</li> <li>Predominantly commercial/industrial and residential buildings greater than 3 storeys - 30 L/s simultaneous with background demand as defined in Item 9 for a period of 4 hours.</li> <li>Special risk/hazard land use – to be assessed.</li> </ul>
9	Background demand	<ul style="list-style-type: none"> <li>Predominantly Residential Area - 2/3 of MH demand.</li> <li>Predominantly Commercial/Industrial Area - MH demand (generally between 10 am to 4 pm).</li> </ul>
10	Reservoir level	<ul style="list-style-type: none"> <li>At the commencement of the fire fighting event the reservoir level should be set at Mid-Water Level; where: Mid-Water Level = (Top Water Level + Floor Level) ÷ 2 (AHD).</li> <li>The reservoir must not empty during the fire fighting event for the duration of the event specified in item 8 with supply pumps turned off.</li> </ul>
<b>Storage</b>		
11	Design Condition	<ul style="list-style-type: none"> <li>Reservoirs must not empty in less than 3 consecutive MD demands.</li> <li>During MDMM demand the reservoir shall have net positive inflow and shall be capable of continuous operation under this demand.</li> </ul>
12	Ground Level Storage	<p>Required Storage = [3 x (MD – MDMM)] + Fire Fighting Storage.</p> <p>Where:</p> <ul style="list-style-type: none"> <li>Fire Fighting Storage = 4 hrs of MDMM demand or 0.5 ML whichever is the greater.</li> </ul>
13	Elevated Storage	<p>Required Storage Volume = Operating Volume + Fire Fighting Reserve</p> <p>Where:</p> <ul style="list-style-type: none"> <li>Operating Volume = 6 x (MH – 1/12 MDMM).</li> <li>Fire storage = 150 kL.</li> </ul>
<b>Pumping Capacity</b>		
14	Duty pump capacity to serve ground level reservoirs.	Supply MDMM demand in 20 hours of operation in any 24 hour period.
15	Pumps serving elevated storage.	<p>Pump must discharge not less than; [(6 x MH) – Operating Volume]/(6 x 3600)</p> <p>Where: Operating Volume is defined in item 13 above.</p>
16	Standby Pump Capacity	Equal to the capacity of the largest pump.
<b>Pipeline Design</b>		
17	Trunk Main Capacity	Sized for MDMM flows.
18	Reticulation Capacity	Sized for Maximum Hour and Fire Flow.
19	Friction Default Values	<p>Hazen Williams Coefficients of Friction:</p> <ul style="list-style-type: none"> <li>C = 100 (diameters ≤ 150 mm).</li> <li>C = 110 (150 mm &gt; diameter &lt; 300 mm).</li> <li>C = 120 (diameter ≥ 300 mm).</li> </ul>
20	Maximum Flow Velocity	2.5 m/s.
<b>Pressure and Leakage Management</b>		
21	District Meter Area (DMA)	<ul style="list-style-type: none"> <li>The sizes of the reticulation mains should be designed according to the planned DMAs.</li> <li>Existing DMA boundary should not be breached.</li> </ul>

**REVIEW TRIGGERS**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**RESPONSIBILITY**

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability in consultation with the Senior Manager Regional and Environmental Planning, Senior Manager Development Services and the Water Supply Infrastructure Provider.

**VERSION CONTROL**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
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**Related Links:**


**ENDNOTES**

<b>Amendment</b>	<b>Date Adopted – 8 September 2009</b>	<b>Effective Date – 29 October 2009</b>
<b>Planning Scheme Policy Reference</b>	<b>Description of Amendment</b>	
PSP 4 Part 8.4.5	<ul style="list-style-type: none"> <li>▪ Update to reflect the intent of the draft Redcliffe Priority Infrastructure Plan</li> <li>▪ Update to reflect the new Desired Standards of Service arising from the restructure of the management of Water Supply networks in SEQ</li> <li>▪ Remove the sewerage component for consistency across Moreton Bay Regional Council</li> </ul>	

<b>Amendment</b>	<b>Date Adopted – 28 March 2013</b>	<b>Effective Date – 8 April 2013</b>
<b>Planning Scheme Policy Reference</b>	<b>Description of Amendment</b>	
PSP 4 Part 8.4.5	<ul style="list-style-type: none"> <li>▪ Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013</li> </ul>	

## PSP4 PART 8.4.6 DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – SEWERAGE

### TABLE OF CONTENTS

<b>HEAD OF POWER</b> .....	<b>1</b>
<b>OBJECTIVE</b> .....	<b>1</b>
<b>DEFINITIONS / APPLICATION</b> .....	<b>1</b>
<b>POLICY STATEMENT</b> .....	<b>1</b>
<b>1 SCOPE</b> .....	<b>1</b>
<b>2 BACKGROUND INFORMATION</b> .....	<b>2</b>
<b>3 SEWERAGE METHODOLOGY</b> .....	<b>2</b>
<b>3.1 METHODOLOGY</b> .....	<b>2</b>
<b>3.2 TRUNK SEWERAGE SERVICE CATCHMENTS</b> .....	<b>3</b>
<b>3.3 SEWERAGE DEMAND ASSUMPTIONS</b> .....	<b>3</b>
<b>4 SEWERAGE PLAN FOR TRUNK INFRASTRUCTURE</b> .....	<b>5</b>
<b>4.1 SEWERAGE TRUNK INFRASTRUCTURE NETWORK</b> .....	<b>5</b>
<b>4.2 SEWERAGE TRUNK INFRASTRUCTURE VALUATIONS</b> .....	<b>5</b>
<b>SCHEDULE A: DEMAND FACTORS</b> .....	<b>7</b>
<b>SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES</b> .....	<b>10</b>
<b>SCHEDULE C: SERVICE CATCHMENTS AND NETWORK ASSETS</b> .....	<b>11</b>
<b>SCHEDULE D: DESIRED STANDARDS OF SERVICE</b> .....	<b>13</b>
<b>REVIEW TRIGGERS</b> .....	<b>14</b>
<b>RESPONSIBILITY</b> .....	<b>14</b>
<b>VERSION CONTROL</b> .....	<b>14</b>

## **PSP4 Part 8.4.6 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – SEWERAGE**

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### **Head of Power**

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### **Objective**

The objective of this policy is to apportion the cost of Sewerage Trunk Infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of Sewerage Trunk Infrastructure works between Council and developers of land in the former Redcliffe City.

### **Definitions / Application**

#### **Application**

This policy applies to all applications for development which have been made assessable against the *Redcliffe City Planning Scheme* and which will utilise any part of the Sewerage Trunk Infrastructure Network. For the purposes of this policy, the extent of the Sewerage Trunk Infrastructure Network within the former Redcliffe City is shown in Schedule C.

The policy outlines the basis of Council's Infrastructure Contributions Regime for Sewerage Trunk Infrastructure in the former Redcliffe City. It is to be read in conjunction with Planning Scheme Policy PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy.

Payment of any monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk works or to connect the development to trunk infrastructure. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

#### **Definitions**

The definitions of applicable terms are contained in PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy. Where a term used in this policy is not defined in PSP4 Part 8.4.1, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Redcliffe City Planning Scheme* or in the *Integrated Planning Act 1997*.

### **Policy Statement**

#### **1 Scope**

This policy sets out the basis for determining the amount of Development Contributions for Sewerage Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Redcliffe City which, in the opinion of Council, may impact on its Sewerage Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP4 PART 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Sewerage trunk infrastructure within Council's Local Government Area;
- specifies the works, structures or equipment, which the Council determines to be Sewerage Trunk Infrastructure;
- establishes the estimated construction costs of existing and future components of the sewerage trunk infrastructure network; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.



## 2 Background Information

The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the methodology identified in the report prepared by MWH “Derivation of Water supply and Sewerage Infrastructure Charges” (the Study Report – May 2004).

The following additional reports identifying required Trunk Infrastructure for the former Redcliffe City were also used as a basis for this policy:

- (1) Desired Standards of Service and Design Criteria for Water and Sewerage Infrastructure, MWH Australia Pty. Ltd., July 2003;
- (2) Redcliffe ICS Study – Sewerage Collection System Master Plan, MWH Australia Pty. Ltd., March 2004; and
- (3) Council’s 15 year capital works program - internal minute to Moreton Bay Regional Council Financial Department 23 December 2008.

## 3 Sewerage Methodology

### 3.1 Methodology

The methodology used for determining the rate of Infrastructure Contributions for Sewerage under this policy is based upon the approach set out in the Department of Local Government and Planning’s IPA Guidelines 1/04 and 2/04 (dated 4<sup>th</sup> October 2004) and the Standard Infrastructure Charges Schedule Nov 2008.

In summary, Infrastructure Contribution Rates for the Sewerage Trunk Infrastructure Network have been derived in the following manner:-

- (a) determine the service catchments for Trunk Infrastructure Delivery;
- (b) estimate the amount of new development, or the planned / ultimate population over the planning horizon of this policy and resulting demand on the network within each service catchment;
- (c) determine the Trunk Infrastructure likely to be needed to service the development or planned / ultimate population within each service catchment to deliver the Desired Standard of Service (DSS) outlined in Schedule D of this policy;
- (d) determine the current replacement costs for existing Trunk Infrastructure, and the future establishment costs for anticipated future Trunk Infrastructure in net present values in each service catchment;
- (e) derive the applicable Infrastructure Contribution Rates by dividing the total network costs in net present values by the total discounted ‘ultimate’ demand on the network in each service catchment, thereby producing a rate per selected demand unit.

The contribution rate, for each particular service catchment, was determined by applying the formula:-

$$CR_{\text{Catchment}} = (\text{Asset Values})/(\text{Demand})$$

Where:-

$CR_{\text{Catchment}}$	=	Contribution Rate for an individual service catchment (expressed in \$/EPS)
<b>Asset Values</b>	=	Value of Catchment’s Assets (\$)
	=	$\Sigma(\text{Current Replacement Cost of Existing assets at 01-01-2009} \times \text{proportion of the asset utilised by the service catchment}) + \Sigma(\text{net present value at 01-01-2009 of future assets} \times \text{proportion of the asset utilised by the service catchment})$
<b>Demand</b>	=	$\Sigma(\text{Existing Demand in the service catchment at 01-01-2009}) + (\text{Net Present Value at 01-01-2009 of the Future Demand to Ultimate Development}) \dots\dots$ (expressed in EPS)

Sewerage Trunk Infrastructure is utilised at two levels – local and regional (hence the system of Regional and Local Service catchments). Local Infrastructure generally services customers in a single service catchment or sub-catchment while regional infrastructure services customers in more than one service catchment. For example, all sewerage in Redcliffe is treated at the Redcliffe Wastewater Treatment Plant, which is therefore considered regional infrastructure. Accordingly, a two tier system has been employed to equitably allocate the costs of infrastructure.

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community), and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the water supply trunk infrastructure network planned to be consumed by that entity's development proposal.

### 3.2 Trunk Sewerage Service Catchments

The former Redcliffe City has been divided into the sewerage service catchments shown in Table 3.2A.

**Table 3.2A – Trunk Sewerage Service Catchments**

Service Catchment	
SS01	Sub-system (SS01) – Covers the area serviced primarily by the rising main, RM0
SS02	Sub-system (SS02) – Covers the area serviced primarily by the rising main, RM18
SS03	Sub-system (SS03) – Covers the area serviced primarily by the rising main, RM12
SS04	Sub-system (SS04) – Covers the area serviced primarily by rising mains RM16 and RM19

The extent of each of the Service Catchments/Sub-systems is shown graphically on the maps in Schedule C.

### 3.3 Sewerage Demand Assumptions

#### Approach to Demand and Load Modelling

The reports referred to in Section 2 of this policy document the assumed demand across the City, the most cost effective servicing strategy and Council's Capital Works Programs aligning with assumed growth rates for all of the former Redcliffe City.

To aid in the preparation of this policy, new Demand and Load Models for Water Supply were built, based on the *Redcliffe City Planning Scheme*, to full development of the City, assuming densities consistent with the Planning Scheme – this being termed 'ultimate' development. The Hydraulic Models for Water Supply have been re-run to reflect the new Desired Standards of Service for water supply and the permanent water restrictions adopted in South-East Queensland and the updated Water Network information from this model run has been used as a basis given the obvious nexus between water supply and sewerage, Sewerage Demand. The Average Dry Weather Flow for the sewerage network under this policy is 185 litres / EPS / Day.

#### Sewerage Demand Assumptions

The Demand Projections, Capacity Planning and Infrastructure Contribution Rates developed for the Sewerage Network are expressed in the Standard Demand Units of 'Equivalent Person (Sewerage)' (EPS). The determination of demand and load for the Sewerage network was linked to the Water Supply network by utilising corresponding growth rates and a constant ratio between Water Supply (EPW) and Sewerage (EPS) Demand of 1.008738 (i.e., one EPW corresponds to 1.008738 times as many sewerage EPS's).

**Table 3.3A – Sewerage Demand Assumptions by Zone and Lot Type**

Planning Scheme Zone	Demand in EPS's
<b>Low Density Residential Zone</b>	
Lot Size $\leq 500\text{m}^2$	2.02 EPS/lot
Lot Size $501\text{-}1500\text{ m}^2$	2.62 EPS/lot
Lot Size $>1500\text{ m}^2$	30.26 EPS/Ha
<b>Mixed Density Residential Zone</b>	
Lot Size $\leq 500\text{m}^2$	2.02 EPS/lot
Lot Size $501\text{-}700\text{ m}^2$	2.62 EPS/lot
Lot Size $>700\text{ m}^2$	60.52 EPS/Ha
<b>Medium Density Residential Zone</b>	
< 3 Storeys	
Lot Size $\leq 500\text{m}^2$	2.02 EPS/lot
Lot Size $501\text{-}750\text{ m}^2$	2.62 EPS/lot
Lot Size $>750\text{ m}^2$	60.52 EPS/Ha
3 Storeys	121.05 EPS/Ha
6 Storeys	176.53 EPS/Ha
8 Storeys	221.92 EPS/Ha
<b>Retail Core Zone</b>	

Planning Scheme Zone	Demand in EPS's
1-2 storeys	30.26 EPS/Ha
3 storeys	131.14 EPS/Ha
6 storeys	191.66 EPS/Ha
8 storeys	242.1 EPS/Ha
12 storeys	292.53 EPS/Ha
<b>Frame Business Zone</b>	
1-2 storeys	30.26 EPS/Ha
3 storeys	121.05 EPS/Ha
6 storeys	176.53 EPS/Ha
8 storeys	221.92 EPS/Ha
12 storeys	262.27 EPS/Ha
<b>Industry Zone</b>	30.26 EPS/Ha
<b>Health Services Zone</b>	30.26 EPS/Ha
<b>Community Purpose Zone</b>	30.26 EPS/Ha
<b>Natural value Zone</b>	
<b>Open Space and Recreation Zone</b>	5.04 EPS/Ha

### Projected Sewerage Demand

Projected ultimate demand for the sewerage trunk network is shown in Table 3.3B. To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand indexed for anticipated fluctuations in construction costs (generally increases) and discounted for cost of capital, resulting in NPV Demand.

**Table 3.3B – Demand in EPSs by Sewerage Service Catchment**

Service Catchment	Ultimate Demand in EPS's	Total Ultimate NPV Demand in EPS's
SS01	26,080	25,820
SS02	16,702	16,606
SS03	18,754	18,626
SS04	22,971	22,654
	<b>84,507</b>	<b>83,706</b>

## 4 Sewerage Plan for Trunk Infrastructure

### 4.1 Sewerage Trunk Infrastructure Network

The following Infrastructure items as shown on the maps contained in Schedule C of this policy are deemed to be Trunk Infrastructure for the purpose of planning and funding of the Trunk Sewerage Network:-

- (1) sewer pipes with a diameter of 225mm and above;
- (2) rising mains with a diameter of 150mm and above;
- (3) pumping stations that are connected direct to trunk sewers or rising mains; and
- (4) sewage treatment plants.

The land on which these components are situated is also essential component of the sewerage trunk infrastructure network. However, with the exception of the treatment plant and possibly some of the pumping stations, those assets are located on land which is road reserve, or public open space, or private land outside of Council's ownership. As such, the land content has been excluded from the calculation of infrastructure contribution rates for the trunk sewerage network.

Assets are also grouped into 'Active' and 'Passive' Assets.

Active sewerage infrastructure assets consist mainly of above ground visible assets such as treatment plants and pumping stations.

Passive sewerage infrastructure assets consist of underground assets such as mains, pipe fittings and property connections.

The various elements of this Trunk Infrastructure are shown on the maps in Schedule C and are tabulated in Section 4.2.

### 4.2 Sewerage Trunk Infrastructure Valuations

#### Existing Asset Valuations

Valuations of existing sewerage trunk infrastructure contained in this policy are based on the report titled "Derivation of Water Supply and Sewerage Infrastructure Charges" dated May 2004 prepared by MWH. For a full Schedule of existing Sewerage Trunk Infrastructure Assets refer Appendix C of that report. These valuations have been supplemented by details recorded in Council's asset data base to cover a component of the network with a creation date between January 2005 and December 2007.

The valuations shown in Table 4.2A are higher than those contained in the above report due to escalation being applied to bring the costs to 01 January 2009 values, based on Rawlinson's Construction Index for Brisbane.

#### Costing information for Planned Future Assets

Cost for Planned Future Assets have been taken from the estimates in Council's adopted Capital Works Program valued for, and current at, 01 January 2009, expressed in Net Present Values.

**Table 4.2A – Sewerage Infrastructure Costs by Catchment in NPV as at 01 January 2009**

SERVICE CATCHMENT	SS01	SS02	SS03	SS04	TOTAL
LOCAL SERVICE CATCHMENT- ACTIVE-EXISTING (Jan 2009)	\$3,724,442	\$5,303,485	\$11,293,181	\$7,665,785	\$27,986,893
LOCAL SERVICE CATCHMENT- PASSIVE-EXISTING (Jan 2009)	\$4,970,233	\$6,009,498	\$6,872,186	\$7,561,097	\$25,413,013
LOCAL SERVICE CATCHMENT- FUTURE (Jan 2009)	\$883,603	\$0	\$0	\$1,429,337	\$2,312,939
LOCAL SERVICE CATCHMENT- TOTAL (Jan 2009)	<b>\$9,578,277</b>	<b>\$11,312,983</b>	<b>\$18,165,366</b>	<b>\$16,656,219</b>	\$55,712,845
REGIONAL CATCHMENT- ACTIVE-EXISTING (Jan 2009)	\$6,696,776	\$4,306,890	\$4,830,942	\$5,875,767	\$21,710,374
REGIONAL CATCHMENT- FUTURE (Jan 2009)	\$831,743	\$534,918	\$600,005	\$729,773	\$2,696,438
REGIONAL CATCHMENT-TOTAL (Jan 2009)	<b>\$7,528,518</b>	<b>\$4,841,808</b>	<b>\$5,430,947</b>	<b>\$6,605,539</b>	\$24,406,813
TOTAL SERVICE CATCHMENT (Jan 2009)	<b>\$17,106,796</b>	<b>\$16,154,791</b>	<b>\$23,596,314</b>	<b>\$23,261,758</b>	\$80,119,658

Table 4.2B Future Asset Schedule

Project ID	Project Name	Anticipated Timing of Works	Charging Level	NPV - 01 January 2009
<b>PUMP STATIONS</b>				
PIPS00001	SPS 19X Hercules road (Renewal of existing pumps as <b>interim</b> solution)	2009	Local	\$218,812
PIPS00002	SPS 19X Hercules road ( <b>Design</b> of upgrade to cater for Newport Development)	2009	Local	\$29,838
PIPS00003	SPS 19X Hercules road (Upgrading to cater for Newport Development)	2010	Local	\$989,227
PIPS00004	SPS 16X, Grice street Decommission	2009	Local	\$19,892
PIPS00005	Duplication of pumps(3x2.1 Kw,9Kw,2x4.5Kw)	2009	Regional	\$124,325
PIPS00006	SPS23 & 23A, McGahy St West Decommissioning	2009	Local	\$9,946
PIPS00009	SPS 5 - Humpybong Creek	2009	Local	\$19,892
PIPS00010	SPS 21 - Nathan Road	2009	Local	\$62,162
PIPS00011	SPS9 Whitecliffe Parade-Renewal of pumps, Converting PS to submersible type and add emergency storage	2011	Local	\$615,061
PIPS00012	SPS 2 X Landsborough Avenue	2009	Local	\$248,650
<b>GRAVITY SEWERS / PRESSURE MAINS</b>				
PIPS00013	Rising mains upgrades	2018	Regional	\$2,572,114
PIPS00014	Hercules road (Newport main 250mmx330m)	2009	Local	\$99,460
<b>TOTAL</b>				<b>\$5,009,379</b>

## Schedule A: Demand Factors

Demand factors are calculated based on defined uses within the jurisdiction of each relevant planning scheme, and are therefore unique to each district within the Moreton Bay Regional Council shire area.

**Table A - Demand Factors for Sewerage Infrastructure Contributions**

	DEMAND FACTOR	COMMENT
<b>DEMAND FACTORS FOR MCUs – by Land use</b>		
<b>Accommodation unit</b>	1.61 EPS/du	Sewerage Planning Assumptions
<b>Aerodrome</b>		Assess Impact on Application
<b>Business premises</b>		Assess Impact on Application
<b>Car park</b>		Assess Impact on Application
<b>Caravan Park (Summative Components)</b>		
Tent site	1.4 EPS	Site
Caravan site	1.8 EPS	Site
<b>Caretaker's residence</b>	2.62 EPS/detached house	
<b>Club</b>	As Hotel	
<b>Community well-being facilities</b>		Assess Impact on Application
<b>Community well-being infrastructure</b>		Assess Impact on Application
<b>Display home /Estate sales office</b>		
Where the office will be removed upon completion of sales	0 EPS	
Where the office is the temporary use of a dwelling house		As per the home type being used
Where the office will be retained for a use identified elsewhere in this table		As per the scheduled use
<b>Duplex dwelling</b>	2.62 EPS/dwelling unit	
<b>Education centre</b>		
Schools		
Non-boarding schools	0.21 EPS	Licensed enrolment
Boarding schools	1.1 EPS	Licensed enrolment of boarding students
Other Education Establishments	0.21 EPS	Licensed enrolment of others
Other Education Establishments	0.26 EPS	Licensed enrolment
<b>Employment related storage</b>		Assess Impact on Application
<b>Entertainment outdoor</b>		
Swimming Pools	0.005 EPS	Pool volume in cubic metres
Changing Rooms, Showers and Toilets <sup>1</sup> (see note 1)		
▪ Water Closet	0.7 EPS	Pedestal
▪ Urinal (Stall)	0.2 EPS	Stall
▪ Urinal (Trough)	0.3 EPS	metre
▪ Shower Bath	0.25 EPS	shower
▪ Wash Basin	0.2 EPS	basin
Any other item identified elsewhere in this table		As per item
<b>Food service</b>		
Café / Coffee shop/ Cafeteria/ Bistro	4 EPS	100 square metres of gross use area
Fast Food Restaurant	6.25 EPS	100 square metres of gross use area
Other Restaurants	5.25 EPS	100 square metres of gross use area
Take Away Food Outlet	4 EPS	100 square metres of gross use area
<b>General industry</b>		Assess Impact on Application
<b>Government Infrastructure</b>		Assess Impact on Application
<b>Home based business</b>		Assess Impact on Application
<b>Hotel</b>		
single room (without kitchen facilities)	0.9 EPS	room
double room (without kitchen facilities)	1.3 EPS	room
Suites or rooms with kitchen facilities		As Serviced Apartments
Restaurant		As Restaurant
Shop		As Shop
Bar and Gaming Areas	5. EPS	100 square metres gross use area
Beer Garden	3.75 EPS	100 square metres gross use area
Function Rooms	2.5 EPS	100 square metres gross use area



	DEMAND FACTOR	COMMENT
<b>DEMAND FACTORS FOR MCUs – by Land use</b>		
Swimming Pools	0.005 EPS	Pool volume cubic metres
Any other item identified elsewhere in this table		As per item
<b>House</b>	2.62EPS/detached house EPS	As per Low Density Residential Zone, Mixed Density Residential Zone, Medium Density Residential Zone as applicable.
<b>Indoor entertainment, sport or recreation</b>		
Cinema	0.05	seat
Licensed Clubs & Organisations		As Hotel
Swimming Pools	0.005	Pool volume in cubic metres
Gymnasiums and Fitness Centres (see note 1)		
▪ Water Closet	0.7	Pedestal
▪ Urinal (Stall)	0.2	Stall
▪ Urinal (Trough)	0.3	metre
▪ Shower/ Bath	0.25	Shower/ bath
▪ Wash Basin	0.2	basin
Commercial Clubs & Organisations		As Hotel
Community Service or not-for-profit Clubs and Organisations with no gaming or liquor licence		
▪ With facilities for the frequent provision of cooked food	1	100 square metres gross floor area
▪ Without facilities for the frequent provision of cooked food	0.5000	100 square metres gross floor area
Other Types	Assess Impact on Application	Individual Basis
<b>Industry with substantial impacts</b>		Assess Impact on Application
<b>Market</b>		Assess Impact on Application
<b>Multiple dwelling</b>	1.61 EPS/du	Sewerage Planning Assumptions
<b>Outdoor sales premises</b>		Assess Impact on Application
<b>Park</b>	5.04 EPS/Ha	Sewerage Planning Assumptions
<b>Relative's accommodation</b>	1 EPS/bedroom	
<b>Rural activities</b>		Assess Impact on Application
<b>Service station</b>		
Pump Sets	0.25	pump
Repair / Service Area		As Service Industry
Shop		As Shop
Any other item identified elsewhere in this table		As per item
<b>Service trade</b>		Assess Impact on Application
<b>Shop</b>		
Hairdressers, beauty salons, barbers (Summative Components)		
▪ General Retail Loading	0.9	100 square metres gross use area
▪ Installed Washbasins	0.2	basin
Other Shops	0.9	100 square metres gross use area
<b>Showroom/super store</b>		Assess Impact on Application
<b>Special needs housing</b>	1.61 EPS/du	Sewerage Planning Assumptions
<b>Sport and recreation outdoor</b>		Assess Impact on Application
<b>Stable</b>		Assess Impact on Application
<b>Transport interchange</b>		Assess Impact on Application
<b>Utility installation</b>		Assess Impact on Application
<b>Warehouse</b>	0.9	100 square metres of gross use area
<b>DEMAND FACTOR FOR RALs– by Zone</b>		
<b>Low Density Residential Zone</b>		
Lot Size ≤ 500m <sup>2</sup>	2.02 EPS/lot	Sewerage Planning Assumptions
Lot Size 501-1500 m <sup>2</sup>	2.62 EPS/lot	Sewerage Planning Assumptions
Lot Size >1500 m <sup>2</sup>	30.26 EPS/Ha	Sewerage Planning Assumptions
<b>Mixed Density Residential Zone</b>		
Lot Size ≤ 500m <sup>2</sup>	2.02 EPS/lot	Sewerage Planning Assumptions
Lot Size 501-700 m <sup>2</sup>	2.62 EPS/lot	Sewerage Planning Assumptions
Lot Size >700 m <sup>2</sup>	60.52 EPS/Ha	Sewerage Planning Assumptions

<b>DEMAND FACTOR FOR RALs- by Zone</b>		
<b>Medium Density Residential Zone</b>		
< 3 Storeys		
Lot Size $\leq 500\text{m}^2$	2.02 EPS/lot	Sewerage Planning Assumptions
Lot Size <b>501-750 m<sup>2</sup></b>	2.62 EPS/lot	Sewerage Planning Assumptions
Lot Size <b>&gt;750 m<sup>2</sup></b>	60.52 EPS/Ha	Sewerage Planning Assumptions
3 Storeys	121.05 EPS/Ha	Sewerage Planning Assumptions
6 Storeys	176.53 EPS/Ha	Sewerage Planning Assumptions
8 Storeys	221.92 EPS/Ha	Sewerage Planning Assumptions
<b>Retail Core Zone</b>		Sewerage Planning Assumptions
1-2 storeys	30.26 EPS/Ha	Sewerage Planning Assumptions
3 storeys	131.14 EPS/Ha	Sewerage Planning Assumptions
6 storeys	191.66 EPS/Ha	Sewerage Planning Assumptions
8 storeys	242.1 EPS/Ha	Sewerage Planning Assumptions
12 storeys	292.53 EPS/Ha	Sewerage Planning Assumptions
<b>Frame Business Zone</b>		Sewerage Planning Assumptions
1-2 storeys	30.26 EPS/Ha	Sewerage Planning Assumptions
3 storeys	121.05 EPS/Ha	Sewerage Planning Assumptions
6 storeys	176.53 EPS/Ha	Sewerage Planning Assumptions
8 storeys	221.92 EPS/Ha	Sewerage Planning Assumptions
12 storeys	262.27 EPS/Ha	Sewerage Planning Assumptions
<b>Industry Zone</b>	30.26 EPS/Ha	Sewerage Planning Assumptions
<b>Health services Zone</b>	30.26 EPS/Ha	Sewerage Planning Assumptions
<b>Community Purpose Zone</b>	30.26 EPS/Ha	Sewerage Planning Assumptions
<b>Natural value Zone</b>		Sewerage Planning Assumptions
<b>Open Space and Recreation Zone</b>	5.04 EPS/Ha	Sewerage Planning Assumptions



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**Schedule B: Infrastructure Contribution Rates**


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Table B shows the Infrastructure Contribution Rates for the network.

**Table B – Trunk Sewerage - Infrastructure Contribution Rates (ICR's)**

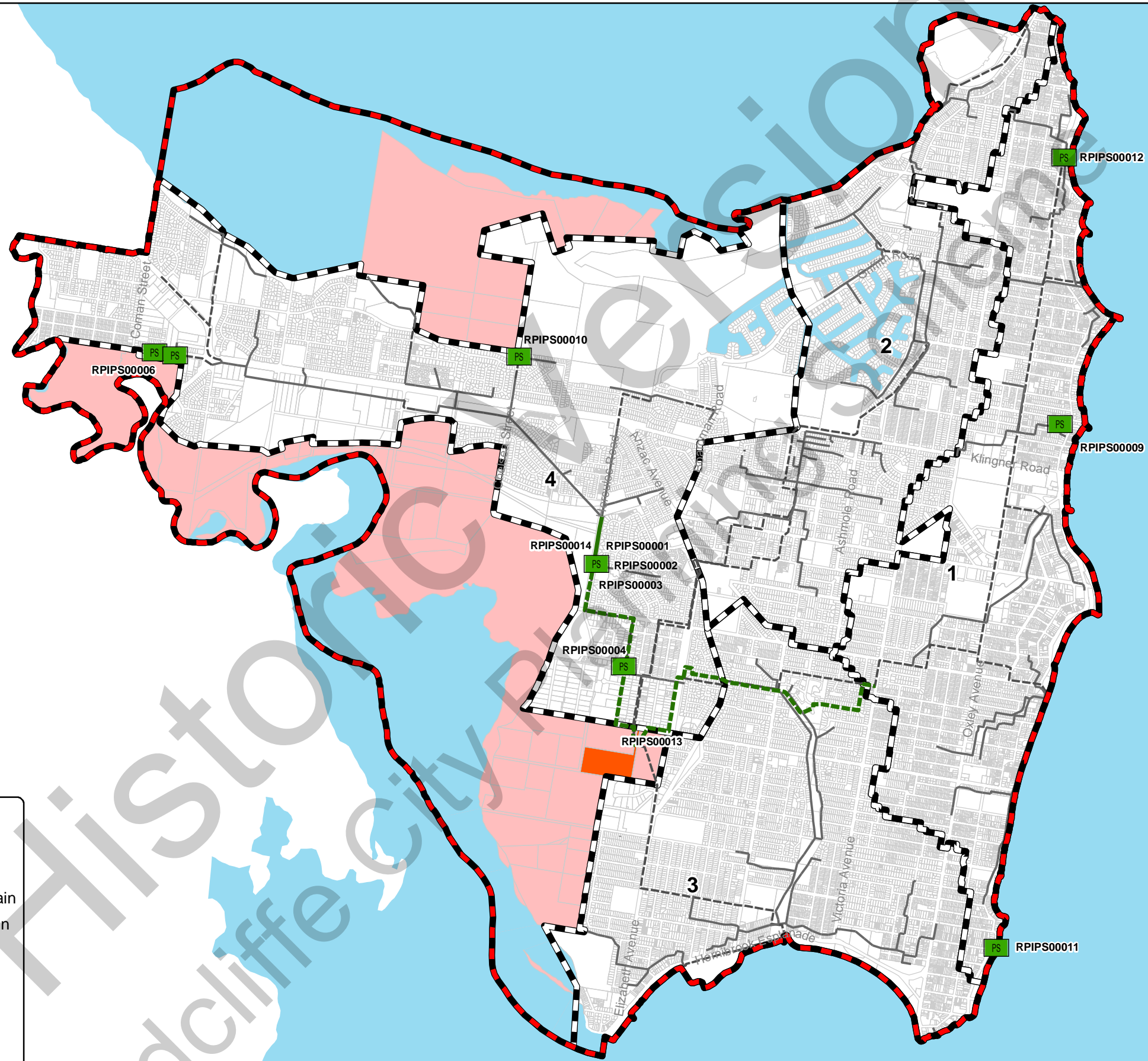
Service Catchment	Local ICR \$/EPS	Regional ICR \$/EPS	Total ICR \$/EPS
SS01	\$371	\$292	\$663
SS02	\$681	\$292	\$973
SS03	\$1,094	\$292	\$1,386
SS04	\$1,003	\$292	\$1,295

**Schedule C: Service Catchments and Network Assets**

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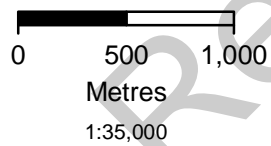
Historic Version  
Redcliffe City Planning Scheme

# Trunk Sewer Network



**Legend**

- PS New / Upgraded Pump Station
- major\_roads\_clipPIA
- New / Upgraded Sewer Gravity Main
- - - New / Upgraded Sewer Rising Main
- Sewer Gravity Main
- - - Sewer Rising Main
- Waste Water Treatment Plant
- - - Sewer Sub System Boundary
- DISA Boundary



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**MORETON BAY REGIONAL COUNCIL**  
Redcliffe City

*EFFECTIVE FROM 29 October 2009*

## Schedule D: Desired Standards of Service

The desired standards of service (DSS) for sewerage services in the former Redcliffe City were established in 2004. The 2004 DSS values have been reviewed and revised to suit the situation at 1 January 2009. The reviewed desired standards of service for sewerage are as summarized in Table D.

**Table D: Summary of Sewerage Design Parameters**

Design Concept	Parameter	Design Criteria
Sewage Loading	Average Dry Weather Flow (ADWF)	185 L/EPs/d
	Peak Wet Weather Flow (PWWF)	6 x ADWF or 1110 L/EPs/day
Gravity Sewer Design	Flow calculation approach	Manning's equation
	Manning's n	0.013
	Minimum velocity @ PWWF	0.6 m/s
	Minimum velocity @ PDWF	0.3 m/s
	Depth of flow @ PWWF – existing system	At least 1.0 m below Manhole cover level and no spillage through overflow structures
	Depth of flow @ PWWF – new sewers	Design for full pipe capacity
Pumping Station Design	Wet well storage volume	$0.9 \times \frac{Q}{N}$
	Emergency storage	4 hours of ADWF
	Single pump capacity	C1 x ADWF where >1000 EPS 5 x ADWF where <1000 EPS
	Total PS capacity	5 x ADWF
Rising Main Design	Flow equation	Hazen Williams
	Friction factors	$K_s = 0.3\text{mm}$
	Minimum velocity (on a daily basis)	0.75 m/s
	Preferred minimum velocity (all pumps)	1.2 m/s
	Maximum velocity	2.5 m/s

**REVIEW TRIGGERS**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**RESPONSIBILITY**

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability in consultation with the Senior Manager Regional and Environmental Planning and Development Services.

**VERSION CONTROL**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
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**Related Links:**


**ENDNOTES**

Amendment	Date Adopted – 28 March 2013	Effective Date – 8 April 2013
Planning Scheme Policy Reference	Description of Amendment	
PSP 4 Part 8.4.6	<ul style="list-style-type: none"> <li data-bbox="507 360 1444 454">▪ Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.</li> </ul>	

# PSP4 PART 8.4.7 DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – TRANSPORT

## TABLE OF CONTENTS

HEAD OF POWER .....	1
OBJECTIVE .....	1
DEFINITIONS / APPLICATION .....	1
POLICY STATEMENT .....	1
1 SCOPE .....	1
2 BACKGROUND INFORMATION .....	2
3 TRANSPORT METHODOLOGY .....	2
3.1 <i>METHODOLOGY USED FOR THE COUNCIL TRUNK ROAD NETWORK COMPONENT</i> .....	2
3.2 <i>METHODOLOGY USED FOR THE PATHWAYS NETWORK COMPONENT</i> .....	3
3.3 <i>TRUNK ROAD SERVICE CATCHMENTS</i> .....	3
3.4 <i>DEMAND ASSUMPTIONS FOR COUNCIL TRUNK ROAD AND PATHWAY NETWORK PLANNING</i> .....	4
3.5 <i>CALCULATION OF THE CONTRIBUTION FOR A PARTICULAR DEVELOPMENT APPLICATION</i> .....	4
4 PLAN FOR TRANSPORT TRUNK INFRASTRUCTURE .....	5
4.1 <i>TRANSPORT TRUNK INFRASTRUCTURE NETWORK</i> .....	5
4.2 <i>VALUATIONS OF THE EXISTING TRANSPORT NETWORK</i> .....	5
4.3 <i>FUTURE PATHWAYS TRUNK INFRASTRUCTURE</i> .....	5
4.4 <i>FUTURE TRUNK ROAD INFRASTRUCTURE</i> .....	7
SCHEDULE A: DEMAND FACTORS .....	8
SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES .....	10
SCHEDULE C: SERVICE CATCHMENTS AND NETWORK ASSETS .....	11
SCHEDULE D: DESIRED STANDARDS OF SERVICE .....	18
REVIEW TRIGGERS .....	19
RESPONSIBILITY .....	19
VERSION CONTROL .....	19

## PSP4 Part 8.4.7 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – TRANSPORT

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### Head Of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### Objective

The objective of this policy is to apportion the cost of Trunk Transport Infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of Trunk Transport Infrastructure works between Council and developers of land in the former Redcliffe City.

### Definitions / Application

#### Application

This policy applies to all applications for development which have been made assessable against the *Redcliffe City Planning Scheme* and which will utilise any part of the Council Trunk Road and/or Pathways Infrastructure Network. For the purposes of this policy, the extent of the Council Trunk Road and Pathways Infrastructure Network within the former Redcliffe City for which the contributions will be levied is shown in Schedule C.

The policy outlines the basis of Council's Infrastructure Contributions Regime for Transport Trunk Infrastructure (Council Trunk Roads and Pathways) in the former Redcliffe City. It is to be read in conjunction with Planning Scheme Policy PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy.

Payment of any monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake road and associated infrastructure works not on a Council Trunk Road or necessary to access a trunk road. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

#### Definitions

The definitions of applicable terms are contained in PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy. Where a term used in this policy is not defined in PSP4 Part 8.4.1, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Redcliffe City Planning Scheme* or in the *Integrated Planning Act 1997*.

### Policy Statement

#### 1 Scope

This policy sets out the basis for determining the amount of Development Contributions for Council Trunk Road and Pathways Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Redcliffe City which, in the opinion of Council, may impose a load on its Transport Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP4 PART 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Transport trunk infrastructure within the former Redcliffe City;
- specifies the works, structures or equipment, which the Council determines to be Transport Trunk Infrastructure;
- establishes the estimated cost of construction and any required augmentation of the Transport Network in respect of which contributions are to be made; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.



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## 2 Background Information

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The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the methodology identified in the following reports and models commissioned by Council:

- (1) Cardno Eppel Olsen, "Redcliffe City PIP & Transport ICS, Working Paper 1: Planning Assumptions", March 2007;
  - (2) Cardno Eppel Olsen, "Redcliffe City PIP & Transport ICS, Working Paper 2: Road Network Infrastructure", May 2007; and
  - (3) Redcliffe Transport Network Charging Analysis, 2009.
- 

## 3 Transport Methodology

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### ***3.1 Methodology used for the Council Trunk Road Network Component***

#### **Background**

The methodology used for determining infrastructure contribution rates for Council trunk roads under this policy is based upon the approach set out in the Department of Local Government and Planning's IPA Guidelines 1/04 and 2/04 (dated 4 October 2004) and the Standard Infrastructure Charges Schedule Nov 2008.

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community) and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the Council trunk road infrastructure network to be consumed by that entity's development proposal.

The method involves three broad aspects:-

- (1) determination of the costs of future trunk road infrastructure required to maintain Council's minimum "Desired Standards of Service" and directly attributable to anticipated future development;
- (2) calculation of the value of the existing trunk road infrastructure network; and
- (3) apportionment of the total cost of existing and future infrastructure provision between Council (for the existing population) and development proponents (for the future population).

Road network planning for the former Redcliffe City has been based on the best planning information available at the time. The roads program shown in this policy represents the current preferred delivery approach and is derived from a capacity assessment of the Redcliffe City trunk network to 2026.

For the purpose of modelling Council's future transport network, assumptions concerning the proportion of local demand which will be serviced by State provided infrastructure have been made. In this regard, a possible scenario concerning future augmentation of the State road network has been included in the transportation model to allow more accurate modelling of Council's transport network. The chosen scenario represents only one of a number of possible options for dealing with this demand and may not reflect the current Department of Main Roads future planning intent.

#### **Trunk Road Infrastructure Charging Methodology**

A transport model was completed by Cardno Eppel Olsen (2008) to the year 2021, and involved the roads network being divided into 54 traffic zones. The model is based on the Brisbane Strategic Transport Model with particular focus on the Redcliffe City local government area. It shares the use of each of the roads by determining the number of trips per day that each user is expected to make.

The method used for determining what infrastructure is required to address the impacts of the anticipated future development and the means of calculating how such costs are apportioned utilises the following approach:-

- (1) identify the existing trunk road infrastructure network;
  - (2) establish a system of discrete "traffic zones" which distinguishes between households and employment zones having different traffic generating characteristics;
  - (3) identify the demographic data existing at the 2005 base date (i.e. households and jobs) by "traffic zone";
  - (4) assign the traffic generated by such development to the existing road network;
  - (5) identify any works proposed by the State Government and surrounding local authorities on roads in and adjacent to Redcliffe City;
  - (6) develop the demographic (i.e. households and jobs) forecast data;
-

- (7) assign the traffic generated by the 2021 forecast development to the future road network (these networks include any anticipated improvements to the "State Controlled Road Network");
- (8) identify future deficiencies by conducting an assessment against the "Desired Standards of Service";
- (9) identify the minimum works required to maintain the "Desired Standards of Service" at all times;
- (10) determine the appropriate timing of each project from the base date, by interpolation, with due allowance for the time required for design and construction;
- (11) calculate the cost of each future project in 01 January 2009 dollar values (these costs include pre-construction activities, engineering design, land resumption where applicable, road construction, drainage, associated services, landscaping as appropriate, overheads and contingencies);
- (12) using the timing from step 10 calculate a net present value (NPV) of the project cost by indexing it by the anticipated inflation rates to the date of construction and discounting it by Council's weighted average cost of capital (WACC);
- (13) allocate to each trunk road infrastructure link in the traffic model the proportion of the NPV of each future project;
- (14) determine the replacement value in 01 July 2007 dollars of each trunk road infrastructure link;
- (15) add together the existing values and future NPV of each trunk road infrastructure link and apportion this against the traffic demand on that link. from each "traffic zone", based on their proportion of use on a per trip basis;
- (16) determine the value of road consumed by each trip travelling along links and between pairs of zones by adding the value consumed on each link of the route; and
- (17) calculate an infrastructure contribution rate per chargeable trip end for each "traffic zone". The charge is adjusted for anticipated annual increases in charges and discounted for WACC. This adjustment is displayed in the policy as NPV demand.

### **3.2 Methodology used for the Pathways Network Component**

Pathways included as Trunk Infrastructure are only those designated as of regional significance. It is therefore both reasonable and appropriate to distribute costs across all residential development in Redcliffe City (existing and future). Those costs allocated to existing residential development will need to be funded by Council, less any direct funding contributions to regional pathway projects from State or Federal sources as may arise.

This methodology applies an equitable distribution of trunk infrastructure costs between Council (on behalf of the existing community) and entities proposing new development. Each development proponent will only be responsible for meeting the establishment costs of that proportion of the Pathways Network to be consumed by that entity's development proposal.

Cost allocation for regional pathway infrastructure in the former Redcliffe City was undertaken using the following 4 steps:

- (a) Identify the total cost for regional pathway infrastructure in the former Redcliffe City;
- (b) Identify the total number of existing residential trips in the former Redcliffe City and those anticipated up to the planning horizon; and
- (c) Determine the pathway charge per trip.

### **3.3 Trunk Road Service Catchments**

For the purposes of determining infrastructure contribution rates under this policy, the former Redcliffe City has been divided into a number of discrete traffic zones which were established having regard to the internal vehicle access networks leading to the sections of Council Trunk Road providing access to those zones. The traffic zones have generally been confined to separate areas where access to the road network differs significantly or where land uses differ markedly.

However, for the purposes of determining infrastructure contribution rates under this policy, a reduced number of service catchments has been used with the aim of easily transitioning to a Priority Infrastructure Plan that complies with the State's mandated guidelines for a Standard Infrastructure Charges Schedule (SICS), dated November 2008 and published by the Department of Infrastructure and Planning. The approach used for averaging the contribution rate is as follows:

- (a) combine traffic zones into service catchments;
- (b) multiply each zone's future demand by the zone's contribution rate;

- (c) add together the resulting contributions for the zones within each service catchment; and  
 (d) divide that sum by the total demand for that service catchment.

The adopted Service Catchments for charging purposes are shown in Table 3.3A, and their extent is shown on the maps in Schedule C.

**Table 3.3A – Transport Catchments**

Service Catchment
L1
L2
L3
L4
L5
L6
L7

### 3.4 Demand Assumptions for Council Trunk Road and Pathway Network Planning

Transport demand for this policy is expressed in Chargeable Trip Ends (CTE). The population and employment projections shown in Tables 3.3A to 3.4A in PSP4 Part 8.4.1 have been used by the Transport Model to produce the projected demand. Pathways Demand is also expressed in Chargeable Trip Ends (CTE). As indicated in Table 3.4A, Council trunk roads have internal and external components. The internal component comprises only those vehicle trips which commence and/or end in the Redcliffe City local government area, while the external component comprises all other trips. Only that proportion of the infrastructure cost directly attributable to the internal component (the local trips), has been used for determining infrastructure contribution rates. A similar philosophy has been used for determining contribution rates for the pathways network.

**Table 3.4A – Growth in Council Trunk Road Demand by Service Catchment**

Service Catchment	Chargeable Trips		NPV Demand
	2006	2021	
L1	26,958	27,248	27,228
L2	37,722	40,854	40,644
L3	65,044	64,836	64,850
L4	46,268	62,946	61,830
L5	29,210	29,626	29,599
L6	7,828	6,782	6,852
L7	6,512	7,076	7,038
<b>Redcliffe City internal</b>	<b>219,540</b>	<b>239,366</b>	<b>238,041</b>
<b>Total include external</b>	<b>306,482</b>	<b>359,200</b>	<b>355,676</b>

### 3.5 Calculation of the Contribution for a Particular Development Application

The calculation of the contribution to be applied to an individual development approval is based upon the basic unit contribution rate and the expected trip generation for the proposal. Demand factors vary according to the type of development and/or land use proposed. A tabulation of applicable demand factors is provided in Schedule A. The factors take into account that many single trips have a multi-purpose function involving one or more intermediate or “drop-in” destinations and incorporate appropriate reductions based on 'drop-in' trips. The following sources have been used in the development of these factors:-

- Roads and Traffic Authority (RTA) Guide to Traffic Generating Developments 2002;
- Department of Main Roads (DMR) Road Planning and Design Manual 2001; and
- Institute of Transportation Engineers (ITE) Trip Generation 1997.

## 4 Plan for Transport Trunk Infrastructure

### 4.1 Transport Trunk Infrastructure Network

The following items constitute Council Trunk Road and Pathway Network Infrastructure for the purpose of planning and funding of the Network but, in relation to trunk roads, are limited to new infrastructure which is yet to be constructed or existing infrastructure that has an identified level of Spare Capacity which will be utilised by future users:-

- Collector roads;
- Council administered Sub-arterial roads;
- Council administered Arterial roads;
- The foreshore tourist drive;
- Car Parking; and
- Pathways.

Plans for Transport Trunk Infrastructure have been prepared based on the demand generated by the existing and anticipated future development within the former Redcliffe City and are shown on the maps in Schedule C.

### 4.2 Valuations of the Existing Transport Network

Table 4.2A shows the unit rates for pavement costs per m<sup>2</sup> for different items in the Road Hierarchy and the valuations across Redcliffe City at the base year.

**Table 4.2A – Existing Trunk Road Valuations**

Hierarchy/Width	Length (m)		Unit Value (\$ m <sup>2</sup> )	width (m)	Total Value
	Current (2006)	Future (2021)			
Collector/District	4,366	71,740	160	8	5,588,124.16
2-lane Sub/Arterial	58,299	41,800	170	10	99,108,300.00
4-lane Sub/Arterial	37,139	49,440	180	14	93,590,280.00

**Table 4.2B – Existing Pathway Valuations**

Type	Length (m)	Cost m <sup>2</sup>	Replacement Pathway Width (m)	Total
Bikeways adjacent to Trunk roads	21,684	\$112.5 / m <sup>2</sup>	2.5	\$6,098,625
Footpaths adjacent to Trunk roads	134,467	\$112.5 / m <sup>2</sup>	2.5	\$37,818,844
Bikeways in residential areas (over 2m)	8,708	\$112.5 / m <sup>2</sup>	2.5	\$2,449,125
Footpaths in residential areas (over 2m)	110	\$112.5 / m <sup>2</sup>	2.5	\$30,938
				\$46,397,531

### 4.3 Future Pathways Trunk Infrastructure

The unit rate including an allowance for contingency and drainage to cost pathway construction based on Council's current costs for construction is presented in Table 4.3A.

**Table 4.3A – Pathways Unit Rates for Construction as at 01 January 2009**

Pathways Type	Unit Rate
Shared Pathway	\$112.5/m <sup>2</sup>

The schedule of works and the associated costs for pathways is shown in Table 4.3B.

**Table 4.3B – Pathways Plan for Trunk Infrastructure NPV as at 01 January 2009**

Project ID	Pathways - Roads	Locality	Length (m)	Cost (incl contingency and drainage)
RPIPSP0200	Klingner Road	Kippa-Ring	3560	\$373,724.05
RPIPSP0201	Klingner Road	Redcliffe	3090	\$324,384.08
RPIPSP0202	Oxley Avenue	Redcliffe & Scarborough	2900	\$304,438.13
RPIPSP0203	Scarborough Road	Redcliffe & Scarborough	5000	\$524,893.33
RPIPSP0204	Griffith Road	Newport	6000	\$629,872.00
RPIPSP0205	Boardman Road	Kippa-Ring	2500	\$262,446.67
RPIPSP0206	Ashmole Road	Redcliffe	1600	\$167,965.87
RPIPSP0207	Recreation Street	Redcliffe	1080	\$113,376.96
RPIPSP0208	Victoria Avenue	Margate	6000	\$629,872.00
RPIPSP0209	MacDonnell Road	Clontarf & Margate	5500	\$577,382.66
RPIPSP0210	Duffield Road	Clontarf & Margate	5500	\$577,382.66
RPIPSP0211	Maine Road	Clontarf	4800	\$503,897.60
RPIPSP0212	King Street	Clontarf & Woody Point	2700	\$283,442.40
RPIPSP0213	Duffield Road	Clontarf	1000	\$104,978.67
RPIPSP0214	MacDonnell Road	Clontarf	830	\$87,132.29
RPIPSP0215	Elizabeth Avenue	Clontarf	900	\$94,480.80
RPIPSP0216	Bell Street	Clontarf & Woody Point	750	\$78,734.00
RPIPSP0217	Cornelius Street	Clontarf	750	\$78,734.00
RPIPSP0218	Georgina Street	Woody Point	1250	\$131,223.33
RPIPSP0219	Lilla Street	Woody Point	230	\$24,145.09
RPIPSP0220	Earnest Street	Margate	950	\$99,729.73
RPIPSP0221	Kate Street	Woody Point	630	\$66,136.56
RPIPSP0222	Dover Road	Margate	820	\$86,082.51
RPIPSP0223	Balmoral Street	Margate	350	\$36,742.53
RPIPSP0224	Magnolia Street	Margate	480	\$50,389.76
RPIPSP0225	Kirkwood Street	Margate	400	\$41,991.47
RPIPSP0226	Trilby Street	Redcliffe	610	\$64,036.99
RPIPSP0227	Plume Street	Redcliffe	750	\$78,734.00
RPIPSP0228	Porter Street	Redcliffe	750	\$78,734.00
RPIPSP0229	Portwood Street	Redcliffe	540	\$56,688.48
RPIPSP0230	Shields Street	Redcliffe	460	\$48,290.19
RPIPSP0231	Eversleigh Road	Scarborough	1250	\$131,223.33
RPIPSP0232	Ashmole Road	Newport	1530	\$160,617.36
RPIPSP0233	George Street	Kippa-Ring	1610	\$169,015.65
RPIPSP0234	Oxley Avenue	Scarborough	700	\$73,485.07
RPIPSP0235	Donkin Street	Scarborough	400	\$41,991.47
RPIPSP0236	Sunnyside Road	Scarborough	1000	\$104,978.67
RPIPSP0237	Michel Road	Scarborough	670	\$70,335.71
RPIPSP0238	Jeays Street	Scarborough	530	\$55,638.69
RPIPSP0239	Scarborough Road	Scarborough	1070	\$112,327.17
RPIPSP0240	Rock Street	Scarborough	420	\$44,091.04
RPIPSP0241	Miller Street	Kippa-Ring	890	\$93,431.01
RPIPSP0242	Cascade Street	Kippa-Ring	530	\$55,638.69
RPIPSP0243	Ballina Street	Kippa-Ring	310	\$32,543.39
RPIPSP0244	Hercules Road	Kippa-Ring	1500	\$157,468.00
RPIPSP0245	Euston Street	Kippa-Ring	380	\$39,891.89
RPIPSP0246	Nottingham Street	Kippa-Ring	550	\$57,738.27
RPIPSP0247	Regency Street	Kippa-Ring	340	\$35,692.75
RPIPSP0248	Chelsea Street	Kippa-Ring	540	\$56,688.48
RPIPSP0249	Nathan Road	Kippa-Ring	280	\$29,394.03

Project ID	Pathways - Roads	Locality	Length (m)	Cost (incl contingency and drainage)
RPIPSP0250	Morris Road	Rothwell	1850	\$194,210.53
RPIPSP0251	Cambridge St	Rothwell	890	\$93,431.01
RPIPSP0252	Kelliher Street	Rothwell	410	\$43,041.25
RPIPSP0253	Drysdale Street	Rothwell	500	\$52,489.33
RPIPSP0254	Dobell Street	Rothwell	480	\$50,389.76
RPIPSP0255	Gynther Road	Rothwell	430	\$45,140.83
RPIPSP0256	Wattle Road	Rothwell	430	\$45,140.83
				<b>\$8,626,097</b>

#### 4.4 Future Council Trunk Road Infrastructure

Future Council Trunk Road Upgrades are identified in Table 4.4A and shown on the maps in Schedule C.

**Table 4.4A –Planned Road Capacity Improvements as at 01 January 2009**

Council Trunk Road Upgrades			
Project ID	Description	Construction Commencement Year	Cost (NPV)
RPIPRD0001	Redcliffe Sea Side Village one-way Street Scheme Redcliffe Pde-Sutton St	2009	1,964,811
RPIPRD0002	New 2-lane Road adjacent to rail corridor	2018	18,428,187
RPIPRD0003	Buchanan Rd extension Bremner Rd to Gynther Road	2018	2,403,507
RPIPRD0004	Hercules Road link MacDonnell Road to Southwell	2017	2,037,653
			<b>\$24,834,159</b>

Future Trunk Road Intersection Upgrades are identified in Table 4.4B and are shown on the maps in Schedule C.

**Table 4.4B – Planned Intersection Upgrades as at 01 January 2009**

Project ID	Project Title	Description	Construction Commencement Year	Cost (NPV)
RPIPRD0010	Eversleigh Road/Oxley Avenue	Signals	2009	\$250,000
RPIPRD0011	Duffield Road/Elizabeth Avenue	Signals	2009	\$400,000
RPIPRD0012	Klingner Road/Boardman Road Intersection	Signals	2010	\$1,164,151
RPIPRD0013	Klingner Road/Prince Edward Parade	Signals	2011	\$1,153,864
RPIPRD0014	Griffith Road/Newport Drive	Signals	2011	\$1,153,864
RPIPRD0015	MacDonnell Road/Victoria Ave Roundabout	Provision for on-road cycling	2012	\$289,536
RPIPRD0016	Klingner Road/Scarborough Road Roundabout	Provision for on-road cycling	2013	\$286,978
RPIPRD0017	Duffield Road/Victoria Avenue	Signals	2013	\$1,133,562
RPIPRD0018	Duffield Road/Maine Road Roundabout	Provision for on-road cycling	2014	\$284,442
RPIPRD0019	Victoria Avenue/King Street	Signals	2014	\$1,123,546
RPIPRD0020	Klingner Road/Ashmole Road Roundabout	Provision for on-road cycling	2015	\$281,929
RPIPRD0021	Morris Road/Cambridge Street	R'about upgrade	2015	\$281,929
RPIPRD0022	Hercules Rd northern connection to Anzac Av	Signals	2016	\$1,103,778
				<b>\$8,907,578</b>

The proportion of future infrastructure expenditure being funded through infrastructure contributions at the base date of 1 January 2009 is equivalent to 85%. The remaining 15% of future embellishment costs will be funded directly by Council so that costs associated with 'deficiencies' within the existing network are not passed to proponents of development approved after 1 January 2009. The total value of the network attributed to the future development is 12%.



## Schedule A: Demand Factors

Table A: Demand Factors for Transport Infrastructure Contributions

DEMAND FACTORS FOR Material Change of Use – Redcliffe City Planning Scheme		
Redcliffe City Planning Scheme Land Use	Chargeable Trip Ends (CTE)	Per Assessment Unit
Accommodation unit	2.5	Available Bed
Aerodrome	Assess impact on application	
Business premises	16	100m <sup>2</sup> GFA
Car park	4	Employee
Caravan park	2	Site
Caretaker's residence	6.5	Dwelling
Club	40	100m <sup>2</sup> Total Floor Area
Community well-being facilities		
- Child Care Centre	2.2	Enrolment
- Hospital and other	Assess impact on application	
Community well-being infrastructure		
Display home /Estate sales office	6.5	Dwelling
Duplex dwelling	5	Dwelling
Education centre	1.8	Enrolment
Employment related storage	N/A	N/A
Entertainment outdoor		
- Swimming Pool/ Skating Rink	7.5	100m <sup>2</sup> Total Floor Area
- Golf Course	7.5	Hole
- Tennis/Squash	30	Court
- Lawn Bowls	30	Green
- Clubhouse	40	100m <sup>2</sup> Total Floor Area
Food service	40	100m <sup>2</sup> Total Floor Area
General industry	5	100m <sup>2</sup> Total Floor Area
Government Infrastructure	N/A	N/A
Home based business	16	100m <sup>2</sup> GFA
Hotel	40	100m <sup>2</sup> Total Floor Area
House	6.5	Dwelling
Indoor entertainment, sport or recreation		
- Theatre/Cinema	1.3	Seat
- Other	40	100m <sup>2</sup> Total Floor Area
Industry with substantial impacts		
-Batching plant	250	Batching Plant
- Other	5	100m <sup>2</sup> Total Floor Area
Market	Assess impact on application	
Multiple dwelling	4	Dwelling
Outdoor sales premises		
- Office	16	100m <sup>2</sup> Total Floor Area
- Display Area	4	100m <sup>2</sup> Total Floor Area
Park	Assess impact on application	
Relative's accommodation	6.5	Dwelling unit
Rural activities	Assess impact on application	
Service station		
- Pumps	8	Pump
- Service Bays	12	100m <sup>2</sup> Total Floor Area
- Shop/Restaurant	8	100m <sup>2</sup> Total Floor Area
Service trade	12	100m <sup>2</sup> Total Floor Area
Shop	40	100m <sup>2</sup> Total Floor Area
Showroom/super store	20	100m <sup>2</sup> Total Floor Area
Special needs housing	0.5	Bed
Sport and recreation outdoor		
- Swimming Pool/ Skating Rink	7.5	100m <sup>2</sup> Total Floor Area
- Golf Course	7.5	Hole
- Tennis	30	Court
- Lawn Bowls	30	Green

<b>DEMAND FACTORS FOR Material Change of Use – Redcliffe City Planning Scheme</b>		
<b>Redcliffe City Planning Scheme Land Use</b>	<b>Chargeable Trip Ends (CTE)</b>	<b>Per Assessment Unit</b>
- Clubhouse	40	100m <sup>2</sup> Total Floor Area
- Other/assess impact on application		
<b>Stable</b>	Assess impact on application	
<b>Transport interchange</b>	Assess impact on application	
<b>Utility installation</b>	N/A	N/A
<b>Warehouse</b>	5	100m <sup>2</sup> Total Floor Area
<b>DEMAND FACTOR FOR Reconfiguring a Lot – Redcliffe City Planning Scheme</b>		
<b>Redcliffe City Planning Scheme Zone</b>	<b>Chargeable Trip Ends (CTE)</b>	<b>Per Assessment Unit</b>
Low Density Residential	6.5	Per lot
Mixed Residential	6.5	Per lot
Medium Density Residential	4	Per lot
Community Purpose (excluding education uses)	10	100m <sup>2</sup> GFA
Community Purpose (Education Uses only)	3	Staff Member & Student
Frame Business	10	100m <sup>2</sup> site area
Health Services	20	100m <sup>2</sup> GFA
Industry	2.5	100m <sup>2</sup> GFA
Natural Values	0	Per lot
Open Space and Recreation	6.5	Per lot
Retail Core	10	100m <sup>2</sup> GFA



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**Schedule B: Infrastructure Contribution Rates**


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**Table B1 – Trunk Road Infrastructure Contribution Rates**

SERVICE CATCHMENT	Rate per Chargeable Trip End (CTE)
L1	\$739
L2	\$1,410
L3	\$628
L4	\$1,417
L5	\$792
L6	\$2,077
L7	\$369

**Table B2 – Pathways Infrastructure Contribution Rate**

Rate per Chargeable Trip End (CTE)
\$171.00

**Schedule C: Service Catchments and Network Assets**

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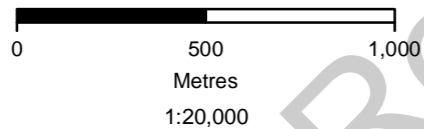
Historic Version  
Redcliffe City Planning Scheme

# Transport Network



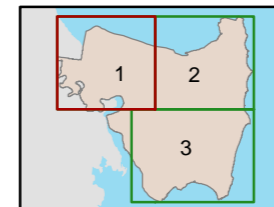
**Legend**

- Trunk Road Catchments
- DISA Boundary
- FUTURE INFRASTRUCTURE**
- Future Intersection Upgrades
- Future Trunk Road Upgrades
- EXISTING INFRASTRUCTURE**
- State Controlled Road
- Foreshore / Tourist / CBD Roads
- Arterial Roads
- Sub-Arterial Roads
- Collector Roads



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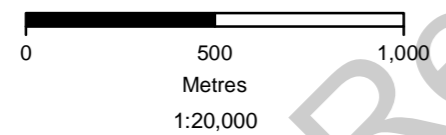
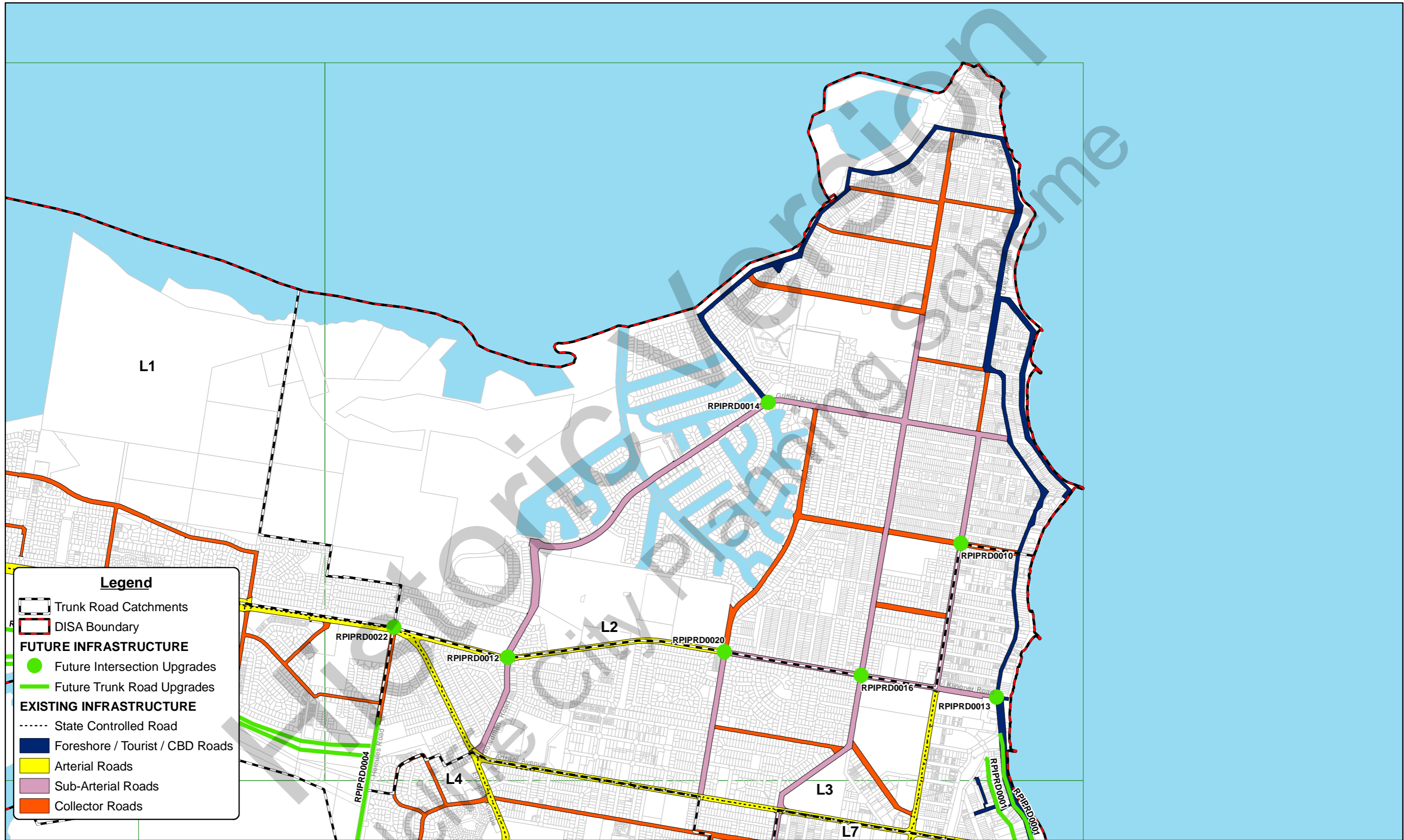


**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 1

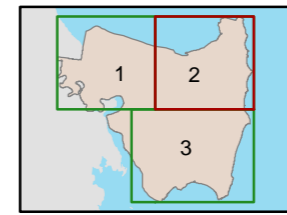
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# Transport Network



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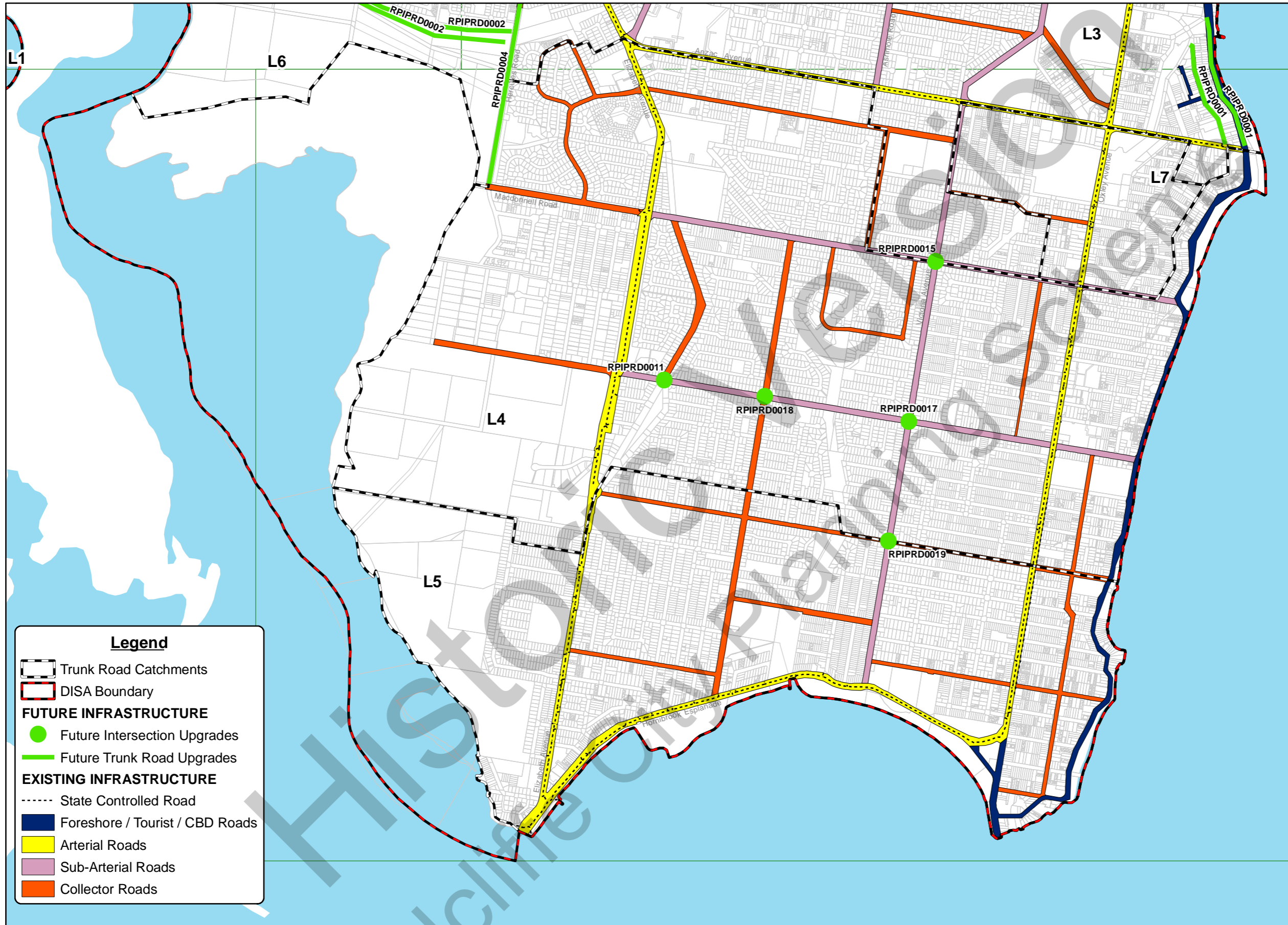
**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 2

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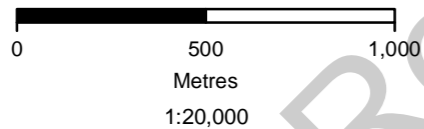


# Transport Network



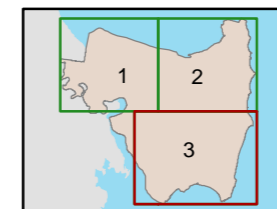
**Legend**

- Trunk Road Catchments
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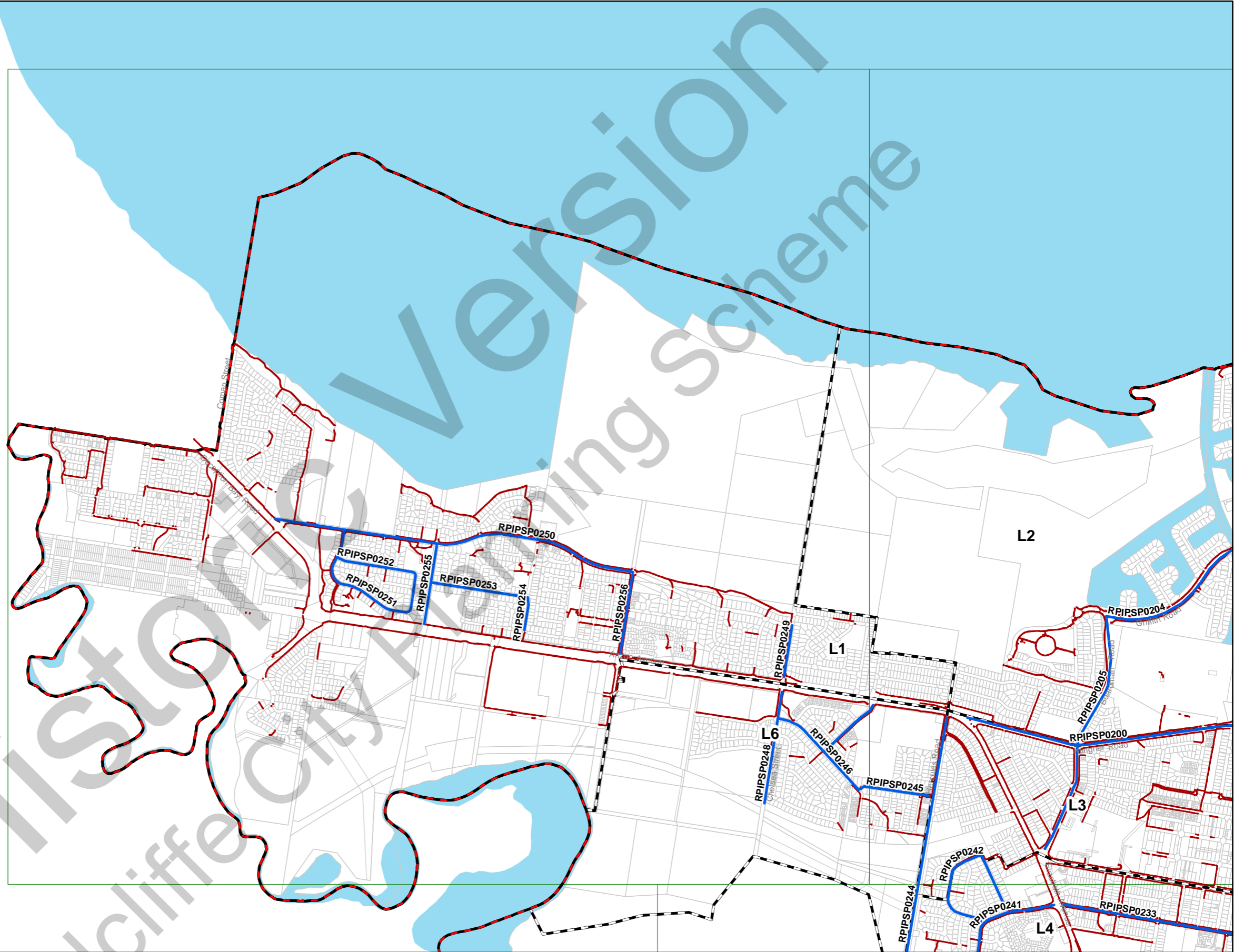


**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 3

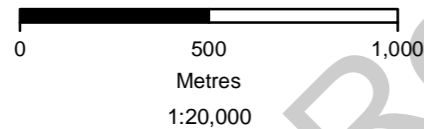
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# Transport Network - Paths



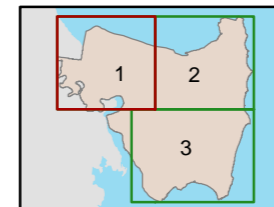
**Legend**

- Trunk Road Catchments
- DISA Boundary
- FUTURE INFRASTRUCTURE**
- Future Paths
- EXISTING INFRASTRUCTURE**
- Existing Paths



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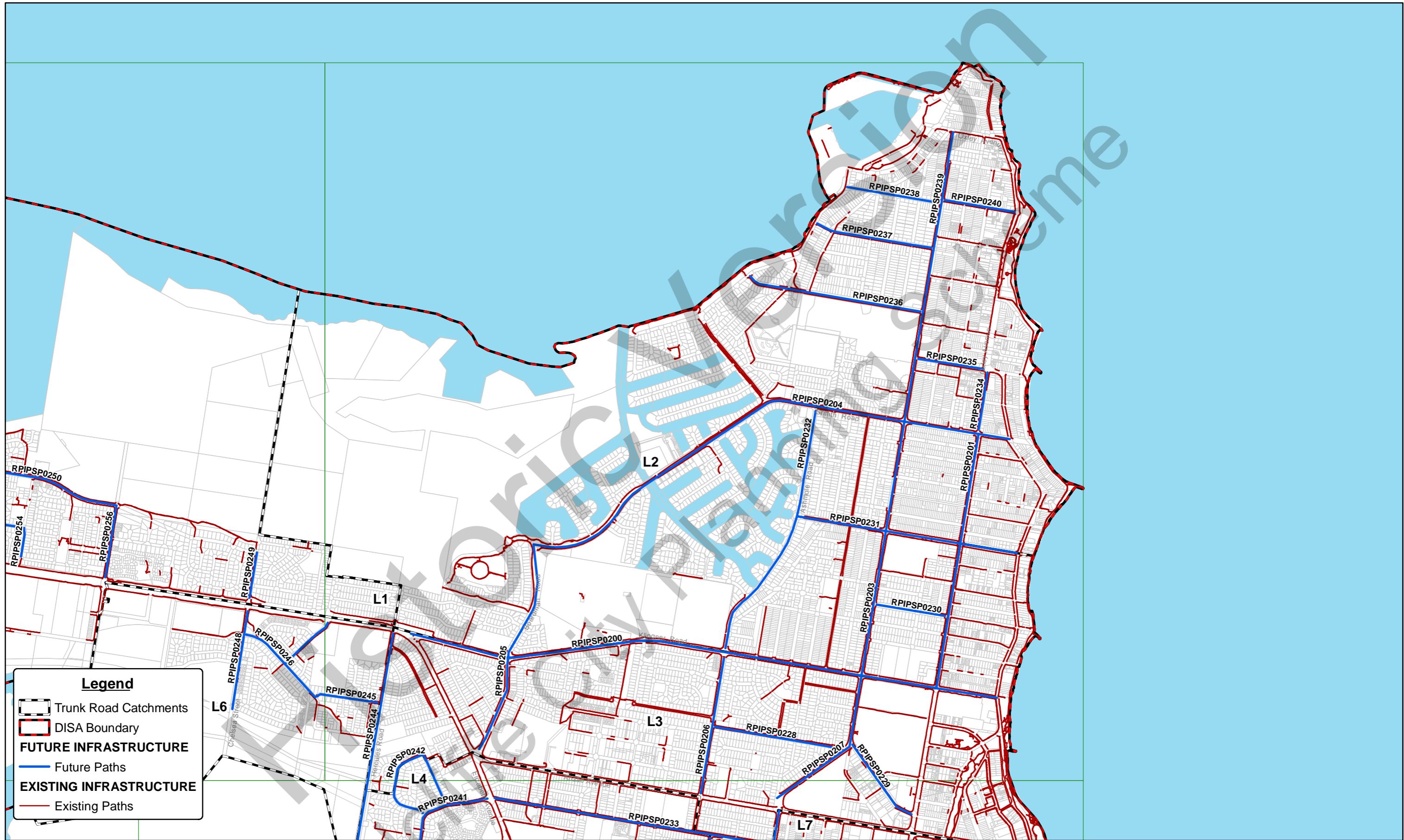
**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 1

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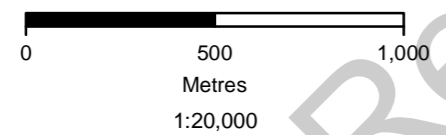


# Transport Network - Paths



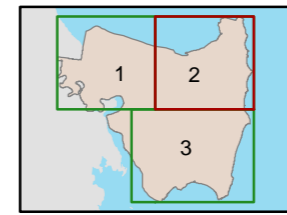
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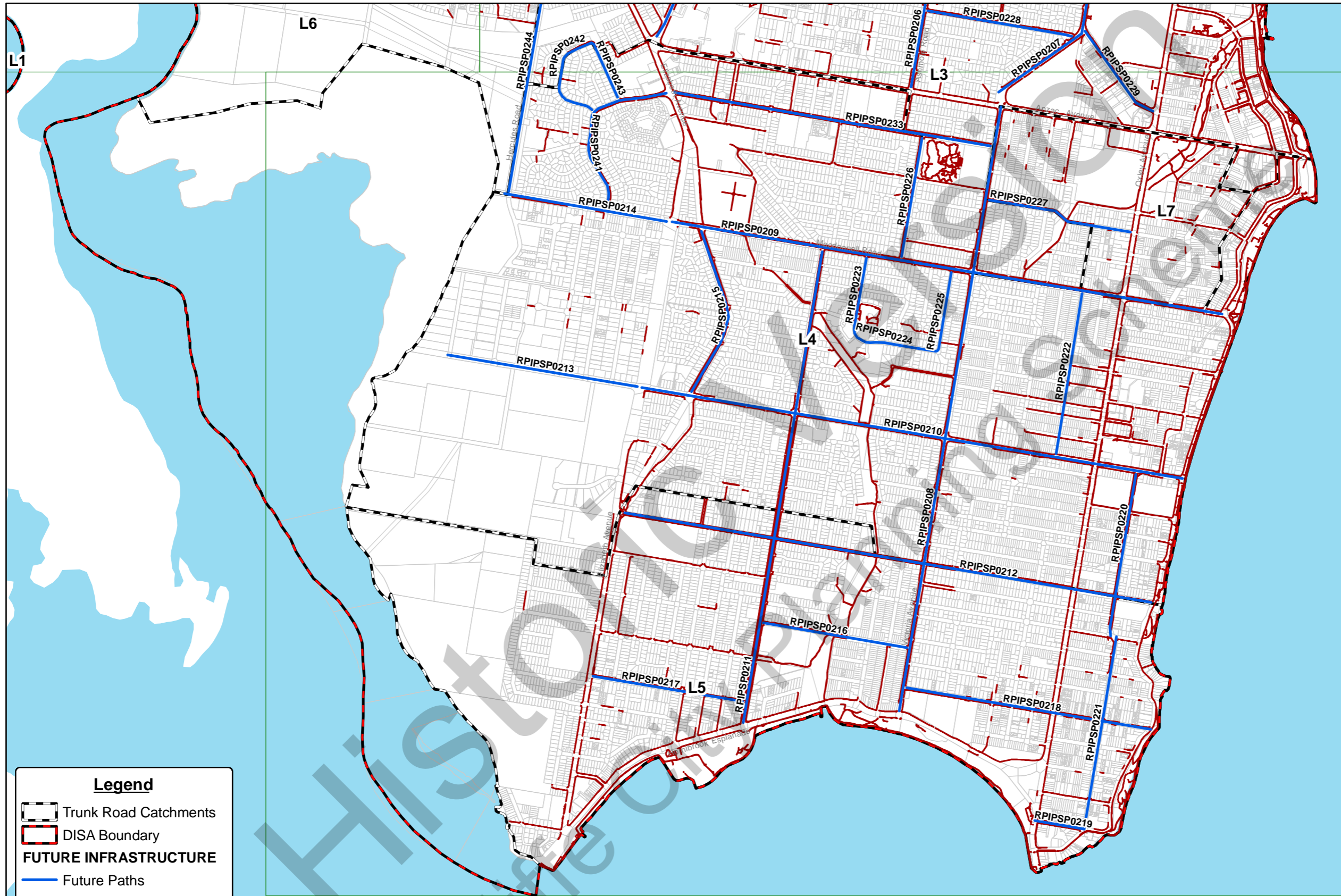
**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 2

EFFECTIVE FROM 29 October 2009

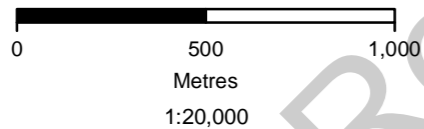


# Transport Network - Paths



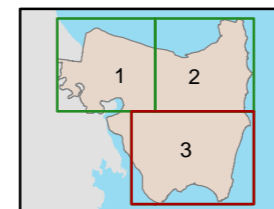
**Legend**

- Trunk Road Catchments
- DISA Boundary
- FUTURE INFRASTRUCTURE**
- Future Paths
- EXISTING INFRASTRUCTURE**
- Existing Paths



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**MORETON BAY REGIONAL COUNCIL**  
**Redcliffe City**

Map No: 3

*EFFECTIVE FROM 29 October 2009*



## Schedule D: Desired Standards of Service

The Desired Standards of Service for Transport Trunk Infrastructure seek to implement the purpose of the *Integrated Planning Act* and satisfy the relevant requirements of the *Environmental Protection Act* as well as the objectives of Council's Corporate Plan.

For purposes of trunk road planning under this policy, the Desired Standard of Service (DSS) provided by any element or combination of elements making up the trunk road system in the former Redcliffe City is assessed against service measures such as speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience within any traffic stream. It is calculated by comparing the anticipated traffic volume of each section of roadway to the maximum rate (capacity) of which vehicles can reasonably be expected to traverse a uniform section of that same section of roadway during a given time period under prevailing roadway, traffic and control conditions.

The Austroads Guide to Traffic Engineering Practice system of describing the performance of the road network using the A-F scale has been adopted by Council for identifying the DSS for its trunk road network. DSS A represents the best operating conditions and DSS F the worst. Traffic density has been adopted as the primary determinant of DSS in this policy. Council has adopted the Desired Standard of Service "C".

**Table D1 – Council Trunk Road Desired Standards of Service**

COUNCIL TRUNK ROAD DESIRED STANDARDS OF SERVICE
Promote safety within the road network by minimising conflicts of a variety of road users.
Maintain efficiency in the network to minimise travel times – "DSS C"
Reduce the dependence on car-based transport by developing the path/bike lane networks.

**Table D2 – Strategic Pathway Network Planning Criteria**

MEASURE	PLANNING OBJECTIVES
<ul style="list-style-type: none"> <li>Provide an integrated, highly interconnected and efficient pathway system that encourages use of fuel-efficient modes of transport.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce dependence on the private car and encourage the use of more sustainable transport modes.</li> <li>Minimise the potential conflict for pedestrians and off-road cyclists at major roads.</li> </ul>
<ul style="list-style-type: none"> <li>Plan a convenient, safe and attractive walking and cycling system that links catchments to major activity nodes, public transport interchanges and residential areas.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce congestion and emissions in activity centres and residential areas.</li> <li>Reduce dependence on the private car and encourage the use of more sustainable transport modes.</li> </ul>

**Table D3 – Strategic Pathway Network Design Criteria**

MEASURE	DESIGN OBJECTIVES
Provide safe and effective pathways in urban areas designed in accordance with CPTED principles including safe and efficient road crossing facilities.	<ul style="list-style-type: none"> <li>Reduce the vulnerability of cyclists with safe and appropriate facilities.</li> <li>Minimise conflict between cyclists and pedestrians.</li> <li>Encourage improvements in health and well-being by removing barriers to walking and cycling.</li> </ul>
Provision of end of trip facilities.	<ul style="list-style-type: none"> <li>Austroads Part 14;</li> <li>For retail uses, at least 2 bicycle parking bays for each 600m<sup>2</sup> GFA, or part there of;</li> <li>For commercial uses, at least 2 bicycle parking bays for each 500m<sup>2</sup> GFA, or part there of;</li> <li>One locker for every 4 bicycle parking bays, or part there of; and</li> <li>One shower cubicle with ancillary change rooms per 10 bicycle-parking bays, or part thereof. Adequate provision is required for both men and women.</li> </ul>

**REVIEW TRIGGERS**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**RESPONSIBILITY**

This policy is to be:

- (1) implemented by the Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability in consultation with the Senior Manager Development Services, the Senior Manager Regional and Environmental Planning and the Senior Manager Infrastructure Management.

**VERSION CONTROL**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
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**Related Links:**


**ENDNOTES**

Amendment	Date Adopted – 28 March 2013	Effective Date – 8 April 2013
Planning Scheme Policy Reference	Description of Amendment	
PSP 4 Part 8.4.7	<ul style="list-style-type: none"> <li>▪ Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.</li> </ul>	

Historic Version

Redcliffe City Planning Scheme

## PSP4 PART 8.4.8 DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – STORMWATER

### TABLE OF CONTENTS

<b>HEAD OF POWER</b>	1
<b>OBJECTIVE</b>	1
<b>DEFINITIONS / APPLICATION</b>	1
<b>POLICY STATEMENT</b>	1
<b>1 SCOPE</b>	1
<b>2 BACKGROUND INFORMATION</b>	2
<b>3 STORMWATER METHODOLOGY</b>	3
3.1 METHODOLOGY	3
3.2 STORMWATER SERVICE CATCHMENTS	6
3.3 BASIS FOR DEMAND ASSESSMENT	6
3.4 STORMWATER DEMAND IN CATCHMENTS (DEMAND UNITS)	8
<b>4 STORMWATER INFRASTRUCTURE PLAN</b>	9
4.1 STORMWATER TRUNK INFRASTRUCTURE NETWORK	9
4.2 STORMWATER TRUNK INFRASTRUCTURE ITEMS	9
4.3 STORMWATER TRUNK INFRASTRUCTURE DETERMINATION	9
4.4 STORMWATER TRUNK INFRASTRUCTURE VALUATIONS	10
4.5 EXISTING STORMWATER TRUNK INFRASTRUCTURE	10
4.6 FUTURE STORMWATER PLAN FOR TRUNK INFRASTRUCTURE	11
4.7 STORMWATER INFRASTRUCTURE COSTS BY CATCHMENT	12
<b>SCHEDULE A: DEMAND FACTORS</b>	13
<b>SCHEDULE B: INFRASTRUCTURE CONTRIBUTION RATES</b>	15
<b>SCHEDULE C: SERVICE CATCHMENTS AND NETWORK ASSETS</b>	16
<b>SCHEDULE D: DESIRED STANDARDS OF SERVICE</b>	20
<b>REVIEW TRIGGERS</b>	26
<b>RESPONSIBILITY</b>	26
<b>VERSION CONTROL</b>	26

## PSP4 Part 8.4.8 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – STORMWATER

*In accordance with Section 847 of the Sustainable Planning Act 2009, this policy has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.*

### Head Of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

### Objective

The objective of this policy is to apportion the cost of Stormwater Trunk Infrastructure over all benefiting development (existing and future) commensurate with the demand or load that existing and future development will place on existing and planned future infrastructure, while ensuring a reasonable and equitable distribution of the costs of Stormwater Trunk Infrastructure works between Council and developers of land in the former Redcliffe City.

### Definitions / Application

#### Application

This policy applies to all applications for development which has been made assessable against the *Redcliffe City Planning Scheme* and which will utilise any part of the Stormwater Trunk Infrastructure Network. For the purposes of this policy, the extent of the Stormwater Trunk Infrastructure Network within the former Redcliffe City is shown in Schedule C.

The policy outlines the basis of Council's Infrastructure Contributions Regime for Stormwater Trunk Infrastructure (Water Quality and Stormwater Discharge Quantity) in the former Redcliffe City. It is to be read in conjunction with Planning Scheme Policy PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy.

Payment of the monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk works or to connect the development to trunk infrastructure. Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

#### Definitions

The definitions of applicable terms are contained in PSP4 Part 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy. Where a term used in this policy is not defined in PSP4 Part 8.4.1, that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in the *Redcliffe City Planning Scheme* or in the *Integrated Planning Act 1997*.

### Policy Statement

#### 1 Scope

This policy sets out the basis for determining the amount of Development Contributions for Stormwater Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the former Redcliffe City which, in the opinion of Council, may impact on its Stormwater Trunk Infrastructure either immediately or at some time in the future. This policy:

- is to be read in conjunction with Planning Scheme Policy PSP4 PART 8.4.1 Development Contributions for Trunk Infrastructure – Administration Policy;
- specifies the assumptions made in determining the rate of the contribution payable towards the cost of Stormwater trunk infrastructure within Council's Local Government Area;
- specifies the works, structures and/ or equipment, which the Council determines to be Stormwater Trunk Infrastructure;
- establishes the estimated cost of construction and any required augmentation of the Stormwater Network where contributions are to be made in terms of Stormwater Quality and Stormwater Drainage (Quantity) costs; and
- lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.

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## 2 Background Information

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With the formation of Moreton Bay Regional Council incorporating the former Redcliffe City, Pine Rivers and Caboolture Shire Councils, there has been an effort to align the approaches to determining development contributions. As such, the methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is generally based on the methodology identified in the report by John Wilson and Partners (JWP), “Priority Infrastructure Plan Stormwater” (the Study Report) for the former Pine Rivers Shire. This Study Report comprises:-

- (1) Part 1 – Executive Summary (June 2008);
- (2) Part 2 – Main Report (June 2008);
- (3) Part 3 – Detailed Maps (June 2008); and
- (4) Part 4 – Calculations and Supporting Data (June 2008).

The following additional studies/catchment management plans (CMPs) identifying required Trunk Infrastructure for the former Redcliffe City, were also used in the preparation of this policy:

- (1) Saltwater Creek Catchment Management Plan, Geo-Eng Australia Pty. Ltd., June 2000;
- (2) Bells Creek Rehabilitation Options, Natural Solutions, February 2009;
- (3) Humpybong Creek Catchment Management Plan, Place Environmental, February 2007; and
- (4) Catchment D37 Stormwater Management Study, Willing & Partners, September 1996.

### 3 Stormwater Methodology

#### 3.1 Methodology

Determination of infrastructure for stormwater quantity and quality management has been undertaken for catchments throughout the Redcliffe City area. Assessment of this infrastructure has been based generally on assessments of existing land use and impervious cover, projected land use information derived from the *Redcliffe City Planning Scheme* and engineering investigations, modelling, as well as the forecasting and design aspects outlined in the studies and reports referred to in section 2 of this policy. Those studies are available as supporting and reference documents to this policy.

The abovementioned studies have focussed on catchment issues for creek systems and major drainage areas. The adopted infrastructure items are required to service or mitigate impacts from a large number of allotments or significant land areas having potential for subdivision. Accordingly, that infrastructure identified in these studies and reports has been adopted as trunk infrastructure for the purpose of this policy.

The provision and timing of trunk infrastructure has been based on the ultimate development of the particular catchment envisaged in the *Redcliffe City Planning Scheme* and the anticipated population growth over time respectively.

Investigation of stormwater management requirements has been performed for a large area of the waterway network within the former Redcliffe City. Table 3.1B details the extent of studies undertaken and applicable service catchments. The studies identify the infrastructure required to service both existing and future residents and non-residential activities as well as a methodology for the appropriate apportionment of cost based on the relative utilisation of the network and existing and future users. The requirements for land acquisition, revegetation and riparian protection have also been considered.

The procedures that have been applied to determine infrastructures contribution rates for this policy are detailed in Table 3.1A:

**Table 3.1A – Infrastructure Contributions Methodology**

Step	Tasks	Section
(1) Establish Service Catchments.	(a) Determine Service Catchments.	3.2 Stormwater Service Catchments.
(2) Assess change in land use based on growth projections.	(a) Evaluate the change to future land use based on the planning assumptions.	
(3) Assess the land use components within the river, creek and local catchments throughout the Shire as applicable to each service catchment.	(a) Determine the existing land use within each catchment in hectares; (b) Determine the future land use within each catchment in hectares based on strategic planning of future urbanisation and other land uses in hectares; and (c) Calculate the equivalent contributing area (demand units) for each catchment.	3.3 Basis for Demand Assessment. 3.4 Stormwater Demand in Catchments.  Demand units for allocating charge.
(4) Identify Future Assets.	(a) From Catchment Management, Local Area Drainage and Detail Hydrological studies determine which future assets form part of the ultimate infrastructure network for waterway management of river, creek and local catchments. Refer Table 3.1B for a listing of those studies; and (b) Determine the Trunk Infrastructure cost and allocate to the service catchment hierarchy. Revalue cost to 01 January 2009;	4.3 Stormwater Trunk Infrastructure Determination. 4.4 Stormwater Trunk Infrastructure Valuations. 4.5 Existing Stormwater Trunk Infrastructure. 4.6 Future Stormwater Plan

Step	Tasks	Section
(5) Assess timing of works	(a) Evaluate infrastructure timing based on projected future development needs; and (b) Based on future development timing and availability of funding, determine the timing of works.	for Infrastructure. 4.6 Future Stormwater Plan for Infrastructure.
(6) Assess the cost of infrastructure to be funded by future development	(a) Calculate the net present value for each future infrastructure item by escalating the cost by an anticipated inflation index and discount back by the relevant discount rate for the network; (b) Calculate the infrastructure contribution rates by dividing the costs of future infrastructure in net present value by the equivalent contributing area (demand units) in the catchment. To satisfy the discounted cash flow methodology requirements of calculating the infrastructure contribution rates, existing demand is added to the value of future demand which has been indexed for anticipated fluctuations in construction costs (generally increases) and discounted for cost of capital; and (c) The cost of infrastructure is allocated to existing and/or future equivalent contributable areas as appropriate.	4.7 Stormwater Infrastructure Costs by Catchment Table 4.7A.
(7) Apportion the Trunk Infrastructure costs attributable to each land use within the river, creek and local catchments throughout the Shire as applicable to each service catchment	(a) Apportion the cost and unit rate applicable for quantity infrastructure to existing and future land use based on impact of change in land use; and (b) Apportion the cost and unit rate applicable for quality infrastructure to existing and future land use based on impact of change in land use.	Schedule B Infrastructure Contribution Rates.



**Table 3.1B – Stormwater Management Planning Documentation**

<b>Catchment Management Document</b>	<b>Service Catchment</b>
Bells Creek Rehabilitation Options	Bells Creek
Humpybong Creek CMP	Humpybong Creek
Catchment D37 Stormwater Management Study	Margate Balance
Saltwater Creek CMP	Saltwater Creek

**Outline Planning**

Where catchment management or other drainage planning does not exist for a particular service catchment, future infrastructure requirements have been determined through an Outline Planning process.

Table 3.1C details catchments where infrastructure allocation has been determined through “in-house” Outline Planning by Council. As part of Council’s ongoing review process, appropriate studies will be undertaken over time to progressively encompass those service catchments and the stormwater management planning for those areas will be updated accordingly.

Council acknowledges that the infrastructure adopted for these interim schemes is based on a minimalist approach which will need to be supplemented in the future to meet the same desired standards of service on which the detailed studies listed in table 3.1B were based.

**Table 3.1C – Infrastructure Cost Allocation to Areas with Outline Planning**

<b>Infrastructure Subject to Outline Planning</b>	<b>Service Catchment Area</b>
Outline Planning for GPTs	Redcliffe Proper
Outline Planning for GPTs	Rothwell Balance
Outline Planning for GPTs	Scarborough Coastal
Outline Planning for GPTs	Woody Point Coastal

### 3.2 Stormwater Service Catchments

The concept of Service Catchments allows for the cost of works within each service catchment and the corresponding infrastructure contribution rates to accurately reflect the actual impacts of development and the mitigation required. The service catchment concept is a convenient and logical vehicle for relating the infrastructure items being charged for and the development changes that they address to topographically derived boundaries.

The former Redcliffe City has been divided into the stormwater service catchments shown in Table 3.2A.

**Table 3.2A – Stormwater Service Catchments**

Service Catchment
Bells Creek
Humpybong Creek
Margate Balance
Saltwater Creek
Redcliffe Proper
Rothwell Balance
Scarborough Coastal
Woody Point Coastal

The extent of each of these "Stormwater Service Catchments" is shown on the map contained in Schedule C of this Policy.

### 3.3 Basis for Demand Assessment

Both the quantity and quality of stormwater discharged from a property as a result of a rainfall event are directly related to variables such as the extent of impervious area and the nature of the activity being conducted on the land. Since the type, nature and intensity of development is governed by the zone of the land, it is reasonable to adopt land zone under the planning scheme as a reliable technique for the determination of stormwater flows (quantity assessment) and pollutant discharges (quality assessment) from and within catchments. Such an approach has been used for establishing demand under this policy.

#### 3.3.1 Stormwater Quantity Assessment

Assessment of rainfall runoff and stream flow flood level has been performed by software modelling of the various processes using industry accepted engineering design practice and, where possible, calibration to measured or known conditions. The assessments have been undertaken using procedures that have regard to the nature and extent of land zones and the hydrologic impact of these uses which are consistent with the intent of each of those zones under the *Redcliffe City Planning Scheme*. Table 3.3A details the various runoff coefficients and contribution factors for the applicable land zones.

The runoff coefficients used reflect the impervious area generally associated with that specific zone. The contribution factors for the calculation of the infrastructure contribution rate for Stormwater Quantity infrastructure have been based upon the ratio between the C100 Runoff Coefficient assigned to each zone or land use and that assigned to undeveloped land.

The various runoff coefficients and contribution factors for the applicable land zones have been adapted from the runoff coefficients for land zones in the *PineRiversPlan*. Table 3.3A lists the equivalent zones under *PineRiversPlan* to those listed in *Redcliffe City Planning Scheme* and the applicable runoff coefficients.

**Table 3.3A – Runoff Coefficient Assumptions and Contribution Factors**

Redcliffe City Planning Scheme Zone	Equivalent PineRiversPlan Zone	Runoff Coefficient (C100)	Contribution Factor (CF <sub>QTY</sub> ) /hectare
Community Purpose	Home Industry	1	0.19
Frame Business	Local Business, Commercial	1	0.19
Health Services	Local Business, Commercial	1	0.19
Industry	General Industry, Service Industry	1	0.19
Low Density Residential	Residential A (lots > 600m <sup>2</sup> )	0.95	0.13
Medium Density Residential	Residential B	1	0.19
Mixed Residential	Residential A (lots < 600m <sup>2</sup> )	0.97	0.15
Natural Values	Rural	0.84	0.00
Open Space and Recreation	Park and Open Space	0.84	0.00
Retail Core	Local Business, Central Business	1	0.19

Stormwater Quantity infrastructure elements have been assessed on the basis of requirements to mitigate the impact of development to achieve Council's adopted desired standard of service.

### 3.3.2 Stormwater Quality Assessment

Stormwater Quality infrastructure elements have been evaluated on the basis of necessary works required to mitigate the impact of development to achieve Council's adopted desired standard of service in relation to water quality issues. Stormwater Quality Infrastructure includes Riparian Corridor Management Area and Rehabilitation / Revegetation Areas, as well as other Stormwater Treatment Measures. The costs for this infrastructure have been allocated across all existing and future demand in the former Caboolture Shire to ensure fair cost allocation.

The pollutant export loading rates have been determined utilising the former Pine Rivers Shire's adopted design standards in regard to the relative increase in the specific pollutant elements of Total Nitrogen (TN), Total Phosphorous (TP) and Suspended Solids (SS). The contribution factors for the calculation of the infrastructure contribution rate for Stormwater Quality management infrastructure have been based on the ratio between the average of the pollutant export loading rates assigned to each zone or land use and that assigned to undeveloped land.

Table 3.3B lists the equivalent zones under *PineRiversPlan* to those listed in *Caboolture ShirePlan* and the applicable annual pollutant export loads and contribution factors upon which the cost allocation method is based.

**Table 3.3B – Pollutant Impact Assumptions and Contribution Factors**

Redcliffe City Planning Scheme Zone	Equivalent PineRiversPlan Zone	Annual Pollutant Export (Load – kg/ha)			Contribution Factor (CF <sub>QAL</sub> )/hectare
		TP	TN	SS	
Community Purpose	Home Industry	1.6	10.3	950	1.32
Frame Business	Local Business, Commercial	2.1	10.6	1100	1.74
Health Services	Local Business, Commercial	2.1	10.6	1100	1.74
Industry	General Industry, Service Industry	2.3	10.7	1150	1.90
Low Density Residential	Residential A (lots > 600m <sup>2</sup> )	1.6	10.3	950	1.32
Medium Density Residential	Residential B	2.0	10.5	1050	1.63
Mixed Residential	Residential A (lots < 600m <sup>2</sup> )	1.9	10.4	1000	1.52
Natural Values	Rural	0.7	7.4	290	0.00
Open Space and Recreation	Park and Open Space	0.8	7.8	380	0.17
Retail Core	Local Business, Central Business	2.1	10.6	1100	1.74

### 3.4 Stormwater Demand in Catchments (Demand Units)

Stormwater infrastructure requirements have been determined for 'ultimate' development of the City under the current Planning Scheme. Table 3.4A shows the Equivalent Contributing Areas (ECA), or Demand Units - ECAQty and ECAqal - for existing and anticipated future activity within the Stormwater Service Catchments. The Equivalent Contributing Areas are calculated by multiplying the area of all land of a given Planning Scheme Zone in a catchment by the contribution factor for the zone, and then aggregating the results for the catchment.

**Table 3.4A – Equivalent Contributing Existing and Future Land Use Areas**

Catchment	ECAqal Existing	ECAqal Future	ECAqal Total	Change in demand ECAqAL	ECAQty Existing	ECAQty Future	ECAQty Total	Change in demand ECAQty
<b>Bells Creek</b>	341.88	2.96	344.84	0.9%	34.79	0.29	35.08	0.8%
<b>Humpybong Creek</b>	219.50	7.10	226.61	3.2%	23.35	0.78	24.13	3.3%
<b>Margate Balance</b>	151.57	4.10	155.67	2.7%	15.56	0.41	15.97	2.7%
<b>Redcliffe</b>	487.70	6.34	494.04	1.3%	50.12	0.62	50.74	1.2%
<b>Rothwell Balance</b>	397.91	117.02	514.93	29.4%	42.29	11.61	53.89	27.4%
<b>Saltwater Creek</b>	826.41	91.67	918.08	11.1%	85.88	9.31	95.19	10.8%
<b>Scarborough Coastal</b>	361.05	7.08	368.12	2.0%	36.93	0.70	37.63	1.9%
<b>Woody Point Coastal</b>	226.23	5.32	231.55	2.4%	22.90	0.55	23.45	2.4%

The existing land areas used were derived from an assessment of land use as it existed in June 2006. This included the use of GIS, current aerial photography and the determination of impervious area. The future land areas were derived by subtracting existing land area from total area at "ultimate" development of the City.

## 4 Stormwater Plan for Trunk Infrastructure

### 4.1 Stormwater Trunk Infrastructure Network

For the purposes of this policy, stormwater infrastructure items have been considered in terms of stormwater quantity and quality subnetworks. Only those infrastructure items indicated on the map in Schedule C are deemed to be Trunk Infrastructure for the purpose of planning and funding of the Trunk Stormwater Network.

Infrastructure components include the following mapped items:

- (1) Stormwater Quality Infrastructure:
  - (a) waterway corridor revegetation and restoration of the creek systems, together with any ancillary infrastructure;
  - (b) works for stormwater treatment in the form of gross pollutant traps, bioretention systems, wetlands and swales;
- (2) Stormwater Quantity Infrastructure:
  - (a) works for conveyance and detention of peak flows;
  - (b) underground piped drainage and overland flow paths.

### 4.2 Stormwater Trunk Infrastructure Items

The terms/titles listed in table 4.2A are used to describe specific components and actions comprising stormwater trunk infrastructure management. A complete definition for each of those terms appears in PSP 8.4.1 – Administration Policy. These Trunk Infrastructure Items would ordinarily be constructed by Council using Infrastructure Contributions or by a developer where an agreed amount would be credited as 'works in lieu' of contributions payment. In order to qualify for an infrastructure credit the developer would be required to install or construct an agreed infrastructure item that conforms with the performance criteria detailed in the respective Catchment Management Plan (CMP) or relevant study, this policy and/or Planning Scheme Policy 10 – Works (Development Standards Manual). Within the various infrastructure listings, shortened titles are used for some of the infrastructure items as indicated in the Table 4.2A:

**Table 4.2A – Stormwater Drainage Infrastructure Descriptions**

Infrastructure Title	Short Title
Bioswale	Swale
Bioretention Basin	
Gross Pollutant Traps	GPT
Constructed Wetland	Wetland
Revegetation	
Pipe Drainage System	Pipe Drainage

### 4.3 Stormwater Trunk Infrastructure Determination

Trunk Infrastructure provision has been informed by the various waterway planning studies carried out by, or on behalf of, Council as well as the "in-house" assessments mentioned in section 3.1 of this policy. These studies have identified the location and nature of the stormwater Trunk Infrastructure networks for their respective service catchments.

In regard to the timing of the provision of the infrastructure, it should be noted that the infrastructure listed provides for ultimate development in accordance with the planning assumptions inherent in the *Redcliffe City Planning Scheme*.

While a particular development may have an obvious immediate impact on adjacent local drainage infrastructure, the impact of development on other Stormwater Trunk Infrastructure is generally more gradual, thereby allowing Council greater flexibility in staging the delivery of the trunk stormwater network. It is therefore not considered imperative that Council deliver any identified infrastructure in the precise year nominated in tables 4.6A and 4.6B. Nor is it necessary for Council to complete all of one project in the same financial year. However, the delivery of the infrastructure is related to maintaining Council's desired standard of service. This is a function of the anticipated impact of development on stormwater quantity and quality in the various service catchments.

Trunk Infrastructure provision identified in this policy has therefore been based on an assessment of the change in land use consistent with the planning assumptions within each service catchment. Stormwater infrastructure requirements are aligned with land use and land use change, and the resultant change in runoff and pollutant export.

#### 4.4 Stormwater Trunk Infrastructure Valuations

Future Stormwater Management Infrastructure requirements and associated costs have been based on the recommendations of existing stormwater management studies or have been identified through an “in-house” Outline Planning Process. An infrastructure costing review was undertaken by Council in 2009. All items were reassessed and, where possible, the costs of all items of infrastructure recalculated from first principles current to 01 January 2009.

#### 4.5 Existing Stormwater Trunk Infrastructure

Only existing pipe drainage 450mm diameter and larger, box culverts and GPTs have been valued and included in the infrastructure contributions regime. The Trunk Infrastructure requirements determined for this policy are to address the anticipated impacts of future development and augmentations in the existing network to meet the DSS. Note that trunk infrastructure items required for both purposes have been apportioned to both existing and future development in order to ensure equitable cost allocation with no allocation of network deficiencies to future development.

Current asset valuations of the existing Stormwater Trunk Network owned by Council and located in the former Redcliffe City are provided in Table 4.5A. They have been determined by using the item unit rates in Council’s Asset Register. Using in-house engineering cost estimate valuations, construction oncosts for the Pipe Drainage System and the GPTs were calculated at double the unit rate, and for Box Culverts, oncosts were calculated at triple the unit rate, to arrive at a realistic current replacement value.

**Table 4.5A – Existing Stormwater Drainage Infrastructure and GPTs  
Replacement Cost at 01 January 2009**

Asset Prefix	Description	Replacement Cost
DGERCBC	Box Culverts	\$4,106,368
DGEGPT	Gross Pollutant Traps	\$1,666,470
RCP	Pipes	\$131,787,236
	<b>Total</b>	<b>\$137,560,074</b>



#### 4.6 Future Stormwater Plan for Trunk Infrastructure

The map in Schedule C shows the extent of the existing and future stormwater trunk infrastructure on which this policy and its infrastructure contributions regime is based, while tables 4.6A and 4.6B provide a detailed listing of each of the various components of future infrastructure, its projected construction date, and its net present value at 1 January 2009.

**Table 4.6A – Stormwater Quality Works**

Project ID	SERVICE CATCHMENT	TYPE OF WORK	NPV (as at 1 January 2009)	TIMING OF WORKS (YEAR)
BEL_BIO_1	Bells Creek	Bioretention Basin	\$ 617,556	2010
BEL_GPT_1	Bells Creek	GPT	\$ 52,613	2017
BEL_GPT_2	Bells Creek	GPT	\$ 38,716	2012
BEL_GPT_3	Bells Creek	GPT	\$ 156,161	2012
BEL_GPT_4	Bells Creek	GPT	\$ 51,297	2018
BEL_GPT_5	Bells Creek	GPT	\$ 28,993	2019
BEL_GPT_6	Bells Creek	GPT	\$ 68,191	2020
BEL_REV_1	Bells Creek	Revegetation	\$ 61,930	2011
BEL_REV_2	Bells Creek	Revegetation	\$ 61,930	2011
BEL_SW_1	Bells Creek	Bioswale	\$ 132,840	2011
BEL_WET_1	Bells Creek	Wetland	\$ 200,332	2010
HUM_BIO_1	Humpybong Creek	Bioretention Basin	\$ 1,082,408	2011
HUM_BIO_2	Humpybong Creek	Bioretention Basin	\$ 196,064	2012
HUM_BIO_3	Humpybong Creek	Bioretention Basin	\$ 232,461	2014
HUM_BIO_4	Humpybong Creek	Bioretention Basin	\$ 126,710	2015
HUM_BIO_5	Humpybong Creek	Bioretention Basin	\$ 607,157	2013
HUM_BIO_6	Humpybong Creek	Bioretention Basin	\$ 184,102	2016
HUM_GPT_1	Humpybong Creek	GPT	\$ 67,988	2019
HUM_GPT_2	Humpybong Creek	GPT	\$ 36,572	2020
HUM_GPT_3	Humpybong Creek	GPT	\$ 34,870	2021
HUM_GPT_4	Humpybong Creek	GPT	\$ 527,631	2010
HUM_GPT_5	Humpybong Creek	GPT	\$ 519,005	2012
HUM_GPT_6	Humpybong Creek	GPT	\$ 368,497	2013
HUM_GPT_7	Humpybong Creek	GPT	\$ 76,021	2017
HUM_GPT_8	Humpybong Creek	GPT	\$ 493,964	2018
HUM_GPT_9	Humpybong Creek	GPT	\$ 489,909	2019
MGT_GPT_1	Margate Balance	GPT	\$ 506,330	2015
MGT_GPT_2	Margate Balance	GPT	\$ 514,745	2013
MGT_GPT_3	Margate Balance	GPT	\$ 514,745	2013
MGT_GPT_4	Margate Balance	GPT	\$ 359,498	2016
MGT_GPT_5	Margate Balance	GPT	\$ 498,052	2017
MGT_GPT_6	Margate Balance	GPT	\$ 35,743	2018
MGT_GPT_7	Margate Balance	GPT	\$ 150,146	2019
MGT_GPT_8	Margate Balance	GPT	\$ 152,175	2020
RED_GPT_1	Redcliffe	GPT	\$ 57,407	2011
RED_GPT_10	Redcliffe	GPT	\$ 92,482	2018
RED_GPT_11	Redcliffe	GPT	\$ 92,482	2018
RED_GPT_12	Redcliffe	GPT	\$ 38,326	2018
RED_GPT_13	Redcliffe	GPT	\$ 71,254	2018
RED_GPT_14	Redcliffe	GPT	\$ 81,714	2018
RED_GPT_15	Redcliffe	GPT	\$ 82,390	2017
RED_GPT_2	Redcliffe	GPT	\$ 57,407	2011
RED_GPT_3	Redcliffe	GPT	\$ 56,936	2012
RED_GPT_4	Redcliffe	GPT	\$ 74,866	2012
RED_GPT_5	Redcliffe	GPT	\$ 39,939	2013
RED_GPT_6	Redcliffe	GPT	\$ 85,151	2013
RED_GPT_7	Redcliffe	GPT	\$ 85,151	2013
RED_GPT_8	Redcliffe	GPT	\$ 83,072	2016
RED_GPT_9	Redcliffe	GPT	\$ 94,019	2016
RED_TR_1	Redcliffe	Trash Rack	\$ 759	2013
RED_TR_2	Redcliffe	Trash Rack	\$ 717	2020
RED_TR_3	Redcliffe	Trash Rack	\$ 717	2020
RED_TR_4	Redcliffe	Trash Rack	\$ 711	2021
ROT_GPT_1	Rothwell Balance	GPT	\$ 51,363	2016
ROT_GPT_2	Rothwell Balance	GPT	\$ 69,634	2016
ROT_GPT_3	Rothwell Balance	GPT	\$ 115,259	2017
ROT_GPT_4	Rothwell Balance	GPT	\$ 36,318	2017
ROT_GPT_5	Rothwell Balance	GPT	\$ 49,695	2018
ROT_GPT_6	Rothwell Balance	GPT	\$ 49,154	2020
ROT_GPT_7	Rothwell Balance	GPT	\$ 48,751	2021
ROT_GPT_8	Rothwell Balance	GPT	\$ 49,290	2021

Project ID	SERVICE CATCHMENT	TYPE OF WORK	NPV (as at 1 January 2009)	TIMING OF WORKS (YEAR)
SAL_GPT_24	Saltwater Creek	GPT	\$ 514,745	2013
SAL_GPT_25	Saltwater Creek	GPT	\$ 143,631	2018
SAL_GPT_26	Saltwater Creek	GPT	\$ 502,174	2016
SAL_GPT_27	Saltwater Creek	GPT	\$ 519,005	2012
SAL_GPT_28	Saltwater Creek	GPT	\$ 493,964	2018
SAL_GPT_29	Saltwater Creek	GPT	\$ 106,719	2017
SAL_GPT_30	Saltwater Creek	GPT	\$ 527,631	2010
SAL_GPT_31	Saltwater Creek	GPT	\$ 139,020	2011
SAL_GPT_32	Saltwater Creek	GPT	\$ 519,005	2012
SAL_GPT_33	Saltwater Creek	GPT	\$ 143,631	2018
SAL_GPT_34	Saltwater Creek	GPT	\$ 489,909	2019
SAL_GPT_35	Saltwater Creek	GPT	\$ 111,209	2012
SAL_GPT_36	Saltwater Creek	GPT	\$ 66,017	2020
SAL_GPT_37	Saltwater Creek	GPT	\$ 50,024	2020
SAL_GPT_38	Saltwater Creek	GPT	\$ 112,276	2021
SAL_GPT_39	Saltwater Creek	GPT	\$ 112,815	2021
SAL_GPT_40	Saltwater Creek	GPT	\$ 139,020	2011
SCA_GPT_1	Scarborough Coastal	GPT	\$ 120,108	2012
SCA_GPT_10	Scarborough Coastal	GPT	\$ 38,368	2012
SCA_GPT_11	Scarborough Coastal	GPT	\$ 42,780	2012
SCA_GPT_12	Scarborough Coastal	GPT	\$ 43,651	2012
SCA_GPT_13	Scarborough Coastal	GPT	\$ 76,612	2012
SCA_GPT_14	Scarborough Coastal	GPT	\$ 71,665	2013
SCA_GPT_15	Scarborough Coastal	GPT	\$ 153,727	2013
SCA_GPT_2	Scarborough Coastal	GPT	\$ 117,913	2013
SCA_GPT_3	Scarborough Coastal	GPT	\$ 51,785	2013
SCA_GPT_4	Scarborough Coastal	GPT	\$ 51,785	2013
SCA_GPT_5	Scarborough Coastal	GPT	\$ 49,013	2019
SCA_GPT_6	Scarborough Coastal	GPT	\$ 49,013	2019
SCA_GPT_7	Scarborough Coastal	GPT	\$ 128,226	2019
SCA_GPT_8	Scarborough Coastal	GPT	\$ 111,950	2019
SCA_GPT_9	Scarborough Coastal	GPT	\$ 82,455	2019
WPT_GPT_1	Woody Point	GPT	\$ 113,748	2020
WPT_GPT_2	Woody Point	GPT	\$ 49,697	2020
WPT_GPT_3	Woody Point	GPT	\$ 35,920	2020
WPT_GPT_4	Woody Point	GPT	\$ 34,615	2020
WPT_GPT_5	Woody Point	GPT	\$ 109,581	2021
WPT_GPT_6	Woody Point	GPT	\$ 34,870	2021
WPT_GPT_7	Woody Point	GPT	\$ 49,829	2021
SAL_WET_19	Saltwater Creek	Wetland	\$ 683,735	2013
SAL_WET_20	Saltwater Creek	Wetland	\$ 612,390	2018
SAL_WET_21	Saltwater Creek	Wetland	\$ 1,200,667	2016
SAL_WET_22	Saltwater Creek	Wetland	\$ 568,648	2018
SAL_WET_23	Saltwater Creek	Wetland	\$ 1,940,582	2017
SAL_WET_24	Saltwater Creek	Wetland	\$ 607,405	2010
SAL_WET_25	Saltwater Creek	Wetland	\$ 2,270,657	2011
SAL_WET_26	Saltwater Creek	Wetland	\$ 1,111,729	2016
SAL_WET_27	Saltwater Creek	Wetland	\$ 131,226	2018
SAL_WET_28	Saltwater Creek	Wetland	\$ 650,747	2019
SAL_WET_29	Saltwater Creek	Wetland	\$ 573,354	2017
<b>TOTAL</b>			<b>\$ 27,469,558</b>	

Table 4.6B– Stormwater Quantity Works

Project ID	SERVICE CATCHMENT	TYPE OF WORK	NPV (as at 1 January 2009)	TIMING OF WORKS (YEAR)
MAR_PD_1	Margate Balance	Pipe Drainage	\$17,197,703	2014
MAR_PD_2	Margate Balance	Pipe Drainage	\$9,697,512	2015
<b>TOTAL</b>			<b>\$26,895,214</b>	

#### 4.7 Stormwater Infrastructure Costs by Catchment

The distribution of the costs of existing and future planned infrastructure works apportioned between existing and future development is demonstrated in Table 4.7A. The level of future development contribution towards the total cost of the stormwater infrastructure network per catchment is highlighted in the table.

The proportion of future infrastructure expenditure anticipated to be collected from future development after 01 January 2009 is equivalent to 20% without giving regard to the capping regime. The remaining 80% of future infrastructure costs will be funded directly by Council so that costs associated with augmentations within the existing network to address the DSS are not passed to proponents of development approved after 1 January 2009.



**Table 4.7A – Future Stormwater Infrastructure Costs by Catchment allocated between existing and future demand in NPV as at 01 January 2009**

CATCHMENT	\$ Qty Existing	\$ Qty Future	\$ Qty Total	\$ Qal Existing	\$ Qal Future	\$ Qal Total	Est funding rate
Bells Creek	\$14,230,728	\$119,216	\$14,349,944	\$1,457,942	\$12,617	\$1,470,558	0.8%
Humpybong Creek	\$7,317,448	\$243,630	\$7,561,078	\$4,992,855	\$161,603	\$5,154,458	3.2%
Margate Balance	\$31,437,382	\$836,058	\$32,273,440	\$2,659,553	\$71,880	\$2,731,433	2.6%
Redcliffe Proper	\$27,157,203	\$338,490	\$27,495,693	\$1,081,442	\$16,315	\$1,097,757	1.2%
Rothwell Balance	\$10,010,238	\$2,747,436	\$12,757,674	\$877,881	\$258,169	\$1,136,051	21.6%
Saltwater Creek	\$38,550,655	\$4,177,155	\$42,727,810	\$13,939,982	\$1,546,342	\$15,486,324	9.8%
Scarborough Coastal	\$13,625,939	\$259,070	\$13,885,009	\$1,493,086	\$29,260	\$1,522,346	1.9%
Woody Point Coastal	\$11,465,286	\$272,884	\$11,738,170	\$526,961	\$12,397	\$539,359	2.3%
<b>TOTAL</b>	<b>\$153,794,879</b>	<b>\$8,993,940</b>	<b>\$162,788,819</b>	<b>\$27,029,702</b>	<b>\$2,108,584</b>	<b>\$29,138,287</b>	<b>5.8%</b>

**Table 4.7B – Future Stormwater Infrastructure cost allocation between current and future demand in NPV as at 01 January 2009**

Allocation of Development	Quantity	Quality	Total
Existing Development	\$153,794,879	\$27,029,702	\$180,824,582
Future Development	\$8,993,940	\$2,108,584	\$11,102,524
<b>TOTAL</b>	<b>\$162,788,819</b>	<b>\$29,138,287</b>	<b>\$191,927,106</b>

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**Schedule A: Demand Factors**


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**Table A – Demand Factors for Stormwater Infrastructure Contributions**

Redcliffe City Planning Scheme Zone	Contribution Factor (CF <sub>QAL</sub> /Ha)	Contribution Factor (CF <sub>QTY</sub> /Ha)
Community Purpose	1.32	0.19
Frame Business	1.74	0.19
Health Services	1.74	0.19
Industry	1.90	0.19
Low Density Residential	1.32	0.13
Medium Density Residential	1.63	0.19
Mixed Residential	1.52	0.15
Natural Values	0.00	0.00
Open Space and Recreation	*	*
Retail Core	1.74	0.19

**NOTE:**

The demand factors/contribution factors listed in Table A above apply to all development applications for reconfiguring a lot (RAL) or a material change of use (MCU) corresponding to the actual zone of the land.

If the development proposal incorporates a land use which is specifically listed as "inconsistent" for the zone of the land in chapter 4 of *Redcliffe City Planning Scheme*, the demand factor for that component of the development will be based on the demand factor for any zone in which that land use and the majority of the other uses comprising the development are listed as "consistent".

\* The Demand Factor for the zone which allows the consistent land use most closely aligning to the proposal will be applied.

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**Schedule B: Infrastructure Contribution Rates**


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Table B shows the Infrastructure Contribution Rates for the network.

**Table B – Stormwater Infrastructure Contribution Rates**

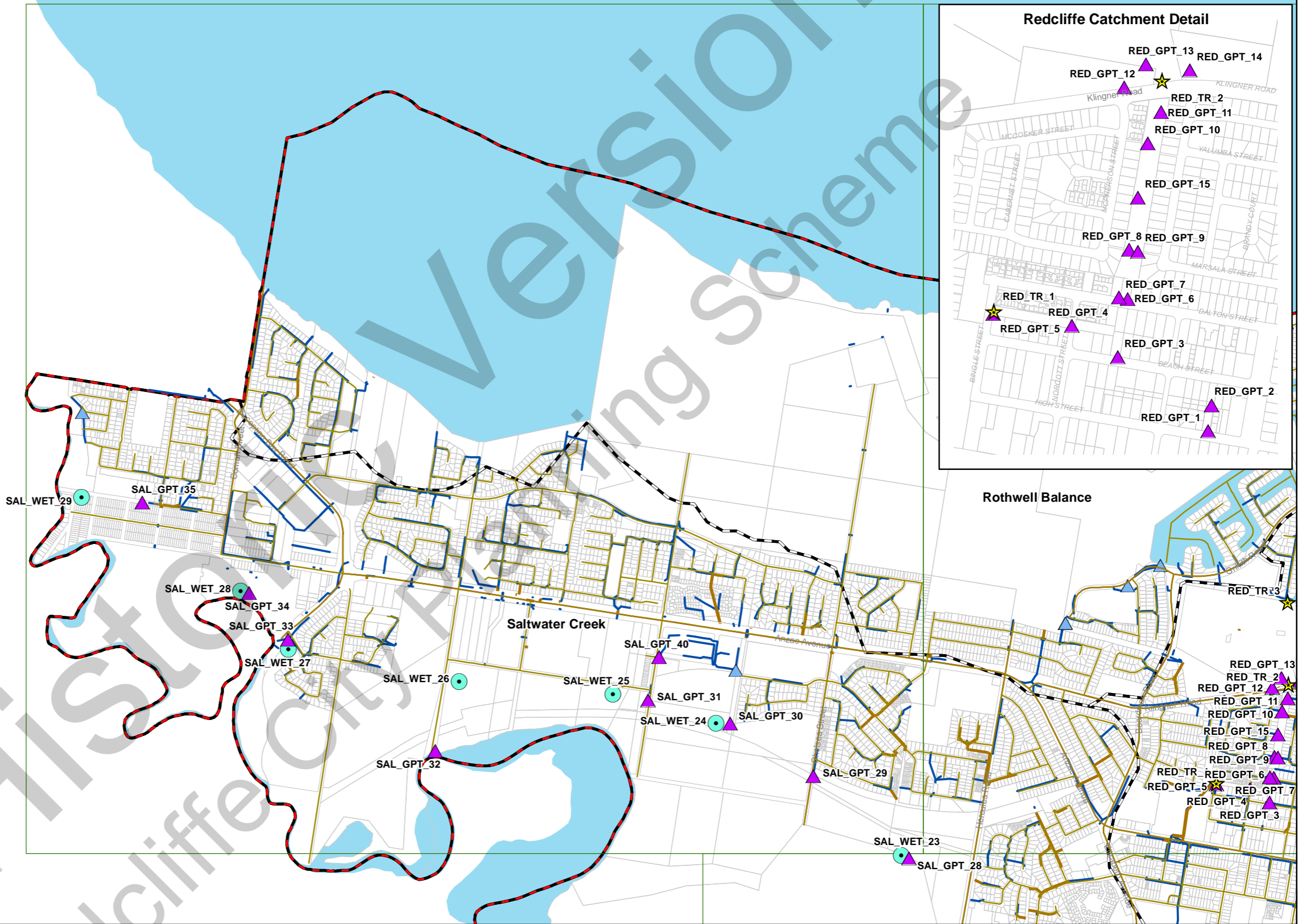
CATCHMENT	(ICR/ECA <sub>QAL</sub> )	(ICR/ECA <sub>QTY</sub> )
Bells Creek	\$4,950	\$474,779
Humpybong Creek	\$26,401	\$363,690
Margate Balance	\$20,366	\$2,345,673
Redcliffe Proper	\$2,574	\$628,942
Rothwell Coastal	\$2,561	\$274,750
Saltwater Creek	\$19,578	\$520,986
Scarborough Coastal	\$4,800	\$428,301
Woody Point Coastal	\$2,704	\$581,009

**Schedule C: Service Catchments and Network Assets**

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Historic Version  
Redcliffe City Planning Scheme

# Stormwater Network



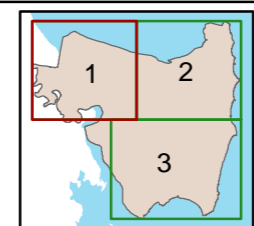
**Legend**

- Stormwater Catchments
- DISA Boundary
- FUTURE INFRASTRUCTURE**
- Bioretention Basin
- GPT
- Trash Rack
- Wetland
- Bioswale
- Pipe Drainage
- Revegetation
- EXISTING INFRASTRUCTURE**
- Existing GPT
- Existing Box Culverts
- Existing Trunk Stormwater Mains



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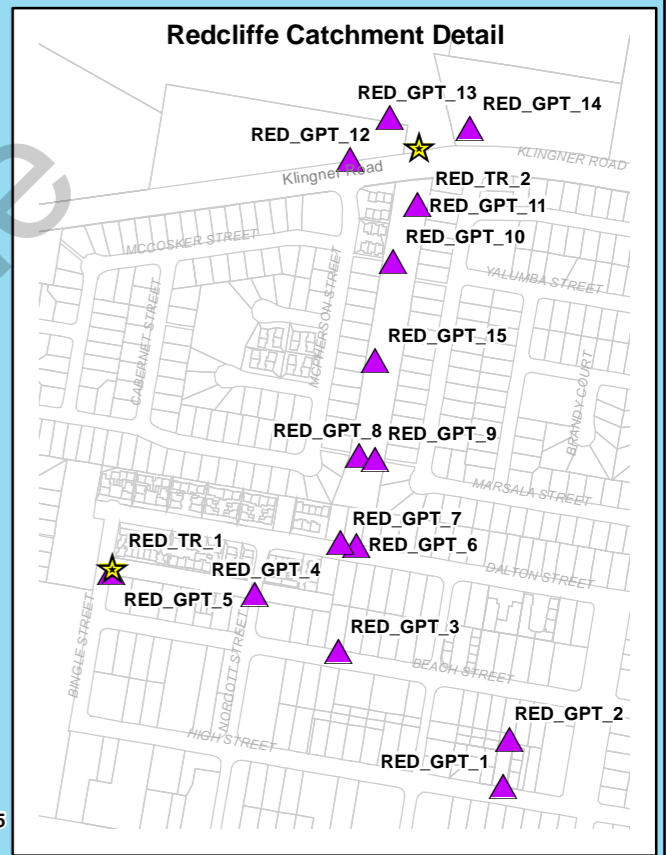
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**Redcliffe City**

Map No: 1

*EFFECTIVE FROM 29 October 2009*



# Stormwater Network



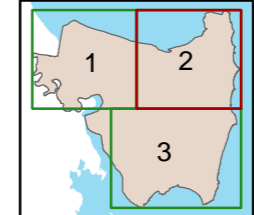
**Legend**

- Stormwater Catchments (dashed black line)
- DISA Boundary (red line)
- FUTURE INFRASTRUCTURE**
  - Bioretention Basin (green square)
  - GPT (purple triangle)
  - Trash Rack (yellow star)
  - Wetland (blue circle)
  - Bioswale (red line)
  - Pipe Drainage (yellow line)
  - Revegetation (green line)
- EXISTING INFRASTRUCTURE**
  - Existing GPT (blue triangle)
  - Existing Box Culverts (orange line)
  - Existing Trunk Stormwater Mains (blue line)



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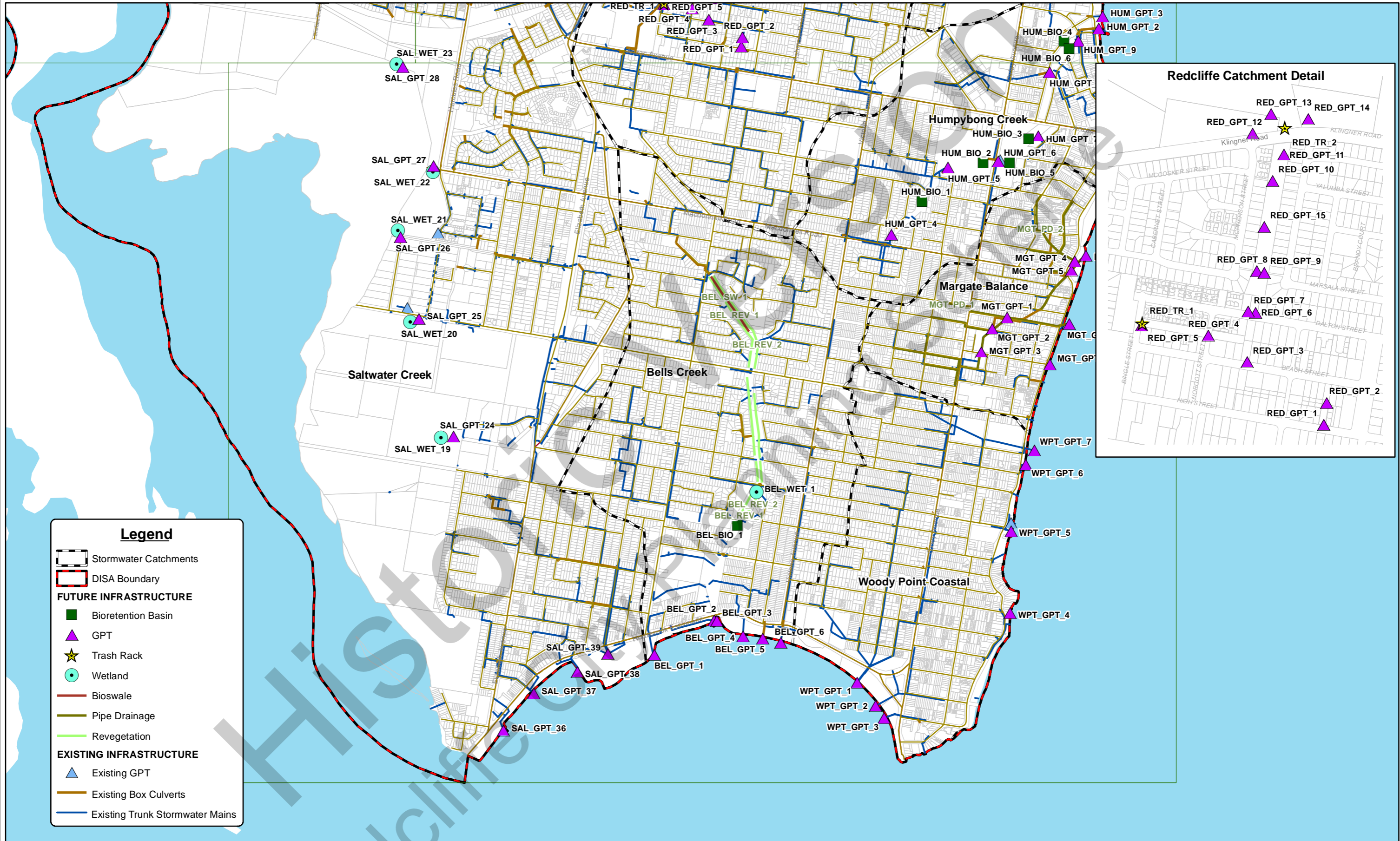
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**Redcliffe City**

Map No: 2

EFFECTIVE FROM 29 October 2009



# Stormwater Network



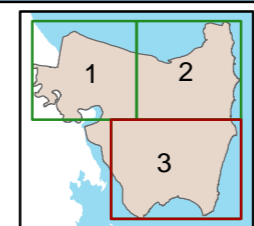
**Legend**

- Stormwater Catchments
- DISA Boundary
- FUTURE INFRASTRUCTURE**
- Bioretention Basin
- GPT
- Trash Rack
- Wetland
- Bioswale
- Pipe Drainage
- Revegetation
- EXISTING INFRASTRUCTURE**
- Existing GPT
- Existing Box Culverts
- Existing Trunk Stormwater Mains



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**Redcliffe City**

Map No: 3

*EFFECTIVE FROM 29 October 2009*

## Schedule D: Desired Standards of Service

The Desired Standards of Service for the Stormwater Trunk Infrastructure network under this policy are detailed below in terms of 'Planning Requirements' and 'Design Objectives'. The 'Planning Requirements' and 'Design Objectives' were developed as a mechanism for implementing the purpose of the *Integrated Planning Act* and satisfying the relevant requirements of the *Environmental Protection Act* as well as the objectives of Council's Corporate Plan. The design objectives are the means by which the planning requirements are achieved.

### Planning Requirements

**Table D1 - Planning Requirements – Catchments**

DESIRED STANDARD OF SERVICE	USER / COMMUNITY BENEFIT	ENVIRONMENTAL BENEFIT
<ul style="list-style-type: none"> <li>Corporate Objectives</li> <li>Legal Responsibility</li> <li>Community Needs</li> </ul>	<ul style="list-style-type: none"> <li>Community &amp; Customer Service</li> <li>Quality and Safety</li> <li>Economic Activity Support</li> </ul>	<ul style="list-style-type: none"> <li>Ecological Protection</li> <li>Ecosystem Rehabilitation</li> </ul>
Provide a system of infrastructure that caters for the adequate and safe drainage of urban lands to receiving waters in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Minimises risk of inundation of habitable areas.</li> <li>Minimises the damage and risk associated with flooding.</li> <li>Provides economic use of urban landscape.</li> <li>Sets safe standards for the road system consistent with traffic movement and access requirements.</li> </ul>	
Maximise the retention and enhancement of each natural waterway in a way that achieves the user/community benefit and environmental benefit listed opposite.		<ul style="list-style-type: none"> <li>Protects the environmental values of waterway systems.</li> <li>Minimises the impact of development on the ecological health of waterways.</li> <li>Minimises the adverse impact of development on water quality.</li> </ul>
Optimise the use of natural waterways and overland flow paths in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Reduces the long-term costs of maintaining the waterways corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Protects areas of natural riparian vegetation in key habitat areas.</li> <li>Provides for faunal movement and migration.</li> <li>Reduces the risk of streambank erosion.</li> </ul>
Optimise the provision of infrastructure in a way that achieves the user/community benefit and environmental benefit listed opposite, taking into account the use of Water Sensitive Urban Design techniques.	<ul style="list-style-type: none"> <li>Provides waterway infrastructure at least life cycle cost.</li> <li>Reduces the scale of infrastructure by maintaining existing hydrological parameters, such as flows, flow velocities and patterns.</li> <li>Improves water quality and waterways health.</li> </ul>	<ul style="list-style-type: none"> <li>Improves water quality at the point of discharge.</li> <li>Controls peak flows and thereby reduces the potential for erosion and sedimentation.</li> </ul>
Retention of riparian land in rural areas for stormwater runoff and treatment in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Minimises risk of inundation to habitable areas.</li> <li>Stabilise adjacent productive land.</li> </ul>	<ul style="list-style-type: none"> <li>Minimises the adverse impact of rural activities and development on the ecological health of waterways.</li> <li>Minimises the adverse impact of rural activities and development on water quality.</li> </ul>
Provide a system of stormwater infrastructure capable of removing harmful pollutant concentrations and loads in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Minimises risk of unsafe stream, river and ocean water for human contact.</li> </ul>	<ul style="list-style-type: none"> <li>Minimises adverse impact of development on stream and receiving environment water quality.</li> <li>Optimises aquatic health and stream ecology and bio-diversity.</li> </ul>



**Table D2 - Planning Requirements – Waterways**

DESIRED STANDARD OF SERVICE	USER / COMMUNITY BENEFIT	ENVIRONMENTAL BENEFIT
<ul style="list-style-type: none"> <li>Corporate Objectives</li> <li>Legal Responsibility</li> <li>Community Need</li> </ul>	<ul style="list-style-type: none"> <li>Community &amp; Customer Service</li> <li>Quality and Safety</li> <li>Economic Activity Support</li> </ul>	<ul style="list-style-type: none"> <li>Ecological Protection</li> <li>Ecosystem Rehabilitation</li> </ul>
Conveyance of the design runoff in an allocated waterway corridor in a way that achieves the user/community benefit and environmental benefit listed opposite. Corridors shall preferably incorporate natural channels and floodplains.	<ul style="list-style-type: none"> <li>Minimises risk of inundation of habitable areas.</li> <li>Minimises the damage and risk associated with flooding.</li> <li>Reduces the cost of flood damage to the community.</li> </ul>	<ul style="list-style-type: none"> <li>Maintains the natural functions of creeks and floodplains.</li> <li>Reduces environmental damage due to flooding by maintaining the natural functions of floodplains.</li> </ul>
Rehabilitate degraded waterway banks and floodplains through planting of native vegetation, erosion treatment measures and natural channel design features in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Ensures reasonable levels of water quality and turbidity in waterways are not exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>Protects environmentally sensitive areas from development.</li> <li>Enhances nature conservation by retaining riparian areas for environmental purposes.</li> <li>Minimises the adverse impact of development on waterways health.</li> </ul>
Cater for long term morphological processes, such as erosion and sedimentation in a way that achieves the user/community benefit and environmental benefit listed opposite, by allowing sufficient width within waterway corridors.	<ul style="list-style-type: none"> <li>Minimises the impact of erosion or sedimentation on private property.</li> <li>Reduces the need for costly structural treatments of waterway banks.</li> </ul>	<ul style="list-style-type: none"> <li>Provides for natural processes of erosion and sedimentation.</li> </ul>
Maintain, where possible, the design runoff at natural flow rates using regional detention facilities in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Controls the impact of flow rate increase on downstream landholders.</li> </ul>	<ul style="list-style-type: none"> <li>Minimises the impact of peak flow rate increase on natural waterways.</li> </ul>

**Table D3 - Planning Requirements - Overland Flow Systems**

DESIRED STANDARD OF SERVICE	USER / COMMUNITY BENEFIT	ENVIRONMENTAL BENEFIT
<ul style="list-style-type: none"> <li>Corporate Objectives</li> <li>Legal Responsibility</li> <li>Community Need</li> </ul>	<ul style="list-style-type: none"> <li>Community &amp; Customer Service</li> <li>Quality and Safety</li> <li>Economic Activity Support</li> </ul>	<ul style="list-style-type: none"> <li>Ecological Protection</li> <li>Ecosystem Rehabilitation</li> </ul>
Convey floodwater from the local catchment by a network of underground pipes, natural channels and overland flow paths in a way that achieves the user/community benefit and environmental benefit listed opposite. This is to be achieved without adversely impacting on properties or compromising environmental values associated with the flow paths and at an appropriate design runoff rate.	Ensures habitable areas are protected from inundation.	Promotes the protection of environmentally sensitive areas.
Design of the overland flow system is to comply with established codes and local authority standards which achieve the user/community benefits and environmental benefits listed opposite.	Provides an optimal balance of underground pipes, natural channels and overland flow paths in order to achieve economic land use.	Promotes the retention of natural channels or rehabilitation of existing natural flow paths.
Minimise any increase in flow rate in a way that achieves the user/community benefit and environmental benefit listed opposite utilising local and on-site detention facilities where appropriate.	<ul style="list-style-type: none"> <li>Minimises adverse impacts from flooding for existing and future developments.</li> <li>Optimises the size of waterway corridors and underground drainage.</li> </ul>	<ul style="list-style-type: none"> <li>Minimises the adverse impact on the environmental values of downstream waterways by maintaining natural flows and velocities.</li> <li>Minimises channel erosion by the reduction of flow velocities.</li> </ul>

DESIRED STANDARD OF SERVICE	USER / COMMUNITY BENEFIT	ENVIRONMENTAL BENEFIT
Restrict the discharge of pollutant materials from point and non-point sources in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Minimises the risk of human, animal or ecosystem contact with unsafe or polluted water in streams, rivers or ocean waters.</li> </ul>	<ul style="list-style-type: none"> <li>Minimises adverse impact of development on stream and receiving environment water quality.</li> <li>Maintains aquatic health as well as sustainable stream ecology and bio-diversity.</li> </ul>

Historic Version  
Redcliffe City Planning Scheme

**Table D4 - Planning Requirements - Waterway Crossings**

DESIRED STANDARD OF SERVICE	USER / COMMUNITY BENEFIT	ENVIRONMENTAL BENEFIT
<ul style="list-style-type: none"> <li>Corporate Objectives</li> <li>Legal Responsibility</li> <li>Community Need</li> </ul>	<ul style="list-style-type: none"> <li>Community &amp; Customer Service</li> <li>Quality and Safety</li> <li>Economic Activity Support</li> </ul>	<ul style="list-style-type: none"> <li>Ecological Protection</li> <li>Ecosystem Rehabilitation</li> </ul>
Design culverts and bridges with appropriate flood immunity and capacity to convey floodwater in a way that achieves the user/community benefit and environmental benefit listed opposite.	<ul style="list-style-type: none"> <li>Ensures road crossings operate safely in times of inundation.</li> <li>Reduces the risk of flooding for upstream properties.</li> </ul>	
Upgrading of bridges and culverts is carried out in a manner that does not adversely impact on the natural environment, such as through the loss of vegetation or undesirable impacts on bio-diversity, and in a way that achieves the user/community benefit and environmental benefit listed opposite.		Minimises environmental impact.

### Design Objectives

Design Criteria shall be as shown in the Tables D5 to D8, unless noted otherwise in Catchment Management Plans/Master Drainage Reports and/or by detailed Engineering Analysis. For additional explanation of the Design Criteria, refer to Planning Scheme Policy 10 – Works (Development Standards Manual).

**Table D5 - Design Objectives - Flooding of Habitable Areas**

DESIGN ISSUE	DESIGN CRITERIA		
FLOOD IMMUNITY	<b>MAJOR DRAINAGE SYSTEM</b>		
	<b>Zone</b>	<b>Design ARI (years)</b>	
	All	100	
	<b>MINOR DRAINAGE SYSTEM</b>		
	<b>Zone</b>	<b>Design ARI (years)</b>	
	Central Business, Commercial, Local Business, Neighbourhood Facilities.	10	
	Service Industry, General Industry, Home Industry	10	
	Residential B.	10	
	Residential A, Special Residential (Urban), Future Urban.	2	
	Special Residential (non urban), Park Residential, Rural Residential, Rural, Future Rural Living.	2	
	Park and Open Space, Sports and Recreation where length of drain is:	< 50m – adopt 5 > 50m enhance open watercourse (see Note 3)	
	<b>MAJOR DRAINAGE SYSTEM REQUIREMENTS</b>		
	<b>Urban, Rural Residential, Rural Area</b>	<b>Park Area</b>	
Minimum requirements	An overland flow system for runoff in excess of the capacity of the pipe system, such that the design flow is carried through the subdivision or development clear of and with required freeboard to allotments/buildings.	Major system flows are contained within the park area.	
DEVELOPMENT LEVELS	<b>Zone</b>	<b>Min. Area within Allotment</b>	<b>Minimum Development Levels</b>
	General Industry, Service Industry	4000 m <sup>2</sup>	Q100 + freeboard
	Residential A, Residential B, Special Residential, Future Urban, Neighbourhood Facilities, Local Business, Central Business, Home Industry, Commercial.	2000 m <sup>2</sup>	Q100 + freeboard
	Park Residential, Rural Residential, Rural, Future Rural Living.	1500 m <sup>2</sup>	Q100 + freeboard

DESIGN ISSUE	DESIGN CRITERIA	
MINIMUM FREEBOARD	<b>Flooding Source</b>	<b>Minimum Freeboard</b>
	Existing Natural Watercourse	Greater of 750mm; or - The highest recorded flood level + 750mm – calculated Q100 flood level
	Engineered Channels	Greater of 500mm; or - Flood level in unmaintained channel + 250mm – flood level of maintained channel.
	Urban Road Drainage	Greater of 250mm; or - 150mm + difference in level due to blocked catchpits or inlets.
	Overland Flowpaths	Greater of 250mm; or - Flood level in unmaintained flow path + 150mm – flood level of maintained flow path.
	<b>For Major Storm</b> (a) Where floor levels of adjacent buildings are above road level.	(i) Total flow contained within road reserve; (ii) Freeboard > 250mm to floor level of adjacent buildings, and with maximum flow depth of 200mm.
(b) Where floor levels of adjacent buildings are below or less than 300mm above road level; (i) where 100mm fall on footpath towards kerb; (ii) where less than 100mm fall on footpath towards kerb; (c) other.	50mm above top of kerb. Top of kerb. As determined by Council's Engineer.	50mm above top of kerb. Top of kerb. As determined by Council's Engineer.

Table D6 - Design Objectives – Roadways

DESIGN ISSUE	DESIGN CRITERIA		
FLOOD IMMUNITY		<b>Design ARI (years)</b>	
	Major Road	Kerb and Channel Flow	50
		Cross Drainage (Culverts)	50
	Minor Road	Kerb and Channel Flow	Refer to relevant development category (satisfy highest ARI of abutting zones)
		Cross Drainage (Culverts)	10
Bikeway	Cross Drainage	2	
SAFETY	<b>Roadway Flow Width and Flow Velocity Limitation</b>		
	<b>Major Roads</b>		
	<b>Minor Roads</b>		
	Normal situation. Flow width should be confined to parking lane width (usually 2.5m) or breakdown lane width. Where no K&C – the minor storm should be contained in table drain.	(i) for K&C – Full pavement width with zero depth at crown; where no K&C – contained within table drain; (ii) Where one way crossfall, to high side of road pavement but not above top of kerb on low side.	
	Where parking lane may be replaced by a through, acceleration, deceleration or turn lane = 1.0m.	Where parking lane may be replaced by a through, acceleration, deceleration or turn lane = Not applicable.	
	Where road falls towards median = 1.0m.	Where road falls towards median = Not applicable.	
	Pedestrian crossing or bus stops = 0.45m.	Pedestrian crossing or bus stops = 0.45m.	
	At intersection kerb returns (including entrances to shopping centres and other major developments) = 1.0m (3) (4).	At intersection kerb returns (including entrances to shopping centres and other major developments) = 1.0m (3) (4).	
	Pedestrian Safety (Major and Minor Storms): (a) No obvious danger = $\leq 0.6 \text{ m}^2/\text{s}$ ; (b) Obvious danger = $\leq 0.4 \text{ m}^2/\text{s}$ .	Pedestrian Safety (Major and Minor Storms): (a) No obvious danger = $\leq 0.6 \text{ m}^2/\text{s}$ ; (b) Obvious danger = $\leq 0.4 \text{ m}^2/\text{s}$ .	
Vehicle Safety = $\leq 0.6 \text{ m}^2/\text{s}$ .	Vehicle Safety = $\leq 0.6 \text{ m}^2/\text{s}$ .		

**Table D7 - Design Objectives - Detention Areas**

DESIGN ISSUE	DESIGN CRITERIA	
	Design Parameter	Criteria
FLOOD IMMUNITY	ARIs to be investigated for analysis	1, 5, 20 and 100 for critical durations
SAFETY	Depth / ARI	1.2m for 5 year event 1.5m for 20 year event 2.0m for 100 year event
	Structural Stability of outlet	Check under PF. conditions
	Basin Batter Slopes	1V:4H max
	Spillway Embankment Slopes	1V:6H max
	Minimum Spillway Width	3 metres
	Minimum Crossfall	1:100 - Multi Use Detention Basins (Playing Fields, Parks etc).
	Desired Crossfall	1:70 - Multi Use Detention Basins (Playing Fields, Parks etc).
	Max. Crossfall Length	70 metres - Multi Use Detention Basins (Playing Fields, Parks etc).
	Drainage Location	Sited along perimeter - Multi Use Detention Basins (with Single Playing Fields).
	Crown Location	Along longest centreline - Multi Use Detention Basins (with Single Playing Fields).

**Table D8 - Design Objectives - Environmental**

DESIGN ISSUE	DESIGN CRITERIA
WATERWAY BANK STABILITY	Existing watercourses or drainage features shall be re-vegetated with native species. An investigation into the stability of banks is required to ensure that no allotments will be subject to erosion or landslip. The investigation needs to cover site geology, stream hydraulics, creek morphology, remediation of buffer works.
WATERWAY HEALTH	<ul style="list-style-type: none"> <li>Receiving Water Quality standards shall be in accordance with the ANZECC standards.</li> <li>Oil/Grit Separators are to be provided for carparks or hardstand areas of Commercial or Industrial developments where other catchment based water quality treatment devices are not available.</li> <li>Council standard weir type sediment and trash traps are to be provided on all outlets of stormwater drainage pipes serving catchments greater than 2 hectares.</li> <li>GPTs designed for the collection and easy removal of sediment and trash are to be provided on the outlets of stormwater drainage systems serving catchments greater than 5 hectares.</li> <li>All detention basins are to include a low flow water quality treatment facility. The minimum storage time is 24 hours and the maximum storage time is 48 hours.</li> <li>Water Quality Control Ponds, Lakes and/or Artificial Wetlands are to be incorporated in developments that are traversed by a natural drainage feature. Generally, these facilities will be applicable to subdivisional developments which are in excess of five (5) hectares or where Council's Engineer determines that the development will have a detrimental effect on the quality of the receiving waters.</li> <li>Existing watercourses or drainage features shall be re-vegetated with native species in accordance with an approved landscaping plan.</li> </ul>

**REVIEW TRIGGERS**

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

- (1) The related documents are amended;
- (2) The related documents are replaced by new documents;
- (3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and
- (4) Other circumstances as determined from time to time by a resolution of Council.

**RESPONSIBILITY**

This policy is to be:

- (1) implemented by the Senior Manager Development Services; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Senior Manager Strategic Direction and Sustainability, the Senior Manager Regional and the Senior Manager Infrastructure Management in consultation with the Senior Manager Development Services.

**VERSION CONTROL**

<b>CEO Approval Date</b>	<b>15/09/2009</b>
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**Related Links:**


**ENDNOTES**

<b>Amendment</b>	<b>Date Adopted – 28 March 2013</b>	<b>Effective Date – 8 April 2013</b>
<b>Planning Scheme Policy Reference</b>	<b>Description of Amendment</b>	
PSP 4 Part 8.4.8	<ul style="list-style-type: none"> <li>▪ Explanatory note added to clarify that the policy only has effect for development approvals issued prior to the commencement of the Redcliffe Priority Infrastructure Plan 8 April 2013.</li> </ul>	

Historic Version

Redcliffe City Planning Scheme