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APPENDIX A LEGISLATIVE AND OTHER REQUIREMENTS AND RELATIONSHIPS WITH OTHER PLANNING DOCUMENTS AND ORGANISATIONS

A.1 Introduction

The purpose of this plan is to outline and to summarise in one place, the Council's strategic and management long-term approach for the provision and maintenance of its river systems and assets.

The AMP demonstrates responsible management of the District's assets on behalf of customers and stakeholders and assists with the achievement of strategic goals and statutory compliance. The AMP combines management, financial, engineering and technical practices to ensure that the levels of service required by customers is provided at the lowest long term cost to the community and is delivered in a sustainable manner.

The service provides many public benefits including a level of flood protection to dwellings in the flood plain for selected rivers, river management and river maintenance. It is considered necessary and beneficial to the community that the Council undertakes the planning, implementation and maintenance of rivers services in the District in accordance with its respective legislative requirements and responsibilities.

The front section of this AMP document is produced with the aim of the target audience being Council staff and Councillors. The appendices provide more in depth information for the management of the activity and are therefore targeted at the Activity Managers. The entire document is available within the public domain.

In preparing this AMP the project team has taken account of:

- **National Drivers** – for example the drivers for improving Asset Management through the Local Government Act 2002
- **Local Drivers** – Community desire for increased level of service balanced against the affordability
- **Linkages** – the need to ensure this AMP is consistent with all other relevant plans and policies
- **Constraints** – the legal constraints and obligations Council has to comply with in undertaking this activity.

The main Drivers, Linkages and Constraints are described in the following Sections.

A.2 Key Legislation and Industry Standards, and Statutory Planning Documents

The Acts below are listed by their original title for simplicity however all Amendment Acts shall be considered in conjunction with the original Act, these have not been detailed in this document. For the latest Act information refer to http://www.legislation.govt.nz/.

Acts

- The Local Government Act 2002 – especially Schedule 10 and the requirement to consider all options and to assess the benefits and costs of each option, and the consultation requirements
- The Soil Conservation and Rivers Control Act 1941
- The Biosecurity Act 1993
- The Bylaws Act 1910
- The Civil Defence Emergency Management Act 2002 (Lifelines)
- The Resource Management Act 1991
- The Local Government Act (Rating) 2002
- The Health and Safety in Employment Act 1992
- The Building Act 2004

- The Local Government Act 1974 (retained sections)
- The Land Drainage Act 1908
- The Construction Contracts Act 2002
- The Climate Change Response Act 2002

National Policies, Regulations and Strategies

- The New Zealand Coastal Policy Statement 1994 http://www.rma.co.nz
- The Building Regulations http://www.legislation.govt.nz/
- The Local Government (Financial Reporting) Regulations 2011 http://www.legislation.govt.nz/
- NAMS Manuals and Guidelines http://www.nams.org.nz
- Office of the Auditor General's publications http://www.oag.govt.nz

Standards New Zealand (for all refer to http://www.standards.co.nz)

- AS/NZS ISO 31000:2009 Risk Management Principals and Guidelines
- AS/NZS ISO 9001:2008 Quality Management Systems
- AS/NZS 4801:2001 Occupational Health and Safety Management Systems

Local Policies, Regulations, Standards and Strategies

- Council's District Plan – Tasman Resource Management Plan (TRMP) http://www.tasman.govt.nz
- Tasman Regional Policy Statement (TRPS) http://www.tasman.govt.nz
- Tasman District Council Engineering Standards and Policies 2008 http://www.tasman.govt.nz
- Council's Procurement Strategy
- any existing established policies of the Council (outside those contained in this Activity Management Plan itself) regarding this activity.

A.3 Links with Other Documents

This AMP is a key component in the Council's strategic planning function. Among other things, this plan supports and justifies the financial forecasts and the objectives laid out in the Long Term Plan (LTP). It also provides a guide for the preparation of each Annual Plan and other forward work programmes.

Figure A-1 depicts the links between Council's activity management plans to other corporate plans and documents.

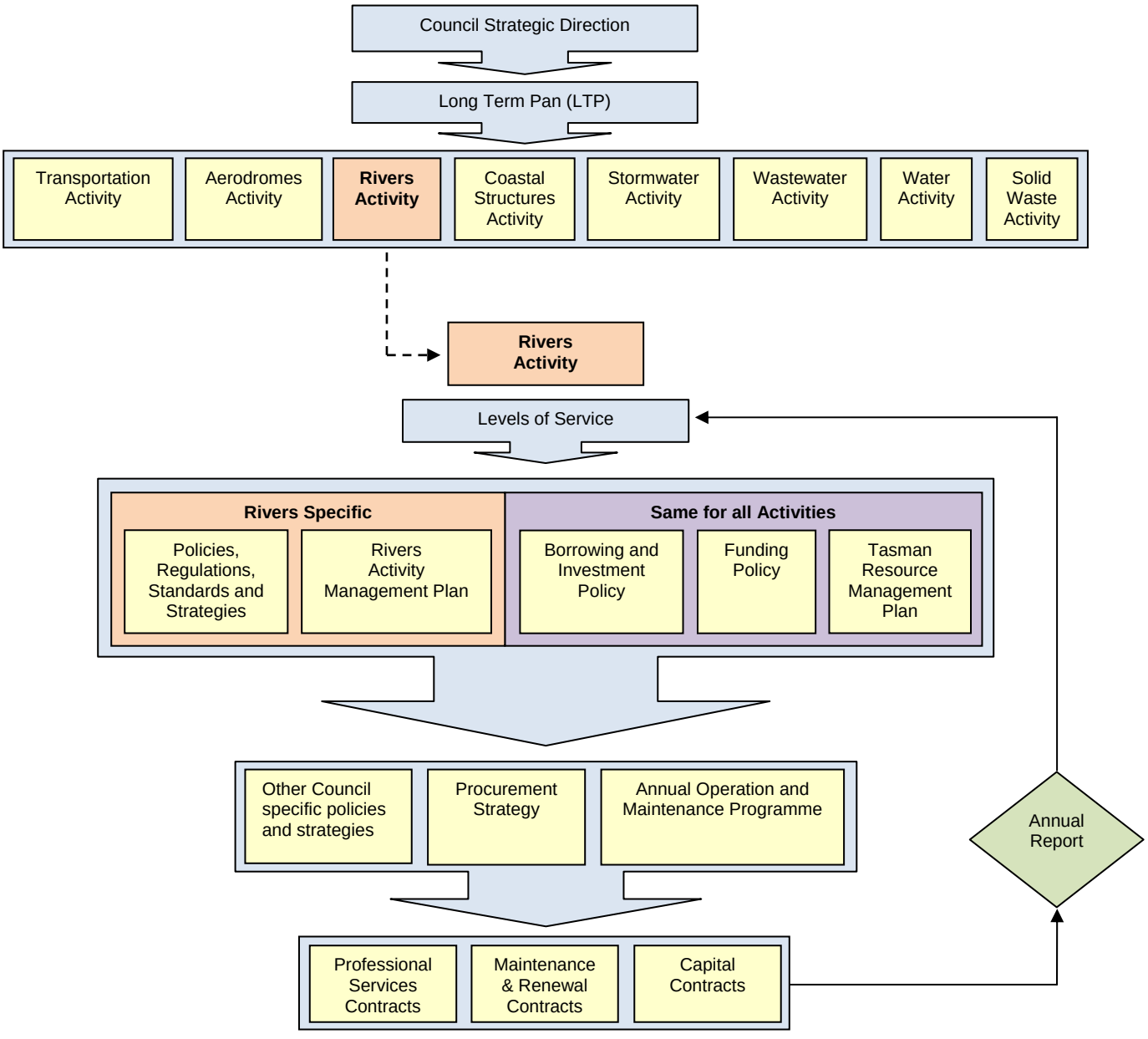

Figure A-1: Hierarchy of Council Policy, Strategy and Planning

A.4 Strategic Direction

Council's Strategic Direction is outlined in the Vision, Mission and Objectives of the Council.

Vision: An interactive community living safely in the garden that is Tasman district.

Mission: To enhance community wellbeing and quality of life.

Objectives: *Objective 1:*

- To implement policies and financial management strategies that advance the Tasman district.

Objective 2:

- To ensure sustainable management of natural and physical resources, and security of environmental standards.

Objective 3:

- To sustainability manage infrastructural assets relating to Tasman district.

Objective 4:

- To enhance community development and the social, natural, cultural and recreational assets relating to Tasman district.

Objective 5:

- To promote sustainable economic development in the Tasman district.

Table A-1 outlines the strategic documents utilised by the Council as part of the planning process.

Table A-1: Strategic Documents Utilised During the Planning Process

Long Term Plan (LTP)	The primary instrument for the Council to report on its intentions on delivering its services to the community. This is the broad strategic direction of Council set in the context of current and future customer requirements. The AMP is the tactical plan with a view to achieving the strategic targets.
Annual Plan	The service level options and associated costs developed in the AMP will be fed into the Annual Plan consultation process. The content of the Annual Plan will feed directly from the short term forecasts in the LTP.
Activity Management Plan (AMP)	The Activity Management Plans provide the framework to recognise and deliver future levels of service, Operation of Spend and Capital Programmes in a way which is consistent, transparent and integrated with Council's day to day business.
Financial and Business Plans	The financial and business plans requirement by the Local Government Amendment Act (3). The expenditure projections will be taken directly from the financial forecasts in the AMP.
Contracts	The service levels, strategies and information requirements contained in the AMP are the basis for performance standards in the current Maintenance and Professional Service Contracts.
Operational Plans	Operating and maintenance guidelines to ensure that the network operates reliably and is maintained in a condition that will maximise useful service life of assets within the network.
Corporate Information	Quality asset management is dependent on suitable information and data and the availability of sophisticated asset management systems which are fully integrated with the wider corporate information systems (eg. financial, property, GIS, customer service, etc.). Council's goal is to work towards such a fully integrated system.

A.4.1. Our Goal

The Council aim to maintain river systems in a cost effective manner in such a way that the community and individual landowners are provided with protection and management systems to a level acceptable to that community, taking into account affordability.

APPENDIX B AN OVERVIEW OF EVERY CLASSIFIED RIVERS SYSTEM IN THE DISTRICT

B.1 Overview

B.1.1. River Classifications

River sections are grouped into three classes, either X, Y or Z based on the classification policy. The policy adopted at the Special Council meeting of 23rd May 1996 is summarised below.

> *That Council adopt a system of a differential rating for Separate River Care Rates to be made and levied in the Tasman District Council administered area on the land value of rateable property for the purposes of carrying out works and services which seek to maintain existing flood defences and mitigation of the effects of flooding and to maintain and develop stable watercourses*.
>
> *That the proposed differential will group rateable property in three classes:*
>
> *Class X being property to receive a direct benefit and protected by stopbanks designed to a minimum standard*
>
> *Class Y being property to receive a direct benefit but not protected by stopbanks*
>
> *Class Z being the balance of the Tasman district (considered to receive an indirect benefit).*

Legal boundary descriptions for classified works areas (X, Y) are provided in Table B-1.

Table B-1: Titles for Classified Rivers (X, Y Rating)

Classified River	Extent of Boundaries as Described by Title	
	Start	Finish
Aorere	Section 187, Block IV, Aorere SD	Mouth
Kaituna	Roadway dividing Section 128, Block III, Aorere	Mouth
Anatoki	Section 166, Block IX, Waitapu SD	Mouth
Waingaro	Section 79, Square II, Block II, Takaka SD	Mouth
Takaka	Section 31, Block XI, Takaka SD	Mouth
Riwaka	Section 78, Block X, Kaiteriteri SD	Mouth
Motueka	Section 4, Square 7, Block IX, Motueka SD	Mouth
Motueka	South-Western Corner of Section 25, Block I, Gordon SD	Wangapeka Confluence
Moutere	Part Section 93, Block XVI, Motueka SD	Mouth
Pawley Creek	Section 232, Block VII, Motueka SD	Mouth
Sherry	Section 99, Block III, Tadmor SD	Mouth
Motupiko	Section 75, Square 5, Block II, Tadmor SD	Mouth
Dove	Section 103, Block VII, Wai-iti SD	Mouth
Wai-iti	Section 78, Block VI, Gordon SD	Mouth
Waimea	Over whole length	
Wairoa	Wairoa Gorge	Waimea – Wai-iti Confluence
Eves Valley Stream	Section 1, Block V, Waimea SD	Mouth
Redwoods Valley Stream	Section 29, Square 2, Block I, Waimea SD	Eves Valley Stream
Little Sydney Stream	Section 40, Block X, Kaiteriteri SD	Mouth
Tadmor	Village of Tui	Mouth

B.1.1.1 Joining the Class X and Y Schemes

X Classification: To join the Class X scheme, landowners who directly benefit from the scheme must fund two thirds of the costs to construct minimum standard stopbanks (which would be subsidised one third from the rivers account). There are a number of private stopbanks and catchment board banks that are located around the district. Generally these are found in Class Y areas and are not maintained by Council. Examples include Krammers stopbank in Motupiko, stopbanks on the Riwaka outside the Class X classification, and banks in the Upper Motueka and Takaka River.

Y Classification: To join the Class Y scheme, benefiting landowners must fund works to bring the length of river to Class Y standard (with no subsidy from rivers account).

Z Classification: River works carried out along other sections of rivers (in Class Z classification areas) are funded up to 50% by Council with the balance funded by the landowner. Funding assistance is not guaranteed by the Council and is dependent on available funds. The Council's share is contingent upon the work having demonstrable community benefit. Any subsidized works carried out under the Rivers General or Soil Conservation budget are handed over to the landowner once established. Council does not retain ownership, unless works occur on Council land.

B.1.1.2 Gravel Extraction

Another role inherited from the Catchment Board/Regional Council was regulatory control over gravel extraction. Activities in rivers and streams are now regulated by the Resource Management Act which requires all activities in a river bed to have a resource consent (unless otherwise allowed in the district plan) with a supporting investigation into the adverse effects of the extraction or other activity.

B.1.1.3 Resource Consents

Council's Asset Management group holds a global resource consent relating to river bank protection and channel stabilisation measures and maintenance (NN010109) and spraying consent (NN000425).

B.1.2. River System Overview

For the purposes of this AMP, Tasman district's rivers and associated drainage network has been divided into specific zones. These zones generally follow geographical boundaries. The zones are outlined in Table B-2.

Table B-2 River Network Overview

River / Stream / Drainage System	Class	Maintained Length (km)	Stopbank Length (km)
Waimea			
Redwood Valley Stream	X	5.75	-
Redwood Valley Overflow	X	3.00	-
Eves Valley Stream	X	9.50	-
O'Connor's Creek	X	1.80	-
Wai-iti River	Y	30.15	1.4
Waimea River (including Wairoa)	X	13.25	18.1

River / Stream / Drainage System	Class	Maintained Length (km)	Stopbank Length (km)
Upper Motueka			
Motupiko River	Y	14.50	-
Tadmor River	Y	33.00	-
Sherry River (including Wangapeka)	Y	14.50	-
Upper Motueka River	Y	20.00	-
Lower Motueka			
Dove River	Y	18.60	-
Brooklyn Stream	X	3.00	5.0
Lower Motueka River	X	11.25	26.2
Riwaka Delta			
Little Sydney Drain	X	4.25	-
Scotts Drain	X	0.80	-
Hamilton Drain	X	3.00	-
Riwaka River	X	5.00	8.25
Moutere			
Moutere River	Y	12.00	-
Moutere Creek Ditch	Y	7.00	-
Pawley Creek	Y	2.25	-
Aorere			
Kaituna River	Y	5.75	-
Aorere River	Y	12.00	-
Takaka			
Waingaro River	Y	5.25	-
Anatoki River	Y	5.25	-
Takaka River	Y	28.00	-
Buller			
Buller River	Z	NIL	-

B.1.2.1 River System Risks

In general all (maintained) river systems in the district are subject to failure from one or a series of major flooding events. Failure could occur in any location within the berm, given factors such as localised rainfall intensity, loss of frontline protection (willow and rock work), stopbank design and capacity, and failure in flood/tide gate systems.

The last AMP review identified willow trees being subject to attack from the sawfly insect. Because crack willow has now been placed on the unwanted organism list by Ministry of Agriculture and Forestry (MAF) the issues related around sawfly damage of crack willow is now of less importance regionally.

Crack willow (*Salix fagilis*) has been added to the New Zealand Unwanted Organisms register. This plant replaces native species in wetlands, and forms vast dense stands and thickets. It causes blockages, flooding and structural changes in water ways. This variety cannot be spread or propagated without permission. Council has applied for a 20 year exemption to eradication but accepts that it will work in low erosion potential sites to remove crack willow.

B.2 Catchments

In general all (maintained) river systems in the district are subject to failure from one or a series of major flooding events

The following catchments are described in detail in the sections listed below.

B.3 – Waimea Catchment

B.4 – Upper Motueka Catchment

B.5 – Lower Motueka Catchment

B.6 – Riwaka Delta Catchment

B.7 – Moutere Catchment

B.8 – Aorere Catchment

B.9 – Takaka Catchment

B.10 – Buller Catchment

B.3 Waimea Catchment

B.3.1. Description

The Wai-iti River catchment (270 km^2) and Wairoa River catchment (463 km^2) drain steep hill country and join approximately 1km downstream of the Brightwater Bridge (SH6) to become the Waimea River. The river plain formed by the Waimea is intensively farmed.

Redwood Valley and Overflow: A detention dam is located at the head of the Redwood Valley catchment. This structure was installed by the previous catchment board, however is not maintained under the current river operations and maintenance contract.

B.3.2. Capacity

Waimea: A river control scheme utilising stopbanking over the lower 7.5km of the Waimea River was completed in 1962. All stopbanks and land between stopbanks to the outside edge of the bank are reserve land vested in Council for river control purposes. Stopbanking was developed to a 50 year (2% AEP) standard, accommodating a freeboard of 0.6m. Since then the removal of river gravel has resulted in deepening the bed and therefore increasing its capacity beyond the original Q_{50} design.

Wai-iti and Wairoa: The lower reaches of the Wai-iti and Wairoa are part of the Class Y scheme.

B.3.3. Major Event(s)

Waimea: In January 1986 a large flood of 1466m^3/s (just over a Q_{50} event) caused extensive bank damage, exacerbated by the over-extraction of gravel. There are still areas with narrow berm areas between the stopbanks and the main river channel which may be threatened during a big flood.

B.4 Upper Motueka Catchment

B.4.1. Description

The Motueka River catchment covers an area of 2170 km^2. The Upper Motueka drains from the mountainous Red Hills Ridge (1629 m) and Beebys Knob (1436 m) area. The river flats and terraces in this area are narrow. The Motupiko and Tadmor Rivers drain the head of the Moutere Depression to be joined at Tapawera by the Wangapeka and Baton Rivers, two major tributaries that drain the watershed in the western most corner of the catchment. The river flows in a narrow valley below Tapawera to follow the foot of the Western Nelson Range (Mt Arthur Range) in a north easterly direction towards Tasman Bay.

B.4.2. Capacity

The Upper Motueka River is a Class Y area (open fairways). In the 1960's the lower sections of the Motupiko, Motueka, Tadmor, Sherry and Dove Rivers received channel works designed to secure the valley floors from erosion and reduce the frequency of flooding.

B.5 Lower Motueka Catchment

B.5.1. Description

The Lower Motueka River receives run-off from the catchments of the Stanley Brook, Dove River, Orinoco, Waiwhero and Brooklyn Streams. The rivers and streams are bounded by wide flats and terraces backed by strongly rolling slopes which rapidly give way to the moderately steep slopes that form the eastern Motueka catchment boundary. The river plains have historically been used for horticultural production ie. apple and hop production.

Stopbanks have been installed in the Lower Motueka River, primarily to protect Motueka township and surrounding infrastructure. When the Motueka stopbanks were constructed the works were publicly notified at the time of construction and the land owners signed documents ceding the land. However, with a few exceptions, Council never took a separate title for the land and owners are reluctant to release control. The stopbank structures themselves are Council owned.

There is not believed to be a serious issue with Council not owning the land under these stopbanks as the Soil Conservation and Rivers Control Act 1941 gives powers for access to carry out maintenance works. Also, the Resource Management Act 1991 (RMA) prevents owners doing anything to affect rivers (which includes altering a stopbank) without a resource consent.

B.5.2. Capacity

Widespread flooding used to occur frequently in the river plains of the Lower Motueka River. A river control scheme was completed in 1956 comprising stopbanks, channel improvements and bank protection designed to contain a Q_{50} flood in the Lower Motueka.

The stopbank capacity was analysed in the early 1990's and some areas were found to have a capacity below the design capacity of Q_{50} (includes 0.6mm freeboard). The cost of upgrading the stopbanks to a Q_{200} capacity was also assessed at this time, estimated to cost $1 million (1990).

Further investigation carried out in 2011 indicates that $11,705,000 is now needed to improve the stopbanks ability to withstand a 1% AEP event (100 year flood). This includes reworking sections of the stopbank to modern engineering construction standards.

B.5.3. Major Event(s)

Flood events include.

- July 1983 with a peak discharge of 2149 m^3/s estimated at the time to be Q_{50} event. Though the flood flow was contained in the main channel through the stopbanked areas, damage to a value of $1 million occurred, generally as lateral erosion along stopbanks.
- 1990 with a peak discharge of 1680 m^3/s recorded at Woodstock.

Some concern was raised at the time of the 1990 flood that another flood might threaten to further undercut the stopbanks due to the dual factors of bed degradation and erosion of the berms – in the areas between the stopbanks and active channel.

B.6 Riwaka Delta Catchment

B.6.1. Description

The rivers network in the Riwaka Delta are a series of streams modified for land drainage purposes Little Sydney Drain, Scotts Drain, Hamilton Drain and Riwaka River. The drainage systems run into the Riwaka estuary via tide gate structures. The Little Sydney tide gate is a reinforced concrete structure constructed in-situ.

B.6.2. Capacity

A river control scheme was completed in 1956 comprised of stopbanks, channel improvements and bank protection designed to contain a Q_{20} (5% AEP) flood in the lower Riwaka. A review of the stopbank carried out in 2005 concluded that present stopbanks on the Riwaka River only provide a level of protection to Q_{10} (10% AEP), and in some places up to Q_{20} (5% AEP). Refer to the Riwaka River Stopbanks 20 Year Capacity report prepared for Council.

A public consultation process in 2006 concluded that while landowners were happy to see the stopbank system renovated to restore 5% AEP capacity they did not want to have to pay the full cost of the work.

B.7 Moutere Catchment

B.7.1. Description

The Moutere Stream catchment (168 km^2) drains moderate hill and flat valley country and joins the sea at the Moutere Stream Bridge on SH60 at the south entrance to Motueka. Much of the upper catchment is planted in plantation forestry. The rolling hill country is used for sheep farming, vineyards/orchards, and the flat valley bottoms are used for hop-gardens, orchards and other intensive horticulture.

The Moutere Stream was originally hand dug by settlers in the 1880's being about two yards wide and one yard deep. Today it is up to 30 m wide and up to 10 m deep. Sections of the river system are managed as a classified river, and are maintained under the current river operations and maintenance contract. Historical minor extraction of river gravel has led to a zero sustainability for the gravel policy today.

It can be noted that there is another stream close by in the valley that is known as the Moutere River which generally carries less flow.

B.7.2. Capacity

During the last 100 years concentrating runoff from the catchment into a single greatly straightened channel has resulted in channel capacity increasing decade after decade from the erosion forces. The annual flood as noted from historical data is approximately 60 m^3/sec.

B.7.3. Major Event(s)

The stream has experienced a flood of 150 m^3/sec during the time that a recorder and gauging reach existed. This gauge site has been decommissioned.

B.8 Aorere Catchment

B.8.1. Description

The main Aorere River catchment drains from the alpine regions of the Kahurangi Park. Its larger tributaries, the 15, 17, and 19 Mile Creeks (which join the Aorere upstream of Bainham) and the Kaituna River (whose confluence is downstream of Devil's Boot), drain from the steep, bush clad Wakamarama Range. The Aorere River passes through steep rock gorges before discharging into the flat valley area used predominantly for dairy and sheep farming.

The land in these lower catchment reaches is alluvial and highly susceptible to erosion. There are substantial river works, including rock bank protection and riparian management, downstream of Devil's Boot, and all this area is rated Class Y.

B.8.2. Capacity

The Aorere River is one of the largest rivers in the Tasman district with a Q_{50} flow of 3180m^3/s at Devil's Boot. In the 1970's a stop bank flood protection scheme was designed but it has never been constructed and is unlikely to in the future. There is some private tidal stopbanking in the Ferntown area.

B.8.3. Major Event(s)

In December 2011 the highest ever flow of 3561m^3/s was recorded. This resulted in extensive damage to Mr Don Reilly's property approximately 2 km downstream of the Rockville Bridge. There was damage to existing bank protection and channel realignment. The remaining maintained river length sustained significant damage including damage to existing bank protection and further bank erosion. This event also took out the Pomeroy's Bridge on the James Road Right Branch.

Other significant flood events include July 1985 when a flow of 3067m^3/s was recorded and October 1996 when around 2400m^3/s was recorded. Both these floods caused significant damage in the lower catchment to existing river works and unprotected riverbanks.

Of particular significance is the potential for the river to take a completely new course to the sea over the last few kilometres of its catchment length.

B.9 Takaka Catchment

B.9.1. Description

The Takaka River catchment drains a mountainous region of around 855km^2 into the lower reaches of the Takaka Valley which comprises useful arable land. The main tributaries to the Takaka River are the Cobb River (on which the Cobb Dam is located) and the Waingaro and Anatoki which join the main river near Takaka.

During the 1960s a scheme of river channel stabilisation (mainly rock protection) and channel widening was introduced over a 37 km length. These works controlled the rate of erosion of farm land and now form part of the Class Y classification scheme.

In 1973 a scheme was planned to divert the tidal reach of river straight to sea with stop banking constructed to protect the township. Shortly afterwards, and through natural processes, a channel formed from the Waitapu Bridge to the sea. The Nelson Catchment Board maintained this new alignment to protect the Waitapu wharf which was in danger of being washed away by other secondary channels that could potentially form.

Following the 1983 event a Catchment Control Scheme which included 50 year stop bank flood protection and catchment control scheme was designed and costed at around $7.5million in today's terms (Whole Takaka Flood Relief Scheme). Despite a 70% state subsidy the scheme was turned down through a loan poll. Subsequent reduced schemes have been proposed by the Community Board but have not been proceeded with to date. The schemes suffer from poor economic returns and adverse effects caused for others.

Future investigation and public input may lead to multi discipline review and management process for the protection of Takaka.

B.9.2. Capacity

The Waingaro is the largest of the contributing rivers with a Q_{50} of 1145m³/s compared with 681m³/s and 693m³/s from the Anatoki (20 km upstream of the confluence with the Takaka) and Takaka (at the Waingaro confluence).

B.9.3. Major Event(s)

Prior to the 1960's severe flooding of the lower floodplain areas was frequent and there was extensive bank erosion along the Takaka, Waingaro and Anatoki because of the highly erosive nature of the alluvial soils.

In July 1983 a flood of over 2000m³/s was recorded past Takaka village (varying between Q_{30} and Q_{50} across the catchment) which caused extensive damage to surrounding land and property.

B.10 Buller Catchment (Not Maintained)

The Buller River drains from the Nelson Lakes through Murchison to the West Coast at Westport, however Council's jurisdiction ends at the district boundary at 8 Mile Creek. There are no river rating areas in the Buller Catchment, and any river works that have been carried out are isolated sections of work funded through the River Z subsidised scheme.

There have been occasional proposals for flood protection schemes for Murchison, but none have proceeded due to reluctance of landowners to fund the schemes.

B.11 Overall Asset Condition

B.11.1. Base Asset Data

The majority of rivers asset data has been recorded. It is understood that the data set has not been maintained consistently since the early 1990s, this is made difficult by the changing nature of the rivers systems. The asset data is held in Council's Confirm database. Improvements have been made recently to the collection of asset data via incorporation of Confirm Mobile in the new maintenance contract. An improvement plan item in Appendix V is to update and complete the rivers asset database.

B.11.2. Condition Assessment and Monitoring

Asset condition is assessed annually during the preparation of the Annual Operation and Maintenance Programme. The condition data is not formally recorded in the database. Council intend to address this issue whilst undertaking the database improvements.

APPENDIX C PRIVATE STOPBANK STRUCTURES

C.1 General

There are a number of privately owned structures within the river systems. Development of a private assets inventory has been included in Appendix V – Improvement Plan. These assets are not maintained by Council. However there are provisions under Rivers Z for the installation of new structures at a cost share with Council and the landowner.

Refer to Appendix E – Section E.4 for a detailed description of the Rivers Z process.

C.2 List of Privately Owned Stopbanks in the Class Y Rating Area

C.2.1. Upper Motueka River

(1) Tapawera Community Bank River Distance 49450 to 53000

This starts at Motueka Valley Highway Mill Creek crossing and continues across paddocks out to the river bank and then following the river channel on the landward side of the willow planting downstream to River Distance 56250.

The downstream side of this bank is on property belonging to Mr J Rodgers. It was funded by the Ministry of Education and Governments Isolated Works Grant. It was constructed in early 1975 following the 1974 flood but with inconsistent freeboard.

In 1985 there was 600mm freeboard at the upstream end and zero freeboard at the downstream end for an event with a Q_{20} return period.

There are several short sections of stopbanks on the true right bank upstream of Mill Creek to the Kohatu Bridge. These are stopbanks constructed across old overflow channels to contain the river within its fairway, constructed from high point to high point. These would have been constructed along with willow planting works as part of the works programme. There are landowner constructed stopbanks on the right bank from 49450 to 53000.

C.2.2. Motupiko River

(1) Krammers Bank River Distance 4100L to 4600L

This stopbank was constructed in1976 to have a freeboard of 600 mm from the flood profile of the 1974 event. It was funded from the Catchment Board Isolated Works grant and local funding, and extended in 2006.

In 2007 the existing Krammers stopbank was further extended upstream for approximately 150 metres, with landowner funding.

C.2.3. Middle Motueka River

(1) Ing and Others Bank River Distance 28100 L to 28450 L

This stopbank was constructed in 1974/75 with a freeboard upgrade in 1987. It was funded by the Catchment Board under the Isolated Works Grant and Local Share funding. The original design was based on the 1974 flood profile. This bank is not maintained by Council.

(2) Name Unknown River Distance 18950 R to 20400 R

Date of construction is not known, but thought to be late 1940s early 1950s with financial support from the Tobacco Board. It was upgraded in 1984 with Isolated Works Funding from the Catchment Board and local share funding. This bank is not maintained by Council.

(3) Myttons Reach River Distance 17100 R to 17800 R

Date of actual construction is unknown but thought to be as per the previous bank. It was breached in the 1983 event and upgraded/repaired in 1984. This bank is not maintained by Council.

(4) Hurleys Bank River Distance 9800 R to 11700 R

Constructed as part of the Motueka Stopbank Scheme and maintained by Council. Land behind the bank is classified Class X. The construction date is not clear but probably in the late 1950s as part of the Lower Motueka Scheme.

(5) Macleans Bank River Distance 8000 R to 8900 R

Constructed in 1986 as a private bank and funded by local funding.

The standard was lower than the bank on the true left bank which protects Peach Island and the freeboard of that bank is less than that of the Lower Motueka Bank, designed to Q_{50} with 600mm of freeboard. This bank is not maintained by Council.

C.2.4. Wai-iti River

There are banks on this river other than the banks of the Q_{50} designed Waimea Stop Bank Scheme.

(1) Waimea West Bridge Upstream to Pitfure Confluence River Distance 2950 to 3125 R

Constructed by the landowner when the confluence of the two watercourses was changed. Date of construction is unknown. This bank is not maintained by Council.

(2) Barton Lane to Wakefield Village River Distance 7100 to 10100 right bank

Constructed in the early 1970s as an Isolated Works Funded scheme. There have been several upgrades as a result of damage after flood events again funded from local share and Isolated Works Funding. The last being in 1986 at R Distance 9500 to 9650 R. This bank is not maintained by Council.

C.2.5. Takaka River

(1) Lower Takaka River Distance 0300 L to 0700 L and 0300 R to 1000 R

Training banks built to contain the lower Takaka River to prevent “new” channels forming in particular on the right bank, heading in the direction of the Waitapu Wharf. The bank and associated edge protection works are maintained by Council.

(2) Waitapu Bridge Training Banks River Distance 2000 to 3400 R.

Constructed at the same time as the new Waitapu Bridge on State Highway 60. Other than weed and vegetation control no formal maintenance work is carried out by the Council.

(3) Pages Cut Training Bank River Distance 3100 to 3400 R

A channel realignment of the Takaka River in 1950 required a training bank to support that work, some additional earthworks were undertaken to strengthen the bank in 1985 by the Catchment Board. There is no maintenance work requirement as the bank and berm, which are grazed as part of the farm management.

(4) McKenzie/Bridges Hollow Reach River Distance 6200 to 6900 R

This low level flood protection bank was first constructed on the upstream side of the Takaka township in 1948/49. The bank was strengthened by the current property owner in 1987/88 by widening and flattening of the side slopes with material from NZ Transport Agency projects. Despite advice to the contrary the top of the bank was planted with willow posts and toi toi bushes. The bank was extended at its downstream and upstream ends at the same gradient as the existing bank. The Council does not undertake any maintenance of this bank.

C.2.6. Upper Takaka River

(1) Lindsays Bridge/Cooks Creek River Distance 22650 L to 23000 L Including 350 Lineal Metres Along the Right Bank of Cooks Creek

The bank along the Takaka River was constructed prior to 1926 and repaired after the 1926 flood. The 350 lineal metre training bank was constructed as part of the Cooks Creek realignment works in conjunction with the Golden Bay County Council as an Isolated Works Scheme. To date no maintenance work has been required but Council may be involved because of Golden Bay County Council involvement in the original scheme should some become necessary.

(2) Harts/Hill Reach River Distance 22650 R to 23550 R

In 1983 there were a number of “break outs” from the Takaka River during the July event, causing paddock and highway washouts. A small earth bund was pushed up to follow the river gradient filling the low points and providing some freeboard. The funding of this work is unknown and no Council maintenance has been involved. There is some disagreement between locals as to the existence of a bank on the true right prior to 1932.

(3) Rosser Holdings Training Bank River Distance 26900 L to 27300 L but Physically Only 350 Lineal Metres Long

A gravel bank was pushed up at an unknown date but believed to be pre Catchment Board time. From discussions with current landowners its function is to prevent overflow from the Takaka River through old overflow channels and low lying land at the bottom end of the farms. There has been no maintenance involvement by Council.

APPENDIX D ASSET VALUATIONS

D.1 Background

The Local Government Act 1974 and subsequent amendments contain a general requirement for local authorities to comply with Generally Accepted Accounting Practice ("GAAP").

The Financial Reporting Act 1993 sets out a process by which GAAP is established for all reporting entities and groups, the Crown and all departments, Offices of Parliament and Crown entities and all local authorities. Compliance with the New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets) is the one of the current requirements of meeting GAAP.

The purpose of the valuations is for reporting asset values in the financial statements of Tasman District Council.

Council requires its infrastructure asset register and valuation to be updated in accordance with Financial Reporting Standards and the AMP improvement plan.

The valuations summarised below have been completed in accordance with the following standards and are suitable for inclusion in the financial statements for the year ending June 2009.

- NAMS Group Infrastructure Asset Valuation Guidelines – Edition 2.0.
- New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets).

D.1.1. Depreciation

Depreciation of assets must be charged over their useful life.

- *Depreciated Replacement Cost* is the current replacement cost less allowance for physical deterioration and optimisation for obsolescence and relevant surplus capacity. The *Depreciated Replacement Cost* has been calculated as:

$$\frac{\text{Remaining useful life}}{\text{Total useful life}} \times \text{replacement cost}$$

- *Depreciation* is a measure of the consumption of the economic benefits embodied in an asset. It distributes the cost or value of an asset over its estimated useful life. Straight-line depreciation is used in this valuation.
- *Total Depreciation to Date* is the total amount of the asset's economic benefits consumed since the asset was constructed or installed.
- The *Annual Depreciation* is the amount the asset depreciates in a year. It is defined as the replacement cost minus the residual value divided by the estimated total useful life for the asset.
- The *Minimum Remaining Useful Life* is applied to assets which are older than their useful life. It recognises that although an asset is older than its useful life it may still be in service and therefore have some value. Where an asset is older than its standard useful life, the minimum remaining useful life is added to the standard useful life and used in the calculation of the depreciated replacement value.

D.1.2. Revaluation

The revaluations are based on accurate and substantially complete asset registers and appropriate replacement costs and effective lives.

(a) The lives are generally based upon NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2. In specific cases these have been modified where in our, and Council's opinion a different life is appropriate. The changes are justified in the valuation report.

(b) The component level of the data used for the valuation is sufficient to calculate depreciation separately for those assets that have different useful lives.

D.2 Overview of Asset Valuations

Assets were previously valued every three years, but Council has now moved to a two year revaluation cycle. Historic asset valuations reports are held with Council.

Council was due to revalue their assets as at end June 2011, however the small number of changes made to the networks since the 2009 valuations, the decision was made to defer the valuation until the end of June 2012.

D.3 2009 Valuation - Rivers

The river protection assets were last re-valued in June 2009 and we reported under separate cover[1]. Key assumptions in assessing the asset valuations are described in detail in the valuation report.

D.3.1. Asset Data

The majority of information for valuing the assets was obtained from Council's Confirm database. This is the first time the database has been used to revalue Council's assets. In the past, asset registers based on excel spreadsheets have been used. The data confidence is detailed in Table D-1 below.

Table D-1: Data Confidence

Asset Description	Confidence	Comments
River Assets	B - Reliable	Assets that are depreciated include gabion blocks and outlets. Condition assessment should be included.

Based on NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2, Table 4.3.1: Data confidence grading system.

D.3.2. Asset Lives

The *Base Useful Lives* for each asset type as published in the NZ Infrastructure Asset Valuation and Depreciation Guidelines Manual were used as a guideline for the lives of the assets in the valuation. Generally lives are taken as from the mid-range of the typical lives indicated in the Valuation Manual where no better information is available. Lives used in the valuation are presented in Table D-2 below.

Table D-2: Asset Lives

Item	Life (years)	Minimum Remaining Life (years)
River Protection Assets		
Stop banks Q_{50}	Not depreciated	
Stop banks Q_{20}	Not depreciated	
Drainage/tidal outfalls	60	5
Willow planting/layering	Not depreciated	
Wand/poles/posts	Not depreciated	
Weighted felled trees	Not depreciated	
Gabion baskets	30	5
Rock protection	Not depreciated	
Railway irons	50	5

[1] Infrastructural Asset Revaluation, June 2009 – MWH report for Tasman District Council

D.3.3. 2009 Valuation

The Optimised Replacement Value, Optimised Depreciated Replacement Value, Total Depreciation to Date and Annual Depreciation of the river protection assets are summarised in Table D-3.

Table D-3: River Protection Asset Valuation Summary 30 June 2009

	Optimised Replacement Value ($)	Optimised Depreciated Replacement Value ($)	Total Depreciation to Date ($)	Annual Depreciation ($/yr)
Rivers 2007	32,384,664	31,799,097	585,567	19,232
Rivers 2009	38,719,478	38,077,253	642,224	19,764
% Increase	19.56%	19.74%	9.68%	2.77%

Overall the river protection assets have increased in Optimised Replacement Value by 19.56% since the 2007 valuations. The increase in the replacement values is due to the following reasons:

- inflation over the two year period (ie. % as calculated by the construction fluctuation adjustment)
- the addition of new assets to the utilities since 2007
- migration of data from asset registers contained in spreadsheets into the Confirm database and subsequent updating of the data resulting in the improved accuracy of the captured data.

The Optimised Replacement Value, Optimised Depreciated Replacement Value, Total Depreciation to Date and Annual Depreciation for the river systems is summarised in Table D-4.

Table D-4: River Protection Asset Valuation Summary by River System 30 June 2009

	Optimised Replacement Value ($)	Optimised Depreciated Replacement Value ($)	Total Depreciation to Date ($)	Annual Depreciation ($/yr)
Eves/Redwoods Valley	139,583	136,952	8,131	67
Wai iti River	4,932,979	4,902,670	8,131	891
Wairoa River	5,471,166	5,455,642	8,131	457
Waimea River	9,898,958	9,817,984	16,263	2,405
Motupiko River	881,108	804,425	76,683	2,345
Sherry River	139,989	139,989	-	-
Tadmor River	1,051,548	1,021,703	29,845	886
Upper Motueka River	1,368,894	1,281,537	87,357	2,422
Brooklyn Stream	666,475	666,475	-	-
Dove River	768,171	768,171	-	-
Lower Motueka	6,819,074	6,602,432	216,642	7,415
Moutere River	1,078,908	1,063,507	15,401	395
Riwaka River	1,784,674	1,768,211	16,463	422
Anatoki River	589,004	589,004	-	-
Aorere River	31,860	31,860	-	-
Kaituna River	16,740	16,740	-	-
Takaka River	80,460	80,460	-	-
Waingaro River	993,410	993,410	-	-

APPENDIX E MAINTENANCE AND OPERATING ISSUES

E.1 Maintenance Contract

The Council currently contracts out to commercial contractors the day-to-day operation and maintenance of the X and Y classified river works with the aim of maintaining required levels of service. The Council's operation and maintenance contracts are let through competitive tendering to ensure a true market value.

The rivers activity is currently maintained under Contract 840. This contract sets out the operations and maintenance requirements for X and Y rated areas over a five year period and which must also be operated in accordance with Resource Consent NN010109 (River Protection and Maintenance Works). Taylors Contracting Co Ltd were awarded Contract 840 in 2011, the contract is 3+1+1 format.

Council's consultant undertakes an annual assessment of the classified rivers network (prior to the start of the financial year). A draft annual works programme, Annual Operation and Maintenance Plan (AOMP), is provided to Council's Engineering Manager. All stakeholders including landowners, iwi, Department of Conservation (DoC), Fish and Game, and Council's Compliance are consulted on the draft programme. During the assessment a priority ranking of P1, P2 or P3 is given to each proposed work item. The draft programme also includes identification of gravel sites where extraction will facilitate river management.

The contractor can be involved in River Z rated works, as detailed in Section E.4.

E.1.1. Maintenance Objectives

The major objectives of river control and the associated drainage systems is to safely pass a given flow. The system can be broken down into component assets, with sub-objectives for each component and identification of works required to maintain and upgrade that component.

River and Drainage Channels

- These need to be sufficiently deep and wide to carry drainage flows and/or the majority of the flood flow and be kept clear of restrictions such as willows and aquatic weeds.

River and Drainage Bank Edge Protection

- The edges of the channel require preventative maintenance where subject to erosion and/or slumping. The methods used largely include rock protection structures and willow tree layering. In the case of drainage systems ie. Swamp Road – Riwaka, timber structural walls have been used because of the restriction between the road edge and creek bank.

River Berms

- Where stopbanks have been constructed a physical buffer (land) between the main river channel and stopbanks is highly desirable. Careful management of the vegetation on the berm is required to facilitate slow non-scouring water velocities over them but without creating a restriction to flood flows in significant events. Guide banks, rock retards, and berm shaping may also be used to control velocities.

Stopbanks

- Usually earthen banks of sufficient height to prevent flood overflow and of adequate structural integrity and requiring a good grass surface to inhibit erosion.

Flow Control and Miscellaneous Structures

- Culverts, floodgates, control gates, pipe headwalls, spillways, weirs eg. Wai-iti River, drop structures, bridges, etc.

E.1.2. Maintenance Contract Activities

The maintenance contract includes.

i) The maintenance and renewals of existing protection works and the construction of new works as necessary to maintain the specified sections of rivers in the Tasman District Council's area.

ii) Existing protection works includes stopbanks, rock protection, flood and tide gates, selected willow clearing and layering, crack willow eradication, riparian management and any other structures or plantings that affords protection to river banks and channels.

iii) There are 285 km of classified river areas in the district.

- X classified rivers afford flood protection to adjacent land by stop banks.
- Y classified rivers have river channel training and alignment works involving riparian work (rock, selective willow layering, etc.).
- The balance of the main waterways in the Tasman district is part of the Rivers Z classification. The contract also includes some eradication of crack willow at selected sites in the River Z rating area.

The key aspects of the rivers contract are.

i) Maintain the river system to a consistent standard in accordance with the Activity Management Plan (AMP).

ii) Construct new assets that will form part of the protection system for the rivers network.

iii) Develop and maintain working relationships with adjacent and affected land owners which fosters a partnership with Tasman District Council.

iv) Be respectful of the landowners, their property, stock and pastures where access is required to complete the contract works.

v) Provide the resources to prepare and complete the forward maintenance programme.

The implementation of the proactive maintenance work is managed in the following way.

i) The consultant prepares an Annual Operation and Maintenance Programme (AOMP).

ii) The contractor then submits a two-monthly forward programme of Priority 1 works for approval.

iii) The draft programme is provided to Fish and Game, iwi, Environment and Planning and to River Care groups through consultative meetings for comment.

iv) The Council reviews the programme against the budgets and then confirms the draft AOMP with the consultant.

v) The consultant then advises all interest groups and the contractor.

vi) The contractor then implements the approved two-monthly forward programme.

The above maintenance strategy is intended to achieve the current levels of service with respect to river works asset condition and functionality whilst minimising costs.

The AOMP allows Council to have better control over the maintenance of the river assets with proactive maintenance better reflecting the following:

- the age of assets relative to expected economic life cycle
- the risk of failure of critical assets
- the nature and timing of asset upgrading / development works.

Operations and maintenance works are provided in Table E-1. The completion of these activities is required to meet the assets minimum service potential. Historically budgetary constraints impact on the ability of the rivers contractors to consistently meet the objectives. Apart from recent events (Aorere, December 2010), the rivers systems have been maintained to the required level of service.

Table E-1: Operations and Maintenance Activities

Work Type	Maintenance Activities	Maintenance Objectives
Stopbank Maintenance (Class X only)	• grading of access tracks and bank tops. • gravelling access tracks. • battering, sowing and top dressing. • mowing and slashing. • removal of scrub/trees. • reconstruction of damaged banks. • maintenance of drainage culverts and flap gates under stopbanks.	• to prevent significant obstruction to flow along the banks. • to maintain drainage through and/or around the stopbanks. • maintain good access. • ensure controlled overflow from rivers. • ensure minimum damage if overflows. • appearance.
Lengths of Damaged Stopbanks	• rectify the decline in standard of stopbanks from stock use	• to ensure that stopbanks meet their design capacity.
Floodgates and Culverts	• on-going cleaning, repair, replacement.	• ensure fully functional during exceptional events eg. closed. • at replacement stage floodgates need to provide for fish passage.
Rock / Gabion	• repair, restacking and replenishment.	• to prevent lateral erosion and breakout of rivers.
Willow Planting/ Layering	• willow trimming. • willow release cutting, spraying or swabbing. • partial severance to encourage new growth along felled trunks.	• to prevent significant obstruction in the main channel. • to maintain willows in good height. • to protect willows against weeds such as old man's beard.
Flood Damage Repair	• required following flood damage. • replacement/replenishment of part of all of the flood protection assets.	• to maintain the asset and remedy damage after flood events.
Channel Maintenance	• removal of trees and other obstructions and growth from the river or stream bed/fairway. • berm and bank vegetation clearance • channel grading.	• to prevent significant obstruction to flow along the main channel. • to increase the capacity of the channel.
Drain Cleaning	• cleaning via machine excavation, spraying or by hand.	• to maintain hydraulic efficiency of drains.
Channel Realignment	• channel alignment after erosion of a section of bank or secondary channel forming after flood.	• to provide a stable channel. • to reduce/eliminate back channels created by flood overflow.
Fencing, Gates, Access Tracks	• stopbank and berm control measures.	• to provide Council access to carry out its work. • control public recreational use. • provide control of animal grazing.

E.2 Maintenance Standards

The work to be performed and materials to be used shall comply with best practice and Contract 840 (from 1 July 2011). The specification for all of the activities listed in Table E-1 is clearly documented in Section G.4 – Technical Issues of the Contract Document. This section also includes specific material test standards to be complied with.

The operations and maintenance programme allows for maintenance of the river systems to the level imposed in the current resource consent. Historically, only minor maintenance (eg. mowing and vegetation control) has been undertaken on stopbanks. In future Council intended to increase the level of maintenance undertaken to include structural maintenance with the aim to maintain the constructed level of service.

Council has implemented a number of processes and systems to enhance the operation of the river works system, including Customer Services Requests (CSRs). These are logged into the Council's Customer Services software and are processed and tracked with the aim to respond to the customer as soon as possible.

During the annual rivers inspection, required works are identified and prioritised as follows.

E.2.1. Priority 1

Reactive work required to restore river works assets to their original condition and original level of protection or to restore significant erosion of natural soils and inhibit even further damage. There is a high chance that failure to carry out this work would lead to the total loss of the original work, which would then need total replacement at a probable higher cost. The result could be a significant channel alignment which could endanger other works and inhibit land use options adjacent to river channels.

Proactive work where it has been difficult to maintain what was originally reactive work, for example, maintenance of stopbanks, drainage and tidal outfalls to sustain discharges and also the clearing of floodways to prevent damage to other structures.

E.2.2. Priority 2

Reactive works as for Priority 1 but in the engineer's opinion the asset or river bank has a lower chance of failure in the following year or there is a lower consequence of failure.

E.2.3. Priority 3

Proactive (preventative) work where there has been no adverse erosion to date but which will prevent or mitigate potential flood damage in the future, either from bank failure or flood overflow, or works to support existing work and reduce the long term maintenance costs of an asset.

The annual budget (which has usually been set prior to the completion of the rivers inspection) is the ultimate constraint on how many works will be carried out. If, as is usually the case, there are insufficient funds to carry out all Priority 1 works, the works are further prioritised as Priority 2 or 3. These works are then added later if budget allows or reviewed at preparation of the following year's programme.

E.2.4. Rivers Z General Works

In addition to the operations and maintenance works carried out under Contract 840, Council annually allocates funds for Z rated areas. The majority of works in these areas are carried out on a part funding basis (ie. a combination of land user and rivers account funding). Some of the River Z rates collected are spent in the River Z classified area with the majority of the funding being proportioned to the X and Y classified area as a regional benefit factor. The decision on which works are carried out is constrained by the annual budget and the following criteria.

- Is there a "community" benefit different from a benefit to the landowner/occupier only?
- Is what the owner/occupier wants to do "sound"? Will it achieve a desirable outcome, will it work, and is it cost effective?
- Is what is proposed achievable under the river works consent?

- Is it possible that by not offering financial support, work of a standard not desirable or outside the River works consent could eventuate?
- Will the work encourage upstream and downstream neighbours to be more proactive with their stream maintenance or drainage?
- Is there a direct benefit to the Council in terms of its assets and services?
- Is it necessary to involve neighbours at an early stage to be proactive to achieve a desirable outcome?
- Is the property owner/occupier happy to enter into a cost share arrangement and complete the standard form - Application for assistance for River Protection Works?
- Is there anything left in the budget to give financial support, which if there is would normally be up to 50%?

E.2.5. Effect of Gravel Extraction on Operation and Maintenance

Previously under the annual programme gravel extraction within classified lengths of rivers was included in the programme. Following concerns raised by the Environmental and Planning section of Council, supported by research by the Council's resource scientist, it has been evident that gravel extraction over sustainable limits will have significant effects in ground water levels. Accordingly, the tendency now is to limit gravel extraction in sensitive areas such as the Waimea and Motueka River catchments to small quantities.

E.2.6. Riparian Management

In 2006 the council approved in principle a staged programme to remove and replace crack willow (*Salix fragilis*) with more suitable species either bitter or shrub willows and in some cases native species. The recent inclusion of crack willow on the Unwanted Organisms Register backs up the need to manage a programme of eradication over the next 10-20 years.

E.2.7. Deferred Maintenance

Deferred maintenance is:

- the shortfall in rehabilitation or refurbishment work required to maintain the service potential of the asset,

or

- maintenance and renewal work that was not performed when it should have been, or when it was scheduled to be and which has therefore been put off or delayed for a future period.

The current budget levels are believed to be sufficient to provide the proposed levels of service and therefore no maintenance work has been deferred. This however is subject to the changes in levels of service and expectations of customers.

E.2.8. Database

MWH (Council's Professional Services Consultant) manages Contract 840 on behalf of Council. Customer Service Requests (CSR) and Work Orders (WO) are sent to the contractor via the Confirm database.

Local Operators receive WOs via laptops and mobile handheld devices. WOs are loaded against individual assets (where possible) and processed for payment with the monthly progress claim. All CSRs and WOs are time stamped depending on the contract timeframe. Response times and resolution times are monitored with Contractor performance as part of their monthly claim.

E.3 Engineering Studies

A number of studies have been allocated to the operations and maintenance budget. These are summarised in Table E-2 below.

Table E-2: Summary of Engineering Studies included in this AMP

Study Name	Brief Description
Webcam Investigation	Investigation into potential webcam sites

E.4 Forecast Operations and Maintenance Expenditure

Figure E-1 and Table E-3 detail the projected operations and maintenance expenditure for the next 20 years.

Note that all projections assume an absence of significant flood events (generally greater than AEP 0.2% / 5 year return).

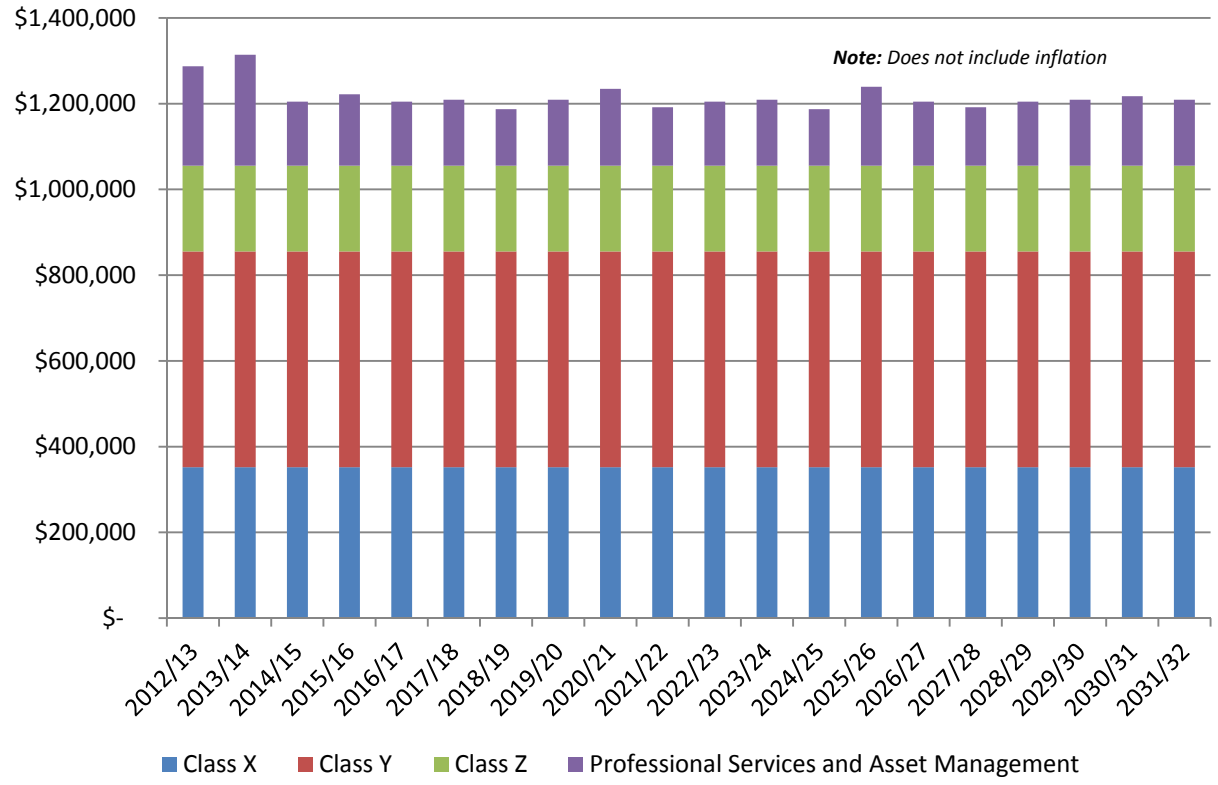

Figure E-1: 2012 – 2032 Rivers Operations and Maintenance Expenditure

Table E-3: 2012 – 2032 Rivers Operations and Maintenance Expenditure

RIVERS 20 YEAR FINANCIAL FORECAST		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
CLASS X OPERATIONS																						
Lower Motueka 0 - 11250m	3310240101	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	258,495	5,169,900
Riwaka	33162401	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	22,335	446,690
Wai-iti 0-2000m	3302240101	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	21,005	420,090
Brooklyn	33142401	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	3,563	71,250
Little Sydney Stream	3315240101	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672	33,440
Hamilton Drain	3315240102	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	11,590
Scotts Drain	33152401	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	6,840
Waimea 0-7000m	3301240102	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	44,014	880,270
Sub Total		352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	352,004	7,040,070
CLASS Y OPERATIONS																						
Upper Motueka	33092401	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	59,043	1,180,850
Waingaro	33052401	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	26,030	520,600
Anatoki	33062401	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	7,638	152,760
Motupiko	33112401	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	30,999	619,970
Tadmor	33122401	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	79,962	1,599,230
Takaka	33042401	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	31,588	631,750
Lower Motueka 11250-13750m	33102401	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	5,216	104,310
Moutere	33032401	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	33,440	668,800
Wai-iti 2000-29500m	3302240102	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	87,894	1,757,880
Eve's Valley Drain	3302240103	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	5,586	111,720
Redwoods Valley Stream	3302240104	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	44,840
Redwoods Valley Overflow	33022401	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	1,710
Aorere	33072401	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	54,027	1,080,530
Wairoa 7000-13000m	33012401	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	62,700
Sherry	33132401	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	37,639	752,780
Dove	33172401	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	30,096	601,920
Kaituna	33082401	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	8,864	177,270
Sub Total		503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	503,481	10,069,620

RIVERS 20 YEAR FINANCIAL FORECAST		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
CLASS Z OPERATIONS																						
Rivers General Z	33542401	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	4,000,000
Sub Total		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 4,000,000
O&M PROFESSIONAL SERVICES	33312203	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	110,826	2,216,517
Activity Management Plan Updates	3331220309		17,500	17,500		17,500	17,500		17,500	17,500		17,500	17,500		17,500	17,500		17,500	17,500		17,500	227,500
Maintenance of the Improvement Plan	3331220316	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	20,000
Asset Revaluation	33312205		4,500		4,500		4,500		4,500		4,500		4,500		4,500		4,500		4,500		4,500	45,000
Webcam Investigation	3331220318		5,000																			5,000
New Maintenance Contract	3331220319				30,000					30,000					30,000					30,000		120,000
T3 Development and Database Completion	33316107	100,000	100,000																			200,000
Resource Consent Procurement	3331220320	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	400,000
Flood Contingency Fund	33006801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OPERATIONS		1,287,310	1,314,310	1,204,810	1,221,810	1,204,810	1,209,310	1,187,310	1,209,310	1,234,810	1,191,810	1,204,810	1,209,310	1,187,310	1,239,310	1,204,810	1,191,810	1,204,810	1,209,310	1,217,310	1,209,310	24,343,707

N.B does not include inflation

APPENDIX F DEMAND AND FUTURE NEW CAPITAL REQUIREMENTS

F.1 Growth Demand and Supply Model (GDSM

F.1.1. Model Summary

A comprehensive Growth Demand and Supply Model (GDSM or growth model) has been developed to provide predictive information for population growth and business growth, and from that, information about dwelling and building development across the district and demand for infrastructure services. The GDSM underpins the Council's long term planning through the Activity Management Plans, Long Term Plans and supporting policies (eg. Development Contributions Policy).

This 2011 GDSM is a third generation growth model with previous versions being completed in 2005 and 2008.

Population growth within the district does not have a direct effect on the rivers activity. Therefore the model outputs are not relevant to this activity.

F.2 Projection of Demand for Rivers Services

F.2.1. Effect of Population Growth on the Rivers Activity

The link between population growth and the demand for river activities is not as direct as it is for say water supply or transportation, however generally population growth leads to intensification of land use and demand for further housing development in areas vulnerable to flooding. This may lead to a desired increase in the level of flood protection historically provided.

F.2.2. Future Growth in the Classified Rivers Network

F.2.2.1 Class Y

It is unlikely there will be significant growth of the Class Y scheme due to additional landowners joining the scheme. The reason for this being that it is generally not an affordable option for the private parties involved.

F.2.2.2 Class X – Stopbanks

New schemes or extensions to Class X schemes (stopbanks) are anticipated in the next 20 years. The areas where these works might occur include Borlase Stream (currently Rivers Z), Brooklyn, Lower Motueka, and Takaka. However, these are not driven by growth.

There are no growth related projects currently programmed in the 20 year forecast.

F.2.3. Implications of Changes in Community Expectations

There is an increasing expectation from the community for Council to provide river management and flood mitigation services. The community expectation needs to be related to risk management and affordability issues. The extent of the future demand will be determined by investigations and community consultations.

F.2.4. Implications of Technological Change

Technological change has the ability to impact on the demand for a service. These changes can increase the efficiency of river works infrastructure to "work smarter". It has been assumed that the predicted technological changes will not have a significant effect on the assets in the medium-term. However, relevant examples are:

- changes to rock protection methodologies to enhance bank protection and reduce on-going erosion.
- collection of GPS data of protection works to enhance asset management.

It is important to be aware of continued technological changes to adequately predict demand trends and the effect on infrastructure requirements.

F.2.5. Implications of Legislative Change

Legislative change can significantly affect the Council's ability to meet minimum levels of service, and can require improvements to infrastructure assets. Recent and possible future legislative changes that will impact on Council's ability to meet required standards and can require improvements to infrastructure assets are outlined below:

- Resource Management Act 1991
- rivers and lakes Section 4 of the Tasman Regional Management Plan (TRMP)
- NZS 4910 New Zealand Flood Risk Management
- Local Authority Protection Programme.

Council is not legally required to adopt NZS 4910 New Zealand Flood Risk Management, however, it is used as a guideline to manage flood risk along with known best practice.

The Council have joined the Local Authority Protection Programme (LAPP) in 2008 which will provide additional risk cover.

F.2.6. Implications of Climate Change

Climate change is likely to affect the rainfall intensity, frequency, and duration of flood events. This may affect rock demand for bank protection, channel clearing and stopbank free board. At present, Council has not factored the potential effects of climate change into its 20 year programme of works.

F.3 Assessment of New Capital Works

During May to July 2011, a number of workshops with the project team were held to identify new works requirements. New works were identified by:

- reviewing levels of service and performance deficiencies
- reviewing risk assessments
- reviewing previously completed investigation and design reports
- using the collective knowledge and system understanding of the project team.

Each project identified was developed with a scope and a project cost estimate. Common project estimating templates were developed to ensure consistent estimating practices and rates were used. This is described in Appendix Q. The project estimate template includes:

- physical works estimates
- professional services estimates
- consenting and land purchase estimates
- contingencies for unknowns.

All estimates are documented and filed in an Estimates file to be held by Council.

The information from the estimates has then been entered into the Capital Forecast spreadsheet/database that enables listing and summarising of the Capital Costs per project, per scheme, per project driver and per year. This has been used as the source data for input into Council's financial system for financial modelling.

F.4 Determination of Project Drivers and Programming

All expenditure must be allocated against at least one of the following project drivers.

Operation and Maintenance:	operational activities which have no effect on asset condition but are necessary to keep the asset utilised appropriately and on-going day-to-day work required to keep assets operating at required service levels[2].
Renewals:	significant work that restores or replaces an existing asset towards its original size, condition or capacity[3].
Increase Level of Service:	works to create a new asset to upgrade or improve an existing asset beyond its original capacity or performance to improve the level of service provided to existing customers.
Growth:	works to create a new asset to upgrade or improve an existing asset beyond its original capacity or performance to provide for the anticipated demands of future growth.

This is necessary for two reasons as follows:

a) Schedule 13(1) (a) of the Local Government Act requires the local authority to identify the total costs it expects to have to meet relating to increased demand resulting from growth when intending to introduce a Development Contributions Policy.

b) Schedule 10(2)(1)(d)(l)-(iv) of the Local Government Act requires the local authority to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

All new works have been assessed against these project drivers. Some projects may be driven by a combination of these factors and an assessment has been made of the proportion attributed to each driver. A guideline was prepared to ensure a consistent approach to how each project is apportioned between the drivers.

Some projects may be driven fully or partly by needs for renewal. These aspects are covered in Appendix I.

The projects have been scheduled out across the 20 year period, primarily based on their drivers. They were then loaded into Mapinfo along with projects from all other engineering activities to allow programme managers to assess any programme clashes or optimisation opportunities.

F.5 Project Prioritisation

All projects identified as potential solutions to meet future demand, increase levels of service, or as renewal were discussed in workshops during May to July 2011. These workshops were attended by key council staff, key members of the MWH New Zealand Ltd team, and representatives from Council's contractors.

Each project identified was assigned an initial project priority of either non-discretionary or discretionary where:

A non-discretionary investment is one that relates to:

- a critical asset, that without investment is likely or almost certain to fail within the next three years, with a medium, major or extreme impact
- any asset that has a regulatory requirement to make the proposed investment.

A discretionary investment is one that relates to:

- a non-critical asset with no regulatory requirement to make the proposed investment
- a critical asset where asset failure is possible, unlikely or very unlikely to occur within the next three years with no regulatory requirement to make the proposed investment
- a critical asset where asset failure has only a negligible or minor impact with no regulatory requirement to make the proposed investment.

[2] Definition from International Infrastructure Management Manual – Version 3.0, 2006, pg 3.114
[3] Definition from International Infrastructure Management Manual – Version 3.0, 2006, pg 3.114

Council is currently reviewing the way that they prioritise their work programmes; the outcome of this review will be further developed over the coming year to be implemented for the next AMP update.

F.6 Forecast of New Capital Work Expenditure

The capital programme that has been forecast for this activity where the primary driver is classed as new works (ie. growth or levels of service) is shown in the Figure F-1 and Table F-1. The graph is 100% driven by an increase in the level of service, there are no growth projects included within the 20 year forecast.

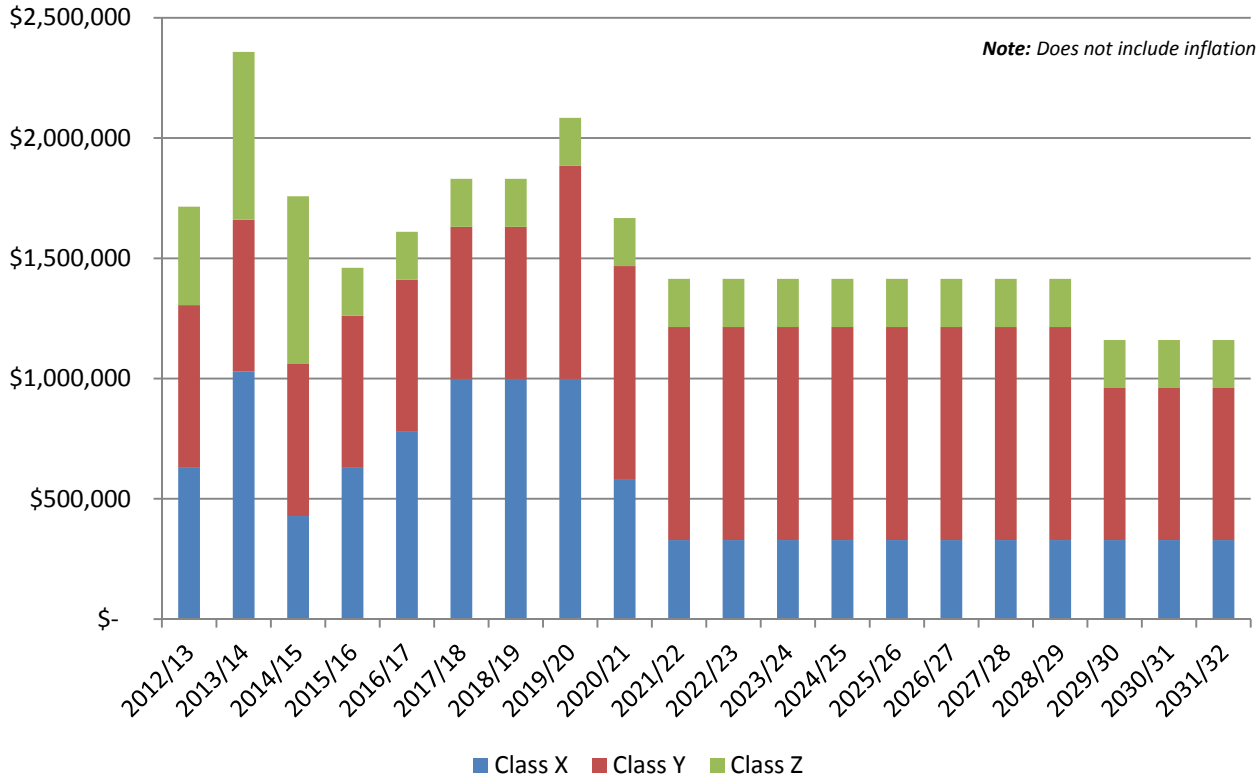

Figure F-1: 2012 – 2032 Rivers New Capital Expenditure

Table F-1: 2012 – 2032 Rivers New Capital Expenditure

RIVERS 20 YEAR FINANCIAL FORECAST		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
CLASS X ASSET CREATION																						
Lower Motueka 0 - 11250m	3310620802	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	175,720	3,514,400
Riwaka	33166208	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	58,720	1,174,400
Wai-iti 0-2000m	3302620801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brooklyn	33146208	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Sydney Stream	33156208	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	670	13,400
Hamiltons & Scotts Drains	3315620801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waimea 0-7000m	3301620802	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	93,540	1,870,800
Sub Total		328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	328,650	6,573,000
CLASS Y ASSET CREATION																						
Upper Motueka	33096208	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	126,800	2,536,000
Waingaro	33056208	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	32,850	657,000
Anatoki	33066208	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	276,600
Motupiko	33116208	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	102,120	2,042,400
Tadmor	33126208	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	18,930	378,600
Takaka	33046208	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	149,000	2,980,000
Lower Motueka 11250-13750m	3310620803	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300	246,000
Moutere	33036208	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	112,000
Wai-iti 2000-29500m	33026208	58,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	13,070	306,400
Eve's Valley Drain	3302620803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwoods Valley Stream	3302620802	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	2,310	46,200
Redwoods Valley Overflow	3302620804	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	23,200
Aorere	33076208	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	72,600	1,452,000
Wairoa 7000-13000m	3301620803	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	38,440	768,800
Sherry	33136208	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	27,020	540,400
Dove	33176208	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	41,800
Kaituna	33086208	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	13,830	276,600
Sub Total		676,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	631,950	12,684,000

RIVERS 20 YEAR FINANCIAL FORECAST		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
CLASS Z ASSET CREATION																						
Rivers General Z Capital	33546208	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	4,000,000
Sub Total		200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	4,000,000
ASSET CREATION PROFESSIONAL SERVICES	3331220322	126,588	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	121,863	2,441,985
TOTAL ASSET CREATION		1,332,188	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	1,282,463	25,698,985
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
CLASS X PROJECTS																						
Lower Motueka Flood Control Project - Consultation, Scoping, Consent Application and Hearing, Detailed Design and Construction Monitoring	3318620801	300,000	700,000	100,000	300,000	450,000	70,000	70,000	70,000	26,460	0	0	0	0	0	0	0	0	0	0	0	2,086,460
Lower Motueka Flood Control Project - Construction	33186208	0	0	0	0	0	600,000	600,000	600,000	226,800	0	0	0	0	0	0	0	0	0	0	0	2,026,800
Riwaka River	33162203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wai-iti 0-2000m		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Sydney Stream	33152203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hamiltons & Scotts Drains		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waimea 0-7000m	33012203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total		300,000	700,000	100,000	300,000	450,000	670,000	670,000	670,000	253,260	0	0	0	0	0	0	0	0	0	0	0	4,113,260
CLASS Y PROJECTS																						
Takaka Stopbank Project - Consultation, Design and Monitoring	3304620802	0	0	0	0	0	0	0	25,375	25,375	25,375	25,375	25,375	25,375	25,375	25,375	25,375	25,375	0	0	0	253,750
Takaka Stopbank Project - Construction	3304620801	0	0	0	0	0	0	0	228,375	228,375	228,375	228,375	228,375	228,375	228,375	228,375	228,375	228,375	0	0	0	2,283,750
Sub Total		0	0	0	0	0	0	0	253,750	253,750	253,750	253,750	253,750	253,750	253,750	253,750	253,750	253,750	0	0	0	2,537,500
CLASS Z PROJECTS																						
Borlase Catchment Project - Resource Consent and Detailed Design	3354620802	109,000	32,500	32,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174,000
Borlase Catchment Project - Land	33546105	100,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100,000
Borlase Catchment Project - Construction	3354620801		465,000	465,000																		930,000
Sub Total		209,000	497,500	497,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,204,000
POLICY ON DEMAND	3331220321	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	600,000
TOTAL PROJECTS		539,000	1,227,500	627,500	330,000	480,000	700,000	700,000	953,750	537,010	283,750	283,750	283,750	283,750	283,750	283,750	283,750	283,750	30,000	30,000	30,000	8,454,760
TOTAL NEW CAPITAL		1,871,188	2,509,963	1,909,963	1,612,463	1,762,463	1,982,463	1,982,463	2,236,213	1,819,473	1,566,213	1,566,213	1,566,213	1,566,213	1,566,213	1,566,213	1,566,213	1,566,213	1,312,463	1,312,463	1,312,463	34,153,745

APPENDIX G DEVELOPMENT CONTRIBUTIONS / FINANCIAL CONTRIBUTIONS

Information on Development Contributions Policy can be found in Part 5 of the Council's Long Term Plan (LTP). The Policy is adopted in conjunction with the LTP and will come into effect on 1 July 2012.

The Policy sets out the development contributions payable by developers, how and when they are to be calculated and paid, and a summary of the methodology and rationale used in calculating the level of contributions.

The key purpose of the Development Contribution Policy is to ensure that growth, and the cost of infrastructure to meet that growth, is funded by those who cause the need for and benefit from the new or additional infrastructure, or infrastructure of increased capacity.

There are no specific development contributions applicable to the rivers activities.

Development affecting the rivers assets is considered on a case by case basis with appropriate consents and consultation which will include the basis of funding requirements.

APPENDIX H RESOURCE CONSENTS

H.1 Introduction

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991. The RMA deals with:

- the control of the use of land
- structures and works in river beds and in the coastal marine area
- the control of the taking, use, damming and diversion of water, and the control of the quantify, level and flow of water in any water body
- the control of discharges or contaminants onto land and into water, and discharges of water into water.

The RMA is administered locally by Tasman District Council, a Unitary Authority, through the Tasman Resource Management Plan (TRMP) which sets out Policies, Objectives and Rules controlling activities to ensure they meet the Purpose and Principles of the RMA.

H.2 Resource Consents

A detailed register of rivers resource consents is listed in Table H-1 below. It should be noted that the list is accurate at the time of compilation (September 2011), and is subject to change.

Table H-1: Schedule of Current Resource Consents Relating to the Rivers Activity

Location	Consent No.	Consent Type	Effective Date (ER)	Expiry Date
District	NN000425	Discharge to Water Permit	01/02/2001	01/05/2015
District	NN010109	Land Use Consent (use of the beds of lakes and rivers)	09/05/2002	30/06/2011
Black Valley Stream	RM080188/ RM080189	Land Use Consent (use of the beds of lakes and rivers)	28/03/2008	01/04/2043

Source: NM2

Consent NN010109 is currently being renewed.

Council's annual works programme comprises a large number of small individual jobs at many different locations. Typically 300-400 minor jobs are carried out during a non-flood event year. Immediately after a damaging flood a revised programme must be prepared involving new works at previously unidentified locations. Although there are many separately priced jobs in the Annual Operations and Maintenance Programme (AOMP), generally only a few different types of activity are involved. The two "global" resource consents listed in Table H-1 eliminate the need to apply for separate consents at each work site.

H.3 Resource Consent Reporting and Monitoring

Council aims to achieve minimum compliance with all consents and / or operating conditions. The achievement of rivers activities to meet consent requirements is reported on in a number of different ways as detailed below.

H.3.1. Environmental Reporting and Monitoring

Environmental monitoring conditions are reported on quarterly, six monthly and/or annually as determined by the consent conditions. Any non compliance incidents are recorded, notified to Council's Compliance Officer, and mitigation measures put in place to minimise any potential impacts.

H.3.2. NM2

MWH New Zealand Ltd has developed a database (NM2) of all refuse, rivers, roading, stormwater, water, and wastewater resource consents. The management of this database allows the accurate programming of all actions required by the consents including renewal prior to consent expiry. NM2 also drives the overall solid waste annual monitoring programme. NM2 is actively updated to ensure all consent conditions are complied with and that all relevant reporting requirements are adhered to.

H.3.3. Council Annual Report

The extent to which the Council has been able to meet all of the conditions of each permit is reported in its Annual Report each year.

A summary of how Council is performing against this Level of Service is also provided in Appendix R.

H.4 Water Conservation Orders

H.4.1. Buller River

A Water Conservation Order exists for the Buller River. Gazetted in 2001, this order details the catchment areas covered and the restrictions placed on activities in that river. In particular this Conservation Order requires fish passage to be maintained, and generally restricts the granting of resource consents for activities that would exceed water quality standards such as turbidity.

The Order does not restrict or prevent the granting of consents for the purpose of the construction or maintenance of soil conservation and river protection works undertaken in accordance with the Soil Conservation and Rivers Control Act 1941. However, any discharge of sediment within the river should comply with the aim of maintaining for the outstanding natural features of the Buller River.

H.4.2. Motueka River

A Water Conservation Order exists for the Motueka River. Gazetted in 2004, this order details the catchment areas covered and the restrictions placed on activities in that river. The order extends down to “Woodman Bend” in Lower Motueka. In particular this Conservation Order requires fish passage to be maintained, and generally restricts the granting of resource consents for activities that would exceed water quality standards such as turbidity.

The Order does not restrict or prevent the granting of consents for the purpose of the construction or maintenance of soil conservation and river protection works undertaken in accordance with the Soil Conservation and Rivers Control Act 1941. However, any discharge of sediment within the river should comply with the aim of maintaining adequate water quality for the outstanding brown trout fishery in the Motueka River.

H.5 Property Designations

There are no current designations in place for rivers.

APPENDIX I CAPITAL REQUIREMENTS FOR FUTURE RENEWALS

I.1 Introduction

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

I.2 Renewal Strategy

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical. Renewal decisions are based on the Asset Managers judgment on the cost effectiveness of renewing the asset and their assessment of the acceptability of the risk of asset failure.

In river control it is very difficult to assign works into a renewal category as opposed to capital or maintenance. It should be noted that river control works are different from other Council infrastructure assets. In general river control and drainage works do not have steady deterioration with time. The main parameters that cause substantial deterioration to river control assets are:

- large floods causing flood damage – particularly to bank protection works
- channel degradation or aggradations that substantially affect channel edge stability or capacity.

Flood damage repair could be classed as renewal works or maintenance items. The magnitude of the event and effect on particular infrastructural item will determine whether the works are renewal, new capital or maintenance.

Replacement rock protection work was originally considered to be renewal. This has recently changed to new capital due to the following reasons.

- Rock protection work is generally undertaken with durable rock which is not expected to wear as poorer quality rock would.
- During flood conditions the rock can be shifted or settled into the bed, becoming the toe protection rock while remaining an asset to the river system.
- Very little rock is lost to the river system during flood conditions.

In summary where the river asset is added to, for example topping up existing rock work, it is classified as new capital expenditure. If the rock work replaces deteriorated or lost sections of protection it is classified as renewal expenditure.

Historically rock protection largely formed the renewals programme, due to the above change very little quantity of work is now allocated to renewals. This work is typically renewal of flood gates or similar structures. The renewal programme for these assets has been developed by the following.

- Taking the asset age and remaining life predictions from the valuation database, calculating when the remaining life expires, field validation of the current condition, and converting that into a programme of replacements based on current unit rates.
- Reviewing and justifying the renewals forecasts using the accumulated knowledge and experience of asset operations and asset management staff.

The renewal programme is reviewed in detail during each AMP update (ie. three yearly), and every year the annual renewal programme is reviewed and planned with the input of the maintenance contractor and consultant via the Annual Operation and Maintenance Plan (AOMP) process.

I.3 Delivery of Renewals

Minor renewal projects are typically carried out by the relevant operation and maintenance contractor. Contracts for larger value renewal projects are tendered in accordance with the Procurement Strategy. Prior to the asset being renewed, the operations and maintenance contractor will inspect these assets to confirm whether renewal is actually necessary. In the event it does not need to be renewed, a recommended date of renewal is then entered back into the Confirm database. This new date will then be included in the next AMP update.

I.4 Renewal Standards

Renewals are undertaken in accordance with the Council's Engineering Standards and Policies and best practice to suit site specific conditions.

I.5 Deferred Renewals

Deferred renewals is the shortfall in renewals required to maintain the service potential of the assets. This can include:

- renewal work that is scheduled but not performed when it should have been and which is has been put off for a later date (this can often be due to cost and affordability reasons)
- an overall lack of investment in renewals that allows the asset to be consumed or run-down, causing increasing maintenance and replacement expenditure for future communities.

I.5.1. Assessment of Deferred Renewals

The extent of deferred renewals can be identified by comparing the accumulated investment in renewals with accumulated annual depreciation. This information then forms the basis of a renewals strategy. Council is yet to complete the process for this activity and hence it has been included in the improvement plan.

I.5.2. Management and Mitigation of Deferred Renewals

Whilst the exact extent of deferred renewals is not identified, Council can manage potential effects on levels of service by routinely undertaking condition rating and reviewing the renewals programme.

I.6 Forecast Renewals Expenditure

Figure F-1 and Table I-1 shows the projected renewal costs for the next 20 years.

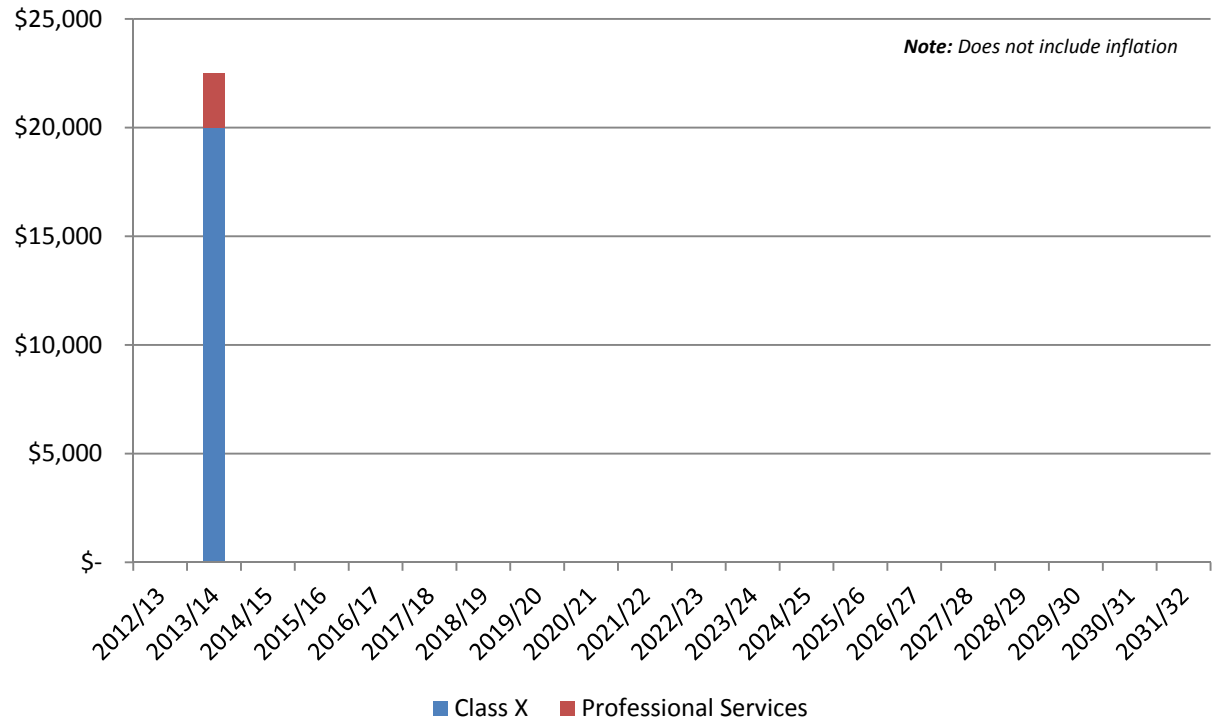

Figure I-1: 2012 – 2032 Rivers Renewals Expenditure

Table I-1: 2012 – 2032 Rivers Renewals Expenditure

RIVERS 20 YEAR FINANCIAL FORECAST		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
SCHEME	GL CODES	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
CLASS X OPERATIONS																						
CLASS X RENEWALS																						
Lower Motueka 0 - 11250m	3310240101R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Riwaka	33162401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wai-iti 0-2000m	33022401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brooklyn	33142401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Sydney Stream	33152401	0	20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20,000
Hamilton Drain		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scotts Drain		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waimea 0-7000m	3301240101R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total		-	20,000.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000.00
CLASS Y RENEWALS																						
Upper Motueka	33092401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waingaro	33052401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anatoki	33062401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motupiko	33112401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tadmor	33122401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Takaka	33042401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lower Motueka 11250-13750m	33102401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moutere	33032401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wai-iti 2000-29500m		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eve's Valley Drain	3302240103R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwoods Valley Stream		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwoods Valley Overflow		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aorere	33072401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wairoa 7000-13000m	33012401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sherry	33132401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dove	33172401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaituna	33082401R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RENEWAL PROFESSIONAL SERVICES	33312203	0	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500
Asset Management																						
TOTAL RENEWALS		-	22,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,500

APPENDIX J DEPRECIATIONS AND DECLINE IN SERVICE POTENTIAL

J.1 Depreciation of Infrastructural Assets

Depreciation is provided on a straight line basis on some infrastructural assets at rates which will write off the cost (or valuation) of the assets to their estimated residual values, over their useful lives.

The remaining useful lives and associated rates for the rivers infrastructure have been summarised in Appendix D – Asset Valuations. However, the following river assets are not depreciated:

- stopbanks
- willow planting / layering
- wand / poles / posts
- weighted felled trees
- rock protection.

J.2 Decline in Service Potential

The decline in service potential is a decline in the future economic benefits (service potential) embodied in an asset.

It is Council policy to operate the rivers activity to meet a desired level of service. Council will monitor and assess the state of the rivers infrastructure and upgrade or replace components over time to counter the decline in service potential at the optimum times.

Council's borrowing policy is that it only funds capital and renewal expenditure through borrowing, normally for 20 years, but shorter or longer terms are used for some assets depending on how long they are expected to last before they need to be replaced. Council has adopted this approach instead of setting aside funds to replace assets as they wear out, i.e. funding depreciation. By the time the asset needs to be replaced Council would normally have repaid the loan for the original asset and can borrow for the replacement asset.

This method of funding capital expenditure provides intergenerational equity, this means that those people that receive the benefit from the asset generally pay for the asset. Notwithstanding this, Council is investigating whether other means of funding assets is more appropriate. Any change is likely to result in an increase in rates and charges in the immediate time period, but might provide longer term benefits.

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APPENDIX K PUBLIC DEBT AND ANNUAL LOAN SERVICING COSTS

K.1 General Policy

The Council borrows as it considers prudent and appropriate and exercises its flexible and diversified funding powers pursuant to the Local Government Act 2002. The Council approves, by resolution, the borrowing requirement for each financial year during the annual planning process. The arrangement of precise terms and conditions of borrowing is delegated to the Corporate Services Manager.

> *The Council has significant infrastructural assets with long economic lives yielding long term benefits. The Council also has a significant strategic investment holding. The use of debt is seen as an appropriate and efficient mechanism for promoting intergenerational equity between current and future ratepayers in relation to the Council's assets and investments. Debt in the context of this policy refers to the Council's net external public debt, which is derived from the Council's gross external public debt adjusted for reserves as recorded in the Council's general ledger.*

Generally, the Council's capital expenditure projects with their long term benefits are debt funded. The Council's other district responsibilities have policy and social objectives and are generally revenue funded.

The Council raises debt for the following primary purposes.

- Capital to fund development of infrastructural assets.
- Short term debt to manage timing differences between cash inflows and outflows and to maintain the Council's liquidity.
- Debt associated with specific projects as approved in the Annual Plan or LTP. The specific debt can also result from finance which has been packaged into a particular project.

In approving new debt, the Council considers the impact on its borrowing limits as well as the size and the economic life of the asset that is being funded and its consistency with Council's long term financial strategy.

The Borrowing Policy is found in Volume 2 of Council's LTP.

K.2 Loans

Loans to fund capital works over the next 10 years add up to the following in Table K-1.

Table K-1: Projected Capital Works Funded by Loan for next 10 Years

Rivers	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18 Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10
Loans Raised **(x 1,000)**	632	1,397	664	345	536	828	862	1,239	711	372
Opening Loan Balance **(x 1,000)**	700	1,288	2,572	3,068	3,242	3,631	4,314	5,009	6,050	6,530

Figures do not include for inflation and are in thousands of dollars (ie. x1000)

K.3 Cost of Loans

Council funds the principal and interest costs of past loans and these are added to the projected loan costs for the next 10 years in Table K-2.

The projected annual loan repayment costs over the next 10 years are:

Table K-2: Projected Annual Loan Repayments Costs for next 10 Years

Rivers	2012/13 Year 1	2013/14 Year 2	2014/15 Year 3	2015/16 Year 4	2016/17 Year 5	2017/18 Year 6	2018/19 Year 7	2019/20 Year 8	2020/21 Year 9	2021/22 Year 10
Loans Interest **(x 1,000)**	59.6	118	178	208	234	278	345	393	459	481
Loan Principal **(x 1,000)**	45.2	113	169	171	147	146	167	197	230	253.

Figures do not include for inflation and are in thousands of dollars (ie. x1000)

APPENDIX L SUMMARY OF THE OVERALL FINANCIAL POSITION INCLUDING EXPENDITURE AND INCOME

L.1 A Statement of Financial Performance for the Next 10 Years

Table L-1 presents a summary of the overall financial requirements for the rivers activity in the Tasman district.

Table L-1: Summary of Projected Costs and Income for Next 10 Years

Flood Protection and River Control Works	2011/2012 Budget $	2012/2013 Budget $	2013/2014 Budget $	2014/2015 Budget $	2015/2016 Budget $	2016/2017 Budget $	2017/2018 Budget $	2018/2019 Budget $	2019/2020 Budget $	2020/2021 Budget $	2021/2022 Budget $
SOURCES OF OPERATING FUNDING											
General rates, uniform annual general charges, rates penalties	5,272	21,967	35,424	46,868	53,680	65,940	85,254	111,823	131,473	149,682	151,803
Targeted rates (other than a targeted rate for water supply)	2,784,451	2,917,523	3,016,295	3,176,859	3,314,432	3,392,593	3,541,588	3,676,746	3,896,997	4,162,084	4,286,079
Subsidies and grants for operating purposes	-	-	-	-	-	-	-	-	-	-	-
Fees, charges and targeted rates for water supply	-	-	-	-	-	-	-	-	-	-	-
Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-	-
Local authorities fuel tax, fines, infringement fees, and other receipts	289,757	381,460	392,826	403,589	415,277	427,405	439,431	451,872	465,333	479,921	495,060
TOTAL OPERATING FUNDING	3,079,480	3,320,950	3,444,545	3,627,316	3,783,389	3,885,938	4,066,273	4,240,441	4,493,803	4,791,687	4,932,942
APPLICATIONS OF OPERATING FUNDING											
Payments to staff and suppliers	1,788,791	1,529,639	1,581,458	1,594,196	1,668,204	1,706,357	1,769,154	1,798,611	1,891,022	1,995,163	2,011,212
Finance costs	31,724	59,656	117,714	177,640	208,206	233,677	278,076	344,929	392,584	459,187	481,056
Internal charges and overheads applied	289,689	379,760	325,897	336,364	339,200	351,653	370,380	366,818	382,421	403,311	405,919
Other operating funding applications	-	-	-	-	-	-	-	-	-	-	-
TOTAL APPLICATIONS OF OPERATING FUNDING	2,110,204	1,969,055	2,025,069	2,108,200	2,215,610	2,291,687	2,417,610	2,510,358	2,666,027	2,857,661	2,898,187
SURPLUS (DEFICIT) OF OPERATING FUNDING	969,276	1,351,895	1,419,476	1,519,116	1,567,779	1,594,251	1,648,663	1,730,083	1,827,776	1,934,026	2,034,755

Flood Protection and River Control Works	2011/2012 Budget $	2012/2013 Budget $	2013/2014 Budget $	2014/2015 Budget $	2015/2016 Budget $	2016/2017 Budget $	2017/2018 Budget $	2018/2019 Budget $	2019/2020 Budget $	2020/2021 Budget $	2021/2022 Budget $
SOURCES OF CAPITAL FUNDING											
Subsidies and grants for capital expenditure	-	-	-	-	-	-	-	-	-	-	-
Development and financial contributions	-	-	-	-	-	-	-	-	-	-	-
Increase (decrease) in debt	141,079	586,909	1,284,047	495,817	174,130	389,445	682,703	694,718	1,041,567	480,190	118,982
Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-	-
Lump sum contributions	-	-	-	-	-	-	-	-	-	-	-
TOTAL SOURCES OF CAPITAL FUNDING	141,079	586,909	1,284,047	495,817	174,130	389,445	682,703	694,718	1,041,567	480,190	118,982
APPLICATIONS OF CAPITAL FUNDING											
Capital expenditure											
- to meet additional demand	-	-	-	-	-	-	-	-	-	-	-
- to improve the level of service	586,825	1,883,555	2,645,925	1,954,886	1,679,311	1,918,432	2,263,334	2,353,878	2,795,406	2,337,136	2,073,381
- to replace existing assets	540,448	-	-	-	-	-	-	-	-	-	-
Increase (decrease) in reserves	(16,918)	55,249	57,598	60,047	62,598	65,264	68,032	70,923	73,937	77,080	80,356
Increase (decrease) in investments	-	-	-	-	-	-	-	-	-	-	-
TOTAL APPLICATIONS OF CAPITAL FUNDING	1,110,355	1,938,804	2,703,523	2,014,933	1,741,909	1,983,696	2,331,366	2,424,801	2,869,343	2,414,216	2,153,737
SURPLUS (DEFICIT) OF CAPITAL FUNDING	(969,276)	(1,351,895)	(1,419,476)	(1,519,116)	(1,567,779)	(1,594,251)	(1,648,663)	(1,730,083)	(1,827,776)	(1,934,026)	(2,034,755)
FUNDING BALANCE	-	-	-	-	-	-	-	-	-	-	-

N.B. Figures do include for inflation.

APPENDIX M SCHEDULE OF FEES AND CHARGES

M.1 Funding Strategy

Council has a policy of user pays, with rating levels set depending on the standard of protection (X, Y or Z). All of the river works classified catchments servicing the district belong to a district Group Rivers Account. This is operating as a 'closed account' which commenced in the 2006/2007 financial year with a credit or debit balance reported annually.

Rivers expenditure is funded by the following sources:

- berm rental income
- gravel royalty
- non-lump sum rates
- loans (where future capital works are required).

The rivers assets are funded in the main from a targeted rate depending on the area of river classification that property lies in. The rivers asset is therefore predominantly funded by any general rate appropriation. The rivers account also attracts some sundry income (dividends, berm rental etc).

Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually 20-30 years.

M.2 Classified Rivers Protection Fund

M.2.1. Purpose

The purpose of the Fund is the reinstatement of river works (assets) following a major unforeseen event, such as natural disaster. This will relate to damage or destruction of river works in the X and Y rivers areas.

- *To provide an immediate cash resource*

  The fund should be maintained as a cash investment in accordance with the guidelines of Council's Treasury Management Policy.

- *To contribute to the costs of reinstatement of Council owned services/assets following a major unforeseen event*

  To contribute implies that the total value of the Fund does not necessarily need to be used for any single event. Reinstatement implies that it is critical for the service capability to be reinstated urgently. The degree of reinstatement would need to be determined on a situation basis whereby the reinstatement could be staged from emergency service capability to full or improved service capability.

M.2.2. Coverage

The Fund should provide coverage over Council owned classified rivers assets, the costs of reinstatement or prevention of potential reduction in service capability arising from an unforeseen event and the costs incurred in a civil defence or an adverse event emergency.

Types of adverse events may include:

- earthquakes
- tsunami/tidal waves
- flood damage
- slips / subsidence
- chemical spill or environmental disaster.
- The coverage specifically excludes any events related to:
- operational breakdown / failure
- maintenance expenditure
- flood damage in Z classified rivers.

M.2.3. Use of the Fund

The fund may be used for.

a) Contributing to costs incurred in responding to any civil defence or adverse event emergency specifically relating to X and Y river works.

b) Contributing to the costs of reinstatement of service capability which arises from a defined, major, short duration, unforeseen natural event.

c) Contributing to the costs of any emergency preventative works required to protect service capability.

M.2.4. Contingency

The first $100,000 of any claims within a financial year is to be funded from annual operating budgets.

M.2.5. Criteria

1. All calls on the Fund should be authorised by resolution of Council but with a delegation to the Mayor and Chief Executive to spend up to $100,000 to ensure an immediate and adequate level of service capability is restored or preventative works undertaken to minimise any threat to river assets or to secure river bank stability.

2. This is a "last resort fund". Prior to the use of this fund Council should first use up alternative funds or assess more appropriate funding sources such as:

    - available contingencies
    - current year budget/s
    - depreciation or other reserves
    - loans
    - funding from external agencies.

3. Factors to consider in determining the extent to which the Fund should be called on:

    - the impact or potential draw-off from the Fund particularly for a single event
    - the degree of replacement/improvement service capability included in the reinstatement
    - the programmed replacement cycle of the asset and any proposed change in service capability required
    - the premise that capital works are funded from capital expenditure budgets and maintenance from operational budgets
    - the size of any local community or private contribution.
    - the scale and magnitude of the event
    - funds must be used to protect and repair river assets, or to promote or enhance river bank stability with X and Y classified river areas only

4. Any draw-off from the Fund should be considered for reimbursement from:

    - subsequent loan funds raised for reinstatement purposes
    - any insurance proceeds
    - any other proceeds received by Council in respect to the event

M.3 Local Authority Protection Programme (LAPP)

The LAPP Disaster Fund is a mutual pool created by local authorities to cater for the replacement of infrastructure following catastrophic damage by natural disaster.

The Council joined the LAPP fund in 2008 which may provide additional financial assistance to repair damaged river assets in a significant flood event.

M.4 Schedule of Fees and Charges

Council sets a targeted rate for river works. This rate is based on the land value of each rating unit and is set differentially based on classification of the land in terms of the rivers rate, as shown in Table M-1.

Table M-1: Rivers Targeted Rates

Category	2011/2012	2012/2013
Classification X (in cents per dollar of land value)	0.1291 cents	0.1399 cents
Classification Y (in cents per dollar of land value)	0.1291 cents	0.1399 cents
Classification Z (in cents per dollar of land value)	0.0273 cents	0.0297 cents
Motueka Stopbank – Area A (in cents per dollar of land value)	0.0097 cents	0.0090 cents
Motueka Stopbank – Area B (in cents per dollar of land value)	0.0018 cents	0.0011 cents

The following resource management (administration, monitoring and supervision) charges are detailed in Table M-2 below.

Table M-2: Rivers Schedule of Fees and Charges

Gravel / Shingle Extraction Fees	Charges proposed from 1 July 2012 including GST
Waimea / Wairoa Rivers	$5.60/m^3
Wai-iti	$5.60/m^3
Upper Motueka (including all tributaries above Baton Bridge)	$5.60/m^3
Lower Motueka (including all tributaries below Baton Bridge)	$5.60/m^3
Moutere	$5.60/m^3
Riwaka/Marahau/Sandy Bay	$5.60/m^3
Takaka and Tributaries	$5.60/m^3
Aorere and Tributaries and other Golden Bay Rivers	$4.00/m^3
Buller	$2.90/m^3
Other Rivers, Stream and Coastal Marine Areas	$4.00/m^3
Gravel Extraction outside of the above-listed areas on freehold land within the river berm area inundated by an annual flood	$2.20/m^3
Gravel Extraction on freehold land outside of the river berm area inundated by an annual flood	Actual and reasonable monitoring charges at $138.00/hr
Sand in Lower Motueka River (including all tributaries below Baton Bridge)	$2.20/m^3

Charges are authorised under Section 36 of the RMA (1991).

APPENDIX N DEMAND MANAGEMENT

N.1 Introduction

The objective of demand management (sometimes called non-asset solutions) is to actively seek to modify customer demands for services in order to:

- optimise utilisation/performance of existing assets
- reduce or defer the need for new assets
- meet the organisation's strategic objectives (including social, environmental and political)
- delivery a more sustainable service
- respond to customer needs.

N.2 Council's Approach to Demand Management

When applying demand management techniques to rivers assets, the following components are considered relevant:

- operation – including types of river maintenance techniques ie. mechanical layering
- regulation – as described in resource consents NN010109 and NN000425.

Access to the gravel resource is controlled by Council's staff, with input from external agencies eg. Fish and Game, Department of Conservation. The resource is currently extracted from within the berms on the following basis.

- the Asset Management Department may allocate for extraction up to 40,000 m^3/yr of material from within the river system where it is desirable to remove it for river management purposes
- the Environment and Planning Department may allocate for extraction a sustainable quantity of material
- any interested party may apply for a resource consent to extract metal from within the berm

The customers using the rivers asset include 4WD groups, recreational walkers, Fish and Game, iwi etc. While the "customers" are given the opportunity to take part in the consultation process (River Care Groups) the primary objective for this asset is to maintain the system to contain specified flood events. Generally this is an annual flood. Other customers are those afforded protection from the river management systems.

N.2.1. Other Demand Management Factors

During the preparation of the financial forecasts for this AMP update, the factors summarised in Table N-1 were considered.

Table N-1: Summary of Rivers Demand Management

Factor	Effect	Mitigation Measure
Gravel extraction	Over extraction of gravel may create bank erosion.	Access to the gravel resource is controlled by Council's staff, with input from external agencies eg. Fish and Game and Department of Conservation.
Urban development	Increase in impermeable areas may affect the runoff volume (likely to be relevant to small catchments only). Increase in population density may result in an increased demand for protection due to increased value of land and assets being protected.	Managed through the development process and the TRMP conditions. Managed via an increased level of service as developed in consultation with the community and decided by Council eg. Motueka Flood Control Project.
Land use	Forestry operations such as clear felling may temporarily change catchment characteristics and increase debris runoff, possibly affecting fairway clearing and bank erosion.	Management of forestry operations, and restrictions on sediment control and site clearance through the TRMP, and compliance with the Soil Conservation and Rivers Control Act.
Dams	Construction of dams (specifically the Lee Dam) is expected to have a positive effect on the management of a river due to the reduced flow peaks and more consistent flows.	Accept.

N.3 Climate Change

N.3.1. Changing Climatic Patterns

The RMA 1991 states, in Section 7, that a local authority shall take account of the effects of climate change when developing and managing its resources. To assist local authorities, the Ministry for the Environment (MfE) prepared a report[4] to support councils' assessing expected effects of climate change, and to help them prepare appropriate responses when necessary.

This section summarises information presented in the MfE report and a report by NIWA on Climate Change and Variability in the Tasman district. This section aims to explore the impacts of expected climate changes for the Tasman-Nelson region and will conclude with anticipated impacts on this activity.

N.3.2. Temperature Changes

Table N-2 shows that the mean annual temperatures in Tasman-Nelson are expected to increase in the future.

Table N-2: Projected Mean Temperature Change (Upper and Lower Limits) in Tasman-Nelson (in °C)

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2040	0.2 - 2.2	0.2 - 2.3	0.2 - 2.0	0.1 - 1.18	0.2 – 2.0
Projected changes 1990-2090	0.9 – 5.6	0.6 – 5.1	0.5 – 4.9	0.3 – 4.6	0.6 – 5.0

Source: Climate Change and Variability – Tasman District (NIWA, June 2008)

[4] Climate Change Effects and Impacts Assessment A Guidance Manual for Local Government in NZ (MfE, May 2008)

It is the opinion of NIWA[5] scientists that the actual temperature increase this century is very likely to be more than the 'low' scenario given here. Under the mid-range scenario for 2090, an increase in mean temperature of 2.0^0C would represent annual average temperature in coastal Tasman in 2090.

N.3.3. Rainfall Patterns

Table N-3 shown an expected increase in mean annual precipitation in Tasman-Nelson from 1990 to 2090.

Table N-3*:* Projected Mean Precipitation Change (Upper and Lower Limits) in Tasman-Nelson (in %)

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2040	-14, 27	-2, 19	-4, 9	-8, 9	-3, 9
Projected changes 1990-2090	-13, 30	-4, 18	-2, 19	-20, 19	-3, 14

Source: Climate Change and Variability – Tasman District (NIWA, June 2008)

N.3.4. Heavy Rainfall

A warmer atmosphere can hold more moisture (about 8% more for every 10C increase in temperature), so there is an obvious potential for heavier extreme rainfall under climate change.

More recent climate model simulations confirm the likelihood that heavy rainfall events will become more frequent.

N.3.5. Evaporation, Soil Moisture and Drought

From their report, NIWA conclude that there is a risk that the frequency of drought (in terms of low soil moisture conditions) could increase as the century progresses, for the main agriculturally productive parts of Tasman district.

N.3.6. Climate Change and Sea Level

NIWA report that a revised guidance manual for local government on coastal hazards and climate change is currently in preparation. For the interim, NIWA's report suggests:

1. For planning and decision timeframes out to the 2090s (2090-2099) use:
   a) A base mean sea-level rise of 0.5m relative to the 1980-1999 average.
   b) An assessment of the sensitivity of the issue under consideration to possible higher mean sea-levels taking account of possible additional contributions. This level is currently under discussion, but is likely to be no less than 0.8m.
2. For planning and decision timeframes beyond 2100 where, as a result of the particular decision, future adaptation options will be limited, an allowance for mean sea-level rise of 10mm/year beyond 2100 is recommended (in addition to the above recommendation).

These projections are for mean sea levels. Less information is available on how extreme storm sea levels will change with climate change.

[5] Climate Change and Variability – Tasman District (NIWA, June 2008)

N.3.7. Potential Impacts on Council's Infrastructure and Services

Table N-4 lists the potential impacts on Council's infrastructure and services.

Table N-4: Local Government Functions and Possible Climate Change Outcomes

Function	Affected Assets or Activities	Key Climate Influences	Possible Effects
Water supply and irrigation	Infrastructure	Reduced rainfall, extreme rainfall events and increased temperature.	Reduced security of supply (depending on water source). Contamination of water supply.
Wastewater	Infrastructure	Increased rainfall.	More intense rainfall (extreme events) will cause more inflow and infiltration into the wastewater network. Wet weather overflow events will increase in frequency and volume. Longer dry spells will increase the likelihood of blockages and related dry weather overflows.
Stormwater	Reticulation. Stopbanks.	Increased rainfall. Sea-level rise.	Increased frequency and/or volume of system flooding. Increased peak flows in streams and related erosion. Groundwater level changes. Saltwater intrusion in coastal zones. Changing flood plains and greater likelihood of damage to properties and infrastructure.
Roading	Road network and associated infrastructure (power, telecommunications, drainage)	Extreme rainfall events, extreme winds, high temperatures.	Disruption due to flooding, landslides, fallen trees and lines Direct effects of wind exposure on heavy vehicles Melting of tar.
Planning/policy development	Management of development in the private sector. Expansion of urban areas. Infrastructure and communications planning.	All.	Inappropriate location of urban expansion areas. Inadequate or inappropriate infrastructure, costly retro-fitting of systems.
Land management	Rural land management	Changes in rainfall, wind and temperature.	Enhanced erosion. Changes in type/distribution of pest species. Increased fire risk. Reduction in water availability for irrigation. Changes in appropriate land use. Changes in evapotranspiration.
Water management	Management of watercourses/ lakes/wetlands	Changes in rainfall and temperature.	More variation in water volumes possible. Reduced water quality Sedimentation and weed growth. Changes in type/distribution of pest species.

Function	Affected Assets or Activities	Key Climate Influences	Possible Effects
Coastal Management	Infrastructure. Management of coastal development.	Temperature changes leading to sea-level changes. Extreme storm events.	Coastal erosion and flooding. Disruption in roading, communications. Loss of private property and community assets. Effects on water quality.
Civil defence and emergency management	Emergency planning and response, and recovery operations.	Extreme events.	Greater risks to public safety, and resources needed to manage flood, rural fire, landslip and storm events.
Bio security	Pest management.	Temperature and rainfall changes.	Changes in the range of pest species.
Open space and community facilities management	Planning and management of parks, playing fields and urban open spaces.	Temperature and rainfall changes Extreme wind and rainfall events.	Changes/reduction in water availability. Changes in biodiversity. Changes in type/distribution of pest species. Groundwater changes. Saltwater intrusion in coastal zones. Need for more shelter in urban spaces.
Transport	Management of public transport. Provision of footpaths, cycleways etc.	Changes in temperatures, wind and rainfall.	Changed maintenance needs for public transport infrastructure. Disruption due to extreme events.
Waste management	Transfer stations and landfills	Changes in rainfall and temperature.	Increased surface flooding risk Biosecurity changes. Changes in ground water level and leaching.
Water supply and irrigation	Infrastructure	Reduced rainfall, extreme rainfall events and increased temperature.	Reduced security of supply (depending on water source). Contamination of water supply.

Source: Climate Change Effects and Impacts Assessment (MfE, May 2008)

Council have incorporated the potential impacts of climate change in the 2008 update of the Engineering Standards and Policies.

APPENDIX O NOT RELEVANT TO THIS ACTIVITY

APPENDIX P SIGNIFICANT EFFECTS

P.1 Significant Negative Effects

Potential significant negative effects and the proposed mitigation measures are listed below in Table P-1.

Table P-1: Potential Significant Negative Effects

Effect	Description
Over extraction of gravel in some areas has the potential to destabilise banks and change groundwater levels.	Gravel availability within the river berms is assessed on various factors, including the annual inspection process and Council's environment and planning sustainable quota. Generally the sustainable extraction rate of gravel from all rivers has been set at zero by the Council's Rivers Scientist. Gravel available for relocation or extraction is assessed using river cross-section data, river management purposes and resource consent criteria (NN010109). The lowering of groundwater levels has been mitigated using weir structures eg. Wai-iti River.
Management of crack willow may have a major effect on the bank protection works if suitable replacements cannot be found. The burning of crack willow following removal can create an air pollution issue if suitable weather conditions are not present.	The Ministry of Agriculture and Forestry (MAF) requires no propagation of crack willow. Native species and bitter willow are used extensively and other species are being trialled as a replacement for crack willow. The Council's contractor monitors weather conditions and undertakes burning of the crack willow when suitable weather conditions are present.
Inappropriate use of river berms can cause nuisance to the public, for example dumping of refuse and car bodies.	Given the vast uncontrolled areas of river berm (predominately privately owned), there is unfortunately plenty of opportunity for waste dumping activities to occur. Council has undertaken to trial closing a section of the Waimea River berm (Appleby Bridge to Lower Queen Street, right bank) to determine what benefit this has on increasing the standard of recreational use in that area. This concept has been included in a proposal to develop a regional park from the estuary on the Waimea River up to the State Highway 6 Bridge at Brightwater. Refer to the Waimea River Park Management Plan, Items 9.1 and 9.2 for further information.
The cost of providing the services.	Council uses competitive tendering processes to achieve best value for money for works it undertakes.
Potential to affect historic and wahi tapu sites.	Council undertakes consultation with affected parties prior to undertaking works. Council also maintains a record of known heritage sites.

P.2 Significant Positive Effects

The potential significant positive effects are listed below in Table P-2.

Table P-2: Potential Significant Positive Effects

Effect	Description
Economic development	Provision and maintenance of flood control schemes allow for the development of land for high value uses (eg. residential or horticultural purposes) thereby allowing economic growth and prosperity in the Tasman District.
Safety and personal security	Flood protection and river control works contribute to community well-being by improving protection of communities, life, property and livelihoods.
Environmental sustainability	Council aims to achieve environmental sustainability whilst managing the rivers activity. This is generally managed by the resource consent process, the TRMP, and compliance with the Soil Conservation and Rivers Control Act.
Economic efficiency	Council's management of the rivers activity using best practice and competitive tendering to provide the best value for money for the ratepayers and provides jobs for contractors.

APPENDIX Q SIGNIFICANT ASSUMPTIONS, UNCERTAINTIES AND RISK MANAGEMENT

Q.1 Assumptions and Uncertainties

This AMP and the financial forecasts within it have been developed from information that has varying degrees of completeness and accuracy. In order to make decisions in the face of these uncertainties, assumptions have to be made. This section documents the uncertainties and assumptions that Council consider could have a significant effect on the financial forecasts, and discusses the potential risks that this creates.

Q.1.1. Financial Assumptions

The following assumptions have been made:

- all expenditure is stated in dollar values as at 1 July 2011, with no allowance made for inflation over the planning period
- all costs and financial projections are GST exclusive.

Q.1.2. Asset Data Knowledge

While the Council has asset registers and many digital systems, processes and records, Council does not have complete knowledge of the assets it owns. To varying degrees the Council has incomplete knowledge of asset location, asset condition, remaining useful life and asset capacities. This requires assumptions to be made on the total value of the assets owned, the time at which assets will need to be replaced and when new assets will need to be constructed to provide better service.

Notwithstanding this, Council considers these assumptions and uncertainties constitute only a small risk to the financial forecasts because:

- significant amounts of asset data is known
- asset performance is well known from experience
- there are plans to upgrade significant extents of poorly performing assets.
- The assumptions that have been made that are considered significant include:
- operations and maintenance budgets assume the absence of a significant flood event (generally greater than AEP 20% / five year return period)
- the majority of the river systems are in satisfactory condition.

Q.1.3. Growth Forecasts

Growth forecasts are inherently uncertain and involve many assumptions. The growth forecasts also have a very strong influence on the financial forecasts, especially in the Tasman district where population growth is higher than the national average. The growth forecasts underpin and drive:

- the asset creation programme
- Council income forecasts including rates and development contributions
- funding strategies.

Thus the financial forecasts are sensitive to the assumptions made in the growth forecasts.

The significant assumptions in the growth forecasts are covered in the explanation on method and assumptions in Appendix F.

Q.1.4. Timing of Capital Projects

The timing of many capital projects can be well defined and accurately forecast because there are few limitations on the implementation other than the community approval through the LTP/Annual Plan processes. However, the timing of some projects is highly dependent on some factors which are beyond the Council's ability to fully control. These include factors like:

- obtaining resource consent, especially where community input is necessary
- obtaining the community consent
- obtaining a subsidy from central government
- securing land

Where these issues may become a factor, allowances have been made to complete in a reasonable timeframe, however these plans are not always achieved. The effect of this will be to defer expenditure. The impact of this on the forward projections is not considered significant.

Q.1.5. Future Costs

Predicting the long term costs of maintaining the rivers assets has an inherently high level of uncertainty. The future costs depend on the extent and severity of flooding and on the often unpredictable way rivers respond to those events. Council has approached this matter by joining the Local Authority Protection Programme (LAPP) Disaster Fund and maintaining a Classified Rivers Protection Fund. Council policy is to maintain one million dollars within the fund by a $100,000 annual contribution, as the fund is presently in excess of one million this amount has been reallocated elsewhere (Rivers Z) until required. The uncertainty arises that this fund will be insufficient to cover necessary repairs. It might therefore be prudent to either.

- Increase the level of funding to the Classified Rivers Protection Fund to cover more repair works.
- Reduce the level of funding to the Classified Rivers Protection Fund, instead spending more on river works now. The intention would be that an improved extent/level of fairway, berm and bank maintenance will result in reduced repair costs after a flood event.

The main goal of the current river works is where at all possible to mitigate the effects of flooding on the main channels capacity to convey future floods. In other words, the works primarily based on post foreshore flood event clean up, main channel alignment, bank stability and fairway clearance.

The Rivers global consent only permits maintenance across the channel up to the level of an annual flood. Any flood in excess of this has the potential to sustain damage over a wider flood plain.

Q.1.6. Funding of Capital Projects

Funding of capital projects is crucial to a successful project. When forecasting projects that will not occur for a number of years, a number of assumptions have to be made about how the scheme will be funded.

Funding assumptions are made about:

- whether projects will qualify for subsidies
- whether major beneficiaries of the project will contribute to the work
- whether Council will subsidise the development of the work.

Q.1.7. Council's Disaster Fund Reserves

- The Council has assumed for the purposes of preparing this AMP that the level of funding in these budgets and held in Council's disaster fund reserves will be adequate to cover reinstatement following emergency events.
- Funding levels are based on historic requirements. The risk of requiring additional funding is moderate and may have a moderate effect on planned works due to reprioritisation of funds.
- Note this assumption may need to be revised once the costs of the December 2011 heavy rain event are known.

Q.1.8. Major Events

A major flood event generally has an Annual Exceedance Probability (AEP) greater than 20% (five year return period) for areas without stopbanks.

The financial forecasts have been prepared under the assumption that no major events will occur above the flood protection and erosion control assets ability to cope with. If a major flood event does occur it may have a major effect on the operations and maintenance budgets due to the extent of reinstatement required and associated costs. Council will need to prioritise expenditure if a situation such as this arises, the risk of which is high.

Q.1.9. Accuracy of Capital Project Cost Estimates

The financial forecasts contain many projects, each of which has been estimated from the best available knowledge. The level of uncertainty inherent in each project is different depending on how much work has been done in defining the problem and determining a solution. In many cases, only a rough order cost estimate is possible because little or no preliminary investigation has been carried out. It is not feasible to have all projects in the next 20 years advanced to a high level of estimate accuracy. However, it is preferable to have projects in the next three years advanced to a level that provides reasonable confidence about the accuracy of the estimate.

To get consistency and formality in cost estimating, the following practices have been followed:

- all expenditure is stated in dollar values as at 1 July 2011, with no allowance made for inflation over the planning period
- all costs and financial projections are GST exclusive
- a project estimating template has been developed that provides a consistent means of preparing estimates
- where practical, a common set of rates has been determined
- specific provisions have been included to deal with non-construction costs like contract preliminary and general costs, engineering costs, Council staff costs, resource consenting costs and land acquisition costs
- specific provisions have been included to deal with estimate accuracy

These are described as follows.

- A 15% provision has been included to get a “Base Project Estimate” to reflect the uncertainties in the unit rates used. A further provision has been added to reflect the uncertainties in the scope of the project – ie. is the solution adopted the right solution. Often detailed investigation will reveal the need for additional works over and above that initially expected. The amount added depends on the amount of work already done on the project. Each project has been assessed as being at the project lifecycle stage as detailed in Table Q-1 below, and from this an estimated accuracy assessed. The estimate accuracy is added to the Base Project Estimate to get the Total Project Estimate – the figure that is carried forward into the financial forecasts.

Table Q-1: Life Cycle Estimate Accuracies

Stage in Project Lifecycle	Estimate Accuracy
Concept / Feasibility	± 30% (±20% for projects >$1m)
Preliminary Design / Investigation	± 20% (±15% for projects >$1m)
Detailed Design	± 10%
Construction	± 5%
Commissioning	± 0%

Q.1.10. Significant Assumptions and Uncertainties for Projects Assigned Over the Next Three Years

Table Q-2 details significant uncertainties and percentage accuracies for all major projects due in the next three years of the AMP.

Table Q-2: Significant Project Estimate Accuracies

Project	Project Stage and Estimate Accuracy	Project Value in First Three Years	Factors that Could Affect Estimate Accuracy
Lower Motueka Flood Control	Preliminary Design / Investigation	$1,100,000	Level of service agreed with the affected community. Ability to secure land. Resource consent requirements. Extent of works. Alterations to Motueka River Bridge (SH60).
Borlase Stream	Preliminary Design / Investigation	$1,204,000	Level of service agreed with the affected community. Ability to secure land. Resource consent requirements. Extent of works.

Q.1.11. Changes in Legislation and Policy

The legal and planning framework under which local government operates is ever changing. This can significantly affect the feasibility of projects, how they are designed and constructed and how they are funded.

Q.2 Risk Management

Council has adopted an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. The process integrates with the LTP process as illustrated in Figure Q-1.

The strategic goal of integrated risk management is: *"To integrate risk management into Council's organisational decision making so that it can achieve its strategic goals cost effectively while optimising opportunities and reducing threats."*

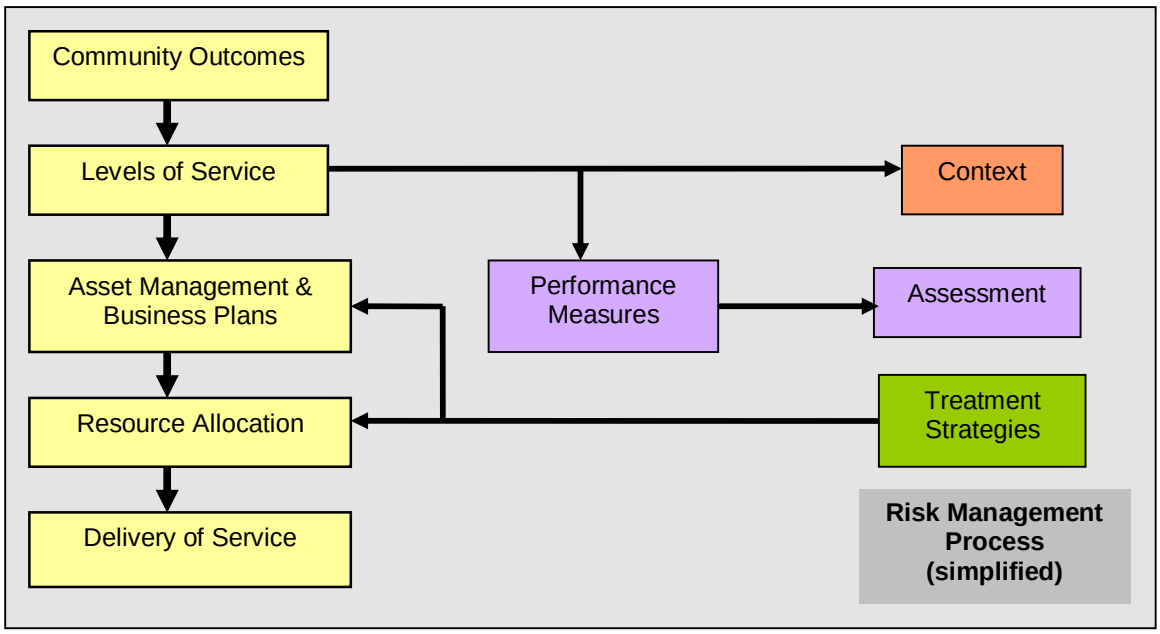

Figure Q-1: Integration of Risk Management Process into LTP Process

The IRM process and framework is intended to:

- to demonstrate responsible stewardship by Council on behalf of its customers and stakeholders
- to act as a vehicle for communication with all parties with an interest in Council's organisational and asset management practices
- provide a focus within Council for on-going development of good management practices
- demonstrate good governance
- meet public expectations and compliance obligations
- manage risk from an organisational perspective
- facilitate the effective and transparent allocation of resources to where they will have most effect on the success of the organisation in delivering its services.

The risk management framework adopted by Council is consistent with AS/NZS 4360:2004 Risk Management and assesses risk exposure by considering the consequence and likelihood of each risk which is identified as having an impact on the achievement of organisational objectives (Figure Q-2).

Whilst the IRM framework has been adopted within Council, it is primarily used as a process within the individual activities. Council are working towards developing it into a more formally integrated process throughout the whole organisation.

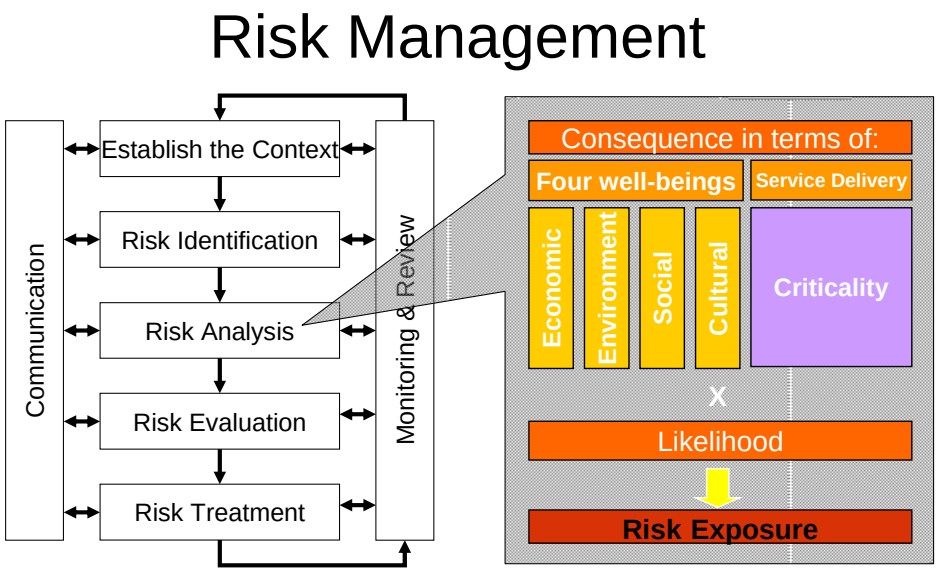

Figure Q-2: Integrated Risk Management Process

Consequence categories have been developed to reflect the impact of risk events on the four well-beings and each consequence category is scored as either "extreme", "major", "medium", "minor", or "negligible". These categories address common consequences across any asset or project, however, they do not specifically account for the differences in assets. Therefore an additional category "Service Delivery" is used to reflect the essential reason for the ownership or management of any asset within the local authority – the delivery of a service. This means that the consequence of failure to deliver the service in question (the criticality of the service) can be used to weight the consequences to reflect the relative importance of the asset to the community and in turn to Council. Descriptions of the consequence categories are detailed in Table Q-3.

Table Q-3: Consequence Categories

Category		Description
Service Delivery		Assessment based on the asset's compliance with Performance Measures and value in relation to outcomes and resource usage.
Social/ Cultural	Health and Safety	Assessment of impact as it relates to death, injury, illness, life expectancy and health.
	Community Safety and Security	Assessment of impact based on perceptions of safety and reported levels of crime.
	Community / Social / Cultural	Assessment of impact based on damage and disruption to community services and structures, and effect on social quality of life and cultural relationships.
	Compliance / Governance	Assessment of effect on governance and statutory compliance of Council.
	Reputation / Perceptions of Council	Assessment of public perception of Council and media coverage in relation to Council.
Environment	Natural Environment	Effect on the physical and ecological environment, open space and productive land.
	Built Environment	Effect on the amenity, character, heritage and cultural and economic aspects of the built environment and level of satisfaction with the amenity of the built environment.
Economic	Direct Cost / Benefit	Direct cost (or benefit) to Council.
	Indirect Cost / Benefit	Direct cost (or benefit) to wider community.

Similarly, the likelihood of the risk occurring is scored on a scale from "almost certain" to "unlikely" with associated probabilities and frequencies provided for guidance.

The risk exposure is then determined for each identified risk by multiplying the consequence and likelihood, and is presented using semantic descriptions ranging from "extreme" to "negligible".

Treatment strategies, or strategic plans, that mitigate each risk can then be identified, and prioritised based on the risk exposure.

The consequence, likelihood scoring and risk matrix tables are all located in a separate report. This document also contains the outputs from the Level 1 and Level 2 Risk Assessments.

There are essentially three levels of risk assessment that should be considered for each activity within Council:

- Level 1 - Organisational Risk Assessment
- Level 2 - Activity Management Risk Assessment
- Level 3 - Critical Asset Risk Assessment.

Q.2.1. Level 1 - Organisational Risk Assessment

Organisational Risk Assessment focuses on identification and management of significant operational risks that will have an impact beyond the activity itself and will affect the organisation as a whole. This approach allows the Integrated Risk Management framework to address risks at the organisational level, as well as at both the management and operational levels within the particular Council activities.

During the process of developing the integrated risk management process, Council identified a number of risk events and issues at organisational level. These are relatively generic across all activities, but have been reviewed against each particular activity to ensure relevance and adjusted to suit. The decision to implement the treatment measures identified will be at an organisational level, not activity level.

Q.2.2. Level 2 – Activity Management Risk Assessment

The Activity Management Risk Assessment uses the same principal and consequence tables, but the focus has been at more detailed level. During this process, specific risk events were identified which would affect the operational ability or management of the activity as a whole. If an individual system within the activity was identified as being at a greater risk or would need to be managed in a different way to the rest of the systems, then it was highlighted for separate consideration.

The outcome from this process is summarised below. Table Q-4 shows the Current Risk Profile of the rivers activity. By undertaking the Asset Management Activities and Projects detailed, Council will reduce their Risk Profile to that shown in Table Q-5.

Proposed controls falling under the Operational Project, Capital Project or Strategic Study categories have been included within the Financial Forecasts. Those identified as Asset Management Activities will need to form part of the Council's general asset management and have been included in the Improvement Plan to ensure they are not overlooked.

Table Q-4: Current Risk Profile

RISK MATRIX -RIVERS CURRENT RISK						
		CONSEQUENCE				
		Negligible (+/-1)	Minor (+/-10)	Medium (+/-40)	Major (+/-70)	Extreme (+/-100)
LIKELIHOOD	Almost Certain (5)					
	Likely (4)					
	Possible (3)	1	21	6	1	
	Unlikely (2)	1	14	6	9	
	Very Unlikely (1)		5		3	

By undertaking projects or asset management activities detailed below. Council can reduce its risk profile to that shown in Table Q-5.

Asset Management Activity

- Review gauges and manual procedures
- Test Emergency Management Plan
- Improve data for renewals forecasting
- Improve data collection for Resource Consent applications
- Regular meetings with utility providers. Use Trifecta
- Formalise landowner agreements
- Improve iwi relationship with rivers activity
- Increase consultation and management of renewal works
- Develop process for effective communication between service providers
- Formalise operator training and knowledge transfer
- Improve HAZOPs
- Consider enforcement

Operational Project

- Install webcams at key locations

Strategic Study

- Clarify LAPP fund costs and requirements
- Develop/review System Operating Plans
- Audit/review resource consent conditions and process
- Review safety management systems

Table Q-5: Reduced Risk Profile

RISK MATRIX -RIVERS TARGET RISK						
		CONSEQUENCE				
		Negligible (+/-1)	Minor (+/-10)	Medium (+/-40)	Major (+/-70)	Extreme (+/-100)
LIKELIHOOD	Almost Certain (5)					
	Likely (4)		1			
	Possible (3)	1	14	2	1	
	Unlikely (2)	1	26	1	7	
	Very Unlikely (1)		5	6	3	

During the risk assessment process, it was noted that there are some risk events which will remain with a Target Risk of High (detailed in Table Q-6). This is a result of either no proposed controls identified, or those that are identified would not achieve the requisite reduction in risk. The Risk Events remaining with a High Target Risk need to be monitored to determine either; that Council remain comfortable with the Target Risk Level or; if there are any additional proposed controls which could be implemented to reduce the Target Risk Level further.

Table Q-6: Target Risk Level Remaining High

Risk	Risk Description	Scope	Current Control	Current Risk Level	Proposed Control	Target Risk Level
Emergency Response						
Communications	Failure of operational communications (contractors).	District	Cellphone. RT. Call care system.	HIGH	Manual response during emergencies.	HIGH
	Failure of operational communications (effected parties).	District	Internet website. Staged communication system. Call care system.	HIGH	Manual response during emergencies. Public training (Rivercare).	HIGH
Resources	Insufficient or inappropriately trained resources to respond to emergency (contractor, council, consultant).	District	Contract training agreement.	HIGH	Regular training and auditing compliance.	HIGH
Integration						
Internal (Engineering)	Ineffective planning of maintenance and renewal works.	District	Annual Planning. Informal meetings.	HIGH		HIGH
Emergency Services	Ineffective communication and planning of maintenance and renewal works (Rural Fire Service, DoC (Motueka, Golden Bay).	District	Regular exercises with Civil Defence.	HIGH	Review communication s plan.	HIGH

Risk	Risk Description	Scope	Current Control	Current Risk Level	Proposed Control	Target Risk Level
Natural Hazards						
Earthquake (1:400)	Significant damage to infrastructure (eg. stop banks).	District	Super event review for Lower Motueka Catchment.	HIGH	Undertake as required.	HIGH
River Floods (1:400)	Impacts infrastructure	District	Super event review for Lower Motueka Catchment.	HIGH	Expand review.	HIGH
Catastrophic Failure	Catastrophic failure of stop banks.	District	Super event review for Lower Motueka Catchment.	HIGH	Expand review. Emergency Action Plan.	HIGH
Extreme Weather (Rain)	Increased volumes overload infrastructure (increased debris).	Small Catchments	AOMP. Regular maintenance.	VERY HIGH	Undertake as required.	VERY HIGH
Storm and Tidal Surge	Damage to infrastructure.	Coastal		HIGH	Determine jurisdiction.	HIGH
Technological Hazards						
Information Technology	Failure of control systems (Hydrology).	District	See emergencies (reduce).	HIGH		HIGH
Telemetry	Failure of telemetry.	District	See emergencies.	HIGH	Manual response during emergencies.	HIGH
Power	Failure of power.	District	See emergencies.	HIGH	Manual response during emergencies.	HIGH
Tele-communications	Failure of telecommunications.	District	See emergencies.	HIGH	Manual response during emergencies.	HIGH

Q.2.3. Level 3 – Critical Assets Risk Assessment

Critical assets and those assets considered to be significant within each river system have been identified. A high level risk assessment was undertaken to determine the issues arising from each asset group that may prevent delivering of the required service. Treatment strategies that mitigate each risk for the asset groups were then identified.

Individual risk assessments have not been carried out for each of the assets; however, they have been assessed against the set of mitigation measures. At this level of risk assessment, the risk events considered are physical events only as the management and organisational risk events formed part of the earlier stages of risk assessment.

Table Q-7 lists the critical and significant assets for each river system. Where a mitigation measure is felt to be necessary, a capital or operational project has been identified and included in the financial forecasts.

Table Q-7: Significant Assets Level 3 Risk Assessment

CLASS X OPERATIONS		Emergency Response Plan	Telemetry	Formal Warning System	Channel Clearance Management	Rock Protection	Berm Planting	Monitoring	Land Use Restrictions	Flood Plan Zoning	Channel Profile/Surveying	Raise Stopbanks	Improve Channel Capacity	Improve Channel Alignment	Selected Tree Species
Lower Motueka 0 - 11250m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Riwaka	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Wai-iti 0-2000m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Brooklyn	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Little Sydney Stream	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Hamilton Drain	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Scotts Drain	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Waimea 0-7000m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														

CLASS Y OPERATIONS		Emergency Response Plan	Telemetry	Formal Warning System	Channel Clearance Management	Rock Protection	Berm Planting	Monitoring	Land Use Restrictions	Flood Plan Zoning	Channel Profile/Surveying	Raise Stopbanks	Improve Channel Capacity	Improve Channel Alignment	Selected Tree Species
Upper Motueka	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Waingaro	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Anatoki	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Motupiko	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Tadmor	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Takaka	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Lower Motueka 11250-13750m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Moutere	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Wai-iti 2000-29500m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Eve's Valley Drain	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Redwoods Valley Stream	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Redwoods Valley Overflow	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Aorere	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														

CLASS Y OPERATIONS		Emergency Response Plan	Telemetry	Formal Warning System	Channel Clearance Management	Rock Protection	Berm Planting	Monitoring	Land Use Restrictions	Flood Plan Zoning	Channel Profile/Surveying	Raise Stopbanks	Improve Channel Capacity	Improve Channel Alignment	Selected Tree Species
Wairoa 7000-13000m	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Sherry	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Dove	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														
Kaituna	Bank Protection														
	Stop Banking														
	Fairway Cleaning														
	Berm Management														

Q.2.4. Projects to Address Risk Shortfalls

The specific risk mitigation measures that have been planned within the 20 year rivers programme include:

- Local Authority Protection Programme (LAPP) Disaster Fund membership
- provision of the Classified Rivers Protection Fund
- preventative maintenance programme including on-going rock protection of banks
- Motueka flood control project
- Borlase Stream flood control project

Q.2.5. Asset Insurance

Tasman District Council has various mechanisms to insure assets against damage. These include:

1. Tasman District Council insures its above ground assets, like buildings, through private insurance which is arranged as a shared service with Nelson City and Marlborough District Councils.
2. Tasman District Council is a member of the Local Authority Protection Programme (LAPP) which is a mutual pool created by local authorities to cater for the replacement of some types of infrastructure assets following catastrophic damage by natural disasters like earthquake, storms, floods, cyclones, tornados, volcanic eruption, tsunami. These infrastructure assets are largely stopbanks along rivers and underground assets like water and wastewater pipes and stormwater drainage.
3. Taman District Council has a Classified Rivers Protection Fund, which is a form of self insurance. The fund is used to pay the excess on the LAPP insurance, when an event occurs that affects rivers and stopbank assets.
4. Tasman District Council has a General Disaster Fund, which is also a form of self insurance. Some assets, like roads and bridges, are very difficult to obtain insurance for or it is prohibitively expensive if it can be obtained. For these reasons Council has a fund that it can tap into when events occur which damage Council assets that are not covered by other forms of insurance. Some of the cost of damage to these assets is covered by central government, for example the New Zealand Transport Agency covers around half the cost of damage to local roads and bridges.

Q.2.6. Civil Defence Emergency Management

The Civil Defence Emergency Management Act 2002 was developed to ensure that the community is in the best possible position to prepare for, deal with, and recover from local, regional and national emergencies. The Act requires that a risk management approach be taken when dealing with hazards including natural hazards. In identifying and analyzing these risks the Act dictates that consideration is given to both the likelihood of the event occurring and its consequences. The Act sets out the responsibilities for Local Authorities. These are to:

- ensure you are able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency
- plan and provide for civil defence emergency management within your own district.

Tasman District Council and Nelson City Council deliver civil defence on a joint basis as the Nelson Tasman Civil Defence Emergency Management (CDEM) Group. The vision of the CDEM Group is to build "A resilient Nelson Tasman community".

Civil Defence services are provided by the Nelson Tasman Emergency Management Office. Other council staff are also heavily involved in preparing for and responding to civil defence events. For example, Council monitors river flows and rainfall, and has a major role in alleviating the effects of flooding.

At the time of writing the Nelson Tasman Civil Defence Emergency Management Group released its Draft Regional Plan for community consultation. The Plan sets out how Civil Defence is organised in the region and describes how the region prepares for, responds to and recovers from emergency events.

Q.2.7. Engineering Lifelines

Nelson Tasman Engineering Lifelines (NTEL) project commenced in 2002 and concluded in 2009 with a report and risk assessments titled *Limiting the Impact*. The purpose of the report was:

- to help the Nelson Tasman region reduce its infrastructure vulnerability and improve resilience through working collaboratively
- to assist Lifeline Utilities with their risk reduction programmes and in their preparedness for response and recovery
- to provide a mechanism for information flow during and after an emergency event.

The project was supported and funded by the two controlling authorities, Nelson City Council and Tasman District Council. Following the initial start-up forum in 2002, a Project Steering Group was formed and initial project work was completed. In 2008, the NTEL Group was formed. The initial work to investigate risks and assess vulnerabilities from natural hazard disaster events was divided amongst five task groups:

- Hazards Task Group
- Civil Task Group
- Communications Task Group
- Energy Task Group
- Transportation Task Group.

These groups were then tasked with assessing the risk and vulnerability of segments of their own networks against the impacts of major natural hazard disaster events. These natural hazards included:

- earthquake
- landslide
- coastal / flooding.

The Nelson Tasman region is geotechnically complex with high probabilities of earthquake, river flooding and landslides.

By identifying impacts that these hazards may have on the local communities, NTEL aim to have processes in place to allow the community to return to normal functionality as quickly as possible after a major natural disaster event.

To date the project has identified the impacts of natural hazards and the critical lifelines of the regions service networks including communication, transportation, power and fuel supply, water, sewerage, and stormwater networks.

The initial NTEL assessment work is the first stage of an on-going process to gain a more comprehensive understanding of the impacts of natural hazards in the Nelson Tasman region.

The review date of the NTEL assessments is not rigidly set in place, but it is envisaged that a five-yearly on-going review period is appropriate with more frequent reviews and updates necessary and beneficial as new or updated relevant information becomes available.

Q.2.8. Recovery Plans

These plans are designed to come into effect in the aftermath of an event causing widespread damage and guide the restoration of full service.

The Recovery Plan for the Nelson Tasman Civil Defence and Emergency Management Group (June 2008) identifies recovery principles and key tasks, defines recovery organisation, specifies the role of the Recovery Manager, and outlines specific resources and how funds are to be managed.

Information about welfare provision in the Nelson-Tasman region is contained in a Welfare Plan (December 2005), which gives an overview of how welfare will be delivered during the response and recovery phases of an emergency.

The plan is a coordinated approach to welfare services for both people and animals in the Nelson Tasman region following an emergency event.

Q.2.9. Business Continuance

Council has a number of processes and procedures in place to ensure minimum impact to rivers services in the event of a major emergency or natural hazard event.

- Council have limited business continuity plans that were developed around influenza pandemic planning in 2006.
- Council's rivers contractors have up to date Health and Safety Plans in place
- Council's professional services consultant (MWH New Zealand Ltd) have an Emergency Response and Business Continuity Plan as part of their Branch Guide August 2011.

APPENDIX R LEVEL OF SERVICE, PERFORMANCE MEASURES AND RELATIONSHIP TO COMMUNITY

R.1 Introduction

A key objective of this AMP is to match the level of service provided by the rivers activity with agreed expectations of customers and their willingness to pay for that level of service. The levels of service provide the basis for the life cycle management strategies and works programmes identified in the AMP.

The levels of service for rivers have been developed to contribute to the achievement of the stated Community Outcomes that were developed in consultation with the community, but taking into account:

- the Council's statutory and legal obligations
- the Council's policies and objectives
- the Council's understanding of what the community is able to fund.

R.2 How Do Our Rivers Activities Contribute to the Community Outcomes?

Through consultation, the Council identified eight Community Outcomes. These Community Outcomes are linked to the four well beings and Council Objectives as shown in Table R-1.

Table R-1: Community Well-beings, Outcomes, Council Objectives, Groups and Activities

Community Outcomes	Council Objectives	Council Groups of Activities	Council Activities
Community Wellbeing - Environmental			
Our unique natural environment is healthy and protected	To ensure sustainable management of natural and physical resources and security of environmental standards.	Environment and Planning	• Resource Policy • Environmental Information • Resource Consents and Compliance • Environmental Education, Advocacy and Operations • Regulatory services • Rivers and Flood Management
Our urban and rural environments are pleasant, safe and sustainably managed.			
Our infrastructure is safe, efficient and sustainably managed.	To sustainably manage infrastructural assets relating to Tasman district.	Transportation	• Regional Cycling and Walking Strategy • Land Transportation • Coastal Structures • Aerodromes
		Sanitation, drainage and water supply	• Solid Waste • Wastewater • Stormwater • Water Supply

Community Outcomes	Council Objectives	Council Groups of Activities	Council Activities
Community Wellbeing - Social and Cultural			
Our communities are healthy, resilient and enjoy their quality of life.	To enhance community development and the social, natural, cultural and recreational assets relating to Tasman district.	Cultural services and grants.	• Cultural services and community grants
Our communities respect regional history, heritage and culture.		Recreation and leisure	• Community recreation • Camping grounds • Libraries • Parks and Reserves
Our communities have access to a range of cultural, social, educational and recreational services.		Community support services	• Community facilities • Emergency management • Community housing • Governance
Our communities engage with Council's decision-making processes.			
Community Wellbeing - Economic			
Our developing and sustainable economy provides opportunities for us all.	To implement policies and financial management strategies that advance. To promote sustainable development in the Tasman district.	Council Enterprises	• Forestry • Property • Council controlled organisations.

The table below (Table R-2) describes how the rivers activities contribute to the Community Outcomes.

Table R-2: How the River Activities Contribute to Community Outcomes

Community Outcomes	How our River Activity Contributes to the Community Outcome
Our unique natural environment is healthy and protected	Our river protection and flood mitigation activities are carried out so that the impacts on the natural river environments are minimised to a practical but sustainable level, and use best practices in the use of the districts natural resources.
Our urban and rural environments are pleasant, safe and sustainably managed.	Our rivers protection works and flood control structures protect our most "at risk" communities and rural areas from flooding and are maintained in a safe and cost-effective manner.
Our infrastructure is safe, efficient and sustainably managed.	Our flood protection and mitigation structures are maintained in an environmentally sustainable manner to a level supported by the community.

R.3 Level of Service

Levels of service are attributes that Tasman District Council expects of its assets to deliver the required services to stakeholders.

A key objective of this plan is to clarify and define the levels of service for the rivers assets, and then identify and cost future operations, maintenance, renewal and development works required of these assets to deliver that service level. This requires converting user's needs, expectations and preferences into meaningful levels of service.

Levels of service can be strategic, tactical, operational or implementation and should reflect the current industry standards and be based on.

- ***Customer Research and Expectations:*** Information gained from stakeholders on expected types and quality of service provided.

- ***Statutory Requirements:*** Legislation, regulations, environmental standards and Council By-laws that impact on the way assets are managed (ie. resource consents, building regulations, health and safety legislation). These requirements set the minimum level of service to be provided.

- ***Strategic and Corporate Goals:*** Provide guidelines for the scope of current and future services offered and manner of service delivery, and define specific levels of service, which the organisation wishes to achieve.

- ***Best Practices and Standards***: Specify the design and construction requirements to meet the levels of service and needs of stakeholders.

R.3.1. *Industry Standards and Best Practice*

The AMP acknowledges Council's responsibility to act in accordance with the legislative requirements that impact on Council's rivers activity. A variety of legislation affects the operation of these assets, as detailed in Appendix A.

R.3.2. *Prioritisation related to available resources*

With rivers assets, there are often higher levels of maintenance and renewal requirements proposed (increased levels of service etc) than the resources allow for. Tradeoffs then have to be made as to what impacts on the ability of an asset to provide a service against the nice to have aspects.

R.4 What Level of Service Do We Seek to Achieve?

There are many factors that need to be considered when deciding what level of service the Council will aim to provide. These factors include:

- Council needs to aim to understand and meet the needs and expectations of the community
- the services must be operated within Council policy and objectives and
- the community must be able to fund the level of service provided.

Two tiers of levels of service are outlined, Strategic and Operational.

The operational levels of service and performance measures are used to ensure the service and facilities are able to achieve the strategic levels of service and Councils objectives.

Level of services need to be reviewed and upgraded on a continuous basis in line with legislative and regulatory changes and feedback from customers, consultation, internal assessments, audits and strategic objectives.

The levels of service that the Council has adopted for this AMP have been developed from the levels of service prepared in the July 2006 and July 2009 AMP. They take in account feedback from various parties, including Audit New Zealand, industry best practice and ease of measuring and reporting of performance measures.

Council has decided to reduce the number of levels of service reported in the LTP, showing only those that are considered to be Customer Focused. The AMP extends the levels of service and performance measures to include the more technical measures associated with the management of the activity.

Table R-3 details the levels of service and associated performance measures for the rivers activity. Those shaded are the customer focused measures which are included in the LTP. The table sets out Council's current performance and the targets they aim to achieve within the next three years and by the end of the next 10 year period.

The levels of service and performance measures are consulted on and adopted as part of the LTP consultation process.

R.5 What Plans Have Council Made to Meet the Levels of Service?

In preparing the future financial forecasts, Council have included specific initiatives to meet the current or intended future Levels of Service.

Council is making a capital works investment of $37.8 million over the 20 year period to upgrade existing rivers assets and improve levels of service. This includes the following projects:

- Class X and Y asset creation (largely additional rock protection)
- Lower Motueka Flood Control project
- Takaka Flood Control project
- Borlase Catchment project
- T3 development including database completion.

In addition to the capital works, Council has allocated a budget of $24 million over the 20 year period for the operation and maintenance of its current and future river assets. This allocation includes for professional services and for investigation work and studies such as:

- webcam investigation
- procurement of new maintenance contracts
- resource consent procurement.
- a programme of crack willow eradication is being implemented. It is intended that 90km of the X and Y classified rivers will be free of crack willow by June 2015.

R.6 Levels of Service Linked to Legislation

Crack willow has been placed on the unwanted organism list by Ministry of Agriculture and Forestry (MAF). The Council is required to manage the propagation/removal of crack willow accordingly and has hence been included as a level of service.

Table R-3: Assessment of Current Performance against Levels of Service and Intended Future Performance

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if…)	Current Performance (to end June 2011)	Future Performance			Future Performance (targets) by Year 10 2021/22
				Year 1 2012/13	Year 2 2013/14	Year 3 2014/15	
Community Outcome: Our unique natural environment is healthy and protected.							
1	**Our works are carried out so that the impacts on the natural river environments are minimised to a practical but sustainable level.**	*Resource consents are held and complied with for works undertaken by Council or its contractors in the rivers in the district.* *As measured by the number of abatement notices issued to Council's rivers activity.*	**Actual = No abatement notices issued** *Resource consents held are:* *Global* – for works in rivers and some gravel extraction; and *vegetation spraying.* Contracts include the conditions of the consents and performance measures include requirements to meet the Resource Consent conditions. The Council or its contractor have not received any non-compliance with respect to the resource consents or any abatement notices.	*No abatement notices issued*	*No abatement notices issued*	*No abatement notices issued*	*No abatement notices issued*
2		Over time Council manages crack willow from banks and berm areas. As measured by kilometres of river bank cleared of crack willow per year.	**Actual = 2009/10 - 18.5 km** **Actual = 2010/11 - 14.9 km**	15km/yr	15km/yr	15km/yr	15km/yr
3	**We manage waste/rubbish in the river system.**	*Complaints about illegal dumping in the X and Y classified rivers and on adjacent beaches on public land are responded to within 10 days.* *As measured through Customer Service Requests in Council's database.*	**Actual =** Not currently measured	*90%*	*90%*	*90%*	*90%*

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if…)	Current Performance (to end June 2011)	Future Performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
Community Outcome: Our urban and rural environments are pleasant, safe and sustainably managed.							
4	**We maintain Council's stopbank assets in River X classified areas to deliver flood protection to the level that the stopbanks were originally constructed.**	Our stopbanks are maintained to their original constructed standard. (Riwaka River = 1 in 10 yr flood return). (Lower Motueka River = 1 in 50 yr flood return). (Waimea River = 1 in 50 yr flood return). As measured by their performance in flood events and/or flood modelling where this has been undertaken.	**Actual** Riwaka River = 88% Motueka River = 100% Waimea River = 100%	88% 100% 100%	88% 100% 100%	88% 100% 100%	88% 100% 100%
5	**In River Y classified areas Council manages the river to minimise bank erosion up to an annual event.**	Maintenance work in River Y classified areas is undertaken to rectify or minimise bank erosion as identified through annual river care group meetings and incorporated in the Annual Operating Maintenance Programme (AOMP). As measured through completion of scheduled works detailed in the AOMP.	**Actual =** 98% of scheduled works The year saw some disruption to the annual works programme due the significant flood event that occurred in December 2010.	100%	100%	100%	100%
6	**In River Z rating areas we provide technical support and partial funding assistance when available to protect private property from river damage.**	Council funding for River Z related works is allocated on a first-in, first-served basis and the budget is fully spent/committed by year end. As measured through date of receipt of acceptable proposals for River Z works completed.	**Actual = 14 completed of 29 approved** Because of the significant flood event of 28 December 2010 and subsequent high number of River Z enquires some of the requests were not able to be responded to within 10 days.	100% completed	100% completed	100% completed	100% completed
Community Outcome: Our infrastructure is safe, efficient and sustainably managed.							
7	**River maintenance works are planned with community input and professionally implemented.**	An annual meeting is held with River care Groups to provide input into the development of the Annual Operating Maintenance Programme. As recorded in minutes of the meeting.	**Actual =** Council consult with River Care groups, iwi, Fish and Game and DoC on its annual maintenance programmes.	Yes	Yes	Yes	Yes

APPENDIX S ASSET MANAGEMENT INFORMATION SYSTEMS AND DATA MANAGEMENT, AND ENABLING PROCESSES FOR ASSET MANAGEMENT

S.1 Introduction

This Activity Management Plan has been developed as a tool for Council to describe how they intend to manage their assets, meet the levels of service agreed with the community and to explain the expenditure and funding requirement. It forms part of Councils Asset Management Process which is in general alignment with the International Infrastructure Management Manual (IIMM) as shown below in Figure S-1.

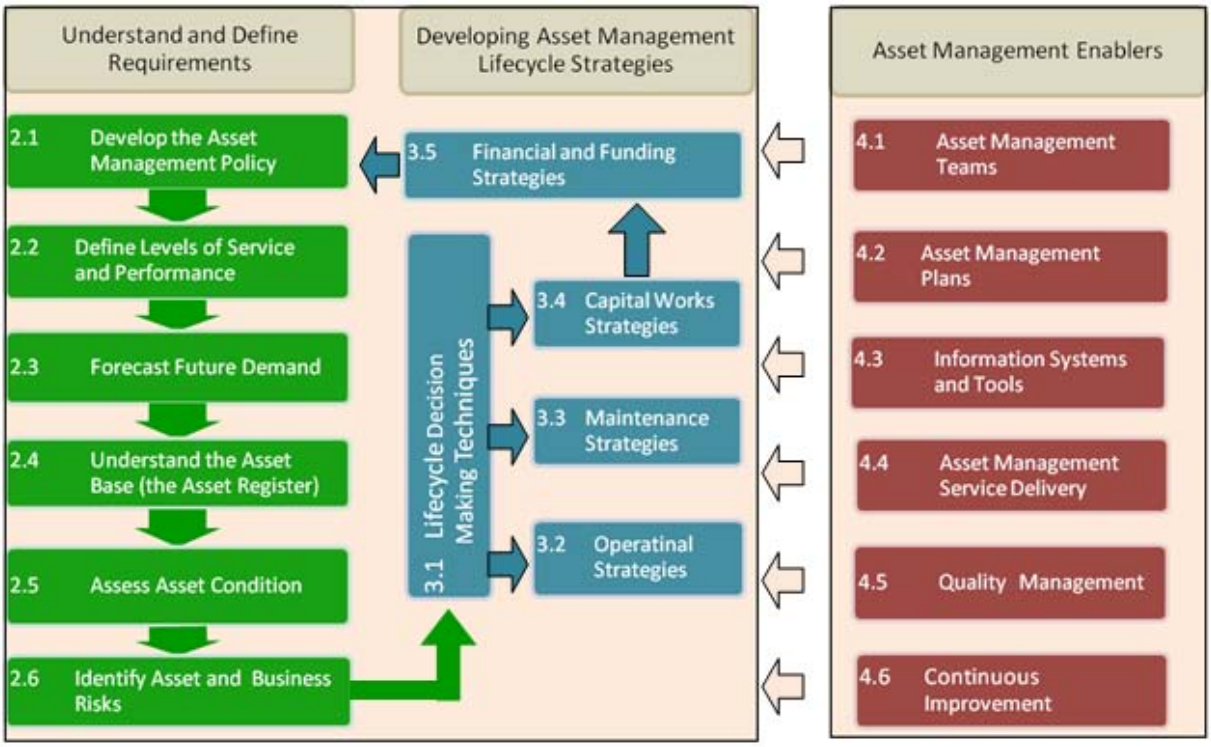

Figure S-1: The Asset Management Process

S.2 Understanding and Defining Requirements

S.2.1. Develop the Asset Management Policy

S.2.1.1 Selecting the Appropriate Level of Asset Management

The Asset Management Policy provides the direction as to the level of asset management expected and can differ between activities. Council underwent a process in 2010 with asset management consultants Waugh Infrastructure Management Ltd in which they identified the appropriate level of asset management to target for their engineering activities. During this process, Council and consultant staff assessed a range of parameters to establish the base level of asset management to provide the community for each activity including:

- district and community populations
- issues affecting the district and each activity
- the costs and benefits to the community
- legislative requirements
- the size, condition and complexity of the assets
- the risk associated with failures
- the skills and resources available to the organization
- customer expectation.

IIMM (2006) identified two levels of asset management; Core and Advanced. Waugh Infrastructure Management Ltd classed the transition between the two as being Core Plus. Core Plus is above Core asset management but below being fully compliant with Advanced asset management and can vary between Core with one or two Advanced categories, through to being substantially or fully compliant with most of the Advanced categories.

Upon completion of the process, Council have set CORE as the target level at which they want to be managing the Rivers Activity. The detail of required category compliance is under separate cover (Selecting the Appropriate Asset Management Level, Waugh August 2010).

S.2.1.2 Performance Review of Rivers Activity Management Practices

Council underwent a process at the end of the 2009 AMP to undertake a high level review of the AMPs and associated activity management processes against good practice asset management as described in the IIMM and in accordance with the Office of Auditor General. During this process, the AMP and associated practices were scored to give a snap shot of the current status and then set targets as to where Council wished to head. The 2009 AMP Improvement Plan was assessed in its effectiveness to close the gap between actual and target compliance levels and new items added to the Improvement Plan where gaps were identified (Appendix V).

The results of the review are detailed under separate cover (Performance Review of Rivers Activity Management Processes, MWH New Zealand Ltd February 2010).

The two reviews described above were carried out independently of each other however the outputs from both were compared to ensure consistency of recommendations. Whilst both reviews focused on slightly different aspects of asset management practices, there was no conflict between the recommendations made. Table S-1 below shows analysis undertaken to link the two reviews to identify the compliance gaps and actions that should be undertaken to address them.

Table S-1: Analysis of Asset Management Reviews

	Rivers		
	CORE	**Compliance Status**	**Compliance Gaps to Address to Meet CORE**
Description of Assets	Advanced (minus the systematic monitoring of performance)	Substantially Compliant	**Action:** River ratings to be reassessed.
Levels of Service	Core	Compliant	
Managing Growth	Core	Compliant	**Action:** There is a desire to aim for higher level than Core - Identify potential impacts from all demand factors, not just population.
Risk Management	Core (plus demonstration of IRM)	Partially Compliant	Compliance will improve with implementation of IRM.
Lifecycle Decision Making	Core (plus identification of options for asset maintenance)	Substantially Compliant	**Action:** Consider and document links with other activities (eg. Stormwater).
Financial Forecasts	Advanced (with the exception of sensitivity testing of forecasts)	Compliant	No plans to undertake sensitivity testing of forecasts.

	Rivers		
	CORE	**Compliance Status**	**Compliance Gaps to Address to Meet CORE**
Planning Assumptions and Confidence Levels	Core (plus assumptions listed)	Substantially Compliant	**Action:** River ratings to be reassessed. **Action:** Flood risk curves to be prepared.
Outline Improvement Programmes	Advanced	Partially Compliant	**Action:** Identify timeframes, priorities and resources for Improvement Plan actions.
Planning by Qualified Persons	Core	Compliant	Intending to achieve Advanced by undertaking Peer Review.
Commitment	Advanced	Substantially Compliant	**Action:** More emphasis and commitment needed to Improvement Plan.

S.2.2. Defined Level of Service and Performance

Levels of service have been reviewed since the 2009 AMP, taking account of Community Outcomes, Legislative Requirements, financial constraints and knowledge of asset performance. Community Outcomes, levels of service, Performance Measures and current performance are detailed in Appendix R of this AMP.

S.2.3. Forecast Future Demand

Population and demand forecasting has been updated since the 2009 AMP and is described in Appendix F.

Demand Management has been undertaken as described in Appendix N.

S.2.4. Understand the Asset Base

Council has a wealth of information on their assets which is collected, recorded and stored through a number of different systems. Data is graded for accuracy and completeness as shown in Table S-2.

Table S-2: Asset Data Accuracy and Completeness Grades

Grade	Description	Accuracy
1	Accurate	100%
2	Minor inaccuracies	± 5%
3	50% estimated	± 20%
4	Significant Data estimated	± 30%
5	All data estimated	± 40%

Grade	Description	Completeness
1	Complete	100%
2	Minor Gaps	90 – 99%
3	Major Gaps	60 – 90%
4	Significant Gaps	20 – 60%
5	Limited Data Available	20% or less

Table S-3 summarises the various data types, data source and how they are managed within Council. It also provides a grading on data accuracy and completeness where appropriate. Council is constantly improving the accuracy and completeness of their data.

Council's corporate Asset Management System (AMS) is Confirm Enterprise. The Engineering Department uses Confirm to record and track customer enquiries, maintain its asset register and for tracking non-routine maintenance of assets. Valuation of assets is also run from Confirm.

The Asset Information team, Asset Managers, Council's consultants and contractors all have access to the system with levels of access appropriate to their needs.

Council's Confirm system is the primary asset management system and data management tool for the engineering activities. Confirm is a modular system and is a powerful tool used for the storage, interrogation and reporting of asset data.

Table S-3: Data Types and Sources

Information System	Data Type	Management Strategy	Data Confidence	
			Accuracy	Completeness
Confirm	Asset Location (point data)	Point data is provided in Confirm. All spatial data will be migrating to GIS in 2011/12 so will no longer be held in Confirm.	2	2
	Asset Description	Council's Asset Register is held in Confirm. It contains information on asset extent, age, remaining life, condition etc. Asset Valuations are undertaken through Confirm. Asset hierarchy capability is available in Confirm but Council do not see the need to implement this function at this stage.	3	3
	Customer Service	All customer enquiries and service requests are logged and can be assigned, tracked and analysed. The Customer Service Requests help drive the day to day reactive maintenance programme.	2	2
	Asset Condition Data	Condition data is collected through the maintenance contractor when undertaking works, inspections or following installation.	2	2
	Historical Data	Confirm holds data on jobs and maintenance for approximately five years. This allows the interrogation of the system for historical data on specific assets.	2	2
	Critical Assets	The critical assets have been identified as part of the AMP process and are shown in Appendix Q. These assets have not yet been separately identified within Councils Confirm system. There is an item in the Improvement Plan to ensure that the critical assets are separately identified with Confirm to allow easier assessment and reporting.	n/a	0
	Valuation	Council now undertakes it Asset Valuations through the Confirm system	2	2
	Maintenance Information	All newly collected maintenance information is recorded in Confirm. The contractor is now able to collect and record all maintenance information in the field through the use of mobile devices which link to Confirm. Historical information sits with CMS and also with the Contractor's SETI system. Council intend to migrate this historical data into a SQL database accessible from Confirm. Tracking repairs and response times is carried out and reported to ensure key performance measures are being achieved.	3	3

Information System	Data Type	Management Strategy	Data Confidence	
			Accuracy	Completeness
NM2	Resource Consents	NM2 is owned and managed by Council's consultants, MWH New Zealand Ltd. It holds all resource consents for water, wastewater, stormwater, solid waste and roading. NM2 is used to manage the accurate programming of actions required by the consents.	2	2
NCS	Financial Information	Council Accounting and Financial systems are based on Napier Computer Systems (NCS) software and GAAP Guidelines. Long term financial decisions are based on the development of 20-year financial plans.	2	2
GIS	Asset location	GIS is compiled from as-built information and should be the first port of call for asset location. However, there is a short time delay with importing the data into GIS so it is sometimes necessary to refer to the as-builts.	2	2
SilentOne	As Builts	As-builts are the primary source of asset location data. As-built plans of all new assets are scanned and incorporated into SILENTONE. This allows digital retrieval of as-builts from the GIS system. Early as-builts are to a lesser quality, however in recent years as-builts quality has been significantly improved and are now prepared to specific standards and reviewed/audited on receipt.	2	2
Growth Model Database	Growth and Demand Supply Model (GDSM)	The GDSM underpins Council's long term planning. It is not an isolated tool that calculates a development forecast, it is a number of linked processes that involve assessment of base data, expert interpretation and assessment, calculation and forecasting.	2	2
Tenderlink	Tenders	Council upload all Request for Tender documents onto the Tenderlink system which allows contractors to download for tender. The system also holds key information for tenderers. Tenderlink is a national database.	1	1
Various	Other Data Types	A large amount of information is not yet stored centrally within Council and is held and updated by Council's consultants or contractors. Council are moving towards Confirm being the primary source for all asset information, so these data sources will eventually migrate to Confirm.	3	3
Various	Asset Photos	Council's intention is that a library of asset photos will be stored within Confirm. At present however, electronic asset photographs are held by MWH New Zealand Ltd (with the exception of Streetlight which are stored in SilentOne).	2	2

S.2.5. Assess Asset Condition

Council undertakes condition rating as discussed in Appendix B.

S.2.6. Identify Asset and Business Risks

Council have adopted an Integrated Risk Management framework to manage risks, both at corporate and activity level. This is detailed further in Appendix Q.

S.3 Developing Asset Management Strategies

There are many different types of decision making techniques that have been applied by Council during the development of the management plans. These are better described in relevant appendices, but are summarised here in Table S-4.

Procurement of capital, maintenance or renewal work is undertaken in accordance with Council's procurement strategy.

Table S-4: Asset Management Strategies Summary

Strategy	Processes and Systems
Renewals Management (Appendix I)	• Renewals are identified during the annual inspection and maintenance scheduling process. • Optimising review undertaken to identify opportunities for: o "bundling" with other projects – across assets and services – eg. transportation, wastewater, power, telecom o optimised replacement – ie. whether the replacement asset should be the same size, capacity or manufacture, or are there justifications to replace with something different o smoothing of expenditure. • On an annual basis renewal work is programmed for implementation and managed as a programme – either through the Operations and Maintenance contract, or through specific tendered construction projects
Asset Creation Management (Appendix F)	• Asset creation forecasts are developed every three years when updating this AMP. • The 10 year forecast from the last update of the AMP is taken as a starting point, and then the outcomes of growth and demand forecasts, level of service and performance review, the risk management and a workshop with asset managers are used to identify upgrade projects needed. • All capital projects identified are listed and a cost estimate developed. For consistency, a cost estimating spreadsheet has been developed and a series of base rates developed after consultation with suppliers and recent contract prices for the more common work elements. The cost estimating spreadsheets require: o assessment of construction and non-construction costs (ie. engineering, consenting costs, land costs) o an assessment of contingency needed – on a consistent basis between estimates o an evaluation of the project drivers – increased level of service, growth or renewal o an evaluation of a programme of implementation – spanning years to ensure appropriate time allowed for developing the project o a statement of the scope of the upgrade and a statement of risks and assumptions made in preparing the estimate. • Once estimated the forecasts are combined in a capital expenditure forecast database that records the outcomes of the estimate in a manner that allows summation of the work value against various criteria – scheme, project driver (growth, increased LoS or renewal), year or project. It is also used as an input into Council's financial system.

	• The funding of the capital forecast is modeled in Council's financial system NCS, and the implications for the forecast review at Council officer level and Councilor level. Any changes made to the projection in terms of deferring, adding or deleting projects is recorded and the implications on risk, growth or level of service stated. • The records of the individual project estimate sheets and the overall capital forecast spreadsheet are filed and retained.
Operational and Maintenance (Appendix E)	• Operations and maintenance procedures and specifications are detailed in the current maintenance contract document. • Includes Strategic Studies such as Webcam Investigation and T3 Development.

S.4 Asset Management Enablers

The Asset Management Enablers are the aspects that underpin the whole asset management decision making at each stage of the Asset Management Process. These are summarised here, but detailed further throughout this AMP.

- Asset Management Teams – consists of Asset Managers and their consultants
- Asset Management Plans – this AMP is a key part of the asset management process and is updated on a regular basis.
- Information Systems and Tools – these are detailed in Table S-3.
- Asset Management Service Delivery – include the procurement strategies that ensure Council delivers the asset management activities in the most cost-effective way. This is primarily managed through a professional services contract with MWH New Zealand Ltd for consultation services, operation and maintenance contract and through a special procurement and tender process for construction work.
- Quality Management – there are a variety of rigorous quality assurance processes involved in management of the rivers activity.
- Continuous Improvement – Covered by Appendix V. The Improvement Programme shown in this document is a snapshot of the programme in its current state. The Improvement Programme is reviewed and updated on a regular basis.

APPENDIX T BYLAWS

The following bylaws have been adopted by Council:

- Consolidated Bylaws 2006 – Introduction
- Control of Liquor in Public Places 2007
- Dog Control Bylaw 2009
- Freedom Camping Bylaw 2011
- Navigation Safety Bylaw 2006
- Speed Limits Bylaw 2004
- Stock Control and Droving Bylaw 2005
- Trade Waste Bylaw 2005
- Trading in Public Places Bylaw 2010
- Traffic Control Bylaw 2005
- Water Supply Bylaw 2009

In accordance with the Local Government Act 2002, these bylaws will be reviewed no later than 10 years after they was last reviewed.

None of the above bylaws have direct relevance to this activity.

APPENDIX U STAKEHOLDERS AND CONSULTATION

U.1 Stakeholders

There are many individuals and organisations that have an interest in the management and / or operation of Council's assets. Council underwent a process whereby they indentified an extensive list of these stakeholders and what aspects they value in the activity. The outcomes of that process are summarised below in Table U-1.

A full list is detailed under separate cover in Levels of Service Gap Analysis MWH New Zealand Ltd, December 2010.

Table U-1: Stakeholders

Stakeholder Group	Core Values
Customers / users	Accessibility Affordability Environmental sustainability Quality Reliability / responsiveness Risk mitigation Customer service
Regulatory	Compliance Customer service
Service providers / suppliers	Affordability Compliance Reliability / responsiveness
Elected members	Affordability Customer service
Media	Customer service
Approval authority (funding) / funder	Affordability Compliance Customer service
Others (industry bodies, lobby groups, government departments, other affected parties	Customer service

U.2 Consultation

U.2.1. Purpose of Consultation and Types of Consultation

Council consults with the public to gain an understanding of customer expectations and preferences. This enables Council to provide a level of service that better meets the community's needs.

The Council's knowledge of customer expectations and preferences is based on:

- feedback from surveys
- public meetings
- feedback from elected members, advisory groups and working parties
- analysis of customer service requests and complaints
- consultation via the Annual Plan and LTP process.

Council commissions customer surveys on a regular basis, usually every three years, from the National Research Bureau Ltd[6], but more recently on an annual basis. These Communitrak™ surveys assess the levels of satisfaction with key services, including rivers, and the willingness across the community to pay to improve services.

Council at times will undertake focused surveys to get information on specific subjects or projects.

U.2.2. Consultation Outcomes

The most recent NRB Communitrak™ survey was undertaken in May/June 2011. When asked if they would like to see more, less or about the same spent on rivers and flood protection, given that the Council cannot spend more without increasing rates, 92% said they would like to see more or about the same spent.

River Care Groups

River Care groups have been formed in the following catchments; Takaka Waingaro/Anatoki, Aorere/Kaituna, Upper Motueka, Motupiko, Dove, Lower Motueka, Riwaka and Little Sydney. The Golden Bay groups were facilitated by the Nelson Catchment Board (NCB) and have been established since the late 1980s. The remaining groups have been established from the early 1990s.

River Care groups are selected informally within each community to represent landowners adjacent to rivers. They are consultative groups which liaise with Council regarding the management of the district's rivers. Each group meets annually with Council representatives to share information relating to the rivers, make recommendations on the priority of work in the annual programme and discuss gravel extraction allocations. In early 1997 the Rivers Task Force presented a policy to River Care groups for the establishment of more formal committees with an elected convenor and secretary.

The proposal was rejected unanimously by all the River Care groups (reflecting satisfaction with the existing informal arrangement) with the exception of the Upper Motueka group.

River Care groups include.

- Upper Motueka catchment– with representation from Upper Motueka River, Motupiko, Sherry and Tadmor.
- Lower Motueka catchment - (Motueka Community Board abdicated late 2006 following the setup of a landowner represented committee).
- Riwaka catchment – with representation from Brooklyn Stream.
- Takaka catchment – with representation from Waingaro and Anatoki.
- Aorere catchment – including Kaituna River.
- Dove catchment.

During the meeting, the River Care groups are presented with the draft annual operations and maintenance forward programme (AOMP). The members are provided with the opportunity to re-prioritise the proposed works, including addition to or deletion of items in that programme. In 2006, a River Care Group Charter was developed particularly to help guide the establishment of the new Lower Motueka Group.

Flood Control Projects

Significant consultation is undertaken with the affected communities during the planning and investigation stages of flood control projects. The consultation aims to identify the communities desired level of service, this includes the potential increases in targeted rates. Currently there is consultation underway for the Motueka Flood Control Project.

[6] Communitrak™: Public Perceptions and Interpretations of Council Services / Facilities and Representation, NRB Ltd May/June 2011.

APPENDIX V STAKEHOLDERS AND CONSULTATION

V.1 Process Overview

The Activity Management Plans have been developed as a tool to help Council manage their assets, deliver the levels of service and identify the expenditure and funding requirements of the activity. Continuous improvements are necessary to ensure Council continues to achieve the appropriate (and desired) level of activity management practice; delivering services in the most sustainable way while meeting the community's needs.

Establishment of a robust, continuous improvement process ensures Council is making the most effective use of resources to achieve an appropriate level of asset management practice.

The continuous improvement process includes:

- identification of improvements
- prioritisation of improvements
- establishment of an improvement programme
- delivery of improvements
- on-going review and monitoring of the programme.

All improvements identified are included in a single improvement programme encompassing all activities managed by Council's Engineering Services. In this way, opportunities to identify and deliver cross-activity improvements can be managed more efficiently, and overall delivery of improvement can be monitored across this part of Council's business.

V.2 Strategic Improvements

In April 2010 Council identified the key cross activity improvement actions within Engineering Services for implementation prior to development of the AMPs for the 2012 to 2022 long term plan period. These were:

- update the growth strategy for the changed economic climate
- review levels of service to ensure they adequately cover core customer values
- implement Council's integrated risk management approach to activity level.

These actions were all completed and have fed into the development of the current Activity Management Plan.

V.3 Training

Council do not have a formal schedule of required training, however both Council's staff and its consultants participate in training on a regular basis to ensure that best practice is maintained. This also helps to maintain a good asset management culture.

Council and its consultants are structured in a way that encompasses succession planning to prevent the loss of knowledge in the event of staff turnover. This AMP document also prevents loss of knowledge by documenting practices and process associated with this activity.

V.4 Asset Management Practice Reviews

Since the last AMP review, Council has undertaken a performance review of all Engineering Services activity management practices to compare how they align with the requirements of the Local Government Act 2002, Office of Auditor General (OAG) and industry best practices. This review process has been applied to identify improvement actions, and to monitor achievement of improvements against industry practice areas and Council priorities.

The results of reviews in 2009 and 2011 are shown on Figure V-1 below for this activity. Overall the targeted level (hollow bars) of improvement has been achieved or exceeded (results are shown as solid colour bars).

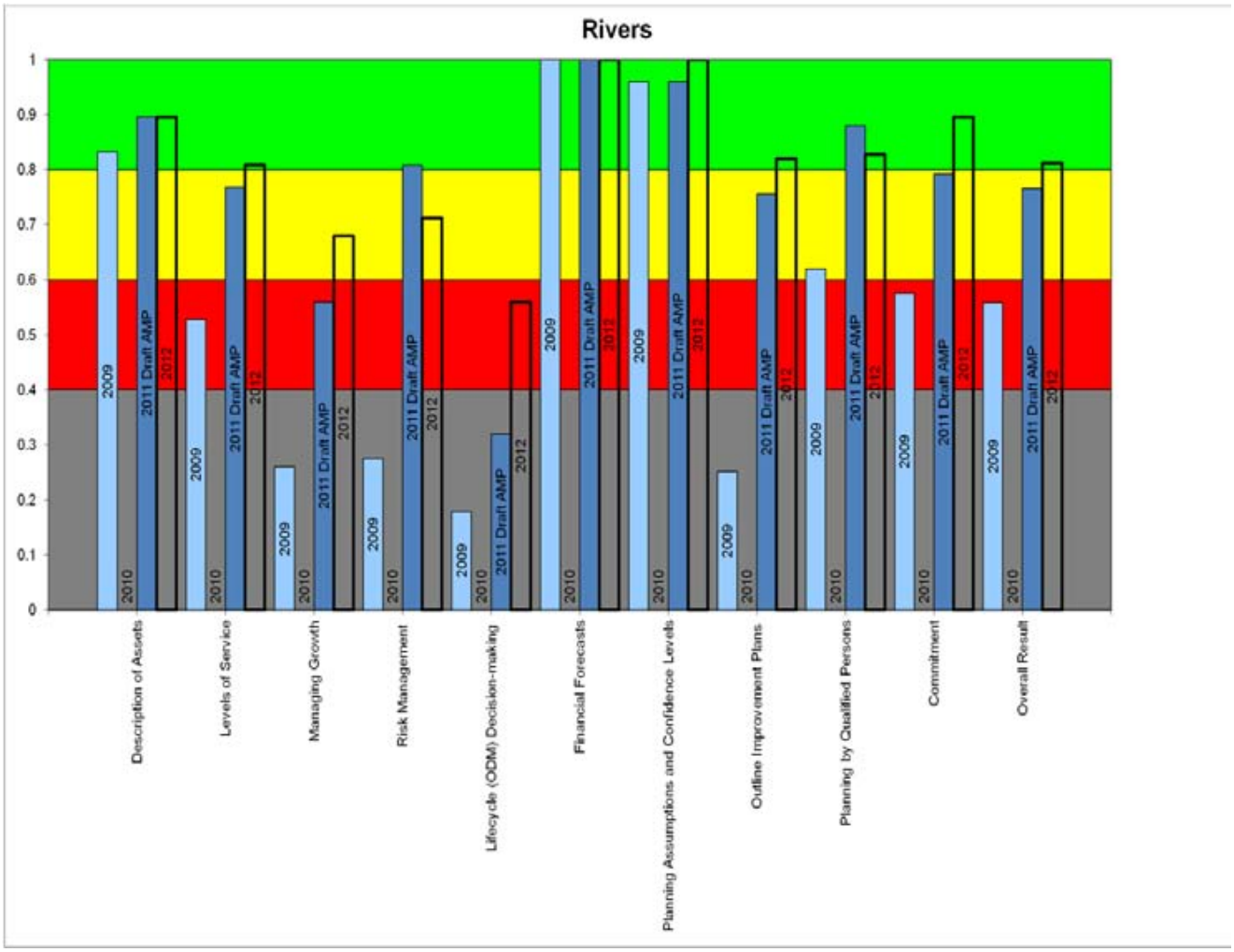

Figure V-1: Results of Benchmarking Review on Draft AMP

The methodology and the findings from the review are detailed in a separate report (*Performance Review of Rivers Activity Management Practices*; MWH New Zealand Ltd, February 2010, and separate benchmarking review tables completed September 2011).

Council also sought consultation on selecting the appropriate level of activity management (*Selecting the Appropriate AM Level*; Waugh, August 2010).

Improvement actions identified in both of these review processes were included in the improvement programme.

Council will review the currency of the performance review checklist used to identify improvement actions as a result of the recent update to the International Infrastructure Management Manual (NAMS, 2011), and will update this checklist as appropriate. This is an Engineering Services improvement item encompassing all activities and is therefore not identified on the improvements list for this activity.

V.5 Peer Review

This AMP document was subject to a peer review in its Draft format by Waugh Infrastructure Management Ltd in October 2011. The document was reviewed for compliance with the requirements of the LGA 2002. The findings from the review indicated a need to present further discussion or evidence in the AMP to support the practices and processes in place in the operation, management and administration of the activity.

The findings and suggestions were assessed and prioritised by the asset management team. Those items that proved to be of sufficiently high value and efficiency to address were included in the Draft for Consultation (Version 4) of this document. The remainder were added to the Improvement Plan where necessary.

Version 4 of this document was then reviewed a final time by Waugh Infrastructure Management Ltd in May 2012. The report produced has been included at the end of this Appendix.

V.6 Improvement Programme Status

A summary on the status of all improvement items related to this activity are shown in Table V-1 below, and are split by the year that they were identified.

Table V-1: Status of Improvement Items

Row Labels	In Progress	Not Started	Complete	Not Relevant	Grand Total
2009	**1**	**4**	**3**	**1**	**9**
4 - Risk Management			2		2
5 - Lifecycle (Optimised) Decision-making	1				1
6 - Financial Forecasts		1			1
7 - Planning Assumptions & Confidence Levels		2		1	3
10 - Commitment		1	1		2
2010	**3**	**5**	**15**		**23**
1 - Description of Assets			2		2
2 - Levels of Service			4		4
3 - Managing Growth	2	2	2		6
5 - Lifecycle (Optimised) Decision-making		3	1		4
7 - Planning Assumptions & Confidence Levels			1		1
8 - Outline Improvement Programmes	1				1
9 - Planning by Qualified Persons			2		2
10 - Commitment			3		3
2011	**1**	**24**			**25**
1 - Description of Assets		3			3
2 - Levels of Service		1			1
3 - Managing Growth		1			1
4 - Risk Management		4			4
5 - Lifecycle (Optimised) Decision-making		9			9
6 - Financial Forecasts		2			2
7 - Planning Assumptions & Confidence Levels		2			2
8 - Outline Improvement Programmes	1	1			2
9 - Planning by Qualified Persons		1			1
Grand Total	**5**	**33**	**18**	**1**	**57**

The Improvement Programme will be adopted in line with the adoption of the LTP and this AMP. It will be continuously monitored with a full review on an annual basis and the status of the improvement items assessed and reported.

V.7 Improvement Actions Completed

Improvement items completed for the period (or requiring no future action) are shown in Table V-2 below.

Table V-2: Improvement Actions Completed

Amp Action Reference	Improvement Action	Further Information	Status	Year that Improvement Action was Identified
A.001	**AMP Update:** Review and update AMP on a three year cycle. Next due in 2011.	Due for completion October 2011	Complete	2009
A.002	**Links to Overarching Council Plans: -** Document linkages to the LTCCP in the AMP.	Due for Draft version complete by Oct 2011	Complete	2010
A.003	**Links to Activity Related Plans:** Improve documentation in the AMP of linkages to the Regional Policy Statements.	Due for Draft version complete by Oct 2011	Complete	2010
A.004	**Links to Other Council Plans: -** There are clear linkages to the Water and Stormwater AMPs that need to be identified in the AMP.	Due for Draft version complete by Oct 2011	Complete	2010
E.001	**Maintenance:** -Provide more detail on the relevant maintenance standards and specifications in Appendix E of the AMP.	Due for Draft version complete by Oct 2011	Complete	2010
F.001	**The Level and Impact of New Capital Works on the Network:** Improve documentation of selection criteria for new capital.	Documenting - standard paragraph detailing selection criteria for new capital and the	Complete	2010
H.001	**Resource Consents:** The 2 consent Council holds will be due for renewal in May 2011 and 2015.		Not Relevant	2009
N.001	**Demand factors: -** Identify potential impacts from all demand factors, eg impact of climate change, and document this in the AMP.	To be developed for inclusion in the AMP - start 2010/11	Complete	2010
N.006	**Demand management: -** Robustly translate the demand analysis into non-asset solutions (e.g. working with building management to locate buildings in a different location) and document this in the AMP.		Complete	2010
Q.001	**Risk Management:** Council intends to apply a consistent approach to risk management across all asset groups. Three levels of risk assessment will carried out; Organisation, Asset Group and Critical Assets. Through the improvement on Asset Insurance, for rivers this improvement will be to integrate the flood risk curves into the Council wide risk management system.	Combined project for Organisational IRM, also need to develop at Ops level per activity	Complete	2009
Q.002	**Assumptions:** Outline cost escalation assumptions in Appendix Q.	Due for Draft version complete by Oct 2011	Complete	2010

Amp Action Reference	Improvement Action	Further Information	Status	Year that Improvement Action was Identified
Q.003	**Risk Management:** Council intends to apply a consistent approach to risk management across all asset groups. Three levels of risk assessment will carried out; Organisation, Asset Group and Critical Assets. Through the improvement on Asset Insurance, for rivers this improvement will be to integrate the flood risk curves into the Council wide risk management system.	Due for completion August 10	Complete	2009
R.001	**LOS Development:** Document how LOS have been developed internally within Council in the AMP (currently stated in LTCCP).	Due for Draft version complete by Oct 2011	Complete	2010
R.002	**LOS Development:** Document in the AMP how LOS were developed with customers/users through the consultation that was undertaken.	Due for Draft version complete by Oct 2011	Complete	2010
R.003	**LOS Development:** Develop LOS for the next AMP in conjunction with stakeholders such as the local councils and document this in the AMP.		Complete	2010
R.004	**Gap Analysis:** Determine how LOS gaps (where current LoS is less than the desired LoS) will be addressed and document this in the AMP.		Complete	2010
S.003	**Decision Making and Prioritisation:** Document current process for prioritising renewals in the AMP.	Due for Draft version complete by Oct 2011	Complete	2010
Z.001	**AMP Development: -** Document in the AMP all the departments who provided input to the AMP (e.g. Finance).	Documenting - Standard paragraph on AMP development and input	Complete	2010
Z.002	**Guidance and Up skilling:** Improve documentation in the AMP on how review of previous audits is incorporated.- Document response to Audit NZ report in next version (don't know if Audit NZ have yet reviewed this AMP).	Due for Draft version complete by Oct 2011	Complete	2010

V.8 Current Improvement Actions

Current improvement actions are detailed in Table V-3 below.

Table V-3: Current Improvements Actions

AMP Action Reference	Improvement Action	Further Information	Priority (High, Medium, Low)	Status	Year that Improvement Action was Identified	Forecast Completion Date	Procurement/ Delivery Strategy	Council Person Responsible for Managing to Close	Cost Estimate for Years 1 - 3
B.001	**Private Assets:** Develop an inventory of private river structures.		M	Not Started	2011	2014	Consultant	Gary Clark	
D.001	**Asset Valuations:** Review and update the Asset Valuation on a 3 yearly cycle. Next review due in 2012.	Undertaken at same time as Utilities.	H	Not Started	2009	2012	Consultant	Gary Clark	
E.002	**Lifecycle Decision Making:** Detail how options have been identified for asset maintenance to achieve optimal costs over life.		M	Not Started	2011	2014	Consultant	Gary Clark	
G.001	**Financial Assessment:** Collate historic and new information on Development Contributions to allow analysis of DCs paid vs. forecasts and trending.		M	Not Started	2011	2014	In-House	Peter Thomson	
K.001	**Financial Assessment:** Explore if Councils policy around debt funding is specific enough.		M	Not Started	2011	2014	In-House	Peter Thomson	
M.001	**Asset Insurance:** Prepare regional flood risk curves for rivers maintained.	Project - prepare regional flood risk curves for rivers maintained. TDC driven.	H	Not Started	2009	31-Oct-14	Consultant	Gary Clark	
N.007	**Demand Management:** Collate historical information on demand to enable demand trending and analysis		M	Not Started	2011	2014	Consultant	Gary Clark	
N.002	**Demand factors: -** Identify future demand for all aspects of the activity and document this in the AMP.		M	In Progress	2010	2014	Consultant	Gary Clark	
N.003	**Demand analysis: -** Evaluate base demand due to demand factors other than population (which is already well covered) and document this in the AMP.	Minor project likely to be needed.	M	Not Started	2010	31/10/2014	In-house with consultant support	Gary Clark	
N.004	**Demand analysis: -** Complete analysis of base demand and document this in the AMP.	Minor project likely to be needed.	M	Not Started	2010	31/10/2014	Consultant	Gary Clark	
N.005	**Demand management: -** Robustly translate the demand analysis into new asset works and document this in the AMP.	To be developed for inclusion in the AMP - start 2010/11.	M	In Progress	2010	2014	Consultant	Gary Clark	
P.001	**Sustainability:** Explore the need to develop a Council-wide sustainability Policy.		M	Not Started	2011	2014	In-House	Peter Thomson	
P.002	**Sustainability:** Expand detail on sustainability for the activity. Develop KPIs for environmental, economic and social aspects of sustainable development.		M	Not Started	2011	2014	In-house with consultant support	Peter Thomson	
Q.004	**Cost/Benefit Analysis:** Detail and demonstrate the level of cost/benefit analysis undertaken for projects within the activity.		M	Not Started	2011	2014	Consultant	Gary Clark	
Q.005	**Risk Management:** Implement IRM across Council. Currently being used within individual activities.		M	Not Started	2011	2014	In-House	Peter Thomson	
Q.006	**Risk Management:** Detail and demonstrate how asset criticality and risk analysis is used to develop maintenance strategies.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
Q.007	**Risk Management:** Detail and demonstrate how asset criticality and risk analysis is used to develop renewals strategies.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
Q.008	**Lifecycle Decision Making:** Further develop and detail process for decision making with regards to O&M, renewals, capex and disposals.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
Q.009	**Assumptions and Uncertainties:** Identify the uncertainty level of the more significant assumptions and detail the possible effects.		L	Not Started	2011	2014	In-house with consultant support	Gary Clark	
Q.010	**Asset Data:** Identify and document process for updating and reporting on confidence levels of asset condition and performance.		M	Not Started	2011	2014		Gary Clark	

AMP Action Reference	Improvement Action	Further Information	Priority (High, Medium, Low)	Status	Year that Improvement Action was Identified	Forecast Completion Date	Procurement/ Delivery Strategy	Council Person Responsible for Managing to Close	Cost Estimate for Years 1 - 3
R.005	**Levels of Service:** Develop and incorporate sustainability strategies and operations into Levels of Service and performance measures.		M	Not Started	2011	2014	In-house with consultant support	Peter Thomson	
S.007	**Description of Assets:** - consider adding asset hierarchy into the Confirm system. The capabilities are there, but not yet used by Council.		L	Not Started	2011	2014	In-House	Peter Thomson	
S.008	**Description of Assets:** Improve information on the level of recording, monitoring and reporting of asset information.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
S.009	**Critical Assets:** Create ability to separately identify Critical Assets in Confirm. Be able to report on this information easily.		L	Not Started	2011	2014	In-house	Gary Clark	
S.010	**Asset Information:** Collate and provide information on how asset condition is monitored.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
S.011	**Asset Condition Data:** Detail how asset condition is monitored and reported for key asset types.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
S.012	**Asset Performance Data:** Detail how asset performance is monitored and reported for key asset types.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
S.013	**Lifecycle Decision Making:** detail and demonstrate how trade-offs are made between renewals and maintenance expenditure.		M	Not Started	2011	2014	Consultant	Gary Clark	
S.014	**Lifecycle Decision Making:** show alignment with maintenance plan for auditing, supervision and performance measures.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
S.001	**Asset Management System Development:** Continue to develop Council's Asset Management System and integration with its related asset information systems, GIS, SilentOne etc.	To be reviewed and progressed by the Asset Information System department.	H	In Progress	2009	30-Jun-15	In-house	Gary Clark	
S.002	**Rating System Review:** Review the current Rivers rating strategy to address the inconsistencies between the River X, Y and Z rating levels and re-assess the rating areas		H	Not Started	2009	30-Jun-13	In-house	Gary Clark	
S.004	**ODM Approach:** Formalise and document the processes for decision making in the AMP.		H	Not Started	2010	2014	Consultant		
S.005	**ODM Tools and Techniques:** Improve and document the tools and techniques used when deciding on treatment options.		M	Not Started	2010	2014	Consultant		
S.006	**ODM Integration:** Document the links between ODM decision making in cross-infrastructure work planning in the AMP (eg stormwater and water).		M	Not Started	2010	2014	Consultant		
T.001	**Land Drainage Bylaws:** Review the need for a land drainage bylaw.		M	Not Started	2009	30-Jun-13	In-house	Gary Clark	
V.002	**Improvement Plans:** formalise timeframes and budgets for improvement actions.		M	Not Started	2011	2014	In-house with consultant support	Gary Clark	
V.003	**Improvement Plans:** develop and implement process for monitoring and reporting against the Improvement Plan.		M	In Progress	2011	2014	In-house with consultant support	Gary Clark	
V.001	**Gap Analysis and Improvement Programme:** Improve this improvement programme particularly: timelines, required resources and approval of resources.		M	In Progress	2010	31-Oct-14	In-house	Gary Clark	

V.9 AMP Peer Review

Infrastructure Management

Tasman District Council

Water, Wastewater, Stormwater, Solid Waste, Aerodromes, Transport, Rivers and Coastal Structures AMPs Peer Review

October 2011 & May 2012

WAUGH

ideas | analysis | solutions

WAUGH

Quality Record Sheet

Tasman District Council

Water, Wastewater, Stormwater,

Solid Waste, Transport, Aerodromes, Rivers

and Coastal Structures

AMP Peer Review

October 2011 and May 2012

Issue Information	
Issue Purpose	Final
Issue Date	8th May 2012
Version Number	1.1

Authorisation	
Tasman District Council	Peter Thomson
Prepared by	Andrew Iremonger
Internal Reviewed by	Ross Waugh
Date	8th May 2012
Report Number	64-065-1002

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The purpose of this report is to:

- Provide a regulatory review of the October 2011 Tasman District Council (TDC) Water, Wastewater, Stormwater, Solid Waste, Aerodromes, Transport, Rivers and Coastal Structures Asset Management Plans for compliance with the primary legislation driving local government, this being the Local Government Act 2002
- Considers associated legislation and standards such as Financial Reporting Standards, Resource Management Act and Health Act as well as industry appropriate practice

1.2 Methodology

Waugh Infrastructure Management Ltd assessed in October 2011 the eight individual draft AMP's content in comparison to; the 12 assessment criteria and a number of elements for each assessment criteria, and to an assessed appropriate asset management level for Tasman District Council. These elements generally follow the Appropriate AM (from IIMM 2006: Section 2.2.4). The assessment criteria are:

- Description of Assets
- Levels of Service
- Managing Growth
- Risk Management
- Lifecycle Decision Making
- Financial Forecasts
- Planning Assumptions and Confidence Levels
- Outline Improvement Programmes
- Councils Commitment
- Planning by Qualified Persons
- Sustainability within the activity by using the Councils sustainability objectives
- The AMP Format (presented in a way that can be readily utilised by the required audience)

Following this review TDC made amendments to the AMP's that encompassed the inclusion of financial details, significant additions to the improvement program along with other items.

In May 2012 the amendments to the October AMPs were assessed by Waugh Infrastructure and the compliance status was reassessed. It should be noted that the May 2012 assessment only considered the items shown in the "Peer review improvement table" provided by MWH in their letter dated 3rd April 2012.

1.3 Overall Conclusion of Asset Management Plans Assessment

The AMP's indicate that TDC has developed good practices and processes in the operation, management and administration of their activities but the discussion or evidence presented within the individual AMP's is often insufficient to substantiate this.

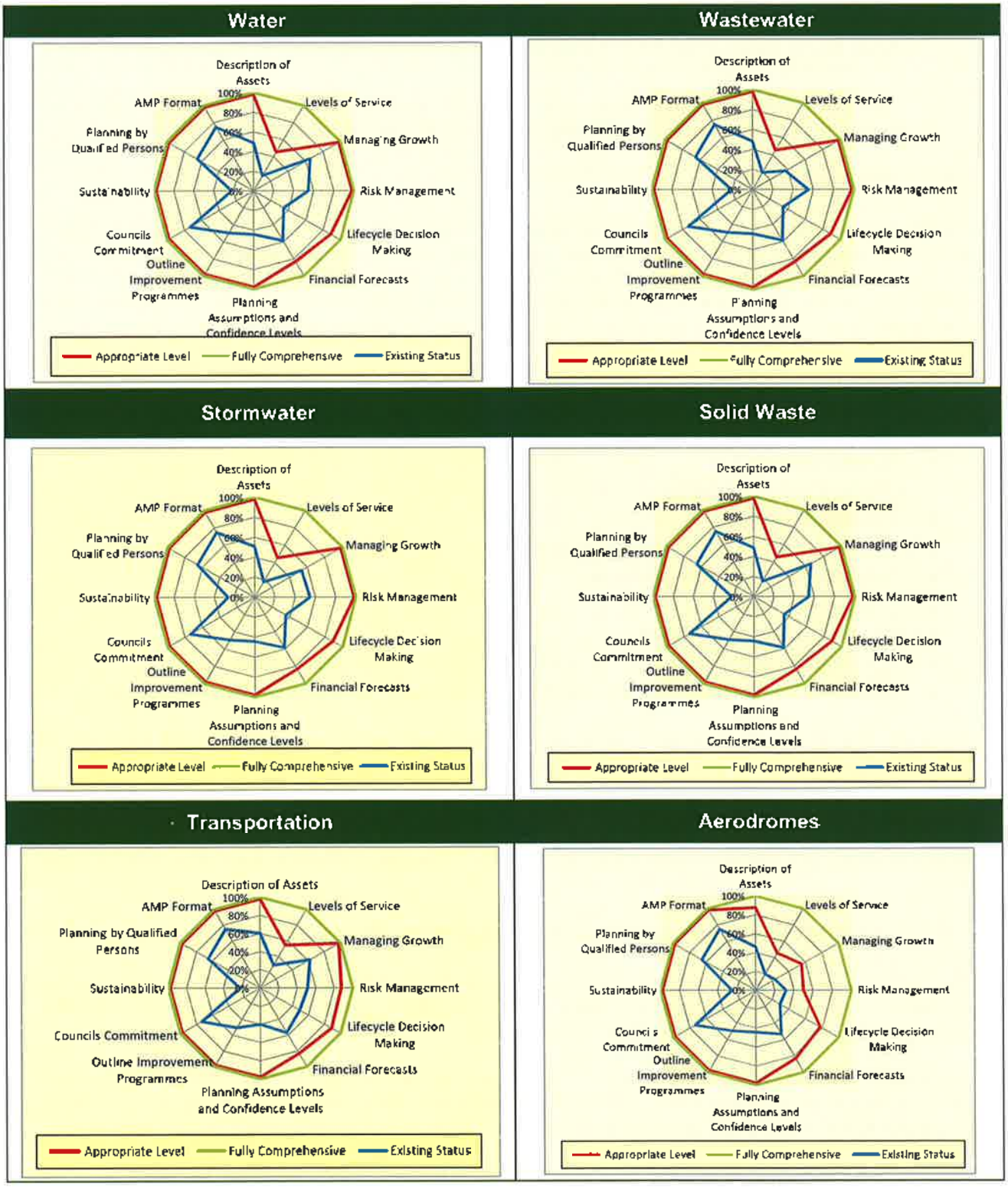
The AMP's provided in May 2012 indicates that many of the issues raised in the October review have been addressed in the subsequent version of the AMPs as amendments or improvement plan items. Competition of these actions would assist to achieve the Councils targeted asset management level.

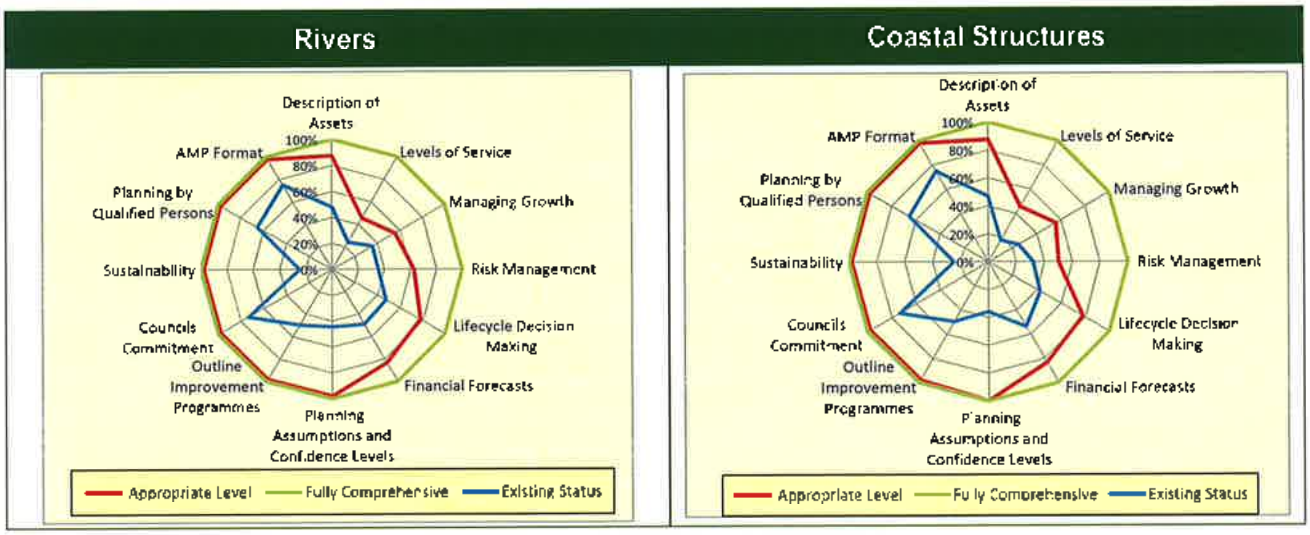
The AMPs assessed in May 2012 do provide Council with an adequate basis on which to make decisions between competing priorities for infrastructure funding and to understand the impact on

service levels in the longer term. On-going commitment is required to complete the actions identified to progress to the high levels of Asset Management practice.

An overview of the AMP Compliance status of the eight AMP's (dated February 2012) is provided in a graphical manner below.

Figure 1-1: AMP Compliance Status Graphs





1.4 Peer Review Limitations and Disclaimer

This Peer Review has been undertaken by Waugh Infrastructure Management Limited, based solely on the information presented in the Tasman District Council Water, Wastewater and Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Management Plans. This report has been prepared solely for the benefit of the Tasman District Council. Waugh Infrastructure Management Limited does not warranty statements made in the eight Asset Management Plans subject to this peer review

This Peer Review represents the experienced opinion of the Reviewers, based on the available information and standards of practice extracted from the information.

This Peer Review makes no representation to reflect the views or standards of Audit NZ, nor does it warrant or certify (in any way) any compliance with possible Audit NZ and/or Office of the Auditor General requirements for Asset Plans.

2.0 RECORD OF PEER REVIEW ENGAGEMENT

Council Name	Tasman District Council
AMP Titles	Water, Wastewater, Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Management Plans
Plan Sponsor	Peter Thomson, Engineering Manager
AMP Prepared By (Plan Writer)	Council Staff - Water: David Light - Wastewater: David Light - Stormwater: Katie Henderson - Solid Waste: Katie Henderson - Transportation: Jenna Viogt - Aerodromes: Jenna Viogt - Rivers: Jenna Viogt - Coastal Structures: Jenna Viogt
AMP Publish Date	October 2011 and February 2012
Peer Reviewer (Waugh Infrastructure Management Ltd)	Ross Waugh Andrew Iremonger Grant Holland
Internal Review (Waugh Infrastructure Management Ltd)	Ross Waugh
Peer Review Dates	26 October 2011 and 4th May 2012 (review of additions from October 2011 to February 2012)

3.0 SCOPE AND USE OF PEER REVIEW

The Scope of the Peer Review is to provide a regulatory review of the Tasman District Council (TDC) Water, Wastewater, Stormwater, Solid Wastes, Transportation, Aerodromes, Rivers and Coastal Structures Asset Plans (dated October 2011 and February 2012) for compliance with the primary legislation driving local government, this being the Local Government Act 2002.

The Peer Review also considers associated legislation and standards such as Financial Reporting Standards, Resource Management Act and Health Act as well as industry appropriate practice as set by the International Infrastructure Management Manual.

The Peer Review is to comment on the Plan in relation to the following aspects in keeping with the following guidelines of the Office of the Auditor General:

- Transparency
- Inclusivity
- Sustainable Development Approach
- Completeness
- Neutrality
- Comparability
- Accuracy

The intended use of this Peer Review is for the Tasman District Council.

4.0 ASSESSMENT METHODOLOGY

Waugh Infrastructure Management Ltd assessed in October 2011 the eight individual draft AMP's content in comparison to; the 12 assessment criteria and a number of elements for each assessment criteria, and to an assessed appropriate asset management level for Tasman District Council. These elements generally follow the Appropriate AM (from IIMM 2006: Section 2.2.4). The assessment criteria are:

- Description of Assets
- Levels of Service
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- Risk Management
- Lifecycle Decision Making
- Financial Forecasts
- Planning Assumptions and Confidence Levels
- Outline Improvement Programmes
- Councils Commitment
- Planning by Qualified Persons
- Sustainability within the activity by using the Councils sustainability objectives
- The AMP Format (presented in a way that can be readily utilised by the required audience)

Following this review TDC made amendments to the AMP's that encompassed the inclusion of financial details, significant additions to the improvement program along with other items.

In May 2012 the amendments to the October AMPs were assessed by Waugh Infrastructure and the compliance status was reassessed. It should be noted that the May 2012 assessment only considered the items shown in the "Peer review improvement table" provided by MWH in their letter dated 3rd April 2012.

4.1 Scoring Methodology

The marking of each question area ranges from nil (no reference shown) to 5 (fully compliant) as shown in Table 4-1 below. Following the Fulfilment marking the comments field will indicate any issue considered relevant.

Table 4-1: Scoring Methodology

Fulfilment Requirements	AMP Details
Nil (0)	Not shown or no reference to
Minimal and fragmented (1)	20% compliant - Disjointed
Basic alignment (2)	30% compliant -
Partially (3)	50% compliant -
High level of alignment (4)	80% compliant - minor defects or admissions
Fully Compliant (5)	All areas within this section are fully compliant

The sum of each Assessment area score was then compared to the maximum score required using the Appropriate Practice for the component area i.e. description of assets, LoS etc. This data is shown in the overall AMP Compliance Status excel tables and the AMP Compliance Status graphs.

It should be noted that where there is no information or reference for any question area the score assigned is zero; this will result in a low overall score.

4.2 Appropriate Practice for Tasman District Council Asset Management

Objective of the Asset Management Policy

The objective of the Tasman District Council's Asset Management Policy for the eight utility Activities is to ensure that Council's service delivery is optimised to deliver agreed community outcomes and levels of service, manage related risks, and optimise expenditure over the entire life cycle of the service delivery, using appropriate assets as required.

The Asset Management Policy requires that the management of assets be in a systematic process to guide planning, acquisition, operation and maintenance, renewal and disposal of the required assets.

Delivery of service is required to be sustainable in the long term and deliver on Council's economic, environmental, social, and cultural objectives.

The Councils Asset Management Policy sets the appropriate level of asset management practice for Council's Activity as:

- Transportation: Core Plus with demand management and resource availability drivers
- 3 Waters: Core Plus with demand and risk management drivers
- Solid Waste: Core with risk management drivers
- Coastal structures: Core
- Rivers: Core
- Aerodromes: Core

The appropriate practice status analysis for all eight services is shown in the following table as highlighted green.

Table 4-2: Utilities Asset Management Appropriate Practice Assessment

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
Description of Assets									
Core	Adequate Description of Asset								
	Financial Description of Asset								
	Remaining useful life								
	Aggregate & Disaggregate Information								
Advanced	Reliable Physical inventory								
	- Physical attributes (location, material, age etc.)								
	- Systematic monitoring of condition								
	- Systematic measurement performance- Utilisation/capacity								
Levels of Service									
Core	Define LOS or performance								
	Linkage to strategic/community outcomes								
	Links to other planning documents								
	Levels of consultation identified and agreement								
	Service life of network stated								
Advanced	For Significant Services								
	- Evaluating LOS Options								
	- Consult LOS options with community								
	- Adoption LOS & Standards after consultation								
	- Public communication of service level								
	- Monitoring & public reporting								
	AMP's reflect agreed LOS & how service is delivered								
Managing Growth									
Core	Demand Forecasts (10 year)								
	Demand Management drivers								
	Demand Management strategies								
	Sustainability Strategies								
Advanced	Forecasts include factors that comprise demand								
	Sensitivity of asset development (Capital Works) to demand changes								

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
	Asset Utilisation/ Demand Modelling								
Risk Management									
Core	Identify critical assets								
	Identify significant negative effects								
	Identify associated risks and RM strategies								
Advanced	Recognition & application of principles of integrated risk management to assets								
	Apply standards & industry good practice (e.g. NZS4360 and Local Government Handbook)								
	RM integrated with Lifelines, disasters recovery, Continuity plans,.								
	Integrate with maintenance and replacement strategies								
Lifecycle Decision Making									
Core	Lifecycle and Asset Management Practices								
	Service capacity gap analysis								
	Evaluation and ranking based on criteria of options for significant capital invest decisions for								
	Maintenance Outcomes, Strategies, Standards and Plan								
Advanced	Identify options for asset maintenance to achieve optimal costs over life of asset								
	· Apply agreed evaluation tools to prioritise work programmes								
	- Predictive modelling to support long-term financial forecasts for maintenance, renewals & new capital								
Financial Forecasts									
Core	10 year Financial plan Maintenance, Renewals, New Capital (LOS and demand).								
	Validate the Depreciation/Decline in Service Potential								
Advanced	Translate operational, planned maintenance, renewal & new work into financial terms over period of strategic plan								
	Provide consistent financial forecasts & Substantiate								
	Sensitivity of forecasts								
Planning Assumptions and Confidence Levels									
Core	List all assumptions and possible effects								
	Confidence level on asset condition, performance								
	Accuracy of asset inventory								

Assessment Criteria (as outlined in IIMM 2006)		Appropriate Practice Status Analysis							
		Water	Wastewater	Stormwater	Solid Waste	Transportation	Aerodromes	Rivers	Coastal Structures
	Confidence level demand/growth forecasts								
	Confidence level on financial forecasts								
Advanced	List all assumptions including organisations strategic plan that support AM – linkages with other planning doc								
	Confidence levels (IIMM 4.3.7)								
	- Inventory Data Critical Assets (Grade 1)Non Critical Assets (Grade 2)								
	- Condition Data Critical Assets (Grades 1 or 2)Non Critical Assets (Grades 1, 2 or 3)								
	- Performance Data Critical Assets (Grades 1 or 2) Non Critical Assets (Grades 1, 2 or 3)								
Outline Improvement Programmes									
Core	Identify improvements to AM processes & techniques								
	Identify weak areas & how they will be addressed								
	Timeframes for improvements								
	Identify resources required (human & financial)								
Advanced	Improvement programmes are monitored against KPI's								
	Previous improvements identified and formally reported against KPI's								
Planning by qualified persons									
	AM Planning should be undertaken by a suitably qualified person								
Core & Advanced	Process should be Peer reviewed								
Commitment									
Core	Plan adopted by Council including improvement programme								
	Plan key tool to support LTCCP								
	AM Plan regularly updated and should reflect progress on improvement plan								
Advanced	AM Plan requirements are being implemented and discrepancies formally reported								
	AM Plans evolving as AM systems provide better information								
	AM Plans updated every 3 years along with organisations strategic planning cycles								
	Council has defined the Appropriate AM Practice it is adopting								

5.0 OUTCOMES AND RESULTS OF REVIEW

5.1 Compliance Status Key Findings

The AMP Compliance Status is summarised in Table 5-1 below with an overview of the AMP Compliance status provided in a graphical manner in Figure 5-1. The individual AMP assessments are shown in an excel spreadsheet to allow an alternative viewing method.

The AMP's indicate that TDC has developed good practices and processes in the operation, management and administration of their activities but the discussion or evidence presented within the individual AMP's is often insufficient to substantiate this.

The AMP's provided in May 2012 indicates that many of the issues raised in the October review have been addressed in the subsequent version of the AMPs as amendments or improvement plan items. Competition of these actions would assist to achieve their targeted asset management level.

The AMPs assessed in May 2012 do provide Council with an adequate basis on which to make decisions between competing priorities for infrastructure funding and to understand the impact on service levels in the longer term. On-going commitment is required to complete the actions identified to progress to the high levels of Asset Management practice.

The areas that we consider will have most impact on the AMPs are those that have lower scores over all AMPs. These are:

- Description of assets – More information on the range of assets within each activity's asset register, the asset groups and the practices and processes that are associated with these along with a greater understanding of the condition and performance of the critical assets
- Levels of Service:
    - Levels of Service changes from 2009 (AMP and LTP) should be shown along with reasons and effects of these changes
    - While the Levels of Service listed in the AMP's may be appropriate for Council, there is little demonstration of how they were developed and the linkage with the community's priorities. Trends for performance to date should be shown along with a discussion on any Levels of Service gaps and link the initiatives proposed to close those gaps
- Lifecycle – Need to demonstrate the practices and processes carried out by TDC and those shown in the AMP are used on an on-going basis for the successful operation and renewal of the assets
- Growth – Additional information on utilisation especially at a higher level to enable a district wide assessment and the effects of the change in growth rates on infrastructure requirements
- Sustainability: All AMP's scored very low in this area
- Improvement Plan:
    - Improvement Program that details the requirements to achieve the appropriate AM level over the long term

5.2 General Comments

Water, Wastewater and Stormwater

These three services with appropriate AM practice set as Core Plus with demand and risk management drivers. AMP strengths in risk management in the 3Waters and growth for water services.

Solid Waste

An important Council asset and activity with appropriate AM practice set as Core. AMP provides good analysis of future growth and regional integration. AMP weakness in asset description, levels of

service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

Transportation

Given the extended of the asset involved in the AMP provided, very limited details are provided to support the narrative of the plan. The maintenance and renewal programmes represent a considerable investment for Council and these are examined or explained in the AMP. There may be issues or challenges such as changes in demand in the rural area, impacts of severe weather, metal availability which are not discussed.

Aerodromes

Asset and activity with appropriate AM practice set as Core. AMP weakness in asset description, levels of service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach

Rivers

Asset and activity with appropriate AM practice set as Core. AMP weakness in asset description, levels of service, and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

Coastal Structures

Asset and activity with appropriate AM practice set as Core. An important Council activity with relatively minor expenditure. AMP weakness in asset description, levels of service, managing growth and asset lifecycle decision making are reflective of the entire AMP suite and the template approach.

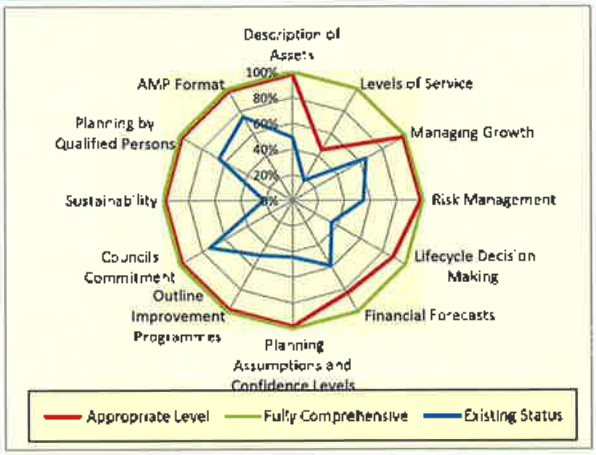
Table 5-1: AMP Compliance Status

Service		Description of Assets	Levels of Service	Managing Growth	Risk Management	Lifecycle Decision making	Financial Forecasts	Planning Assumptions & Confidence Levels	Outline Improvement Programmes	Councils Commitment	Sustainability	Planning by Qualified Persons	AMP Format
Water	Existing Status	49%	18%	65%	54%	35%	58%	44%	49%	74%	22%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Wastewater	Existing Status	48%	20%	38%	55%	35%	58%	44%	49%	74%	21%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Stormwater	Existing Status	51%	18%	54%	54%	35%	58%	44%	49%	74%	26%	65%	75%
	Appropriate AM Level	100%	45%	100%	100%	89%	83%	100%	100%	100%	100%	100%	100%
Solid Waste	Existing Status	51%	20%	53%	55%	20%	53%	51%	49%	74%	57%	65%	75%
	Appropriate AM Level	100%	45%	67%	75%	44%	83%	100%	100%	100%	100%	100%	100%
Transportation	Existing Status	60%	29%	62%	51%	49%	57%	40%	50%	74%	23%	65%	75%
	Appropriate AM Level	100%	55%	100%	88%	89%	83%	100%	100%	100%	100%	100%	100%
Aerodromes	Existing Status	46%	20%	24%	32%	29%	53%	44%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	50%	78%	83%	100%	100%	100%	100%	100%	100%
Rivers	Existing Status	48%	24%	36%	36%	48%	49%	44%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	63%	78%	83%	100%	100%	100%	100%	100%	100%
Coastal Structures	Existing Status	47%	18%	25%	32%	43%	53%	36%	49%	74%	25%	65%	75%
	Appropriate AM Level	88%	45%	56%	50%	78%	83%	100%	100%	100%	100%	100%	100%

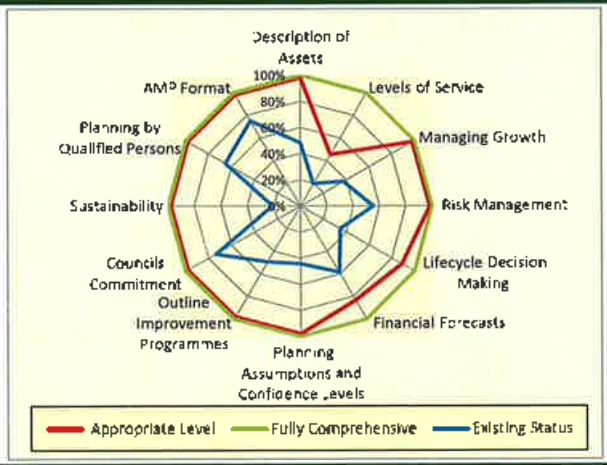
Note: The Existing Status and Estimated Appropriate AM level are expressed as a % of compliance

Figure 5-1: AMP Compliance Status Graphs

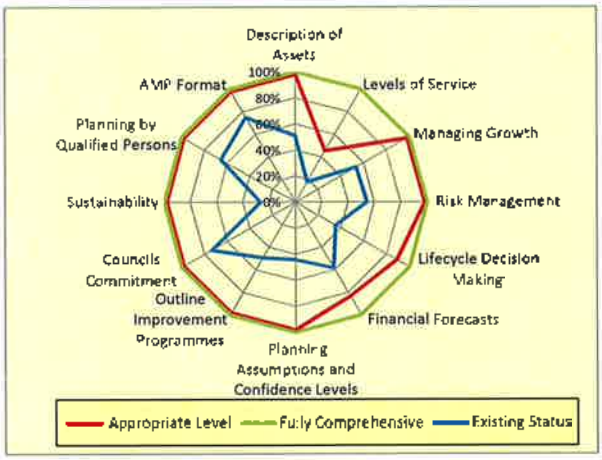
Water



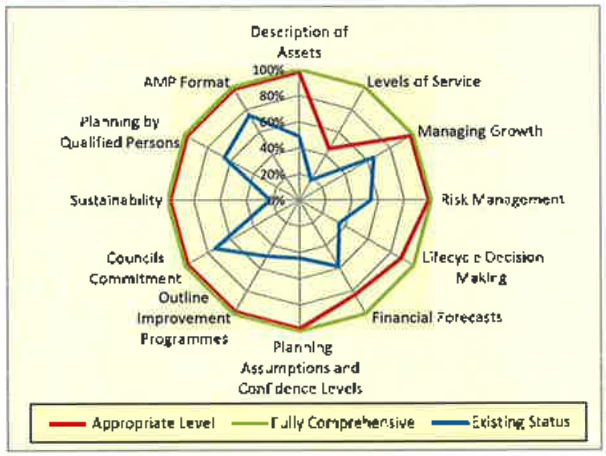
Wastewater



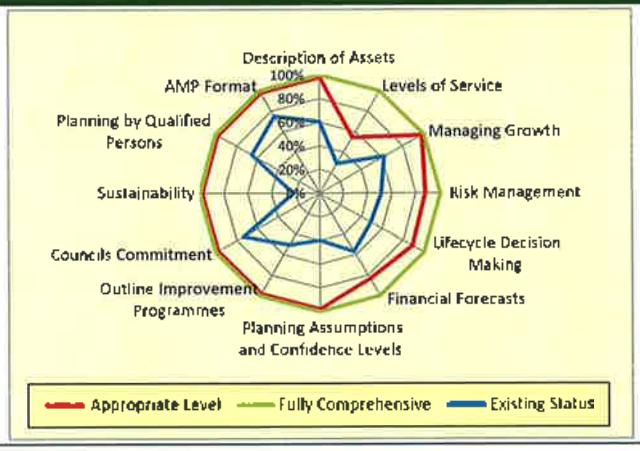
Stormwater



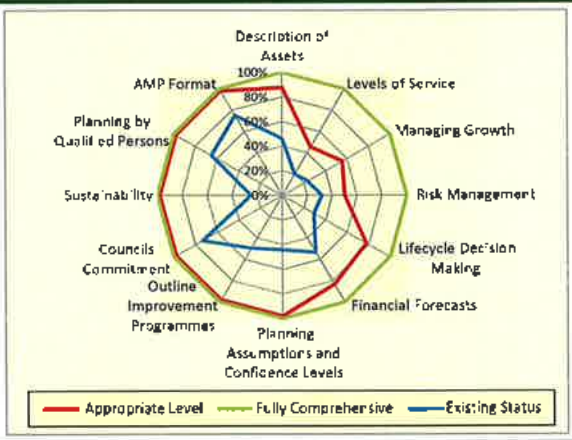
Solid Waste



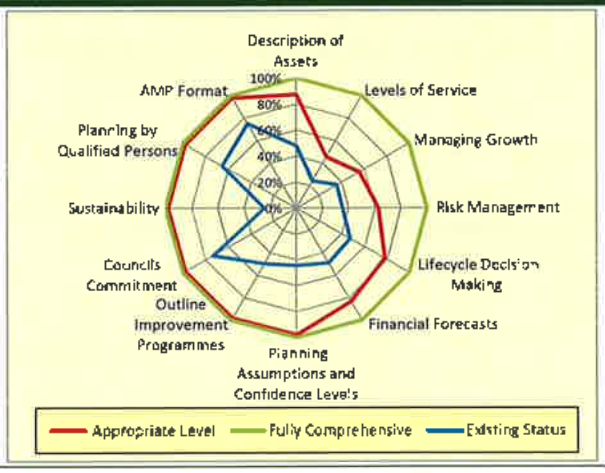
Transportation



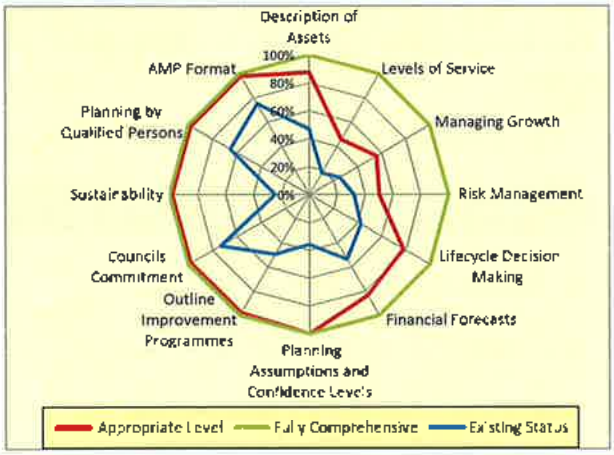
Aerodromes



Rivers



Coastal Structures



6.0 ASSESSMENT OF LINKAGES AND IMPLEMENTATION OF PLAN

This Peer Review has been undertaken in terms of, and limited to the instructions provided to Waugh Infrastructure Management Limited.

In the course of the review the documents considered in or excluded from the review are as follows:

Documents considered in the review	Context/Comment
Tasman Water, Wastewater, Stormwater, Solid wastes, Transportation, Aerodromes, Rivers and Coastal structures Asset Management Plans (October 2011 and February 2012). Peer review improvement table provided by MWH in their letter dated 3rd April 2012	Document for Peer Review
INGENIUM Code of Ethics	Reference and guidance
IPENZ Code of Ethics	
NAMs Infrastructure Asset Management Manual 2006	
Local Government Act 2002	Reference
Resource Management Act 1991	
Health Act 1956 and Health (Drinking water) Amendment Act 2007	
Financial Reporting Standards (FRS 3)	

Documents Referred to within this AP and Excluded from the Review	Comment
Tasman District Council Long Term Council Community Plan 2009-2019	Reference to, or abbreviated versions of these documents are included within the Asset Management Plan. Consistency between the Asset Management Plan and the documents listed was not examined as part of this review. It is assumed that the core consistencies exist between the Management Plan and the Long Term Council Community Plan; Water and Sanitary Assessments; and the current Infrastructure Valuation. Linkages between these documents beyond those described within the Asset Management Plan were not examined.
Tasman District Council Assessment of Water and Sanitary Services	
Valuation of Infrastructure of Assets Report 2010	
Tasman District Council General and Strategic Policies not included within the Management Plan	
Tasman District Council Asset Registers	
Tasman District Council Operating Manuals	

The implementation of the Asset Management Plan was not evaluated as part of the Peer Review. An evaluation of the implementation would require interviews with a number of Tasman District Council staff to ascertain the integration of the Asset Management Plan throughout the organisation.

7.0 RECORD OF METHODOLOGY OF PEER REVIEW

Following is the methodology followed by Waugh Infrastructure Management Ltd to carry out the Peer Reviews of the Asset Management Plans:

1. Agree scope and Plans to be reviewed
2. Check for any Peer Reviewer conflicts of interest
3. Arrange for Plan and any other significant documents to be provided to the Peer Reviewer
4. Complete Peer Review of Plan as per Standard Questions/Criteria
5. Carry out Waugh Infrastructure Management internal review of Peer Review Report
6. Provide Draft Peer Review Report to Client
7. Discuss feedback from Client
8. Prepare and issue final Peer Review Report

8.0 STATEMENT OF CODE OF ETHICS

In undertaking this Peer Review, Waugh Infrastructure Management Limited Management, Staff and Associates recognise the professional responsibilities integral to undertaking a review of another professional's work.

The review has been undertaken with particular regard to the following:

INGENIUM Code of Ethics

Clause 2 PROFESSIONALISM AND INTEGRITY

INGENIUM members shall undertake their duties with professionalism and integrity, and shall work within their levels of competence.

Guidelines - Members need to:

- Exercise initiative, skill and judgement to the best of their ability at all times for the benefit of their employer and/or client
- Give decisions, recommendations or opinions that are honest, objective and factual. If these are ignored or rejected they should ensure that those affected are made aware of the possible consequences
- Accept personal responsibility for their work and work done under their supervision or direction
- Ensure that they do not misrepresent their areas or levels of experience or competence
- Take care not to disclose confidential information relating to their work or knowledge of their employer or client without the agreement of those parties
- Disclose any financial or other interest that may, or may be seen to, impair their professional judgment
- Ensure that they do not promise to, give to, or accept from any third party anything of substantial value by way of inducement
- First inform another member before reviewing their work and refrain from criticising the work of other professionals without due cause
- Uphold the reputation of INGENIUM and its members, and support other members as they seek to comply with the Code of Ethics

IPENZ Code of Ethics

Obligations owed to other engineers:

Clause 11: Not review other Engineers' work without taking reasonable steps to inform them and investigate

Waugh Infrastructure Management Limited acknowledges the cooperation of the Plan Sponsor and the Plan Writers in undertaking this Peer Review.

9.0 APPENDICES

9.1 Appendix A – Statement of Experience of Reviewers

Andrew Iremonger

Andrew is a utilities engineer and asset management specialist with 30 years experience in Local Government Asset Management and Engineering. Andrew specialises in strategic Asset Management, specifically the development and updating of Activity and Asset Management Plans, Water and Sanitary Assessments and also Lifeline Utility Plans.

Ross Waugh

Ross is a strategic asset management and systems integration specialist with over 25 years experience in Local Government Asset Management and Engineering. Major consulting strengths include Strategic Asset Management Analysis, Asset Management Planning and the integration of asset management principles into Council processes and operations.

Grant Holland

Grant is an Asset Management specialist with a wide variety of experience in local government asset management and engineering. Grant's interest in supporting communities shows through his development of models for developing Levels of Service and long term planning through to the preparation of Strategic Plans, Activity Management Plans and Maintenance Contracts.

Grant has a broad background in surveying & land development, asset management system development, and community infrastructure and amenities management.

10.0 GLOSSARY OF TERMS

Term	Definition
Peer Review	A Peer Review is an impartial and professional review of another practitioner's work. The review is undertaken in a rigorous and systematic manner with due regard to ethics and confidentiality
Peer Reviewer	A suitably qualified person who may be a staff member of a local authority, or a consultant engaged by a local authority who undertakes or coordinates the review of another organisation or consultant's plan
Plan Sponsor	The staff member of a local authority or utility provider responsible for ensuring a plan is produced. The Plan Sponsor may also fulfil a role in coordinating contributions of staff and consultants towards the development of the plan. This person may be described as the Asset Management Coordinator in the Infrastructure Asset Management Manual
Plan Writer	The author of the plan who may be a staff member of a local authority or utility provider, or a consultant engaged by a local authority. Where a plan is prepared by a number of contributors the editor who compiles the contributions may be identified as the Plan Writer

APPENDIX W DISPOSALS

W.1 Asset Disposal

Disposal of river assets is not a common occurrence. Probably the most significant item which may be considered for disposal are river protection works ie. stopbanks. Council must consider liability issues which may flow from its ability to discontinue such works.

Following a request from a West Coast community to stop works in their areas, the West Coast Regional Council sought legal advice regarding the implications. The assessment was carried out against the Local Government Amendment Act 1996, Soil Conservation and Rivers Control Act 1941 (1941 Act) and the Resource Management Act 1991. In short, the legal advice obtained stated the following.

- Under the financial management provisions of the LGA (Part XX) it is open to Council to prioritise its activities and determine which it can/cannot afford to maintain.
- There is no express statutory authority for discontinuing an existing river protection scheme under the 1941 Act.
- Statutory provisions relating to the discontinuance of other activities include elaborate procedural requirements, and sometimes provisions as to future liability. Thus there are some unresolved risk relating to the discontinuance of river schemes.
- In the absence of an express procedure, any decision to discontinue a river scheme must follow some process which specifically sought the informed views of affected ratepayers.
- While there is no guarantee that the decision will ultimately be immune from challenge (judicial review or private action) the risk of a successful review can be moderated by reasonableness of the process.
- A claim for damages is unlikely to succeed under s145 of the 1941 Act (failure). Section 148(1) of the 1941 Act also offers significant protection for a council from the failure of unmaintained works given applicable considerations (omission to maintain).

Based on the summary above, it is reasonably likely that should the ratepayers wish to dispose of a scheme, and Council take all reasonable steps to advise them of the consequences then Council will have limited liability concerns. However this matter is yet to be tested by judicial review or private action in New Zealand. In any case, no disposal is planned within the next 20 years.

APPENDIX X GLOSSARY OF TERMS

Acronyms and Abbreviations

AMP	Activity Management Plan
LGA	Local Government Act
LTP	Long Term Plan
TRMP	Tasman Regional Management Plan
RMA	Resource Management Act
LAPP	Local Authority Protection Programme
AEP	Annual Exceedance Probability
AOMP	Annual Operation and Maintenance Programme

Activity	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
Activity Management Plan (AMP)	Activity Management Plans are key strategic documents that describe all aspects of the management of assets and services for an activity. The documents feed information directly in the Council's LTP, and place an emphasis on long term financial planning, community consultation, and a clear definition of service levels and performance standards.
Advanced Asset Management	Asset management which employs predictive modelling, risk management and optimised renewal decision making techniques to establish asset lifecycle treatment options and related long term cashflow predictions. (See Basic Asset Management).
Annual Plan	The Annual Plan provides a statement of the direction of Council and ensures consistency and co-ordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
Asset	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12 months.
Asset Management (AM)	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
Asset Management System (AMS)	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
Asset Management Plan	A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long term cashflow projection for the activities.

Asset Management Strategy	A strategy for asset management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
Asset Register	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
Basic Asset Management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment and defined levels of service, in order to establish alternative treatment options and long term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than risk analysis and optimised renewal decision making).
Benefit Cost Ratio (B/C)	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
Business Plan	A plan produced by an organisation (or business units within it) which translate the objectives contained in an Annual Plan into detailed work plans for a particular, or range of, business activities. Activities may include marketing, development, operations, management, personnel, technology and financial planning.
Capital Expenditure (CAPEX)	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
Condition Monitoring	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action.
Critical Assets	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
Current Replacement Cost	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
Deferred Maintenance	The shortfall in rehabilitation work required to maintain the service potential of an asset.
Demand Management	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
Depreciated Replacement Cost (DRC)	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.
Depreciation	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
Disposal	Activities necessary to dispose of decommissioned assets.

Economic Life	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
Facility	A complex comprising many assets (eg. swimming pool complex, etc.) which represents a single management unit for financial, operational, maintenance or other purposes.
Geographic Information System (GIS)	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.
Infrastructure Assets	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
I.M.S.	Infrastructure Management System - Computer Database.
Level of Service	The defined service quality for a particular activity (ie. water) or service area (ie. Water quality) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
Life	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.
Life Cycle	Life cycle has two meanings: The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset ie. from planning and design to decommissioning or disposal. The period of time between a selected date and the last year over which the criteria (eg. costs) relating to a decision or alternative under study will be assessed.
Life Cycle Cost	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
Life Cycle Maintenance	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
Long Term Plan (LTP)	The Long Term Plan (LTP) is the primary strategic document through which Council communicates its intentions over the next 10 years for meeting community service expectations and how it intends to fund this work. The LTP is a key output required of Local Authorities under the Local Government Act 2002. The LTP replaces the Long Term Council Community Plan (LTCCP).
Maintenance Plan	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
Net Present Value (NPV)	Net Present Value – Standard method for evaluating long-term projects in capital budgeting.
Objective	An objective is a general statement of intention relating to a specific output or activity. They are generally longer-term aims and are not necessarily outcomes that managers can control.

Operation	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of the life cycle costs of an asset.
Optimised Renewal Decision Making (ORDM)	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
Performance Measure (PM)	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance measures commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
Performance Monitoring	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
Planned Maintenance	Planned maintenance activities fall into 3 categories : Periodic – necessary to ensure the reliability or sustain the design life of an asset. Predictive – condition monitoring activities used to predict failure. Preventive – maintenance that can be initiated without routine or continuous checking (eg. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition-based.
Recreation	Means voluntary non-work activities for the attainment of personal and social benefits, including restoration (recreation) and social cohesion.
Rehabilitation	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service without resorting to significant upgrading or replacement.
Renewal	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.
Renewal Accounting	A method of infrastructure asset accounting which recognises that infrastructure assets are maintained at an agreed service level through regular planned maintenance, rehabilitation and renewal programmes contained in an AMP. The system as a whole is maintained in perpetuity and therefore does not need to be depreciated. The relevant rehabilitation and renewal costs are treated as operational rather than capital expenditure and any loss in service potential is recognised as deferred maintenance.
Repair	Action to restore an item to its previous condition after failure or damage.
Replacement	The complete replacement of an asset that has reached the end of its life, so as to provide a similar, or agreed alternative, level of service.
Remaining Economic Life	The time remaining until an asset ceases to provide service level or economic usefulness.
Risk Cost	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.

Risk Management	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
Routine Maintenance	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
Service Potential	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
Strategic Plan	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
Unplanned Maintenance	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
Upgrading	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
Valuation	Estimated asset value that may depend on the purpose for which the valuation is required, ie. replacement value for determining maintenance levels or market value for life cycle costing.

APPENDIX Y BOUNDARIES AND FACILITIES

The maintained rivers are highlighted on the following map.

Catchment boundaries and facilities managed under the rivers activity are detailed further in Appendix B of this AMP and are shown in more detail in Appendix 5 of Contract 840 – Rivers Maintenance.

tasman district council	**APPENDIX Y**	**TASMAN DISTRICT MAINTAINED RIVERS**

APPENDIX Z AMP STATUS AND DEVELOPMENT PROCESS - RIVERS

Z.1 AMP Status

Version	Status	Document Approval	Signature	Date
1	Working Draft			
2	Draft for Council Officer Review	Name: Becky Marsay Authority: Project Technical Lead		16 Feb 2012
3	Draft for Council Review	Name: Gary Clark Authority: Asset Manager		
4	Draft for Public Consultation through LTP	Name: Peter Thomson Authority: Engineering Manager		
5	Final Plan Adopted by Council Council Resolution	Name: Richard Kempthorne Authority: Mayor Reference: _____		

Z.2 AMP Development Process

Project Sponsor:	Peter Thomson
Asset Manager:	Gary Clark
Project Manager:	Stephen Sinclair
Project Technical Lead:	Becky Marsay
AMP Author:	Jenna Voigt
Project Team:	Gary Clark, Philip Drummond Ray Firth, Jamie Galloway, Rick Lowe, Jenna Voigt

Z.3 Quality Plan

This quality plan comprises three parts.

1. Quality Requirements and Issues – identification of the quality standards required and the quality issues that might arise.
2. Quality Assurance – the planned approach to ensure quality requirements are pro-actively met – ie. get it right first time.
3. Quality Control – the monitoring of the project implementation to ensure quality outcomes are met.

Z.4 Quality Requirements and Issues

	Issues and Requirements	Description
1	Fitness for Purpose	The AMP has to be "fit for purpose". It has to comply with Audit NZ expectations of what an AMP should be to provide them the confidence that the Council is adequately managing the Council activities.
2	AMP Document Consistency	Council want a high level of consistency between AMPs so that a reader can comfortably switch between plans.
3	AMP Document Format	The documents need to be prepared to a consistent and robust format so that the electronic documents are not corrupted (as happens to large documents that have been put together with a lot of cutting and pasting) and can be made available digitally over the internet.
4	AMP Text Accuracy and Currentness	The AMPs are large and include a lot of detail. Errors or outdated statements reduce confidence in the document. The AMPs need to be updated to current information and statistics.
5	AMP Readability	The AMPs in their current form have duplication – where text is repeated in the "front" section and the Appendices. This needs to be rationalised so that the front section is slim and readable and the Appendix contains the detail without unnecessary duplication.
6	Completeness of Required Upgrades/Expenditure Elements	The capital expenditure forecasts and the operations and maintenance forecasts need to be complete. All projects and cost elements need to be included.
7	Accuracy of Cost Estimates	Cost estimates need to be as accurate as the data and present knowledge allows, consistently prepared and decisions made about timing of implementation, drivers for the project and level of accuracy the estimate is prepared to.
8	Correctness of Spreadsheet Templates	The templates prepared for use need to be correct and fit for purpose.
9	Assumptions and Uncertainties	Assumptions and uncertainties need to be explicitly stated on the estimates.
10	Changes Made After Submission to Financial Model	If Council makes decisions on expenditure after they have been submitted into the financial model, the implications of the decisions must be reflected in the financial information and other relevant places in the AMP – eg. levels of service and performance measures, improvement plans etc.
11	Improvement Plan Adequate	Improvements identified, costed, planned and financially provided for in financial forecasts.

Z.5 Quality Assurance

	Issues and Requirements	Quality Assurance Approach	Responsible Person
1	Fitness for Purpose	Conduct various reviews of critical elements up front and plan to upgrade the plans to specific requirements: 1. Scoping of AMP Upgrade Project 2. Review of Levels of Service 3. Review of Document Upgrade Needs.	Becky Marsay
		Conduct a Peer Review.	Peter Thomson
	AMP Document Consistency AMP Document Format AMP Readability	Review documents in advance and prepare instructions to authors on how to upgrade.	Becky Marsay
		Central review of AMP document deliverables.	Becky Marsay
5	AMP Text Accuracy and Currentness	Authors to review each AMP in detail.	Jenna Voigt
6	Completeness of Required Upgrades/Expenditure Elements	AMP authors to workshop with relevant project team members to ensure all projects/cost elements covered.	Jenna Voigt
		Central list of issues (called a "Parking Lot") that need to be considered in each AMP.	Jenna Voigt
7	Accuracy of Cost Estimates	Independent review of all cost estimates.	Jenna Voigt
8	Correctness of Spreadsheet Templates	Independent review of all templates.	Becky Marsay
9	Assumptions and Uncertainties and Risk Assessments	Independent review of all cost estimates.	Jenna Voigt
10	Changes Made After Submission to Financial Model	Protocol prepared to ensure Teamsite is used and all parties follow instructions on how changes are made.	Becky Marsay
		Ensure there is a place in the AMP documents to record any changes made and the implications of changes.	Becky Marsay
		AMP authors to manage a change log for changes after submission.	Jenna Voigt
11	Improvement Plan Adequate	Prepare template in advance to ensure consistent approach.	Becky Marsay
		Central review of Improvement Plans.	Becky Marsay

Z.6 Quality Control

Quality control checks and reviews are scheduled on the attached table. These shall be progressively completed as the AMP is developed and incorporated in the final AMP Plan in Appendix Z.

Check or Review	Person Responsible	Authority	Signature	Date
Scope of AMP Upgrade Project complete	Peter Thomson	Engineering Manager		
Levels of Service prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 2012
Levels of Service Asset Manager acceptance	Gary Clark	Asset Manager		
AMP document prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 2012
AMP text accuracy and currentness	Jenna Voigt	AMP Author		
Capital Upgrade List complete	Ray Firth	Programme Manager		
Capital Upgrade List complete - Asset Manager acceptance	Gary Clark	Asset Manager		
All issues on “Parking Lot” addressed	Jenna Voigt	AMP Author		
Capex Expenditure spreadsheet template reviewed	Becky Marsay	Project Technical Lead		16 Feb 2012
Project Estimate spreadsheet template reviewed	Ray Firth	Programme Manager		
All Capex Estimates reviewed and including assessment of Programme, Project Drivers, Levels of Accuracy and assumptions/uncertainty	Jenna Voigt	AMP Author		
Opex Costs spreadsheet arithmetic review	Jenna Voigt	AMP Author		
Opex Cost forecast – fitness for purpose	Peter Thomson	Engineering Manager		
Improvement Plan prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 2012
Improvement Plan Asset Manager acceptance	Gary Clark	Asset Manager		
Capital Forecast accepted for input to NCS	Gary Clark	Asset Manager		
Change log complete and changes appropriately dealt with – after Council review	Jenna Voigt	AMP Author		
Change log complete and changes appropriately dealt with – after Public consultation	Gary Clark	Asset Manager		