

APPENDICES

APPENDIX A.	THE LEGISLATIVE AND OTHER REQUIREMENTS AND RELATIONSHIPS WITH OTHER PLANNING DOCUMENTS AND ORGANISATIONS	A-1
A.1	Introduction	A-1
A.2	Key Legislation and Industry Standards, and Statutory Planning Documents	A-1
A.3	Links with Other Documents	A-3
A.4	Strategic Direction.....	A-4
APPENDIX B.	OVERVIEW OF PORT TARAKOHE	B-1
B.1	Port Tarakohe	B-1
APPENDIX C.	PRIVATE COASTAL STRUCTURES.....	C-1
C.1	Private Assets	C-1
APPENDIX D.	ASSET VALUATIONS.....	D-1
D.1	Background.....	D-1
D.2	Overview of Asset Valuations	D-2
APPENDIX E.	MAINTENANCE AND OPERATING ISSUES	E-1
E.1	Overview	E-1
E.2	Operation and Maintenance Contract.....	E-1
E.3	Maintenance	E-2
E.4	Future Developments.....	E-4
E.5	Business Continuity / Emergency Management.....	E-4
E.6	2012 – 2032 Port Tarakohe Operation and Maintenance Forecast	E-4
APPENDIX F.	DEMAND AND FUTURE NEW CAPITAL REQUIREMENTS	F-1
F.1	Growth Demand and Supply Model (GDSM)	F-1
F.2	Projection of Demands for Port Tarakohe	F-1
F.3	Assessment of New Capital Works.....	F-2
F.4	Determination of Project Drivers and Programming.....	F-2
F.5	2012 – 2032 New Capital Works Forecast	F-3
APPENDIX G.	DEVELOPMENT CONTRIBUTIONS / FINANCIAL CONTRIBUTIONS.....	G-1
APPENDIX H.	RESOURCE CONSENTS AND PROPERTY DESIGNATIONS.....	H-1
H.1	Introduction	H-1
H.2	Schedule of Resource Consents	H-1
H.3	Property Designations	H-1
APPENDIX I.	CAPITAL REQUIREMENTS FOR FUTURE RENEWALS.....	I-1
I.1	Introduction	I-1
I.2	Renewal Strategy.....	I-1
I.3	Renewal Standards.....	I-1
I.4	Deferred Renewals	I-1
I.5	2012 – 2032 Port Tarakohe Renewal Expenditure.....	I-2
APPENDIX J.	DEPRECIATION AND DECLINE IN SERVICE POTENTIAL.....	J-1
J.1	Depreciation of Infrastructural Assets.....	J-1
J.2	Decline in Service Potential	J-1
APPENDIX K.	PUBLIC DEBT AND ANNUAL LOAN SERVICING COSTS.....	K-1
K.1	General Policy.....	K-1
K.2	Loans	K-1
K.3	Cost of Loans.....	K-2

APPENDIX L.	STRUCTURAL CONDITION ASSESSMENT – PORT TARAKOHE	L-1
L.1	Background.....	L-1
L.2	Heavy Duty Concrete Wharf.....	L-1
L.3	Condition Assessment Findings	L-1
L.4	General Maintenance Recommendation	L-3
L.5	Structural Maintenance Recommendation	L-3
L.6	Future Routine Structural Inspections	L-4
APPENDIX M.	FUNDING POLICY PLUS FEES AND CHARGES.....	M-1
M.1	Funding Strategy.....	M-1
M.2	Schedule of Fees and Charges	M-1
APPENDIX N.	DEMAND MANAGEMENT	N-1
N.1	Introduction to Port Tarakohe Demand Management	N-1
N.2	Sustainable Development Issues and Demand Management Strategy	N-1
N.3	Demand Management Measures	N-1
N.4	Climate Change	N-2
APPENDIX O.	NOT RELEVANT TO THIS ACTIVITY.....	O-1
APPENDIX P.	POTENTIAL SIGNIFICANT EFFECTS	P-1
APPENDIX Q.	SIGNIFICANT ASSUMPTIONS, UNCERTAINTIES, AND RISK MANAGEMENTQ-1	
Q.1	Assumptions and Uncertainties	Q-1
Q.2	Risk Management.....	Q-3
APPENDIX R.	LEVELS OF SERVICE, PERFORMANCE MEASURES AND RELATIONSHIP TO COMMUNITY OUTCOMES	R-1
R.1	Introduction	R-1
R.2	How Do Port Tarakohe Activities Contribute to the Community Outcomes?	R-1
R.3	What Level of Service Do We Seek to Achieve?.....	R-3
R.4	What Plans Have Council Made to Meet The Levels of Service?	R-3
R.5	Levels of Service Linked to Legislation.....	R-3
APPENDIX S.	COUNCIL’S DATA MANAGEMENT, ASSET MANAGEMENT PROCESSES AND SYSTEMS.....	S-1
S.1	Introduction	S-1
S.2	Understanding and Defining Requirements.....	S-2
S.3	Developing Asset Management Strategies	S-6
S.4	Asset Management Enablers.....	S-7
APPENDIX T.	BYLAWS.....	S.4-1
APPENDIX U.	STAKEHOLDERS AND CONSULTATION	U-1
U.1	Consultation	U-1
U.2	Key Stakeholders.....	U-1
APPENDIX V.	IMPLEMENTATION AND IMPROVEMENT PROGRAMME	V-1
V.1	Process Overview	V-1
V.2	Strategic Improvements.....	V-1
V.3	Training	V-1
APPENDIX W.	ASSET DISPOSAL.....	W-1
APPENDIX X.	GLOSSARY OF ASSET MANAGEMENT TERMS	X-1
APPENDIX Y.	GEOLOGICAL ASSESSMENT OF PORT TARAKOHE.....	Y-1
Y.1	Onshore Geology.....	Y-1

Y.2	Geology of the Harbour Bed	Y-1
Y.3	Ground Conditions for Dredging and Piling	Y-1
Y.4	Seismic Risks.....	Y-2
Y.5	Geotechnical Risks	Y-2
Y.6	Recommendations.....	Y-2
Y.7	References.....	Y-2
APPENDIX Z.	AMP STATUS AND DEVELOPMENT PROCESS –	Z-1
Z.1	AMP Status	Z-1
Z.2	AMP Development Process.....	Z-1
Z.3	Quality Plan.....	Z-1
Z.4	Quality Requirements and Issues.....	Z-2
Z.5	Quality Assurance.....	Z-3
Z.6	Quality Control	Z-4

LIST OF TABLES

Table A-1: Strategic Documents Utilised During the Planning Process.....	A-4
Table D-1: Data Confidence	D-2
Table D-2: Asset Lives.....	D-2
Table D-3: Port Tarakohe Asset Valuation Summary	D-3
Table E-1: Operation and Maintenance Forecast	E-5
Table F-1: 2012 – 2032 Port Tarakohe New Capital Expenditure Forecast	F-5
Table K-1: Projected Capital Works Funded by Loan for Next 10 Years	K-1
Table K-2: Projected Annual Loan Repayment Costs for Next 10 Years.....	K-2
Table N-1: Projected Mean Temperature Change (Upper and Lower Limits) in Tasman-Nelson (in °C).....	N-2
Table N-2: Projected Mean Precipitation Change (Upper and Lower Limits) in Tasman-Nelson (in %)	N-2
Table N-3: Local Government Functions and Possible Climate Change Outcomes	N-3
Table P-1: Potential Significant Negative Effects	P-1
Table P-2: Potential Significant Positive Effects.....	P-1
Table Q-1: Consequence Categories	Q-5
Table Q-2: Mitigation Measures to be Considered.....	Q-6
Table R-1: Community Wellbeings, Outcomes, Council Objectives, Groups and Activities	R-1
Table R-2: How Port Tarakohe’s Activities Contribute to Community Outcomes	R-2
Table R-3: Levels of Service	R-4
Table S-1: Asset Data Accuracy Grade.....	S-3
Table S-2: Asset Data Completeness Grade	S-3
Table S-3: Data Types and Source	S-4
Table S-4: Asset Management Strategies Summary	S-6
Table V-1: Planned Activity Management Improvement Programme	V-2

LIST OF FIGURES

Figure A-1: Hierarchy of Tasman District Council Policy, Strategy and Planning.....	A-3
Figure F-1: 2012 – 2032 Port Tarakohe New Capital Expenditure by Driver.....	F-4
Figure Q-1: Integration of Risk Management Process into LTP Process.....	Q-3
Figure Q-2: Integrated Risk Management Process	Q-4
Figure S-1: Tasman District Council Organisation Structure.....	S-1
Figure S-2: The Asset Management Process	S-1

APPENDIX A. THE 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 Port Tarakohe.

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.

Port Tarakohe provides many public benefits including provision of access to the coastal environment and coastal protection structures. The Council has a responsibility as a Regional Authority to manage the Port. It is therefore necessary that Council undertakes the planning, implementation and maintenance of the Port in accordance with its respective legislation 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 drivers for improving Asset Management through the Local Government Act 2002.
- **Local Drivers** – for example the Community Outcomes determined through consultation with the public, and change in rules and environmental standards in the Tasman Resource Management Plan (TRMP).
- **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

- 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
- Maritime Transport Act 1994 and amendments
- The Land Transport Act 1998
- Land Transport Management Act 2003
- Public Works Act 1981
- Reserves Act 1977
- Soil Conservation and River Control Act 1941
- Bylaws Act 1910
- Climate Change Response Act
- Ministry for Environment 2004 – Preparing for Climate Change
- NIWA – Climate Change and Variability for Tasman District 2008
- New Zealand Coastal Policy Statement 1994
- Civil Defence Emergency Management Act 2002
- Government's Sustainable Development Action Plan
- Resource Management Act 1991
- Health and Safety in Employment Act 1999

- Building Act 2004
- Tasman Resource Management Plan
- Council's Engineering Design Standards for Subdivisions and Development
- Any existing strategies or policies (or requirements) of the Council that might impinge on the activity
- Building Regulations 1992.

Some of the legislative requirements that the Council must act within which are discussed in more detail as follows.

A.2.1 NZ Coastal Policy Statement 1994

The purpose of the New Zealand Coastal Policy Statement is to state national policies in order to achieve the purpose of the Resource Management Act (RMA) in relation to the coastal environment of New Zealand. The purpose of the RMA is to promote the sustainable management of natural and physical resources including, "avoiding, remedying, or mitigating any adverse effects of activities on the environment". Also some matters are considered of national importance and include.

- The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes, and rivers and their margins, and the protection of them from inappropriate subdivision use and development.
- The maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers.
- The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga. In addition to provide for the special context of the coastal environment.

Council is required to have regard to a number of general principles particular to this activity including.

- Some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to 'the social, economic and cultural well-being' of 'people and communities'. Functionally, certain activities can only be located on the coast or in the coastal marine area.
- The protection of the values of the coastal environment need not preclude appropriate use and development in appropriate places.
- The coastal environment is particularly susceptible to the effects of natural hazards.
- Cultural, historical, spiritual, amenity and intrinsic values are the heritage of future generations and damage to these values is often irreversible.
- The tangata whenua are the kaitiaki of the coastal environment.
- It is important to maintain biological and physical processes in the coastal environment in as natural a condition as possible, and to recognise their dynamic, complex and interdependent nature.
- The ability to manage activities in the coastal environment sustainably is hindered by the lack of understanding about coastal processes and the effects of activities. Therefore, an approach which is precautionary but responsive to increased knowledge is required for coastal management.

A.2.2 Resource Management Act

Council has several statutory planning documents implementing its responsibilities under the RMA. Those which impact on the provision of Council Coastal Activities are.

- Tasman Regional Policy Statement (TRPS) – An overview of significant resource management issues with general policies and methods to address these. In particular under Section 9 Coastal Environment, Council has developed specific objectives and policy statements for a number of areas including:
 - Navigation and Safety
 - Effects of Activities in the Coast Marine Area
 - Private and Public Rights of Access to Coastal Space
 - Identifying and Maintaining the Natural Character of the Coastal Environment.
 - Public Interest in Access to and Along the Coast.

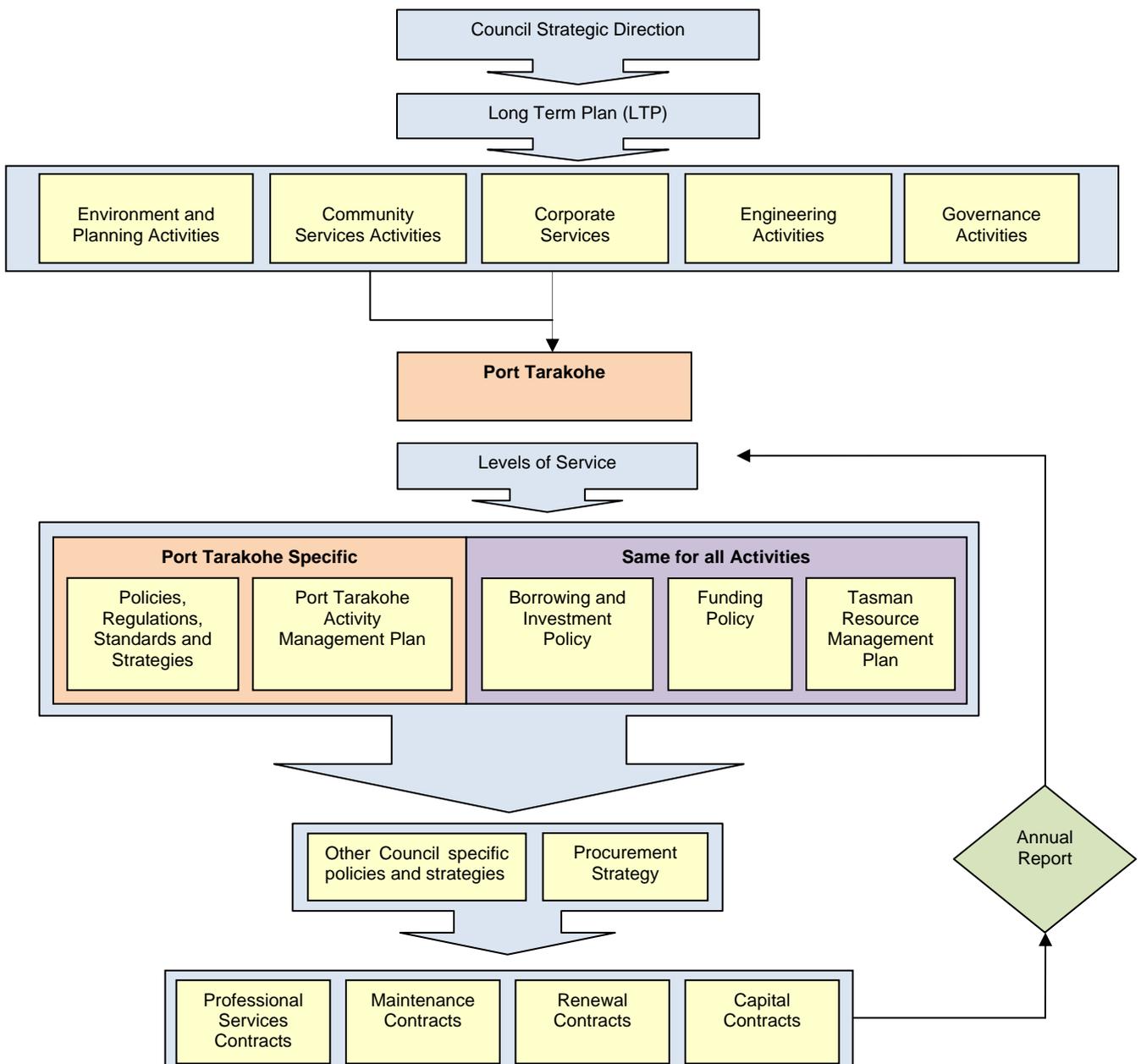
- Tasman Resource Management Plan (TRMP) – A combined Regional and District Plan with statements of issues, objectives, policies, methods and rules addressing the use of land, water, coastal marine area and discharges into the environment.
- Tasman District Council Engineering Standards and Policies.
- Council Harbour Bylaws and Policy Resolutions relating to Coastal Structures (a file of District Council resolutions relating to the coastal structures are held by Council).

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

Figure A-1 depicts the links between Council’s Activity Management Plans to other corporate plans.

Figure A-1: Hierarchy of Tasman District 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: 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 asset 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

Coastal infrastructure is developed to achieve the visions of both Council and the community.

APPENDIX B. OVERVIEW OF PORT TARAKOHE

B.1 Port Tarakohe

B.1.1 Overview

Port Tarakohe is the only sea port in Tasman District that can accept vessels of a reasonable size. It lies approximately 10km from Takaka along Abel Tasman Drive.

The Port was constructed by the Golden Bay Cement Company. The company ceased operating in the area in 1989 and Tasman District Council became involved when the Golden Bay community requested assistance to develop and maintain this asset. Council purchased the rights to operate the port in June 1994 and initiated a Local Members Bill which gave Tasman District Council port ownership.

The land is held as a Local Purpose Reserve (harbour works) in certificate of title NL11C/1211. The Tasman District Council (Tarakohe Harbour Reclamation Validation and Vesting) Act 1995 vested the reclaimed land in the Council as a local purpose reserve.

Substantial development works including rock arms (outer moles), dredging and the 62 berth marina have been constructed in the period 2002/04 with an additional rock finger (inner mole) added to the western rock arm in 2007/08. The marina consists of two floating (one commercial, one recreational) and one piled walk on wooden marina.

A structural condition assessment of the key assets at Port Tarakohe was undertaken in August 2009 by Councils professional services consultant, MWH and has been included as Appendix L.

Figure B-1 following shows a plan of the port and all Key Assets. These are detailed below:

Concrete Wharf

The concrete wharf was constructed in 1977 as part of the Golden Bay Cement Works infrastructure. It is 120m long and 18m wide and is made up of concrete piles, concrete beams, concrete deck, timber kerbs and timber fenders.

Timber Wharf

The timber wharf was constructed approximately 100 years ago. All aspects of its construction are now in poor condition and is deemed to be unsafe for use. It is now currently unused and is fenced off from the public.

Piled Walk on Wooden Marina

18 berth walk-on wooden marina.

Floating Marinas

A recreational and a commercial floating Constructed in 2003, both are in good condition.

Light Tower

The steel lattice structure was initially part of the old conveyor system that Golden Bay Cement Company had installed. The tower is now used for flood lighting of the main wharf area.

Rockwork Protection

The rock protection surrounds the inner and outer moles on all sides and varies in gradient. It is estimated that there is approximately 38,000m³ of rock armour with a further 255,000m³ of core material and rubble.

The resource consent for the development of the western inner mole in 2008 included a number of penguin nests to be constructed along its length, a condition volunteered by Council. These nests consist of a wooden box built into the rock protection, it is hoped that this will encourage the penguins to nest closer to the coast rather than heading inland. It is likely that any further development at the port will see similar conditions volunteered to reduce the number of penguin fatalities on local roads.

Water Supply

The water source serving the port is located on the land owned by Port Taranaki Ltd. An agreement is in place that allows Council to take water from the source which is maintained by the Port. The source consists of a small capacity dam, when water is stored here it overflows the weir and into two silt traps before being piped to the storage tank.

The 570m³ water tank is also sited on Port Taranaki Ltd land and is capable of storing one week supply. During times of heavy rainfall, the harbour manager pulls the plug on the dam, allowing it to drain thereby preventing silty water from being stored. During that time, the Port is dependent on the storage tank for its supply. The two silt traps require digging out on a regular basis.

In addition, there are a number of silos and water tanks located at the old cement works which would be capable of providing storage if expansion was required.

Treatment of the potable water at the marina is by three self-flushing sand filters followed by UV. The treatment facility is located in a shed to the rear of the toilet block. An untreated supply is available for firefighting purposes and also for Talleys. The storage tank owned by Talleys is available for use at the marina in the event of an emergency.

The boat club receives water from the same source as the marina and has its own treatment facility in place. In addition, the boat club has a rainwater tank.

Wastewater

Wastewater from the marina is connected to the council system. A toilet block is available for public use. A shower block exists at the boat club and is available for use by marina users under some form of agreement.

Security Fencing

Security fencing has recently been installed along the eastern side of the port to protect the operational wharf areas and encourage cruise ships to visit.

Boat Ramp

The boat ramp is located on the western arm of the port. It is owned by Tasman District Council.

Boat Storage Compound

A storage compound for approximately 40 boats was constructed by Council in 2009. Fees charged for boat storage are detailed in Appendix M.

Navigational Aids

The Navigational Aids were replaced in 2009 and comprise of galvanised towers and solar panels.

Moorings

There are 12 moorings located at the port.

Roading

Access to the port is off the Taranaki road. Access to the western arm and boat club is prior to the former cement works (heading towards Taranaki) and access to the eastern arm and marinas is on the other side of the rock tunnel.

There is gravel road access along the length of both outer and inner moles, although public access is restricted out to the head of the west outer mole.

B.1.2 Key Issues and Strategic Management

Council wishes to enhance its involvement with the management and operation of the port with a view to improving the facilities available to promote the recreational opportunities of Golden Bay.

Key issues facing Port Tarohe include:

- proposed development of aquaculture in Tasman Bay, driven by the marine farming industry
- addressing the health and safety problems associated with the aged timber wharf
- increase in demand for recreational facilities.

APPENDIX C. PRIVATE COASTAL STRUCTURES

C.1 Private Assets

In addition to the key assets detailed in Appendix B, a number of other assets are located at the port which are not covered in any detail in this AMP. These include Boat Club assets (which comprise washdown area and boat club building), NPD fuel structures, fuel pumps and the buildings belonging to Talley.

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 ended 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

The Port Taroakohe assets were last re-valued in June 2009 and the data are reported under separate cover¹. The total replacement value of the Port Taroakohe assets as of 30 June 2009 is given in the Table D-1 below.

Key assumptions in assessing the asset valuations are described in detail in the valuation report.

D.2.1 Asset Data

The majority of the information for valuing the assets was obtained from on site audits completed by MWH’s Richmond office Structural and Roading team.

Where data was missing (eg. dates of construction), assumptions were made to enable the valuation to be completed. The data confidence is detailed in Table D-1 below.

Table D-1: Data Confidence

Asset Description	Confidence	Comments
Port Taroakohe	B	All assets have been captured, however attribute information such as construction dates remain unknown for many of the assets.

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

D.2.2 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)
Structure	50 - 100	5
Beacon	50	5
Sign	7	2
Mechanical and electrical	10	2

¹ 2009 Taroakohe – Port of Golden Bay Asset Valuation, August 2009 – MWH report for Tasman District Council

D.2.3 2009 Valuation

The optimised replacement value, annual depreciation and optimised depreciated replacement value of the Port Tarohe assets are summarised in Table D-3.

Table D-3: Port Tarohe Asset Valuation Summary

	Optimised Replacement Value (\$)	Optimised Depreciated Replacement Value (\$)	Total Depreciation to Date (\$)	Annual Depreciation (\$/yr)
Port Tarohe	14,362,646	9,837,441	4,525,205	175,724

Note:

The excavation and dredging of the marina area in 2003 has been recorded as an asset and valued. However, this asset has not been depreciated as per the NZIA VDG.

An item has been included in the Improvement Plan (Appendix V) to list the replacement value and depreciation for each asset group.

APPENDIX E. MAINTENANCE AND OPERATING ISSUES

E.1 Overview

The Council has management and operational roles as a Harbour Authority, Regional Authority and Local Territorial Authority.

The Manager Property Services is responsible for the overall management of the port, and reports to the Enterprise Subcommittee which comes under the Corporate Services Committee.

The day to day management is undertaken by the Harbour Manager. This is a contracted position. The Harbour Manager reports to the Manager Property Services.

The Council carries out the following roles in management of Port Taranaki assets:

Environment and Planning:

- Implementing aspects of the Harbour bylaw relating to navigational safety, designated marine activities and commercial operators.

Implementing the Resource Management Act (TRMP and RPS) including setting coastal planning policy and processing resource consents

Corporate Services

- Implementing aspects of the Harbour bylaw relating to collection of wharfage/berthage fees.

E.2 Operation and Maintenance Contract

The Harbour Manager is employed by Council to carry out the operation and maintenance of Port Taranaki. The duties are as laid out in the First Schedules of the Contract and are detailed below:

Services

The Manager shall perform the following services at the Port:

Port Management

- (a) To allocate all vessel mooring berths to both permanent and casual users.
- (b) To inspect moorings on a regular basis to ensure they are maintained to acceptable standards.
- (c) To allocate working space at the Ports wharves as requested, and in consideration of the needs of other Port users.
- (d) To allocate land areas for commodity storage as requested and in consideration of other Port users.
- (e) To ensure that the Port and facilities are maintained in a tidy manner at all times.
- (f) To ensure navigational aids are functioning correctly at all times.
- (g) To liaise with the appropriate Council staff, who have the responsibility for invoicing for Port charges incurred and the collection of money owing to the Council.
- (h) To ensure that all Port usage charges are correctly levied.
- (i) Prepare for consideration by the Council, detailed policy on the allocation and use of all assets within the confines of Port Taranaki.
- (j) To administer the requirements of Council's Harbour Bylaws as they specifically apply to Port Taranaki.
- (k) To establish and maintain a database of available berths and moorings at Port Taranaki. The database to include information detailing vessel name, owner, dimensions and a copy of agreed conditions of use.
- (l) To prepare and present written monthly reports to Council's Representative, detailing activities at the Port and financial performance.
- (m) To review annually all Port usage charges and to recommend any variation where that is considered appropriate.
- (n) Maintain direct communication links with all identified Port users.
- (o) To allocate space within the boat storage compound.
- (p) To manage the operation of the boat launching ramp following the installation of a barrier arm.

Cleaning and Maintenance

- (q) Keep the wharf facilities including toilets in a clean and sanitary condition and ensure that toilet facilities are supplied with essential items such as toilet paper for their use.
- (r) Remove litter from the wharf areas and take such litter to an approved refuse disposal facility.
- (s) Maintain all Port grounds by regular mowing and elimination of weeds to provide a tidy and kempt appearance to the Port grounds at all times.

Repair Work

- (t) Undertake minor repairs as part of the normal maintenance of the Port to keep it in a tidy condition.
- (u) Undertake to organise other repair works as agreed to between the Manager and the Council's Representative.
- (v) Maintain the water supply to the Port.

Other

- (w) To advise the Council as to any commercial opportunities which come to the Manager's attention that may enhance the financial viability of the Port.
- (x) To respond to reasonable requests to contract separately for any other duties that may be required from time to time, by the Council.
- (y) Respond to reasonable requests from the Council's Harbour Master, Council appointed Harbour Wardens and Enforcement Officers.

E.3 Maintenance

There are no formal maintenance procedures in place at the port, other than those detailed above, and the majority of the maintenance is reactive. The Harbour Manager frequently visits the port, as a result, he is able to identify and undertake maintenance as and when required.

A structural condition assessment of the key assets at Port Tarakohe was undertaken in August 2009 by Council's professional services consultant, MWH. The report is included as Appendix L. It is recommended that a detailed inspection of the Port Tarakohe infrastructure be carried out by a structural engineer at two yearly intervals. During this inspection the condition of defects already identified can be monitored and any further issues investigated.

A geological assessment of the port area (Appendix Y) has highlighted that a number of assets are located close to the fall zone of the cliffs. Potential risk from seismic activity is very real in the area, the rock road tunnel being created during the 1929 Murchison earthquake. The relocation of the fuel tanks should be considered. If this is not possible, mitigation measures need to be implemented to reduce the impact of potential damage from rock fall. This would include the removal of loose material from the rockface and construction of a bund around the fuel tanks to retain and fuel leaks.

E.3.1 Rock Protection

Formal inspections of the condition of the rock protection should be made on an annual basis and also following major storm or tidal events. Some areas of the rock protection are of a particularly steep gradient (inside of the eastern outer mole) and are therefore more prone to damage. Any reparations required are to be noted and addressed as required. Material required for maintenance of the rock protection is obtained from the quarry.

E.3.2 Concrete Wharf

The following should be carried out as part of the structural maintenance of the concrete wharf.

- Replace damaged sections of the timber kerb.
- Investigate the need for the unused steel piping and brackets that are fixed to the piles under the concrete wharf. If these are no longer required then have them removed.
- The surface abrasion to the wharf deck should be repaired.

- A suitable methodology needs to be developed and implemented with the users of the wharf to try and mitigate the damage that is occurring when dragging heavy loads over the wharf during the loading and unloading of vessels.
- Concrete repairs should be carried out to the heavy duty wharf.
- Once the repairs are completed, the wharf needs to be monitored on a regular basis due to the corrosive environment. Often areas of concrete adjacent to the repaired areas will continue to corrode and deteriorate.
- Monitor the timber members in the fendering system. As the condition deteriorates further replacement members will need to be installed, or a whole replacement fender system constructed.

E.3.3 Timber Wharf

The old timber wharf is due for replacement with a new structure in 2013/14. It is currently unsafe for use and is fenced off from public access. The fencing around the old wharf and the signage needs to be maintained to ensure public safety.

E.3.4 Piled Walk-on Wooden Marina

The timber marina currently appears to be in good condition. Routine checking of the condition of the handrails is recommended.

E.3.5 Floating Marinas

The services at both marinas run through the plastic sections of the walkways. By drilling the holes in the plastic units through which to run the services, the integrity of the unit has been lost. Water accumulates inside some of the units and has to be pumped out. This will continue to occur and will require monitoring.

Shellfish adhere to the plastic sections of the floating marinas on a regular basis. The routine removal of the shellfish should be continued. There is also an on-going issue with didymo attaching to the piles. Previous attempts have been made to prevent this from happening, such as wrapping the piles, but have proved unsuccessful.

E.3.6 Roads

Regular inspections should be made to the condition of the road. Material for repair of areas can be obtained from the quarry.

E.3.7 Water Supply

There is no regular maintenance schedule in place for the water supply to the port. When rain is forecast for the area, the Harbour Manager visits the dam and opens it to allow the water to run through and prevent silt build up in the water system.

E.3.8 Navigation Aids

The navigational aids were new in 2009 and so require little to no maintenance. They are checked monthly by the Harbour Manager and maintenance is undertaken as necessary.

E.3.9 Moorings

There is no operation or maintenance associated with the moorings.

E.3.10 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.4 Future Developments

Whilst work progresses on the development, operation and maintenance of the existing port will need to adapt to fit around any disturbances caused as a result of the construction. This may result in a greater frequency of inspections to key assets.

Development of the new marina will need to incorporate a detailed operation and maintenance plan, covering not only the new assets, but also the existing key assets.

E.5 Business Continuity / Emergency Management

The Council has a commitment to ensure the provision of goods and services during hazard events. Council will maintain the required safety procedures required under the Maritime Transport and the Local Government Act and its own Civil Defence emergency plans. Port Tarakohe has been identified as a key asset to utilise in the event of the closure of Takaka Hill for the loading and offloading of passengers and goods.

Recreational use may be restricted or curtailed during hazard events.

There is no Business Continuity Plan in place for the event of the wharf collapsing. If such an event occurred, it is likely that the larger vessels would be unable to enter the port, but the smaller vessels would still be able to.

E.6 2012 – 2032 Port Tarakohe Operation and Maintenance Forecast

The Twenty year forecasts for operations and maintenance are shown in Table E-1.

It should be noted that the Structural Condition Assessment (included in Appendix L) highlighted a number of recommendations to be undertaken as maintenance. There is currently no financial provision made for these items. It is advised that they be costed and detailed for inclusion in the 2015 version of this AMP.

Table E-1: Operation and Maintenance Forecast

Item	Scheme	Project Name	GL Code	Total Project Cost	Total O&M	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
						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
1	Port Taroakohe	Professional Services	10202203	100,000	100,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
2	Port Taroakohe	Asset Revaluation	10202205	14,000	14,000	2,000	0	0	2,000	0	0	2,000	0	0	2,000	0	0	2,000	0	0	2,000	0	0	2,000	0
3	Port Taroakohe	Legal Expenses	10202202	11,000	11,000	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
4	Port Taroakohe	Harbour Maintenance	1020240102	240,000	240,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
5	Port Taroakohe	Wharf Maintenance	10202401	154,000	154,000	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700
6	Port Taroakohe	Marina Maintenance	1020240101	164,000	164,000	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200
7	Port Taroakohe	Compound Maintenance	1020240103	10,000	10,000	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
8	Port Taroakohe	Barrier & Boat Ramp Maint	1020240104	40,000	40,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
9	Port Taroakohe	Amenities Maintenance	1020240105	30,000	30,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
10	Port Taroakohe	Electricity	10202505	480,000	480,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
11	Port Taroakohe	Water	1020250801	200,000	200,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
12	Port Taroakohe	LAPP Insurance	10202506	135,000	135,000	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750
13	Port Taroakohe	Rates	10202508	112,000	112,000	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
14	Port Taroakohe	Publicity	10202512	40,000	40,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
15	Port Taroakohe	Rent	10202507	41,600	41,600	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080
16	Port Taroakohe	Vehicle Expenses	1020260901	12,000	12,000	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
17	Port Taroakohe	Harbour Manager	10202609	1,320,000	1,320,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000	66,000
22	Port Taroakohe	Strategic Plan		22,000	22,000	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	Port Taroakohe	Water Tank		4,000	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	Port Taroakohe	Skimming of Concrete Wharf		10,000	10,000	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Port Taroakohe	Boundary Changes		50,000	50,000	-	-	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL				3,189,600	3,189,600	192,480	154,480	204,480	156,480	154,480	154,480	156,480	154,480	154,480	156,480	154,480	154,480	156,480	154,480	154,480	156,480	154,480	154,480	156,480	154,480

Note: 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 does not have a direct effect on the coastal structures activity. Therefore the model outputs are not relevant to this activity.

F.2 Projection of Demands for Port Taroakohe

There is not expected to be any direct correlation between the projected growth in the area and the demand on Port Taroakohe. However there are changes in public and industry expectations which will have an impact of the future demands of the port.

There is expected to be an increase in the demand on Port Taroakohe for:

- the proposed development of Aquaculture in Tasman Bay – being driven by the marine farming industry
- the changing trend in demographics indicates that a greater proportion of the population will be seeking improvement in the availability of recreational facilities
- promotion of Golden Bay as a destination will increase the need for the port to expand to accept and service larger tourist and cruise boats
- a waiting list of 30 vessels is already in place for the existing marina. This, combined with the promotion and marketing of Golden Bay as a destination; means Council is confident that the new marina will fully utilise the additional 18 berths
- there is an increasing trend to expand the coastal shipping industry to reduce the pressure on land shipping.

F.2.1 Implications of Changes in Community Expectations

Community expectations vary geographically and over time key trends in community expectations that the Council recognises include:

- environmental awareness is leading to demand for more sustainable development and use of the district coastlines and environs
- the effects of climate change could be very significant
- increasing demand for higher levels of coastal protection as property values increase
- increasing expectation that Council should take a greater role in control of coastal development.

A coastal process study has been programmed to help better understand some of these issues. No new assets are identified at this stage to address the above.

Council has to date facilitated and assisted the improvements at the ports, with the provision of boat ramps and coastal protection. Each proposal has been considered on its merits. Council will continue to meet the reasonable customer needs subject to its management objectives.

Ownership of wharf structures and associated facilities will continue to be reviewed as changes in the required Level of Service occur.

F.2.2 Implications of Technological Change

Technology change has the ability to impact on the demand for a service. There is no predicted technological changes that will have a significant effect on the assets in the medium term. A possible lesser example is changes in navigational aids to better, more reliable systems, it is likely this change would be addressed through the renewals process.

F.2.3 Implications of Legislative Change

Changes to coastal activity policies may be driven from a number of directions. They could be internally driven with greater emphasis on the objective of self supporting, or externally (eg. changes driven by national organisations such as the MaritimeNZ and Government Policy Statements.)

Council will continue to monitor these factors when reviewing and developing forecasts and strategies. Currently no financial allowance has been made for any legislative changes.

F.3 Assessment of New Capital Works

During May to July 2011, a number of workshops with the project team (including asset managers, consultants, and operations and maintenance staff) 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

New works are those works that create a new asset that did not previously exist, or works that upgrade or improve an existing asset beyond its existing capacity. The need for the new work could be from one of the following drivers:

- Growth – to provide infrastructure to accommodate the demand
- Increased Level of Service – to improve assets to provide a better level of service.

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

F.4.1 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.

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.5 2012 – 2032 New Capital Works Forecast

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 Figure F-1.

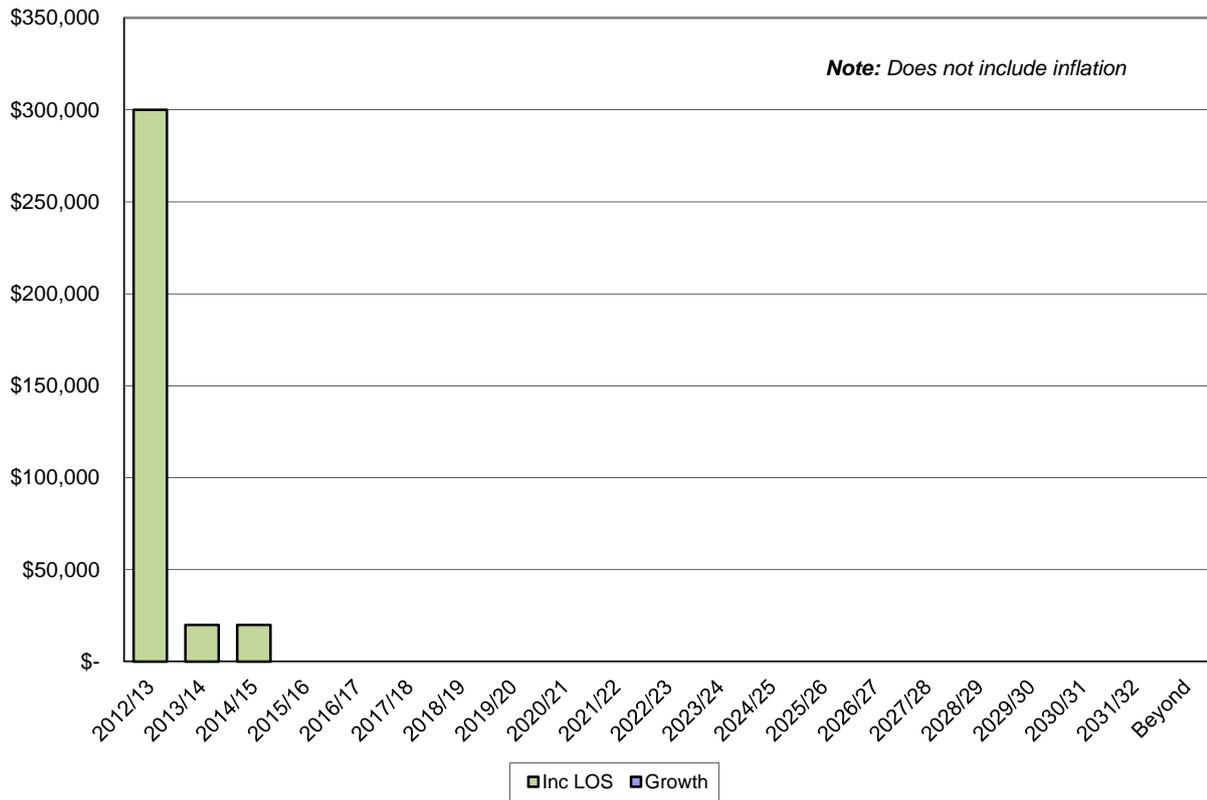


Figure F-1: 2012 – 2032 Port Tarkohe New Capital Expenditure by Driver

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Table F-1: 2012 – 2032 Port Tarohe New Capital Expenditure Forecast

Item	Scheme	Project Name	Description	GL Code	Project Estimate	Total Capital	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
							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
23	Port Tarohe	Fendering & Walkway Improvements	Fendering & Walkway Improvements		60,000	60,000	20,000	20,000	20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Port Tarohe	Wharf Mounted Crane	Wharf Mounted Crane		80,000	80,000	80,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Port Tarohe	Weighbridge, Security & Surveillance	Weighbridge, Security & Surveillance system		200,000	200,000	200,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
							340,000	340,000	300,000	20,000	20,000															

Note: Does not include Inflation

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 Port Tarakohe. However, development within the Coastal area may require connections and upgrades of the other infrastructure such as roading, water and wastewater and could then be subject to development contributions.

Coastal development 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 AND PROPERTY DESIGNATIONS

H.1 Introduction

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

- the control of the use of land
- structures and activities 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 quantity, level and flow of water in any water body, including:
 - the setting of any maximum or minimum levels or flows of water
 - the control of the range, or rate of change, of levels or flows of 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.

An important aspect of the coastal structures activity is to ensure that all activities in the coastal area are managed responsibly.

H.2 Schedule of Resource Consents

A register of all active resource consents for Council's coastal activities is being developed (as detailed in the improvements list in Appendix V). The use of spreadsheets for managing consents has become inefficient. MWH are developing a database (NM2) of all engineering resource consents in 2008/09. NM2 will allow the accurate programming of all actions required by the consents including renewal prior to consent expiry. NM2 will also drive the annual monitoring programme.

Coastal structures for the protection of other infrastructure adjacent to the coastline (such as roads) are managed under the Transportation Activity, including any required consents. Resource consents for structures, occupation or activities in the coastal marine area are known as coastal permits.

Where permits for discharges, water or coastal activities are required the RMA restricts those consents to a maximum of 35 years only. Hence there needs to be an on-going programme of 'consent renewals' for those components of Council's coastal structures, as well as a monitoring programme for compliance with the conditions of permitted activities or resource consents.

Tasman District Council will ensure that the process / programme for lodging applications for the renewal of resource consents will be undertaken in plenty of time before they expire, and for monitoring and reporting the Council's actual performance against all of the relevant conditions of each consent.

Short-term consents are required from time to time for construction activities.

Generally there is no monitoring of resource consent conditions undertaken at present with the Council intending to initiate a programme of monitoring.

H.3 Property Designations

Designations are another way provided by the RMA of identifying and protecting lands for existing and public works.

There are no current designations in place for Port Tarakohe.

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 and when the risk of failure of critical assets is sufficiently high.

The renewal programme has been developed by:

- taking asset age and remaining life predictions from the valuation database, calculating when the remaining life expires and converting that into a programme of replacements based on valuation replacement costs
- reviewing and justifying the renewals forecasts using the accumulated knowledge and experience of asset operations and asset management staff. This incorporates the knowledge gained from tracking asset failures through the Customer Services System
- undertaking an optimising review to identify opportunities for bundling projects across assets, optimised replacement, timing across assets and smoothing of expenditure.

The renewal programme is reviewed in detail at each AMP (ie. three yearly), and every year the annual renewal programme is reviewed and planned with the input of the maintenance contractors.

I.3 Renewal Standards

The work is undertaken in accordance with best practice, site specific design, site specific resource consents where applicable, and the TRMP. Contractors are selected on their proven ability to provide best practice on an as required basis.

Regulatory assets such as signs and aids to navigation are renewed by Council's Harbour Manager on an as required basis.

I.4 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.4.1 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.4.2 Management and Mitigation of 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.

There are currently no deferred renewal works for Port Taranaki.

I.5 2012 – 2032 Port Taranaki Renewal Expenditure

There are no renewals works programmed to occur within the next 20 years.

APPENDIX J. DEPRECIATION AND DECLINE IN SERVICE POTENTIAL

The scope of this information is mostly from the Long Term Plan.

J.1 Depreciation of Infrastructural Assets

Depreciation is provided on a straight line basis on all 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 for the significant assets have been estimated as follows:

Item	Life (years)	Minimum Remaining Life (years)
Structure	50 – 100	5
Beacon	50	5
Sign	7	2
Mechanical and electrical	10	2

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 Port Tarohe to meet a desired level of service. Council will monitor and assess the state of the infrastructure and upgrade or replace parts 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.

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 (refer Section 3.2) 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 Long Term Plan.

K.2 Loans

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

Port Taroakohe	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)	311	21.5	22.2	0	0	0	0	0	0	0
Opening Loan Balance	2,770	2,962	2,845	2,749	2,620	2,481	2,361	2,232	2,103	1,973

Note: Figures do not include for inflation and are in thousands of dollars (ie. x 1000)

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 as shown in Table K-2.

Table K-2: Projected Annual Loan Repayment Costs for Next 10 Years

Port Taranaki	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
Loan Interest (x 1,000)	172	177	177	177	174	170	170	154	149	139
Loan Principal	119	128	129	129	129	129	129	129	129	129

Note: Figures do not include for inflation and are in thousands of dollars (ie. x 1000)

APPENDIX L. STRUCTURAL CONDITION ASSESSMENT – PORT TARAKOHE

L.1 Background

A condition assessment was carried out on the structural assets of Port Tarakohe by MWH New Zealand Ltd on Wednesday 5 August 2009 at low tide to enable a proper visual inspection of the wharf structures. The main heavy duty concrete wharf was inspected at low tide by a combination of walking along the rock revetment under part of the wharf, and the remainder of the wharf inspected using a row boat. The old timber wharf dating from approximately 1910 had only a very brief visual inspection, as this structure is no longer used and is programmed to be dismantled.

L.2 Heavy Duty Concrete Wharf

The 120m long and 18m wide concrete wharf was constructed in 1977 as part of the Golden Bay Cement Works infrastructure. Based on the visual inspection of the wharf it appears the wharf is constructed as follows.

- There are transverse beams located at 6m centres along the wharf, with each beam measuring 1000mm wide and 800mm deep. There are four 500mm square piles under each beam plus every alternate beam has two additional inclined piles attached.
- The deck of the wharf was measured to be approximately 450 – 500 mm thick, with the harbour manager indicating that he thought that this thickness was made up of a precast concrete panel with a polystyrene layer placed above, and then a concrete running surface laid on top of that. This however cannot be verified until the as-built drawings of the wharf are found.
- There is an 800mm deep edge beam on the landward side of the wharf which supports the fill material that has been placed behind that edge of the wharf.
- The wharf is in a high corrosive environment and there is likely to be a build up of chloride ions on the underside of the wharf. This is due to the underside of the wharf being constantly exposed to the salty environment, but never getting any exposure to the rain to wash it off.
- Around the outside perimeter of the wharf there is a timber fender system which is independent of the wharf, and is supported by large diameter timber piles driven into the sea bed.

L.3 Condition Assessment Findings

L.3.1 Concrete Wharf

Concrete Piles – The piles are in reasonable condition, however there is spalling or cracking of the concrete at the top of a number of these piles (refer photographs 6 and 7). There is a possibility that the tops were damaged at the time of installation, as this defect is seen on many of the piles. A few piles have had repairs done in the past, however, some of these repairs have continued to crack (refer photograph 8). There are disused steel pipes fixed to some of the piles with steel brackets that are badly corroded. (refer photograph 10). These brackets are causing a lot of rust staining on the concrete, and if they are not likely to be used in the future, they should be removed.

Photographs of each area of spalling have been taken, and the location for each photograph has been marked on a plan for future reference. During future routine inspections of the wharf, the extent of spalling can be compared to these photographs.

Concrete Beams – the concrete beams are generally in good condition. There is one common area on a number of the beams, where some cracking and rust staining was observed. This is on the underside of the edge beam where it intersects with the transverse beams (refer photograph 9). As this damage was at the same location in many of the bays of the wharf, it could be surmised that a poor design or construction detail was used.

Concrete Deck – the underside of the concrete deck is in good condition except for a few of the deeper precast panels that have been used at each edge of the wharf. The ends of these deeper units are showing some signs of spalling and corrosion of the reinforcing. There is some abrasion occurring to the top surface of the wharf particularly in one bay (measuring 18m x 6m area) (refer photograph 2). The abrasion to this bay appears to have been caused by the loading and unloading of large rock onto barges, and also the loading of concrete blocks used on mussel farms. It is recommended that a methodology be implemented to protect the concrete surface during times of heavy use.

Timber Kerbs on Wharf – around the perimeter of the wharf there are 300 x 150 timber kerbs bolted to the slab to prevent vehicles driving off the wharf. In some areas these timber kerbs are badly damaged, and again this may have been caused during the loading of large concrete blocks onto the mussel barges, or by the loading of large rock (refer photographs 3 and 4).

Timber Fenders – The timber fendering system is assessed to be in an average condition. There has been some damage caused by the mooring of ships and also during the loading and unloading of heavy materials. Many of the horizontal timber members in the tidal zone have bad decay (refer photograph 11) with two of the timber piles in particular showing signs of major decay in the area between the high and low tide levels (refer photograph 12). Due to the large size of these highly treated timber sections at this wharf, the level of treatment that would have been applied, would not have as much penetration into the core compared to the that on the outside of the timber member. Hence if the timber splits or gets damaged then the less treated internal core of the timber section is exposed, and the inside of the timber begins to decay as what has been observed with these members. The rubber and steel components of the fender system are in reasonable condition. There is some surface rust to the steel components.

L.3.2 Old Timber Wharf

A brief inspection was carried out on the old timber wharf. It is believed that this wharf may be as much as 100 years old. This wharf is currently unused and is fenced off from the public (refer photograph 14).

Piles – the piles are in poor condition, many of them have completely decayed and no longer reach the sea bed (refer photograph 15). Some of these piles have been replaced in the past with new piles installed adjacent to the old.

Diagonal bracing – this is in very poor condition and has totally disappeared on a number of the braces. As the wharf was originally a finger wharf, but now has backfill against one side, the lateral restraint provided by the timber bracing is no longer required.

Timber pile caps and beams – the timber pile caps and the deck beams are 350mm deep x 170mm wide hardwood members. These are in reasonable condition and when the wharf is dismantled there may be a market for Tasman District Council to sell this timber.

Timber Deck – the timber deck is in poor condition with many members broken and missing. The deck is unsafe even for pedestrian access and should be kept fenced off.

The conclusion is that the old timber wharf is unsafe for use, and should continue to be kept well fenced off, with the signage warning people against accessing the area to be maintained.

L.3.3 Piled Walk-on Wooden Marina

The 18 berth raised timber marina is reasonably new and looks to be in good condition. It is important to regularly check the condition of the handrails, since the marina walkways are very narrow and sit high above the water and moored boats. (Refer photograph 16).

L.3.4 Floating Recreational Marina

This marina was constructed in 2003 and is in good condition. It was noticed that one of the plastic sections of the walkway had water inside it and was sitting lower in the water. The Harbour Manager indicated that this occurs from time to time and he has to pump the water out of the affected sections of walkway.

The services at the marina run through the plastic sections of the walkways. By drilling holes in the plastic units the integrity of the unit has been lost and water will continue to accumulate inside the units over time.

L.3.5 Floating Commercial Marina

This marina was constructed in 2003 and is in good condition. As this marina is used by commercial vessels, there are some signs of minor damage to the plastic sections of the walkways (refer photograph 18). When the damage is severe, the individual sections of the walkway should be replaced. This marina also has the issue of water leaking into sections of the walkway, necessitating pumping to remove the water. Again the integrity of the plastic units has been lost by penetrating the units during the installation of the services.

L.3.6 Steel Lattice Light Tower

This structure was part of the old conveyor system that Golden Bay Cement had installed onto the wharf. The tower is now used for flood lighting of the main wharf area (refer to photograph 19). There is some surface rust to the steel members.

L.4 General Maintenance Recommendation

As the Harbour Manager is at the port on a regular basis, it is recommended that while carrying out his usual business around the port, he continues to keep an eye out for any issues that may affect the structural aspects of the port infrastructure such as:

- one off damage caused by mooring ships
- damage caused by the loading and unloading of vessels
- water leaking into the floating marinas.

Regular maintenance is programmed at the site to:

- continue to remove shellfish off the plastic sections of the floating marinas
- ensure the fencing around the old wharf is maintained to prevent pedestrians gaining access to this area and also ensure signage is maintained. It is understood that this wharf is programmed to be dismantled and replaced.

L.5 Structural Maintenance Recommendation

The following should be carried out as part of the structural maintenance of the concrete wharf

- The damaged sections of the timber kerb on the main wharf should be replaced, which currently is assessed as a total of 36m of damaged 300 wide x 150mm deep timber kerb. There is also a 6m length that has come loose, and should be refixed to the concrete wharf. It is anticipated that damage to these kerbs will be an on-going issue.
- Investigate the need for the unused steel piping and brackets that are fixed to the piles under the concrete wharf. If these are no longer required then have them removed.
- The surface abrasion to the wharf deck should be repaired, particularly the worst bay which covers an area of 6m x 18m that has been badly damaged by heavy cargo on the wharf. A suitable concrete repair product by Sika (or similar) should be used to repair this surface. A suitable methodology should be implemented going forward with the users of the wharf, to try and mitigate the damage that is occurring when dragging heavy loads over the wharf.
- Concrete repairs should be carried out to the heavy duty wharf. The tops of a number of piles are spalling, along with the underside of the edge beam on the landward side of the wharf. There are also other locations where the concrete has spalled and rust staining is evident. These areas need to have the reinforcing steel exposed, the surface then properly cleaned to remove all rust, coated with zinc rich primer, and then the concrete repaired with an approved repair mortar. When the steel is exposed a check should be carried out to confirm that enough steel remains in each bar to be effective to carry loads.

If the corrosion is too severe then additional bars will need to be welded-in prior to the concrete repair being carried out.

- The repair needs to be carried out 50mm past the end of the corrosion in each bar and the extent of repair required is typically far more than what is evident at the time of the inspections. This type of repair is expensive, but if left untreated the corrosion of the reinforcing will continue

Once this repair is completed the wharf needs to be monitored on a regular basis due to the very corrosive environment, and often the areas of concrete adjacent to the repaired areas will continue to corrode and deteriorate.

Although the wharf should have been designed for a 50 or 100 year life, it has only taken 30 years for this corrosion to occur. The chlorides in the surrounding environment work their way into the concrete, and if the concrete cover to the reinforcing is insufficient in other areas that have not been repaired, then corrosion of the reinforcing could be an on-going issue at this wharf. A plan is attached with each area of spalling marked and referenced to the relevant photograph showing each defect. These photographs are attached on a CD and can be used to monitor the extent of corrosion during future inspections. It is recommended to carry out these concrete repairs in the next two years.

- Some of the timber members in the fendering system on the side of the wharf have been damaged or are in a decayed state. It is recommended in the interim to monitor these members, but as the condition deteriorates further replacement members will need to be installed, or a whole replacement fender system constructed.

L.6 Future Routine Structural Inspections

It is recommended that a detailed inspection of the Tarakohe Port infrastructure be carried out by a Structural Engineer at two yearly intervals. During this inspection the condition of defects already identified can be monitored and any further issues investigated.

Tasman District Council should source the original construction drawings for the concrete wharf. A check of the capacity of the wharf and the effect of the defects on this capacity could then be carried out.



Photograph 1: View of existing wharf and marina area



Photograph 2: Abrasion to surface of wharf. Probably caused by placing and moving large rock or mussel farm anchor blocks across the wharf.



Photograph 3: Loose timber kerb at edge of wharf.



Photograph 4: Damaged timber kerbs.



Photograph 5: Showing rubber components of fended system.



Photograph 6: Typical spalling of concrete at top of piles.



Photograph 7: Typical spalling of concrete at top of piles.



Photograph 8: Previous repair to top of concrete pile which has continued to crack and rust staining is visible.



Photograph 9: Typical cracking and rust staining to underside of beam joint on landward side of wharf.



Photograph 10: Disused pipework and steel supports causing rust staining to concrete piles.



Photograph 11: Showing large section loss in horizontal timber member of fender system.
Note: large rock sitting on timber – probably has fallen during loading of barge.



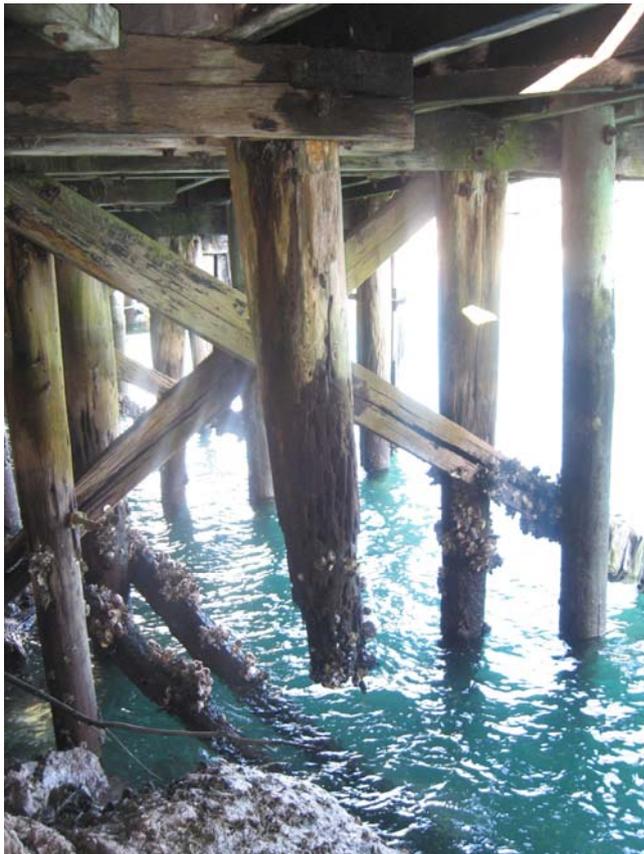
Photograph 12: Badly decayed horizontal timber post in fender system. Also bad decay in left hand fender system timber pile.



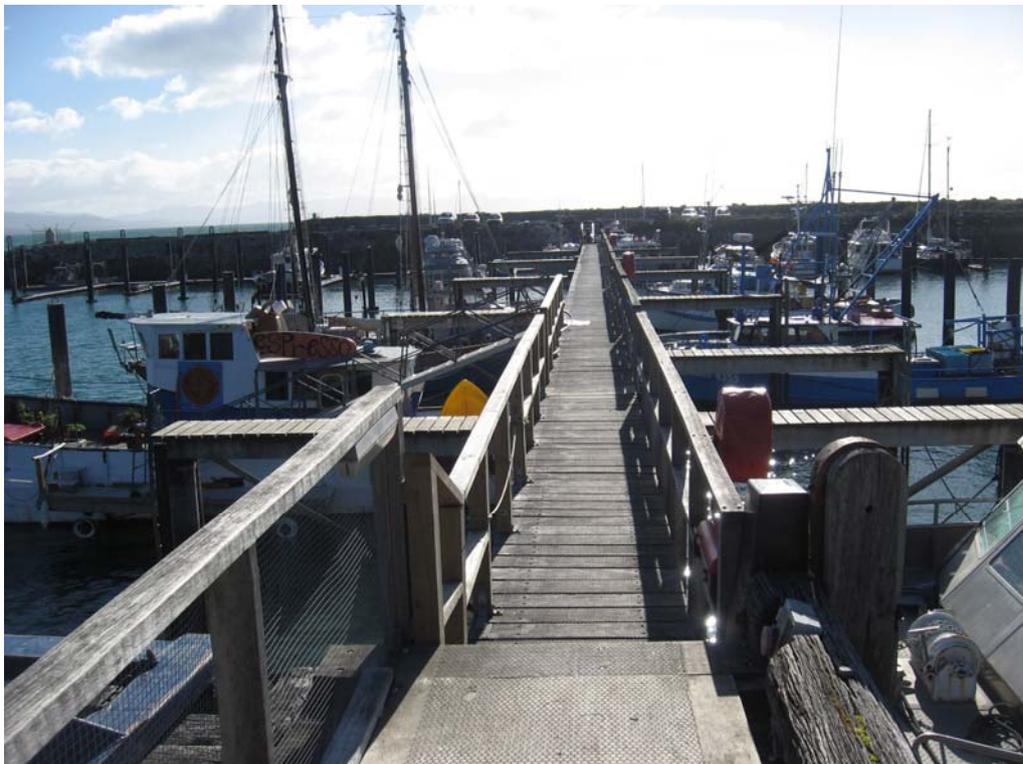
Photograph 13: View of old timber wharf.



Photograph 14: View of deck of timber wharf.



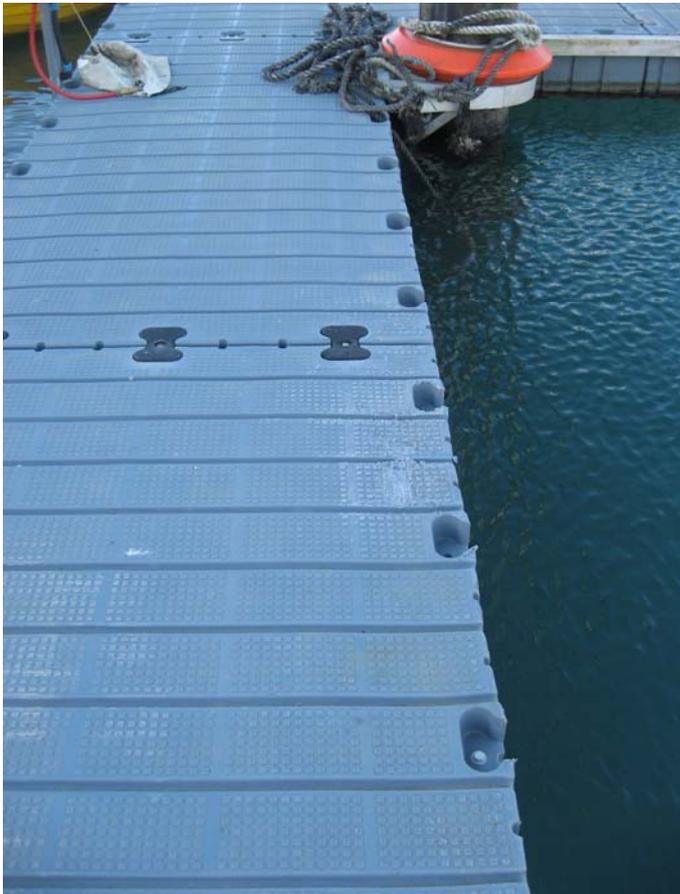
Photograph 15: Showing badly deteriorated pile that no longer reaches the water.



Photograph 16: View of commercial marina.



Photograph 17: Plastic floating marina – last section has partially sunk due to water leaking into it. Needs to be pumped out.



Photograph 18: Surface damage to surface of floating marina.



Photograph 19: Old conveyor support tower now used as a light tower

APPENDIX M. FUNDING POLICY PLUS FEES AND CHARGES

M.1 Funding Strategy

The focus of the AMPs has been on identifying the optimum (lowest life cycle) cost for operating / maintaining, renewing, developing and disposing of the assets necessary to produce the desired level of service. The Council funding strategy is based on the following.

Funding sources available for Port Taranaki include:

- leases and rents
- fee recovery
- loans raised
- general rate
- separate rate
- sundry income.

Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually 20-30 years, with a fixed annual principal repayment as a capital expense on the account, and interest payments as an operating expense. For the purpose of the financial forecasts, all new works and renewal work has been assumed to be loan funded.

M.2 Schedule of Fees and Charges

The tables below detail the current fees and charges. All rates are GST inclusive, unless stated otherwise.

Type of Cargo		Charges Proposed from 1 July 2012 incl GST
Fish and shellfish	Includes all marine animals	\$10.00 per tonne
Mussel and spat	Alternative backbone levy	Subject to negotiation with aquaculture farmers but not less than \$1.05/m for mussels and 31c/m for spat
Ring Road	Alternate to wharfage	
Other, including cargo	Rates for large bulk by negotiation	\$3.80 per tonne
Fuel (other than use of fixed facility)	Fuel transfer only	1.0 cents per litre

Note: Backbone line and ring road levies are an alternative annual levy to payment of wharfage and will be subject to annual negotiation to ensure levies are comparable to relevant wharfage charges. If these levies are not agreed, berthage and wharfage charges will apply.

Fuel Facilities	Charges Proposed from 1 July 2012 incl GST
Pump sited on Council wharf, or property at Tarakohe. The lump sum charge is in lieu of wharfage.	\$3,680 per year

Berthage of a Vessel at a Council-owned Wharf	Charges Proposed from 1 July 2012 incl GST
Commercial vessels and private recreational vessels (including fishing vessels, marine farming vessels, commercial passenger and/or cargo vessel)	
Passengers over the wharf (where no vessel berthed)	\$5.00 per person, over five years of age
Casual (daily)	\$3.60 per metre or 30 cents per gross register tonnage, whichever is the greater, plus port charges (security, line part etc.)

Note: the charges may be varied by the Chief Executive where special circumstances exist.

Berthage of Vessel at a Council-owned Facility other than a Wharf		
Type of Berth and Vessel	Charges Proposed from 1 July 2012 incl GST	Minimum length charged
Marina: recreational	\$255 per metre	8 metres
Piled walkway, commercial	\$230 per metre	8 metres
Floating up to 15 metres, commercial	\$280 per metre	10 metres
Floating over 15 metres, commercial	\$325 per metre	16 metres
Restricted Access	\$195 per metre	8 metres
Recreational visitor on mooring or marina berth, vessel 15 metres or less	\$18 per day	
Recreational visitor on mooring or marina berth, vessel more than 15 metres	\$23 per day	
Fore and aft mooring: Outer arm	\$1,130	
Tarakohe Boat Ramp Barrier Arm	\$6 per use	
Live aboard	\$65 per month plus outgoing	
Pohara Boat Club Members (fees collected & paid by Pohara Boat Club prior to issue of card plus \$10 for each access card)	\$65 per annum	

Storage at Boat Compound:	Charges Proposed from 1 July 2012 incl GST
Weekly	\$21
Monthly	\$73
Annually	\$620

Demurrage/storage* at Port Taranaki		
Type of Storage	Period for Application of Charges	Charges Proposed from 1 July 2012 incl GST
Open storage	Daily	\$1.20/m ² or per tonne whichever is the greater
Fenced storage	Daily	\$1.50/m ²
Standard rubbish skip	Annual	\$510.00
	Monthly	\$25.00
20' TEU container	Annual	\$2,045.00
	Monthly	\$205.00
40' FEU container	Annual	\$4,090.00
	Monthly	\$410.00

Note: No storage is permitted on wharf structures unless specifically authorised. Demurrage/storage rates apply after 36 hours of cargo/material arriving (allowance to be made for extenuating circumstances such as bad weather). Storage to be in assigned areas only. Bulk cargo in transit may have extended demurrage with approval of the Port Taranaki Harbour Manager.

Trans-shipment of Cargo at Sea	Charges Proposed from 1 July 2012 incl GST
Cargo, Goods, Merchandise or other Material	\$0.25 per tonne

APPENDIX N. DEMAND MANAGEMENT

N.1 Introduction to Port Tarakohe Demand Management

Demand Management, as a comprehensive, integrated and long term approach, seeks to improve the overall productivity of the Port Tarakohe and deliver services to match the needs of the end users while being affordable to the community.

As a Harbour Authority Council has a statutory obligation to manage the activities within the port. As a Regional Authority, Council is obligated to undertake its responsibilities within the coastal marine area. As a Local Authority, Council works with its community to provide safe and reasonable access to the coast and, where applicable, to protect public or private assets on or along the coast.

Improving our demand management will.

- Achieve more sustainable access and use of the coast in line with Council's level of service and the community outcomes.
- Optimise the capacity/performance of existing assets.
- Reduce or defer the need for new assets.
- Meet the Council's policy to ensure that access to any of the coastal area is undertaken in a sustainable manner.
- Demonstrate that Council can "walk the talk" on demand management. Particularly when urban development or increased pressure for access and use of the coast conflicts with the sustainable management and need to protect the coastline.
- Respond to the needs in a sustainable and affordable manner.

N.2 Sustainable Development Issues and Demand Management Strategy

The coastal activities have significant impact on the District, local communities and the coastal environment. The key issues and strategies management for Port Tarakohe are detailed in Appendix B. As demand for use of the port increases Council will use its objectives and policies (refer Appendix A) to provide guidance to manage the conflicts of the need to protect and enhance the coastal environment with allowing and protecting existing (eg wharf and harbour activities) and possibly some future built development adjacent to the coast. Council recognises that the natural coastal processes are complex and not well understood and Council will continue to research and monitor the dynamics of its coast line so as to make appropriate decisions whether to protect or leave areas to the natural processes.

Council will also continue to manage activities by others through its Bylaws and the Tasman Resource Management Plan to ensure activities are undertaken in a sustainable manner affordable to the community.

N.3 Demand Management Measures

Council will use a number of measures to assist in the management of demand for access to and use of the Port Tarakohe and the coastal area as well as reducing the demand for coastal protection works including:

- education of users of the coastal areas for recreational and commercial activities
- management of coastal development through Bylaws and TRMP
- management of moorings and possible restrictions of use
- fees and charges where practical and affordable
- land use planning to reduce conflicts with protection of the natural coastline
- new technology for navigational safety aids to improve effectiveness and efficiency.

Council is keen to investigate options such as the ‘Clean Marinas Programme’ as part of the feasibility study for the new marina. Areas of particular interest are the recycling of oil and refuse and adopting a clean and green operating system.

N.4 Climate Change

N.4.1 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 report² 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.4.2 Temperature Change

Table N-1 shows that the mean annual temperatures in Tasman-Nelson are expected to increase in the future.

Table N-1: 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)*

It is the opinion of NIWA³ 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 2.0⁰C would represent annual average temperature in coastal Tasman in 2090.

N.4.3 Rainfall Patterns

Table N-2 shown an expected increase in mean annual precipitation in Tasman-Nelson from 1990 to 2090.

Table N-2: 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.4.4 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.

² Climate Change Effects and Impacts Assessment A Guidance Manual for Local Government in NZ (MfE, May 2008)

³ Climate Change and Variability – Tasman District (NIWA, June 2008)

N.4.5 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.4.6 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 base mean sea-level rise of 0.5m relative to the 1980-1999 average.

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.

N.4.7 Potential Impacts on Council's Infrastructure and Services

Table N-3 lists the potential impacts on Council's infrastructure and services.

Table N-3: 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.

Function	Affected Assets or Activities	Key Climate Influences	Possible Effects
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.
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.

APPENDIX O. NOT RELEVANT TO THIS ACTIVITY

APPENDIX P. POTENTIAL SIGNIFICANT EFFECTS

The potential significant negative and significant positive effects are listed below in Table P-1 and Table P-2 respectively.

Table P-1: Potential Significant Negative Effects

Effect	Council's Mitigation Measure
Inappropriately built urban environment may have a negative visual impact.	Council controls this through bylaws and the TRMP, and may impose conditions on lessees to improve the amenity value of existing buildings.
Increased traffic and noise from both commercial and recreational users of coastal facilities.	Council controls the use of coastal areas and facilities through Bylaws, the TRMP, restriction of access, and education.
The costs of providing the services.	Council uses competitive tendering processes to achieve best value for money for works it undertakes. Council's goal is for Port Tarakohe to be self-funding.
Potential changes to the natural coastal processes and ecological systems due to placement of structures, this may include loss of natural sand dunes. The construction of structures that appear out of character with the coastal environment.	Council manages changes to the natural environment through bylaws and the TRMP.
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.

Table P-2: Potential Significant Positive Effects

Effect	Description
Economic development	Provision and maintenance of the port allows for the development of commercial businesses, therefore contributing to economic growth and prosperity.
Community value	Port Tarakohe contributes to community well-being by providing assets for recreational use of residents and visitors to the area.
Environmental sustainability	Council aims to achieve environmental sustainability whilst managing the port. Provision and maintenance the port improves protection for some residents and the built environment.
Economic efficiency	Council's management of the port activities uses best practice and competitive tendering to provide value for money for 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 affect 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

At the time of producing the financial forecasts for Port Tarakohe for inclusion in the LTP, the knowledge of asset data was not complete in terms of asset location, asset condition, remaining useful life and asset capacities. This means assumptions were 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.

Council considers these assumptions and uncertainties constitute a medium risk to the financial forecasts because:

- significant amounts of asset data is unknown at the time of financial forecasting
- asset performance for the significant structures is not well known.

Since the development and adoption of the LTP, the assets at Port Tarakohe have been subject to a comprehensive asset valuation and condition assessment. Confidence in the data knowledge is now considered to be high, resulting in future financial forecasting being more accurate.

The condition assessment (included in Appendix E) has highlighted a number of recommendations to be undertaken as maintenance. These will be costed and detailed for inclusion in the 2012 version of this AMP.

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 Tasman district where population growth has been so high. The growth forecasts underpin and drive:

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

The growth forecasts in tourism, recreation and coastal related industry affect the demands on the Port Tarakohe.

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

Q.1.4 Major Events

The financial forecasts have been prepared under the assumption that no major storm events will occur above the coastal protection assets ability to cope with. If a major storm 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.1.5 Timing of Capital Projects

The timing of the 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 consents.

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 financials is not considered significant.

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. These assumptions can significantly affect the forecast cost to the public

Q.1.7 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.

Q.1.8 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

Q.2.1 Risk Management Framework

Council is adopting an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. The process integrates with the Long Term Plan (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.”

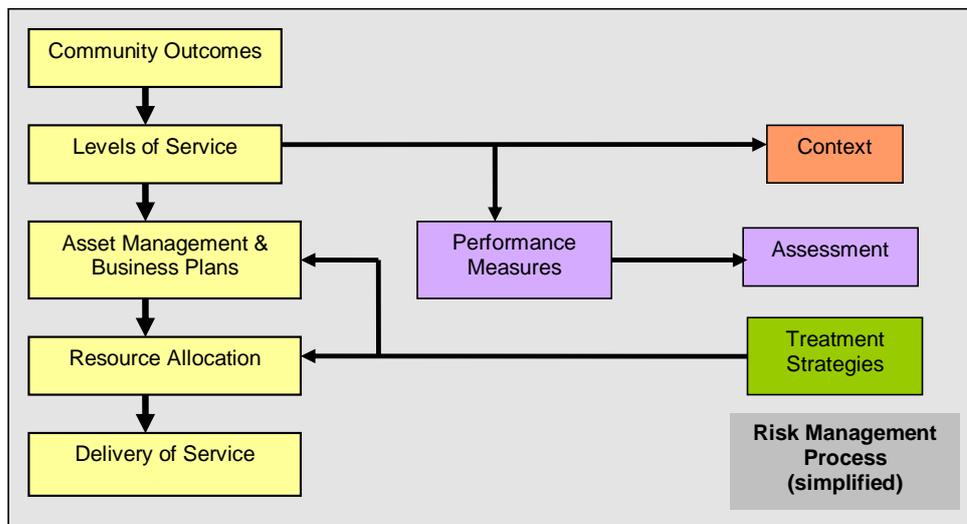


Figure Q-1: Integration of Risk Management Process into LTP Process

The IRM process and framework is intended:

- to demonstrate responsible stewardship by Tasman District Council on behalf of its customers and stakeholders
- to act as a vehicle for communication with all parties with an interest in Tasman District Council’s organisational and asset management practices
- provide a focus within Tasman District 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 Tasman District 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.

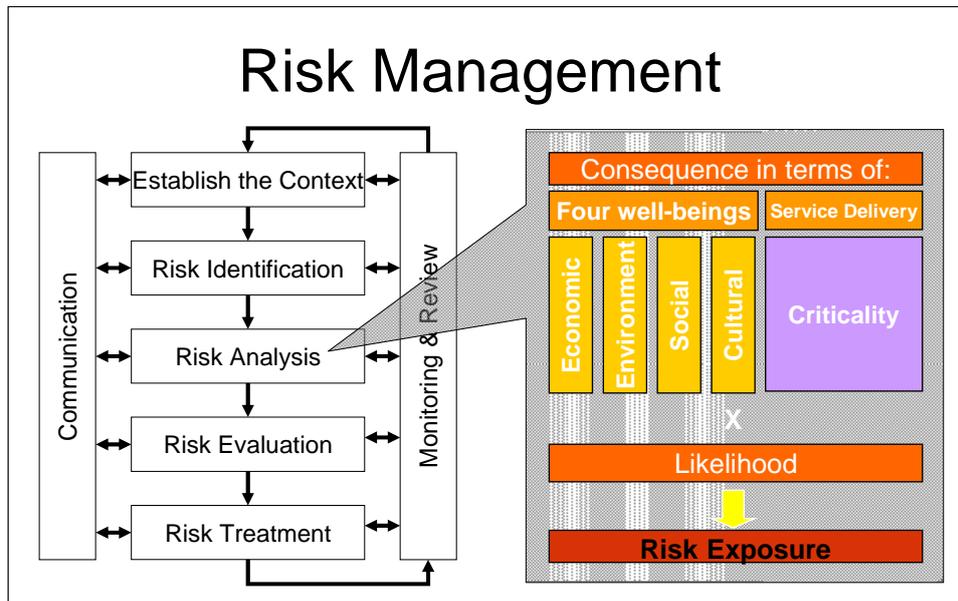


Figure Q-2: Integrated Risk Management Process

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.

Table Q-1: 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, Tasman District Council Integrated Risk Management - Engineering Activities. 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.2.2 Level 1 - Organisational Risk Assessment

The 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.2.3 Level 2 - Asset Group Risk Assessment

The same principal and consequence tables have been applied, but the focus has been at an Activity Level.

Major asset groups within the activity have been identified. An analysis of risk events was then undertaken to determine the issues arising that may prevent the assets delivering the required service. At this level of risk assessment, the risk events considered are physical events only as management and organisational risk events formed part of the earlier organisational risk assessment. Treatment strategies that mitigate each risk for asset groups have been identified.

The outcome from this process is summarised in Table Q-2, a checklist of mitigation measures that should be considered for each type of asset group.

Table Q-2: Mitigation Measures to be Considered

Mitigation Measures to be Considered	Asset Group					
	Wharves	Jetties	Boat Ramps	Navigational Aids	Moorings	Coastal protection / Sea Walls
Emergency Response Plan	✓	✓		✓	✓	
Communication Plan	✓	✓	✓	✓	✓	
Vulnerability Checks	✓	✓	✓		✓	✓
Structural Checks	✓	✓			✓	✓
Maintenance Regime	✓	✓	✓		✓	✓
Increase Size of Sea Wall						✓
Improve Profile of Sea Wall						✓
Improve Fuel Storage Facilities	✓					
Re-direction Capabilities	✓	✓	✓			✓

Q.2.4 Level 3 - Critical Assets Risk Assessment

The next step in the Integrated Risk Management Approach will be to consider each of the individual critical assets within the asset groups of an activity. Each asset will be reviewed in terms of the consequences initially identified and mitigation measures required. The output from the process will be a recommendation of projects or operational strategies to address shortfalls. At this time, the level of risk management has not been implemented but has been included in the Improvement Plan.

Q.2.5 Projects to Address Risk shortfalls

The Risk Assessment Process is not complete at this Stage. It is not planned to start the Level 3 assessments until Level 1 and 2 are complete. However, a geological assessment of the port area has highlighted that a number of assets are located close to the fall zone of the cliffs. It is recommended that these buildings be moved from the fall zone or mitigation measures set in place if relocation is not viable.

Q.2.6 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. Tasman 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.2.7 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:

- 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.2.8 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.2.9 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.2.10 Business Continuance

Council has a number of processes and procedures in place to ensure minimum impact to coastal 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 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. LEVELS OF SERVICE, PERFORMANCE MEASURES AND RELATIONSHIP TO COMMUNITY OUTCOMES

R.1 Introduction

A key objective of this AMP is to match the level of service provided by the Port Taranaki 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 Port Taranaki 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 Port Taranaki 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 Wellbeings, 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	<ul style="list-style-type: none"> • Resource Policy • Environmental Information • Resource Consents and Compliance
Our urban and rural environments are pleasant, safe and sustainably managed.			<ul style="list-style-type: none"> • Environmental Education, Advocacy and Operations • Regulatory services • Rivers and Flood Management
Our infrastructure is safe, efficient and sustainably managed.	To sustainably manage infrastructural assets relating to Tasman district.	Transportation	<ul style="list-style-type: none"> • Regional Cycling and Walking Strategy • Land Transportation • Coastal Structures • Aerodromes
		Sanitation, drainage and water supply	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Cultural services and community grants
Our communities respect regional history, heritage and culture.		Recreation and leisure	<ul style="list-style-type: none"> • 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
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	<ul style="list-style-type: none"> • Forestry • Property • Council controlled organisations.

The table below (Table R-2) describes how the Port Tarakohe's activities contribute to the Community Outcomes.

Table R-2: How Port Tarakohe's Activities Contribute to Community Outcomes

Community Outcomes	How Our Activity Contributes to the Community Outcome
Our unique natural environment is healthy and protected.	Port Tarakohe can be managed so their impact does not affect the health and cleanliness of the receiving environment.
Our urban and rural environments are pleasant, safe and sustainably managed.	The Port Tarakohe activity ensures our built environments are functional, pleasant and safe by ensuring the coastal structures are operated without causing public health hazards and by providing attractive recreational and commercial facilities.
Our infrastructure is safe, efficient and sustainably managed.	The Port Tarakohe activity provides commercial and recreational facilities to meet the community needs at an affordable and safe level. The facilities are also managed sustainably.

R.3 What Level of Service Do We Seek to Achieve?

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 AMPs. 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 Focussed. 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 Port Tarakohe's activity. Those shaded are the customer focussed measures which are included in the LTP. The table sets out Councils' 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.4 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 has allocated a budget of over \$3million over the 20 year period for the operation and maintenance of its current and future assets. This allocation includes for professional services and for investigation work and studies such as:

- coastal process study
- asset inspections.

R.5 Levels of Service Linked to Legislation

Whilst Council are required to comply with various legislation and regulations when managing Port Tarakohe's activity, no specific levels of service are included which relate to legislation.

Table R-3: Levels of Service

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if...)	Current Performance (as at end Year 2 2010/11)	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 unique natural environment is healthy and protected.							
1	Our works are carried out so that the impacts on the natural coastal environments are minimised to a practical but sustainable level.	<i>Resource consents are held and complied with for works undertaken by Council or its contractor. As measured by the number of abatement notices issued to Council.</i>	Actual = Nil	<i>No abatement notices issued</i>			
2		<i>The port is maintained to its original constructed standard. As measured by routine inspections.</i>	Actual = 75%	100%	100%	100%	100%
Community Outcome: Our urban and rural environments are pleasant, safe and sustainably managed.							
3	Port Tarakohe is operated without causing public health hazards.	<i>Building consents are held and complied with for works undertaken by Council or its contractors. As measured by inspections.</i>	Actual Where building consents are required, Council have them in place and comply with them.	100%	100%	100%	100%
4	Our coastal activities are managed at a level that satisfies the community.	<i>The marina at Port Tarakohe is operating at 90% capacity or greater.</i>	Actual = Currently between 90 and 95%	95%	95%	95%	95%
Community Outcome: Our infrastructure is safe, efficient and sustainably managed.							
5	Faults in the coastal assets are responded to and fixed promptly.	<i>We are able to respond to Customer Service Requests within the timeframes we have agreed with our suppliers and operators, and within the available funding.</i>	Actual = 100%	100%	100%	100%	100%

APPENDIX S. COUNCIL'S DATA MANAGEMENT, ASSET MANAGEMENT PROCESSES AND SYSTEMS

S.1 Introduction

The Tasman District Council organisational structure is shown in Figure S-1. As the chart shows, the asset management function for Port Tarakohe (Port Tarakohe) falls under the Community Services Manager.

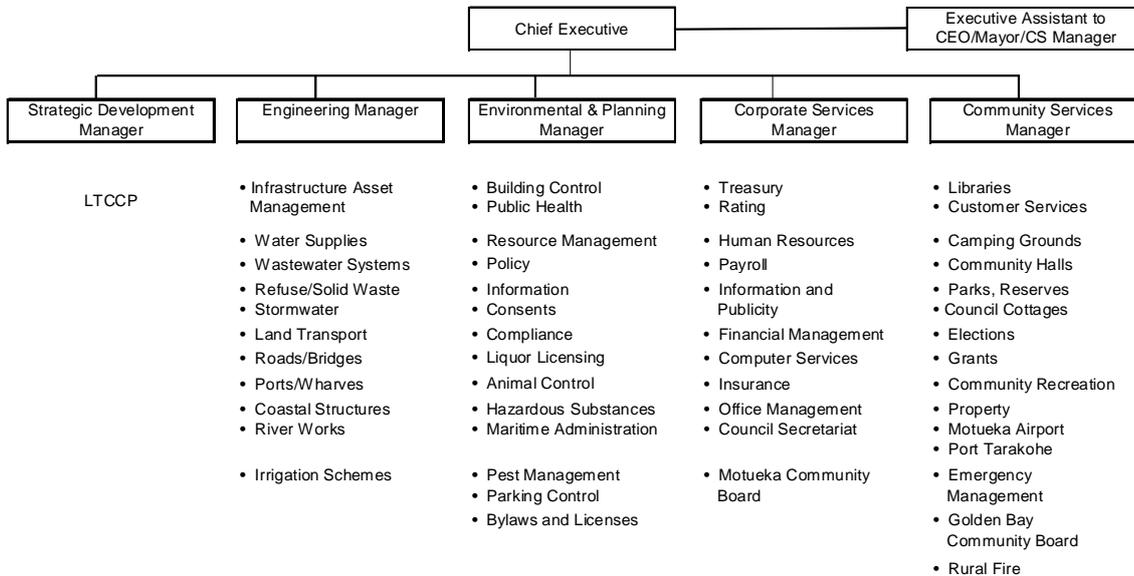


Figure S-1: Tasman District Council Organisation Structure

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 Council's Asset Management Process which is in general alignment with the International Infrastructure Management Manual (IIMM) as shown below in Figure S-2.

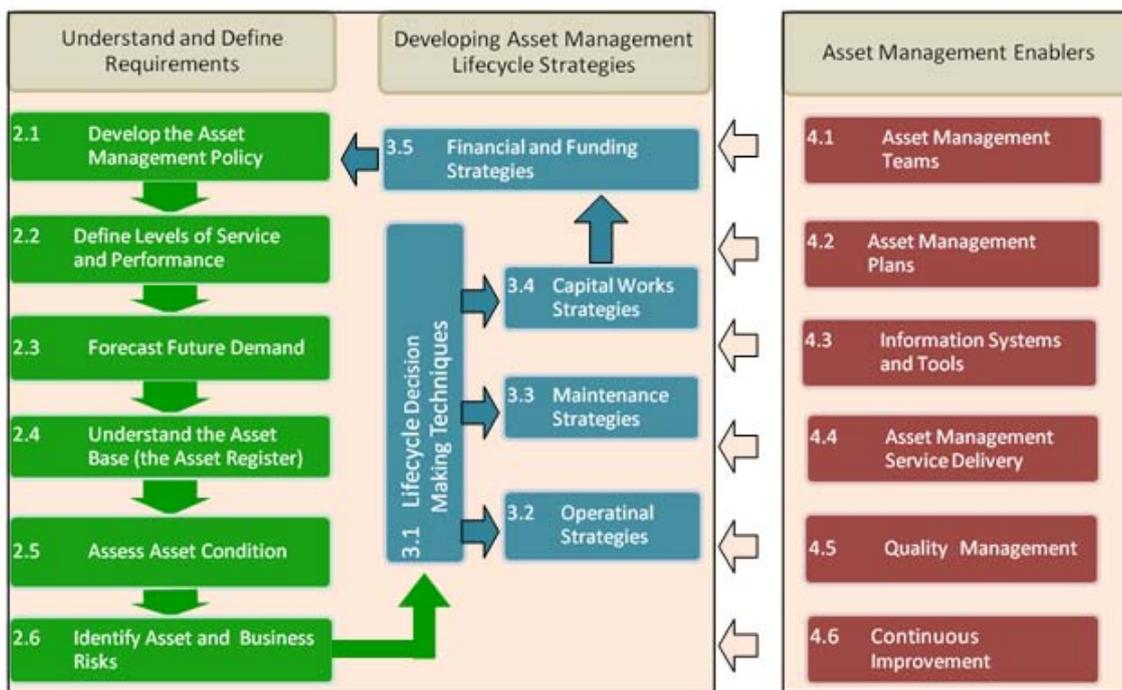


Figure S-2: The Asset Management Process

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.

Whilst this was primarily focussed on the engineering activities, much of the process was relevant for all Council activities.

IIMM (2006) identified two levels of asset management; Core and Advanced. Based upon the process undertaken for the engineering activities, it would be appropriate for Council to set **Core** as the target level at which they want to be managing the Ports Activity.

S.2.1.2 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.2.1.3 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.

The Council's corporate Asset Management System (AMS) is Confirm Enterprise. It is used to record and track customer enquiries, maintain its asset register, and for tracking non-routine maintenance of assets.

S.2.1.4 Understand the Asset Base

The Asset Information team, Asset Managers, Tasman District Council's consultants and contractors all have access to the system with levels of access appropriate to their needs. Asset information is delivered to the Council via Explore Tasman, Tasman District Council's web-based GIS browser application. Performance and operational reports are delivered via a web-based reporting system.

Confirm has links to other core Council applications:

- SilentOne document management system for construction and As-built plans.

Table S-3 summarises the various data sources and how they are managed. It also provides a grading on the data accuracy and completeness where this is appropriate. The accuracy grade is based on the IIMM grading as shown in Table S-1, the completeness grade is based on the grading as shown in Table S-2.

Table S-1: Asset Data Accuracy Grade

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

Table S-2: Asset Data Completeness Grade

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

Since the production of the LTP, a full asset valuation and condition assessment has been undertaken at Port Tarohe. The accuracy and completeness of data is now expected to be higher than shown in Table S-3.

Table S-3: Data Types and Source

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 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 held in Confirm and is collected when first installing assets and then during routine inspections or fault repairs.	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
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. There are currently no Port Tarakohe consents in the NM2 database.	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

Information System	Data Type	Management Strategy	Data Confidence	
			Accuracy	Completeness
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.2.2 Assess Asset Condition

The condition rating process for Port Tarakohe assets is discussed in Appendix B.

S.2.3 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)	<ul style="list-style-type: none"> • Renewals first identified from the Confirm data base – when remaining life expires. • Forecast renewals then field justified by reviewing with operations staff and asset management staff to confirm renewal requirements from valuation information and add to where there is specific knowledge of additional renewal requirements. • On an annual basis renewal work is programmed for implementation and managed as a programme through specific tendered contracts.
Asset Creation Management (Appendix F)	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ○ assessment of construction and non-construction costs (ie. engineering, consenting costs, land costs) ○ an assessment of contingency needed – on a consistent basis between estimates ○ an evaluation of the project drivers – increased level of service, growth or renewal. ○ an evaluation of a programme of implementation – spanning years to ensure appropriate time allowed for developing the project ○ 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.

	<ul style="list-style-type: none"> • The funding of the capital forecast is modelled in Council’s financial system NCS, and the implications for the forecast review at Council officer level and Councillor 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)	<ul style="list-style-type: none"> • Includes Strategic Studies such as coastal process studies.

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.
- Quality Management – there are a variety of rigorous quality assurance processes involved in management of Port Tarakohe’s 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.

***Bylaws of direct relevance to this activity.**

APPENDIX U. STAKEHOLDERS AND CONSULTATION

U.1 Consultation

U.1.1 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 Ltd⁴. These Communitrak™ surveys assess the levels of satisfaction with key services, and the willingness across the community to pay to improve services.

Council at times will undertake focussed surveys to get information on specific subjects.

U.1.2 Consultation Outcomes

The most recent NRB Communitrak™ survey was undertaken in May/June 2011. Residents were asked to comment on their level of satisfaction with Harbour management and safety activity. 47% of resident responding were satisfied, 4% were not very satisfied and 59% were unable to comment.

Residents were then asked to comment on their level of satisfaction with the management of coastal structures. 59% of residents responding were satisfied, 9% were not very satisfied and 32% were unable to comment.

U.2 Key Stakeholders

Stakeholders are those individuals and organisations that have an interest in the management and/or operation of the assets at Port Tarakohe. Stakeholders include, but are not limited to:

National Industry Organisations:

- Maritime Safety Authority
- National Institute of Water and Atmosphere (NIWA)
- Ministry for the Environment
- The Department of Conservation
- Hydrographic Office of the Royal New Zealand Navy
- Local Government New Zealand
- NZ Transport Agency.

Local Stakeholders:

- The elected representatives (Councillors and Community Boards)
- The Tasman District Council Community of owners, residents and ratepayers
- Recreational and industry users
- Tangata Whenua

⁴ Communitrak™: Public Perceptions and Interpretations of Council Services / Facilities and Representation, NRB Ltd May/June 2011

-
- Regulatory and monitoring bodies
 - Environmental and Recreational Interest Groups including Fish and Game New Zealand, Royal Forest and Bird Protection Society and Tasman Environmental Society
 - Tasman District Council employees
 - Consultants and contractors
 - Marina berth holders
 - Marine farmers
 - Commercial fishermen
 - Contractors for shipping
 - Talleys
 - Sollys
 - Port Taroakohe Ltd.
 - Pohara Boat Club
 - Recreational fishermen.

APPENDIX V. IMPLEMENTATION AND IMPROVEMENT PROGRAMME

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.

Although Port Tarkohe falls under the Council Enterprise department, there are close links to the Engineering Services with respect to the Coastal Structures Activity. Therefore there are many similarities in the activity improvements.

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.

Table V-1: Planned Activity Management Improvement Programme

Item	Improvement	Benefits	Estimated Cost in 10 year Financial Forecast	Financial Provision in AMP	Priority
AMP Update	Review and update the AMP on a three year cycle. Next revision due in 2011.	Needed to comply with the LGA:2002 requirements.	\$5,000 every three years.	No	High
Asset Valuations	Review and update the Port Tarakohe Asset Valuation on a three yearly cycle. Next review due in 2012.	Needed to comply with the LGA:2002 requirements.	\$5,000 every three years.	No	High
Business Continuity Plan	Establish targets for cargo and revenue over Port Tarakohe	Provide more certainty to budgets.	\$3,000 in 2009/10.	No	High
Emergency Plan	Establish an emergency plan for Port Tarakohe	Safety of users.	\$5000 in 2009/10.	No	High
Asset Management Operational Plan	Develop operation and maintenance plan for all Port Tarakohe assets	More efficient use of resources.	\$10,000 in 2009/10.	No	High
Risk Management	Council intends to apply a consistent approach to risk management across all asset groups. Three levels of risk assessment will be carried out; Organisation, Asset Group and Critical Assets.	Will identify actions/improvements required to be made to the organisation or operation or provision of Council's assets in order that: <ul style="list-style-type: none"> Council's ability to maintain levels of service as a result of organisational change and external physical events is maximised. 	\$4,000 - 2010/2011 (included within the Coastal Structures Activity).	No	High
Asset Management System Development	Continue to develop Council's Asset Management System and integration with its related asset information systems, GIS, SilentOne etc.	Confirm enables a 'one stop shop' for Asset Management. It increases the knowledge and understanding of the Council's asset and asset performance and assists with efficient operation and maintenance of the assets.	On-going, no separate budget provided.	No	High
Coastal Structures Management Plans and Guidelines	Develop guidelines for the on-going management of existing coastal Structures	Ensures the management plans are kept up to date.	\$5,000 (included in Coastal Structures activity).	No	High
Strategic Plan	Develop a strategic plan for the next 10 years.	Establish direction for development and future management.	\$15,000 (separate budget).	No	High

APPENDIX W. ASSET DISPOSAL

The Council does not have formal strategy documents relating to asset disposals, however they generally follow the following practices.

- **Strategy for sale and disposal of Infrastructural Assets:**
Council's policy is to obtain best available return from the disposal or sale of assets within an infrastructural activity and any net income is credited to that activity.
- **Sale and Disposal Process:**
Council follows sale and disposal practices that comply with the relevant legislative requirements for local government with respect to the sale and disposal of infrastructural assets.

Asset disposal is generally a by-product of renewal or upgrade decisions that involve the replacement of assets.

Depending on the nature and value of the coastal assets they are either:

- made safe and left in place
- removed and disposed to landfill
- removed and sold
- transferred by agreement to other stakeholders.

APPENDIX X. GLOSSARY OF ASSET MANAGEMENT TERMS

Acronyms and Abbreviations

AMP	Activity Management Plan
LGA	Local Government Act
LTP	Long Term Plan
RMA	Resource Management Act
TRMP	Tasman Resource Management Plan
MHWS	Mean High Water Springs

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: <ul style="list-style-type: none"> • 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)	<p>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.</p> <p>The LTP replaces the Long Term Council Community Plan (LTCCP).</p>
Maintenance Plan	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
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	<p>Planned maintenance activities fall into 3 categories :</p> <p>Periodic – necessary to ensure the reliability or sustain the design life of an asset.</p> <p>Predictive – condition monitoring activities used to predict failure.</p> <p>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.</p>
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. GEOLOGICAL ASSESSMENT OF PORT TARAKOHE

Y.1 Onshore Geology

The onshore geology in the vicinity of Port Tarakohe has been mapped by Geological and Nuclear Sciences (GNS) and is illustrated in geology maps published in 1971 and 1998 (Refs 1 and 2).

A plan showing the exposed geology in the vicinity of the Port is attached.

The sea cliffs east of the Port are comprised of sandy limestone of the Takaka Limestone Formation. The limestone formation is generally a well bedded (flaggy), strong rock, forming vertical cliff faces up to 30 metres in height. Large limestone blocks that have fallen from the cliffs are scattered along the coast.

Silica sands of the Motupipi Coal Measures Formation are exposed alongside Abel Tasman Drive at the base of the seacliffs at Stairs Bay, immediately to the south of the Port. In the Port area, carbonaceous mudstone and impure coal of the Motupipi Coal Measures Formation is exposed at low tide below the historic limestone block wall located at the southeast end of the existing concrete wharf.

Calcareous siltstone and mudstone of the Tarakohe Mudstone Formation is exposed in the quarry southeast of the Port, and overlies the Takaka Limestone Formation.

Fill has been placed to the east of the wharf area and at the southern Port area in the vicinity of the Boat Club. The fill is predominantly limestone rubble material sourced from the quarry area. The fill is non-engineered and variable in nature.

No faults have been recognised or mapped in the area of the Port. The Pikikiruna Fault is mapped (by GNS) as being located approximately 1 km southeast of the Port. This fault is not recognised as an active fault in the GNS Active Faults Database.

Y.2 Geology of the Harbour Bed

Boreholes were drilled in the Port area in 1976 and 1997 and reveal information about the geology beneath the seabed in the harbour.

Shallow jet probe holes were bored to a depth of approximately 3 m below the seabed during investigations carried out for dredging the harbour in 1976, and for planning the existing marina development in 1997. These jet probe holes revealed that the marine sediments on the harbour bottom comprise marine muds, silts, sands and scattered shell material. The investigations indicated these materials would be dredgable to the proposed dredging depth of 4.75 m below chart datum (approximate level of lowest astronomical tide).

Rotary core drilling was carried out in the Port in 1976. Fourteen boreholes were drilled to a maximum depth of 33 m with some boreholes having been drilled from a barge. These boreholes proved the existence of dense to very dense clayey silica sands, carbonaceous mudstone and fireclay of the Motupipi Coal Measures Formation (MCMF) underlying the younger marine sediments beneath the harbour. The contact between the base of the marine sediments and the MCMF is gently inclined towards the west. At the southeast end of the existing wharf the depth to the dense MCMF is 2.5 m below chart datum, whilst at the south-western inner mole the MCMF is 17.3 m below chart datum.

Y.3 Ground Conditions for Dredging and Piling

Dredging was carried out to deepen the harbour in 1979 using a cutter suction dredge, a trailer suction dredge and a grab dredge. The entrance channel was dredged to 4 m below chart datum and the area in front of the concrete wharf was dredged to a maximum depth of 7 m below chart datum. The majority of the dredging was able to be carried out by the cutter suction dredge in soft sediments, however dense sediments of MCMF, which were encountered beside the wharf, had to be blasted before dredging.

Piling for the concrete wharf (1977) and the existing marina (2003) was successfully carried out using driven piles (both steel and concrete piles). The piles for the wharf have penetrated the marine sediments to seat within MCMF and these favourable foundation conditions meant that piles for the wharf did not have to be as long as originally intended.

At the marina, 14m steel piles penetrated approximately 6m into the seabed. Only one pile encountered difficulties with a limestone block (“floaters”) and the solution to the problem was to shift the pile position to avoid the rock.

Y.4 Seismic Risks

The 1929 Murchison Earthquake resulted in significant damage in the Tarakohe area including rockfall which killed a worker at the Cement Works power station (Ref. 3). Toppling failures from the limestone cliffs resulted in large limestone blocks falling into the sea and also blocking Abel Tasman Drive to the north and south of the Port. The earthquake also resulted in the tilting of large limestone blocks to form the road tunnel at Tarakohe.

The 1968 Inangahua Earthquake resulted in only minor rockfall at Tarakohe.

Potential seismic risks include rockfall, liquefaction, settlement, lateral spreading and tsunamis. These impacts are only likely in a large earthquake ie. an average recurrence interval of approximately 100 years.

Y.5 Geotechnical Risks

Geotechnical risks relevant to the existing assets at Port Tarakohe include:

- Rockfall from cliffs damaging buildings or structures.
- Settlement, liquefaction or lateral spreading affecting fill areas or the soft sediments beneath the breakwaters.
- Non-engineered fill in the Port area results in variable founding conditions for buildings or structures.
- Limestone rubble material with appreciable fines content used in bund material in the breakwaters may be susceptible to washing out of fines that could lead to localised settlement.
- Limestone used as breakwater armour rock may be susceptible to long term dissolution and weakening.

Y.6 Recommendations

- Facilities, buildings or structures should not be sited with the fall zone of the cliffs eg. existing fuel tanks
- The geotechnical risks listed should be considered in the Asset Management Plan for the Port.

Y.7 References

Grindley, G.W., S8 Takaka (1st Edition) “Geological Map of New Zealand” 1: 63,360, D.S.I.R., Wellington, New Zealand, 1971.

Geology of the Nelson area, Institute of Geological and Nuclear Sciences 1: 250,000 Geological Map 9, 1998.

Smith, J.H., 1988: “Tarakohe, Golden Bay Cement Works 1908 – 1988, A Century of Facts & Figures, Reports & Reminiscences”.

Evans, G.L., 1976: “Golden Bay Cement Group Sub Surface Investigations – Tarakohe”.

Morris and Wilson, 1977: Sub Soil Investigation, Appendix C.3, report prepared for the Golden Bay Cement Company Limited.

Attachments:

Port Golden Bay geology plan.



APPENDIX Z. AMP STATUS AND DEVELOPMENT PROCESS –

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: Jim Frater Authority: Asset Manager		
4	Draft for Public Consultation through LTP	Name: Lloyd Kennedy Authority: Community Services Manager		
5	Final Plan Adopted by Council Council Resolution	Name: Richard Kempthorne Authority: Mayor Reference: _____		

Z.2 AMP Development Process

Project Sponsor: Lloyd Kennedy
 Asset Manager: Jim Frater
 Project Manager: Stephen Sinclair
 Project Technical Lead: Becky Marsay
 AMP Author: Jenna Voigt
 Project Team: Jim Frater, Steve Hainstock, Ray Firth, Jenna Voigt, Becky Marsay, David Light

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	Tasman District 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 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 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: <ol style="list-style-type: none"> 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
2	AMP Document Consistency	Review documents in advance and prepare instructions to authors on how to upgrade.	Becky Marsay
3	AMP Document Format	Central review of AMP document deliverables.	Becky Marsay
4	AMP Readability		
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	Lloyd Kennedy	Community Services Manager		
Levels of Service prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 12
Levels of Service Asset Manager acceptance	Jim Frater	Asset Manager		
AMP document prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 12
AMP text accuracy and currentness	Jenna Voigt	AMP Author		
Capital Upgrade List complete	Jim Frater	Asset Manager		
Capital Upgrade List complete - Asset Manager acceptance	Jim Frater	Asset Manager		
All issues on "Parking Lot" addressed	Jenna Voigt	AMP Author		
Capex Expenditure spreadsheet template reviewed	Becky Marsay	Project Technical Lead		16 Feb 12
Project Estimate spreadsheet template reviewed	Becky Marsay	Project Technical Lead		16 Feb 12
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	Lloyd Kennedy	Community Services Manager		
Improvement Plan prepared to instructions	Becky Marsay	Project Technical Lead		16 Feb 12
Improvement Plan Asset Manager acceptance	Jim Frater	Asset Manager		
Capital Forecast accepted for input to NCS	Jim Frater	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	Jim Frater	Asset Manager		
Peer Review completed	Lloyd Kennedy	Community Services Manager		